

**BEFORE THE
ARKANSAS PUBLIC SERVICE COMMISSION**

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

DOCKET NO. 08-103-U

Direct Testimony

of

Donald A. Murry, Ph.D.

on behalf of

Oklahoma Gas and Electric Company

August 29, 2008

TABLE OF CONTENTS

I. INTRODUCTION	1
II. SUMMARY OF FINDINGS AND RECOMMENDATIONS	3
III. METHODOLOGY	5
IV. ECONOMIC ENVIRONMENT	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.....	15
XI. MARKET MEASUREMENTS OF THE COST OF COMMON EQUITY	16
XII. DISCOUNTED CASH FLOW METHOD	17
XIII. STRENGTHS OF THE DCF.....	18
XIV. WEAKNESSES OF THE DCF.....	19
XV. DATA USED IN DCF ANALYSIS	22
XVI. DCF CALCULATIONS.....	24
XVII. THE CAPM METHODOLOGY	26
XVIII. CAPM CALCULATIONS	30
XIX. RECOMMENDED ALLOWED RETURN	31
XX. FINANCIAL INTEGRITY TEST.....	32

Donald A. Murry, Ph.D.
Direct Testimony

I. INTRODUCTION

1

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

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

5

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

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

10

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

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

14

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

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

26

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

28 A. Since 1964, I have consulted for a number of private and public utilities, state and
29 federal agencies, and other industrial clients regarding energy and regulatory matters

1 in the United States, Canada and other countries. In 1971-72, I served as Chief of the
2 Economic Studies Division, Office of Economics of the Federal Power Commission.
3 From 1978 to early 1981, I was Vice President and Corporate Economist for Stone &
4 Webster Management Consultants, Inc. I am now a Vice President with C. H.
5 Guernsey & Company. In all of these positions I have directed and performed a wide
6 variety of applied research projects and conducted other projects related to regulatory
7 matters. Recently, I have assisted both private and public companies and government
8 officials in areas related to the regulatory, financial and competitive issues associated
9 with the restructuring of the utility industry in the United States and other countries.
10

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

13 **A.** Yes, I have appeared before the U.S. District Court-Western District of Louisiana,
14 U.S. District Court-Western District of Oklahoma, District Court-Fourth Judicial
15 District of Texas, U.S. Senate Select Committee on Small Business, Federal Power
16 Commission, Federal Energy Regulatory Commission, Interstate Commerce
17 Commission, Alabama Public Service Commission, Regulatory Commission of
18 Alaska, Arkansas Public Service Commission, Colorado Public Utilities Commission,
19 Florida Public Service Commission, Georgia Public Service Commission, Illinois
20 Commerce Commission, Iowa Commerce Commission, Kansas Corporation
21 Commission, Kentucky Public Service Commission, Louisiana Public Service
22 Commission, Maryland Public Service Commission, Mississippi Public Service
23 Commission, Missouri Public Service Commission, Nebraska Public Service
24 Commission, New Mexico Public Service Commission, New York Public Service
25 Commission, Power Authority of the State of New York, Nevada Public Service
26 Commission, North Carolina Utilities Commission, Oklahoma Corporation
27 Commission, South Carolina Public Service Commission, Tennessee Public Service
28 Commission, Tennessee Regulatory Authority, The Public Utility Commission of
29 Texas, the Railroad Commission of Texas, the State Corporation Commission of
30 Virginia and the Public Service 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 also
5 refer to OG&E as the "Company." In this testimony, I considered a number of
6 influences on OG&E's cost of capital, and I reviewed relevant market information.

7

8 II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

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

10 A. After recognizing a wide divergence of earned returns and cost of capital estimates for
11 electric utilities comparable to OG&E, I conclude that an allowed return in the range
12 of 11.75 percent to of 12.25 percent is appropriate for OG&E in this proceeding at this
13 time. To determine this return, I studied the recent volatile credit and equities markets,
14 a number of current financial statistics, current electric utilities' earnings, and market-
15 based measures of capital costs.

16 I reviewed the Company's proposed ratemaking capital structure for this
17 proceeding. The critically important common equity ratio is just 41.96 percent. The
18 long-term debt ratio is 33.38 percent. OG&E has an embedded cost of long-term debt
19 at 6.40 percent. Although OG&E estimated that its cost of short-term debt is 5.54
20 percent, its short-term debt for ratemaking is currently zero. In addition, OG&E has
21 included in its capital structure for ratemaking in this proceeding the following:
22 accumulated deferred income taxes of 15.01 percent at zero percent, pre-1971
23 accumulated deferred income tax credits (ADITC) of \$0 at zero percent, post-1970
24 ADITC-Long Term Debt of 0.23 percent, post-1970 ADITC-Short Term Debt of zero
25 percent, post-1970 ADITC-Equity of 0.28 percent, customer deposits of 1.25 percent
26 at a cost of 4.41 percent, and current, accrued and other liabilities of 7.89 percent at
27 zero percent. When I compared the common equity ratio for OG&E to the similar
28 ratios of the comparable electric utilities, I noted that OG&E's common equity ratio is
29 an extremely low common equity ratio.

30 In my opinion, the current and probably the near-term volatility in the debt and
31 equity markets are important factors affecting the cost of capital currently, and some

1 of the market consequences of the evolving circumstances are still unclear. This
2 uncertainty and the prospect of continuing inflation are undoubtedly concerns and
3 perceived risks to investors and are, of course, some of the reasons for the market
4 volatility. Although the Federal Reserve has aggressively enhanced credit availability
5 and forced down short-term interest rates, to date, the relevant long term rates have not
6 responded in kind, and analysts expect long-term rates to increase.

7 The comparable companies, which represent healthy electric utilities, are
8 standards for OG&E's allowed return in this proceeding. For example, *Value Line*
9 estimates that the comparable electric utilities will produce average common equity
10 returns of 12.2 percent in 2008. To determine the market-based cost of common stock,
11 I used Discounted Cash Flow and Capital Asset Pricing Model analyses. Using these
12 methods, I estimated the market-based costs of the common stocks for OGE Energy,
13 the parent company of OG&E, and for each of the comparable companies. However,
14 the results were wide ranging in the current volatile markets. The most relevant DCF
15 results for the comparable companies are 11.17 percent and 13.70 percent. For OGE
16 Energy, the most relevant DCF results are 9.31 percent and 11.70 percent. The more
17 stable, longer perspective CAPM results range from 11.32 percent to 12.59 percent.

18 Expectations for continuing increases in inflation and interest rates along with
19 the current market volatility suggest that a return close to current earnings of the
20 comparable electric utilities and the midpoint of the market-based results, is
21 appropriate at this time. The current, competitive market returns support this level. I
22 conclude that an allowed return on common equity of 11.75 to 12.25 percent is
23 appropriate for OG&E in this proceeding.

24 The very recent, sharp declines in common equities' values demonstrate that at
25 least the midpoint of this range, or 12.00 percent, is a conservative return and the
26 minimum return necessary to attract common equity capital at this time. Furthermore,
27 these market declines, plus forecasted inflation and interest rate growth, show that the
28 upper end of my recommended range, or 12.25 percent, is prudent in the current
29 markets.

30 Finally, I tested my allowed return by comparing OG&E's After-Tax Interest
31 Coverage at my recommended range to the coverages of the comparable companies.

1 By this comparison, I confirmed that the upper end of my recommended allowed
2 return range is reasonable in current and predicted markets.

3 4 III. METHODOLOGY

5 **Q. How did you conduct your analysis and determine your recommendation?**

6 A. I studied the current economic environment to provide a perspective for my analysis.
7 Current and forecasted long-term interest rates and investors' fears of inflation are the
8 backdrop for electric utility rates of return at this time. As an important standard of
9 current returns on common equity, I also noted the current return on common equity
10 earned by a group of comparable electric utilities that were similar to OG&E in many
11 respects. I reviewed published financial information for OG&E, OGE Energy
12 Corporation, and the comparable electric utilities. Because of the recent and
13 prospective volatility of the equities markets, I took special note of the financial and
14 business risks faced by OG&E. I also applied the generally accepted DCF and CAPM
15 methods to the comparable companies to develop a market-based measure of the cost
16 of common equity for OG&E. The comparable companies are electric utilities that are
17 similar to OG&E so, as representative, proxy electric utilities, their costs of common
18 equity are relevant to OG&E.

19 As an important measure of adequacy in determining a sufficient, but not
20 higher than necessary return, I tested my recommended return by evaluating the After-
21 Tax Interest Coverage ratio at my recommended return. Then, I compared this
22 coverage to similar coverages for the comparable electric utilities.

23
24 **Q. What criteria did you use to select the comparable companies in your analysis?**

25 A. I identified criteria that would provide a good representative sample of financially
26 healthy regulated electric utilities similar to OG&E. First, I identified electric utility
27 companies that have publicly traded common stock. I used the electric utilities
28 identified by *Value Line* as the primary sampling frame from which to select
29 companies comparable to OG&E. Then, I excluded all companies actively involved in
30 a merger. The common stock value of a company involved in a merger will be
31 affected by investors' evaluation of the merger rather than just its utility operations, so

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

16
17 **Q. Can you explain in more detail why you used *Value Line* as the source for**
18 **choosing comparable electric utilities for your analysis?**

19 **A.** *Value Line* is a respected financial information source that is readily available to
20 investors and is found in most libraries, so it is a source that is likely to influence
21 investors' decisions. A second important consideration for selecting *Value Line* is that
22 it is independent from the investment community. *Value Line* does not underwrite
23 securities. In the past, critics have justifiably criticized organizations that publish
24 financial data while benefiting directly from a relationship with the company under
25 review. However, *Value Line* just sells financial information and does not have those
26 conflicts of interest.

27
28 **Q. What utilities did you choose as comparable to OG&E?**

29 **A.** The utilities that I selected are DPL, Inc., Northeast Utilities, NStar, Pepco Holdings,
30 Pinnacle West, SCANA Corp, and Wisconsin Energy.

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

2 A. Yes. I am sponsoring Exhibit No. 1, which consists of Schedules DAM-1 through
3 DAM-25.

4

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

6 A. Yes.

7

8

IV. ECONOMIC ENVIRONMENT

9 Q. **What economic factors are important to your analysis of OG&E's cost of capital
10 in this proceeding?**

11 A. Expectations regarding inflation and interest rates are major economic factors that
12 influence investors' decisions. Generally, inflation expectations cause investors to
13 require returns sufficient to compensate for any loss of purchasing power over the life
14 of a security. In many cases, increasing inflation leads to higher long-term interest
15 rates. Higher interest rates, in turn, lead to higher overall costs of capital. In the case of
16 a regulated utility such as OGE, the regulatory environment is also a critical
17 component of the business environment. Anticipated regulatory actions, as well as
18 forecasts of inflation and interest rates, affect investors' expectations of utility returns
19 and their evaluations of the risks and returns of alternative investments.

20

21 Q. **How would you describe the current economic environment?**

22 A. Midway through the third quarter of 2008, the U.S. economy continues to face
23 historically high energy prices, increasing inflation, continuing contraction of the
24 housing and mortgage markets, further credit-market write-downs, increasing
25 unemployment, and low consumer confidence. The S&P 500 is down almost 20
26 percent from the highs reached in October 2007. As of August 18th, the price of a
27 barrel of crude oil was trading for over \$114—more than forty percent higher than the
28 price a year earlier. Despite the recent rapid fall in oil prices, Goldman Sachs
29 continues to predict that crude will sell for \$149 at year end 2008. Year-over-year
30 consumer prices rose at an annual rate of 5.0 percent as of July while the

1 Reuters/Jeffries CRB Index of raw materials prices is up 22 percent over the same
2 period.

3 Financial institution asset write-downs and credit losses have totaled
4 approximately \$500 billion since 2007 and several hundred billion more may be
5 written off by the end of 2009. The housing market continues to be in a severe slump.
6 Rising mortgage rates, stricter borrowing rules, and a glut of unsold homes indicates
7 the housing market still faces a long period of adjustment. New home sales fell to an
8 estimated annual rate of 530,000 in June 2008, 33.2 percent below the rate in June
9 2007. Housing starts and building permits suggest the slump in housing may intensify.
10 Housing starts in July 2008 are 29.6 percent below the level of July 2007, while
11 building permits are down 32.4 percent from the same time a year ago.

12 The second quarter real GDP rose at an estimated 1.7 percent annual rate,
13 probably as a result of the government's stimulus program and strong U.S. export
14 activity. Many analysts believe that these influences plus the lagged effect of the Fed's
15 seven rate cuts since September will counter the overall general economic malaise and
16 result in a low increase in economic activity for the remainder of 2008 and into 2009.
17 *Blue Chip Financial Forecasts'* consensus forecast for GDP is shown in Schedule
18 DAM-1.

19
20 Q. **Have the Federal Reserve's interest rate cuts lowered relevant long-term interest**
21 **rates?**

22 A. Unfortunately, no. The Federal Open Market Committee ("FOMC") has slashed the
23 target federal funds rate seven times since September to 2.00 percent from 5.25
24 percent. However, the aggressive cutting of the federal funds and discount rates by the
25 Fed has not resulted in lower long-term rates to consumers or businesses similar to the
26 reduction in short-term rates. Although the Fed's actions directly affect short-term
27 borrowing rates between banks, long-term rates are set competitively in the
28 marketplace and only are indirectly affected, if at all. As I show on Schedule DAM-2,
29 90-day T-Bill rates have decreased from 4.94 percent to 1.65 percent in the last year.
30 In contrast, the yields on Baa/BBB-rated Utility Bonds have increased over the past
31 year from 6.37 percent to 6.86 percent.

1 Q. **Has the Federal Reserve undertaken any exceptional policies in responding to**
2 **these market conditions?**

3 A. Yes. In December 2007, the Fed announced it would inject emergency short-term
4 funds into the market through a never before used Term Auction Facility (“TAF”) to
5 address “heightened liquidity pressures in term funding markets.” On May 2nd, the Fed
6 announced it would boost the TAF to \$150 billion per month from \$100 billion per
7 month, the third increase since the program began in December 2007. The TAF’s
8 began as a coordinated effort with the central banks of the United Kingdom, Canada,
9 Switzerland, and the European Union to increase short-term funds after losses on
10 subprime mortgages unhinged normal bank lending practices. On March 11, 2008, the
11 Fed announced another new vehicle, the Term Securities Lending Facility (TSLF), to
12 address the deepening crisis in the credit markets. Under this new program, the
13 Federal Reserve will lend up to \$200 billion of Treasury securities to primary dealers
14 to promote liquidity and to foster the functioning of the financial markets generally.
15 The TSLF program subsequently expanded the list of accepted collateral that could be
16 put up as collateral for loans. In March, the Fed also established the Primary Credit
17 Dealer Facility that made the Fed the lender of last resort to brokers as well as banks.
18 This marked the first time the Fed lent money directly to non-depository institutions
19 since the 1930’s.

20 On March 16, 2008, the Fed arranged a \$30 billion bail out of investment bank
21 Bear Stearns Cos. using J.P. Morgan, another investment bank, as a conduit. The
22 extraordinary measures needed to be taken by the Fed highlight how the crises in the
23 credit and capital markets have increased risks to investors.

24
25 Q. **What are some of the consequences of the current economic situation?**

26 A. Forecasts for economic growth have decreased over the past several months, while
27 forecasts of inflation have gone up. *Blue Chip Financial Forecasts* (“*Blue Chip*”)
28 predicts 1.0 percent real GDP growth for the third quarter of 2008 and 0.3 percent real
29 GDP growth for the fourth quarter. *Blue Chip* forecasts a 5.1 percent increase in the
30 CPI in the third quarter of 2008 and increasing interest rates through the fourth quarter
31 of 2009.

1 Q. **Why did you use *Blue Chip* information and forecasts in your analysis?**

2 A. *Blue Chip* is a respected publication that reports the consensus forecasts of forty-six
3 leading financial forecasters. These consensus forecasts, which embody the
4 expectations of the leading analysts of major financial institutions, will influence the
5 market. For this reason alone, these forecasts are more likely to move the market than
6 individual forecasts. After all, in this analysis, we are trying to determine the overall
7 opinions of investors, and this is information that investors rely upon.

8

9 Q. **You mentioned the inflation rate as an important factor to examine. What are the
10 current inflation considerations?**

11 A. The forecast for core inflation, which excludes food and energy prices, is 2.4 percent
12 for 2008, which is above the Fed “comfort zone” of 1 percent to 2 percent. In its June
13 25, 2008 press release, the FOMC stated, “Although downside risks to growth remain,
14 they appear to have diminished somewhat, and the upside risks to inflation and
15 inflation expectations have increased.”

16

17 Q. **What is the forecasted level of bond interest rates?**

18 A. Generally, analysts expect long-term bond rates to increase further despite the Federal
19 Reserve’s efforts to lower short-term rates. For example, in the near-term, *Blue Chip*
20 forecasts show increases from 4.58 percent today to 5.1 percent for the 30-year
21 Treasury through the fourth quarter of 2009. I have shown the forecasts for the 10-year
22 and 30-year Treasuries in Schedule DAM-3. As an example of longer term forecasts,
23 *Value Line* recently predicted the AAA corporate bond yield would increase from 5.7
24 percent today to 6.5 percent over the 2011-2013 period. These forecasts are significant
25 for this proceeding. Long-term corporate interest rates are the most relevant,
26 competitive, benchmark rates for utility returns. I have shown the longer-term
27 forecasts for long-term corporate yields and some Treasury securities in Schedule
28 DAM-4.

1 Q. **Can you summarize how the economic environment was important to your**
2 **analysis and recommendations in this proceeding?**

3 A. The risks facing the credit and capital markets are significant. Banks are facing severe
4 write-downs and impairments and have little room to extend credit amid rising losses.
5 Energy prices are at or near all-time highs, and inflation is accelerating.
6 Contemporaneously, utilities are facing record high energy prices, increasing
7 infrastructure and environmental requirements, and increasing operating costs. I
8 considered this background throughout my analysis. The challenges facing the credit
9 and capital markets compound the risks to capital-intensive utility companies. Rising
10 inflation and rising interest rates erode earnings and adversely affect the cost of a
11 utility's debt and equity, eroding utility margins. That is, despite the lowering of short-
12 term rates, rising inflation and rising interest rates in the longer term increase the risk
13 that common stockholders will not achieve their anticipated returns on investment.
14

15 V. ALLOWED RETURN OBJECTIVE

16 Q. **When you developed your recommended allowed return for OG&E in this**
17 **proceeding, what standard did you use in your analysis?**

18 A. I developed this recommended allowed return in a manner that is consistent with my
19 understanding of the concept of a "fair rate of return" on invested capital, which is a
20 return which complies with the United States Supreme Court decision in *Bluefield*
21 *Water Works and Improvement Company vs. Public Service Commission*, 262 U.S.
22 679 (1923) ("*Bluefield*"), as further modified in *Federal Power Commission vs. Hope*
23 *Natural Gas Company*, 320 U.S. 591 (1944) ("*Hope*"). As an economist, I believe that
24 a rate of return is "fair", if it provides earnings to investors similar to returns on
25 alternative investments in companies of equivalent risk. Such a return will be
26 sufficient to enable the company to compensate investors for assumed risk, attract
27 capital, operate successfully, and maintain its financial integrity. As an economist, I
28 also have concluded that this standard implies that utilities, as a regulated single
29 supplier, do not face the same market influences as in more competitive markets. A
30 single utility is likely to exist in a market because of economies of scale and scope in
31 providing retail utility service, and that this market structure is the common economic

1 rationale for regulation.

2
3 VI. CAPITAL STRUCTURE

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

5 A. The capital structure for ratemaking as proposed by the Company, and which I have
6 adopted as appropriate for this proceeding, is the following: long-term debt is
7 \$1,433,132,342 (33.38 percent), short-term debt is zero (0.00 percent), customer
8 deposits are \$53,633,284 (1.25 percent), Pre-1971 ADITCs are zero (0.00 percent),
9 Post-1970 ADITC-Long Term Debt is \$9,732,764 (0.23 percent), Post-1970 ADITC-
10 Short Term Debt is zero (0.00 percent), Post-1970 ADITC-Equity is \$12,237,359
11 (0.28 percent), accumulated deferred income taxes are \$664,688,707 (15.01 percent),
12 current, accrued and other liabilities \$338,577,290 (7.89 percent) and common equity
13 is \$1,801,929,378 (41.96 percent). I show this relevant capital structure for
14 ratemaking in this proceeding as proposed by OG&E in Schedule DAM-5. I have
15 included short-term debt in the capital structure, as I understand, including short-term
16 debt is the regulatory convention in Arkansas. The level of short-term debt is the level
17 developed by the Company.

18
19 Q. **Did you evaluate OG&E'S capital structure for ratemaking and compare it to the
20 capital structures of the comparable electric utilities?**

21 A. Yes. OG&E's common equity ratio for ratemaking of 41.96 percent is very low, when
22 compared to the financial capital structures of electric utilities in current markets. This
23 is a very low common equity ratio. For example, according to *Value Line*, the average
24 for the comparable electric utilities is 48.1 percent. I show this comparison among all
25 of these utilities in Schedule DAM-6. Note that I also include the common equity
26 ratio of OGE Energy, which is considerably higher than the OG&E common equity
27 ratio for ratemaking in this proceeding.

1 VII. COST OF DEBT AND OTHER CAPITAL COMPONENTS

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

4 A. As provided by the Company, the calculation of the embedded cost of long-term debt
5 that is appropriate for OG&E in this proceeding is 6.40 percent.

6
7 Q. **How did you determine the cost of short-term debt that was appropriate for**
8 **OG&E in this proceeding?**

9 A. OG&E has determined its cost of short-term debt is 5.54 percent, and I used this cost
10 in my estimation of the total cost of capital.

11
12 Q. **Other than the cost of debt and common equity, what are the costs of the other**
13 **capital components?**

14 A. I have used the following costs for the other capital structure components; the cost of
15 customer deposits is 4.41 percent, the cost of accumulated deferred income tax credits
16 is zero percent, and the cost of current, accrued and other liabilities is zero percent.

17
18 VIII. FINANCIAL RISK

19 Q. **When discussing the common equity ratio of OG&E you mentioned financial**
20 **risk. What did you mean by the term "financial risk?"**

21 A. The payment of interest on debt takes precedence over returns to common stock, so
22 common stock investors are exposed to the risk that a company will not have
23 sufficient funds to provide the expected returns from dividends and capital gains. As I
24 stated previously, when I noted the extremely low common equity ratio of OG&E, a
25 direct measure of financial risk is the common stock equity ratio. Although analysts
26 may use other measures of financial risk, the common equity ratio influences those
27 measures. For example, other measures of financial risk are bond ratings and *Value*
28 *Line's* financial strength rating. In my analysis, I reviewed Standard & Poor's (S&P's)
29 bond ratings and *Value Line's* "Financial Strength" measures for the comparable
30 companies and OGE Energy. *Value Line* ranks the comparable electric utilities all
31 between A and B in Financial Strength. It ranks OGE Energy as an A. The comparable

1 companies all have S&P bond ratings between BBB- and A+. OGE Energy's S&P
2 credit rating is BBB+. I illustrate these comparisons in Schedule DAM-7.

3 4 IX. BUSINESS RISK

5 **Q. You referred to business risk. What do you mean by the term "business risk?"**

6 A. Business risk is the exposure of investors' anticipated returns to the uncertainties of a
7 company's day-to-day business activities. Examples of important business risks for
8 electric utilities include such factors as the risk of recovering fuel cost increases,
9 increasing costs of investment in infrastructure, storm damage expenses, and
10 increasing operating and maintenance expenses.

11
12 **Q. How did business risk affect your analysis?**

13 A. In order to determine how business risk might affect the cost of capital of OG&E, I
14 reviewed measures of business risk for the comparable companies and OGE Energy.
15 For the publicly traded companies, financial publications address risks of the industry
16 and individual companies such as OGE Energy and the comparable companies. I also
17 investigated special business risks of OG&E that would affect providing service to
18 customers in Arkansas.

19
20 **Q. What published measures of business risk did you review in your analysis?**

21 A. I reviewed the *Value Line* rankings of "Safety" and "Timeliness." Although these two
22 measures are both broader than just business risk, business risks undoubtedly have a
23 significant influence on these rankings. For example, *Value Line* defines its "Safety"
24 ranking as a measurement of the potential risk associated with individual common
25 stocks; it defines "Timeliness" as a measure of a stock's probable performance in the
26 forthcoming year relative to the overall market.

27
28 **Q. What did you determine were these measures of risk?**

29 A. The comparable companies have an average Safety rank of 2.3, with a rank of 1 being
30 the highest out of 5 possible ranking categories. By comparison, OGE Energy has a
31 Safety Rank of 2. All but one of the comparable companies have a Timeliness rank of

1 3, as does OGE Energy. For interpreting these rankings, one can consider a 3 as
2 representing the average for all the securities in the market. I show this comparison in
3 Schedule DAM-8.

4
5 **Q. Have you reviewed any financial information concerning the business risks facing**
6 **OG&E?**

7 A. Yes. I reviewed analysts' reports that noted the business risks facing OG&E and OGE
8 Energy. From these references, I concluded that OG&E faces the usual business risks
9 which are familiar to investors in electric utilities in today's markets. These risks
10 include such factors as timely recovery of fuel and storm related operating expenses
11 and market pressure on a utility's securities resulting from a large capital expenditure
12 programs. In fact, the capital expenditure program, which I have reviewed, shows a
13 several fold increase in 2008; this is a near-term risk to OG&E's common equity and
14 bond investors.

15
16 **X. FINANCIAL STATISTICS**

17 **Q. What financial statistics did you review of the companies that you studied?**

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

21
22 **Q. What are the current common stock earnings estimates for the comparable**
23 **electric utilities and OGE Energy?**

24 A. I compared the common equity returns for these companies as reported by *Value Line*,
25 which I illustrated in Schedule DAM-9. The forecasted average return on common
26 stock equity for 2008 for the comparable companies is 12.2 percent.

27
28 **Q. You reviewed the dividend payments of the comparable companies. What did**
29 **your review show?**

1 A. Schedule DAM-10 shows that the declared dividends of the comparable companies
2 were generally stable, with modest increases. OGE Energy's dividends have remained
3 virtually flat over the last five years.
4

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

7 A. On the average, these companies have shown a stable dividend payout over this
8 period. Schedule DAM-11 shows that *Value Line* estimates the average payout ratio
9 of the comparable electric utilities at 56.9 percent in 2008, which is consistent with the
10 payout ratios that I have observed in this industry recently.
11

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

14 A. According to *Value Line* data, the average P/E ratios of the comparable electric
15 utilities is currently 14.1. I found this P/E ratio to be consistent with other recent
16 reviews of electric utilities that I have performed. I believe that this indicates that the
17 market valuations of the earnings of these companies are consistent with the
18 valuations of other electric utilities in today's markets. I have illustrated this
19 calculation in Schedule DAM-12. This schedule also shows OGE Energy to have a
20 current P/E ratio of 13.3.
21

22 XI. MARKET MEASUREMENTS OF THE COST OF COMMON EQUITY

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

25 A. I used the two generally accepted market-based methods, the DCF and the CAPM, to
26 estimate the cost of common stock in my analysis. I applied each of these methods to
27 estimate the costs of common stock for OG&E by estimating the cost of each of the
28 comparable electric utilities, and I compared the results among these various
29 companies. For each of these two methods, I assessed their underlying assumptions
30 and their analytical strengths and weaknesses. Subsequently, I evaluated the results
31 from these analyses in the context of current market conditions and the relative risks.

1 XII. DISCOUNTED CASH FLOW METHOD

2 Q. **Can you define the DCF methodology for measuring the cost of common equity?**

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

5
$$K = D/P + g$$

6 Where: K = cost of common equity

7 D = dividend per share

8 P = price per share and

9 g = rate of growth of dividends, or alternatively, common
10 stock earnings.

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

17
18 Q. **You mentioned the underlying assumptions of the cost of capital models. What
19 assumptions underlying the DCF method are important when estimating the cost
20 of common stock equity in practice?**

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

- 23 1. Investors are risk averse. That is, for a given return, investors will seek
24 the alternative with the lowest amount of risk. In other words, the
25 greater the risk that investors attribute to a given investment, the greater
26 the return they require from that investment.
- 27
28 2. The discount rate must exceed the growth rate, i.e. K , in the stated
29 expression, must exceed g . The mathematics associated with the
30 derivation of the basic annually compounded DCF model requires this
31 assumption.
- 32
33 3. The payout and the price earnings ratios remain constant.
34

- 1 4. Expected cash flows consist of dividends and the future sale price of
2 the stock. The sales price in any period will equal the present value of
3 the dividends and the sales price expected after that period including
4 any liquidating dividend. Consequently, the sales price in any period is
5 equal to the present value of all expected future dividends.
6
7 5. Dividends are paid annually.
8
9 6. There is no external financing.
10
11
12

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

17 XIII. STRENGTHS OF THE DCF

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

21 A. The DCF method is theoretically sound, and this is its greatest strength. It relates an
22 investor's expected return in the form of dividends and capital gains to the value that
23 an investor is willing to pay for those returns. The DCF implies that an investor is
24 willing to pay a market price that is equal to the present value of an anticipated stream
25 of earnings. This relationship theoretically reveals the opportunity cost of investors'
26 funds. In this way, the DCF relates known market price information and the
27 company's dividend and earnings performance to determine the value that investors
28 place on anticipated returns. A practical advantage of the DCF, as a cost of capital tool
29 in a ratemaking proceeding, is that regulatory analysts commonly use it, and
30 participants in proceedings generally understand it.
31

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

34 A. Yes. The DCF develops an estimate of the marginal cost of investing in a given utility,
35 but this may not be sufficient to attract capital in subsequent markets. It is consistent

1 with the principle of setting a return equal to returns of equivalent risk at the margin,
2 but this cost of capital level is not necessarily sufficient to assure that a return at this
3 level will attract and maintain capital even in the near term.
4

5 XIV. WEAKNESSES OF THE DCF

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

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

18 Also, as I stated previously, the DCF method calculates the marginal, or
19 incremental, cost of common stock equity of a company. If analysts do not recognize
20 the theoretical significance of this calculation, they may misapply the results of their
21 calculations. As a marginal cost estimate, the DCF produces an estimate of the
22 minimal return necessary to attract or maintain investment funds to a company's
23 common stock.
24

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

27 A. If a DCF-based cost of common equity, even if realistically developed, becomes the
28 allowed return for a regulated utility, this will not provide enough cushion so the
29 realized return will be sufficient to attract and maintain capital. Analysts, interpreting
30 the results of the DCF calculations, may not recognize this. Consequently, the DCF-
31 based calculations may be misleading. In fact, this misunderstanding of the DCF

1 results can virtually assure that a regulated company will not have the opportunity to
2 earn its allowed return.

3
4 **Q. Are you aware if regulatory commissions recognize these limitations of the DCF?**

5 A. Yes. Regulatory commissions have recognized the difficulties of relying on the raw,
6 unadjusted DCF calculations. In one such example, a regulatory commission
7 recognized that the assumptions underlying the DCF model rarely, if ever, hold true.¹
8 This commission stated that an "...unadjusted DCF result is almost always well below
9 what any informed financial analyst would regard as defensible and therefore requires
10 an upward adjustment based largely on the expert witness' judgment."²

11
12 **Q. In addition to an adjustment based on "expert" judgment, in your experience,
13 are you aware of regulators and analysts attempting to compensate for the
14 marginal cost nature of the DCF?**

15 A. Yes. Both regulators and analysts have often applied compensating adjustments for the
16 marginal cost nature of the DCF adjustment, and they do so in a variety of ways.
17 Although these various adjustments may differ greatly in their approaches, each
18 addresses the inadequacy of the marginal cost estimates of the cost of capital in some
19 manner. For example, I have observed such practices as applying a "flotation"
20 adjustment, a "market pressure" adjustment or an adjustment to common equity to
21 reflect the market values of debt and equity.

22
23 **Q. You said that a flotation adjustment is one way that analysts address the
24 marginal cost nature of the DCF. Can you explain why this is the case?**

25 A. Analysts apply a flotation adjustment because the market-based DCF estimate of the
26 cost of capital does not account for the costs of issuing common stock. That is, the
27 market-based DCF does not incorporate the unavoidable costs incurred when issuing
28 securities, such as legal fees, investment banker fees and the publication costs of a
29 prospectus. The flotation adjustment attempts to raise the market-measured cost of

¹ 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.

² *Ibid*, *In re Indiana Michigan Power Company*, 116 PUR4th 1, 17 (Ind. 1990).

1 capital, which is the return required to attract the marginal investor, to the same level
2 as the true cost of capital of the utility.

3
4 **Q. Did you apply a flotation adjustment in your DCF analysis?**

5 A. No, I did not.

6
7 **Q. If a utility incurs the costs of flotation that reduce the level of funds received from
8 a stock issuance, why did you not apply such an adjustment?**

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

15
16 **Q. What is a "market pressure" adjustment?**

17 A. A market pressure adjustment is compensation for the impact of a common stock
18 issuance on the prices of that common stock. Analysts apply this adjustment because
19 the DCF measured cost of common stock cannot account for the prospective price
20 impact of additional, newly issued shares. This is another instance when the marginal
21 cost of common stock measured prior to this issuance will fail to capture the true cost
22 of capital necessary to attract investors.

23
24 **Q. Are you recommending that an analyst should add a market pressure adjustment
25 to a DCF result when determining a recommended allowed return?**

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

1 Q. **You mentioned an adjustment to the cost of equity to reflect market values for**
2 **debt and equity?**

3 A. Regulatory convention dictates that an analyst should use the book values of securities
4 when establishing the capital structure of a utility for ratemaking. However, some
5 analysts adjust the cost of equity for ratemaking to compensate for the difference
6 between market value and book value. Of course, investors must measure the marginal
7 cost returns against the market values of their investment. Some analysts recognize the
8 difference between market valuation and book valuation of common stock to
9 recognize the marginal cost nature of the DCF method.

10

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

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

16

17 XV. DATA USED IN DCF ANALYSIS

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

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

26

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

29 A. A number of authors have addressed the merits of analysts' forecasts in a DCF
30 analysis of the cost of capital. For example, a well-known financial textbook by

1 Brigham and Gapenski explains why analysts' growth rate forecasts are the best
2 source for growth measures in a DCF analysis. They state:

3 Analysts' growth rate forecasts are usually for five years into the future, and
4 the rates provided represent the average growth rate over the five-year horizon.
5 Studies have shown that analysts' forecasts represent the best source for
6 growth for DCF cost of capital estimates.³
7

8 Research reported in the academic literature supports this position. For
9 example, Gordon, Gordon and Gould found:

10 ...the superior performance by KFRG (forecasts of growth by security
11 analysts) should come as no surprise. All four estimates of growth rely upon
12 past data, but in the case of KFRG a larger body of past data is used, filtered
13 through a group of security analysts who adjust for abnormalities that are not
14 considered relevant for future growth.⁴
15

16 **Q. Have academic articles specifically addressed the use of forecasted growth rates
17 in DCF analyses developed for regulatory proceedings?**

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

21 The results show that all financial analysts' forecasts contain a significant
22 amount of information used by investors in the determination of share prices
23 not found in the historical growth rate....The results provide additional
24 evidence that the historical growth rates are poor proxies for investor
25 expectations; hence they should not be used to estimate utilities' cost of
26 capital.⁵
27

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

30 **A.** Yes. For an historical perspective, I also reviewed the common equity earnings and
31 dividend history of the companies studied. As I stated previously, for analytical
32 purposes and to enhance the reliability of my DCF analysis, I relied principally on

³ 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.

⁴ 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.

⁵ 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 forecasted common stock earnings in my DCF analysis.

2
3 **Q. What did your review of the growth rates of common stock earnings and**
4 **dividends show?**

5 A. I show the dividend and earnings per share growth rates in Schedule DAM-13. For the
6 context of this proceeding, I noted two important observations about these growth
7 rates. First, OGE Energy's forecasted earnings per share growth and dividend growth
8 are both significantly less than the average of the comparable companies. In fact, the
9 projected dividend growth of OGE Energy is less than each of the comparable
10 companies. Second, the projected earnings per share growth and dividend growth are
11 both significantly higher than the recent growth history.

12
13 **Q. What was the source of the common stock price data that you used in your DCF**
14 **analysis?**

15 A. I used *YAHOO! Finance* as the source of market price information. I obtained current
16 prices for a recent two-week period and the high and low share prices for a 52-week
17 period. *YAHOO! Finance* is a widely-used internet portal that provides electronic
18 financial information including daily prices. The current market prices reflect current
19 market valuations. The longer time period recognizes the changing market conditions
20 over time and helps determine a reasonable allowed return to be used to develop rates
21 expected to be in place for a period.

22
23 **XVI. DCF CALCULATIONS**

24 **Q. Please explain the results of your DCF calculations.**

25 A. In one DCF analysis, I used recent market prices and combined historical and
26 forecasted dividend growth rates. In the second method, I took a relatively longer-term
27 outlook by reviewing the combined historical and forecasted dividend growth rates
28 and the common stock prices for the past year. I illustrate the results of these DCF
29 calculations using the two different price series in Schedules DAM-14 and DAM-15.
30 The estimated current cost of common equity using this method produced an
31 unreasonably low estimate for OGE Energy. That is, the high-end estimate using this

1 method is lower than the current cost of investment grade corporate debt, and this is
2 not a useful result for ratemaking. This is an example of the potentially unreliable
3 results from the DCF method that I discussed previously. Applying longer-term
4 growth rates and market prices from the longer period still did not produce realistic
5 cost of common equity estimates for OGE Energy; however, the results for the
6 comparable companies were a more realistic 10.63 percent.

7
8 **Q. You discussed the importance of using the earnings per share growth rate in the**
9 **DCF analysis. What were the DCF results of your analysis using earnings per**
10 **share growth rates?**

11 **A.** Using current prices, the relevant cost estimate for OGE Energy is 11.31 percent and
12 for the comparable companies it is 10.94 percent. Using the longer-term price series
13 and a longer market perspective, the result for OGE Energy is 11.70 percent and the
14 average for the comparable electric utilities is 11.17 percent. I have illustrated these
15 results in Schedules DAM-16 and DAM-17.

16
17 **Q. You also mentioned that academic literature findings show the importance of**
18 **using forecasted earnings. What were the results of your DCF analyses using**
19 **financial analysts' forecasted growth rates?**

20 **A.** In this case, the DCF results for OGE Energy again produced results that were too
21 close to the current returns for high grade corporate bonds to represent a reliable
22 estimate of the Company's cost of common equity. On the other hand, the average
23 DCF results for the comparable electric utilities were higher than current expected
24 market returns for these companies, and these are likely to be higher than necessary to
25 attract and maintain capital. For example, the current price series results averaged
26 13.46 percent, and the longer price series results averaged 13.70 percent. This is
27 another example of the instability of the DCF method, especially when one applies the
28 data produced by the current volatile markets. I have illustrated these results in
29 Schedules DAM-18 and DAM-19.

XVII. THE CAPM METHODOLOGY

1
2 **Q. Please explain how you used the Capital Asset Pricing Model in your analysis?**

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

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

10
11
12 Where: K = the required return.
13 R_F = the risk-free rate.
14 R_M = the required overall market return; and
15 β = beta, a measure of a given security's risk relative to that of the
16 overall market.

17
18 To elaborate on these definitions, the risk free rate is the known benchmark rate of a
19 particular security. Analysts may use a variety of rates, such as rates of
20 Treasury securities and corporate bonds, for this benchmark rate. The overall market
21 return is the return on all of the investment alternatives available to the investor that
22 investors may combine into a portfolio. The beta represents the relative volatility of
23 the analyzed security to the market return. In this above expression, the value of
24 market risk is the differential between the market return and the "risk-free" rate. By
25 estimating the risk differential between an individual security and the market as a
26 whole, an analyst can measure the relative cost of that security compared to the market
27 as a whole.

28
29 **Q. How did you use the CAPM in your analysis?**

30 A. As a risk premium based technique, the CAPM provides a longer-term perspective
31 than that of the more volatile DCF. I used it as a stable benchmark of the reasonable
32 cost of common stock of the studied companies. It takes current debt costs as a basis
33 and estimates the cost of a common stock based on the risk differential between the
34 two. The CAPM links the incremental cost of capital of an individual company with

1 the risk differential between that company and the market as a whole. This is a
2 somewhat imprecise method, but it is a good tool for assessing the general level of the
3 cost of a security.
4

5 **Q. What are the benefits that you see in using the CAPM in a regulatory**
6 **proceeding?**

7 A. The CAPM, as a risk premium method, is a relatively stable measure of the cost of
8 capital. The results of the CAPM are not likely to vary much over time. Also, the
9 CAPM results are likely to be similar for companies with similar financial
10 characteristics in the same industry.
11

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

14 A. The CAPM has several practical analytical problems. First, the calculations for a
15 company are sensitive to the beta used in the CAPM analysis. This beta is a single
16 market-volatility measure of risk, so, consequently, the CAPM will not incorporate
17 any risks not included in this measure. Also, a number of analysts have shown that the
18 CAPM overestimates the cost of capital of companies with betas greater than one and
19 underestimates the cost of capital of companies with betas less than one. In utility
20 regulation, this underestimation is important because most utilities have betas less than
21 one. The *Value Line* betas for the comparable electric utilities range between 0.75 and
22 0.90. As a consequence, the CAPM results in this analysis are likely to underestimate
23 the cost of common equity of each of the comparable electric utilities.
24

25 **Q. Are you aware of other practical problems that may result from applying the**
26 **CAPM analysis in a proceeding such as this one?**

27 A. Yes. Academic research has reported overwhelming empirical evidence that the
28 CAPM underestimates the cost of capital of smaller companies. This small firm bias
29 can be important in determining the cost of capital for smaller utilities such as OG&E
30 in this proceeding.

1 Q. **Can you explain more fully the CAPM methodology that you used in your**
2 **analysis?**

3 A. I applied two complimentary CAPM approaches to estimate the cost of capital of
4 OG&E. One of these methods examines the historical risk premium of common stock
5 over high grade corporate bonds. The other integrates the risk premium of common
6 stocks to long-term government bonds in recent markets. This second method requires
7 an adjustment for the bias due to company size that I mentioned previously. The
8 financial literature has recognized this bias as an empirical problem for a long time,
9 but correcting for this bias is a recent analytical development.

10

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

13 A. The Federal Reserve uses short-term Treasuries as a monetary policy vehicle, and the
14 government market actions preclude an accurate, unbiased measurement of market
15 valuations. The government securities are subject to the risk of changing Fed policies.
16 The government securities also have been directly influenced by the "flight-to-quality"
17 in the current volatile markets. Corporate bonds are a step removed from these direct
18 federal policy influences and more representative of market-measured, benchmark
19 measures for a risk premium analysis.

20

21 Q. **You mentioned the importance of the size bias in the CAPM analysis. Can you**
22 **explain the findings of some of these studies of size bias of the CAPM?**

23 A. R. W. Banz⁶ and M. R. Reinganum⁷, in the 1980s, pointed out the size bias resulting in
24 an under estimate of the cost of capital of smaller firms. Reinganum examined the
25 relationship between the size of the firm and its price-earnings ratio; he found that
26 small firms experienced average returns greater than those of large firms that had
27 equivalent risk as measured by the beta. Of course, the beta is the distinguishing
28 measure of risk in the CAPM. Banz confirmed that beta does not explain all of the

⁶ Banz, R.W., "The Relationship Between Return and Market Value of Common Stock," *Journal of Financial Economics*, March 1981, pp. 3-18.

⁷ 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.

1 returns associated with smaller companies; hence, the CAPM would understate their
2 costs of common equity. In the same time frame, Fama and French confirmed that the
3 Banz analysis consistently rejected the central CAPM hypothesis that beta sufficed to
4 explain the expected return of investors.⁸

5
6 **Q. What did you mean when you said that the CAPM method requires an**
7 **adjustment?**

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

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

18
19 To account for this empirical bias against smaller companies, Ibbotson
20 Associates has prescribed quantitative adjustments to the CAPM. It publishes this in
21 the same data source used by many analysts to estimate the risk premium in their
22 CAPM analyses.

23
24 **Q. Did you apply the adjustment recommended by Ibbotson Associates in your**
25 **analysis?**

26 A. Yes. In my CAPM analysis, where this was warranted, I followed the method
27 recommended by Ibbotson Associates to compensate for this inherent data bias.

⁸ 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.

⁹ 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. **Does this size bias of the CAPM apply to the companies in your analysis?**

2 A. Yes. All of the comparable companies that I used in my analysis are subject to the
3 CAPM size bias.

4

5 Q. **Does the size bias adjustment for the CAPM measured by Ibbotson apply to
6 regulated utilities?**

7 A. Yes. Ibbotson calculated a measured adjustment specifically for traditional regulated
8 utilities. In fact, Ibbotson Associates used an electric utility as an example to illustrate
9 how to apply the size premium when developing a CAPM analysis. I have included a
10 page from that publication that shows this illustration as my Schedule DAM-20.

11

12 Q. **To your knowledge, have any regulatory commissions accepted this size
13 adjustment to the CAPM in rate proceedings when determining the cost of
14 common equity?**

15 A. As I pointed out, the academic literature overwhelmingly recognizes the small firm
16 bias, and I know of at least one instance where a commission recognized the
17 adjustment to the CAPM proposed by Ibbotson. The Minnesota Public Utilities
18 Commission has done so in an Interstate Power and Light Company case. The
19 Commission observed:

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

24

25 **XVIII. CAPM CALCULATIONS**

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

27 A. As I stated previously, I used two different CAPM analyses based on slightly different
28 assumptions. These two methods provided complementary, comparatively long-term
29 perspectives of the cost of common equity of OGE Energy and the comparable electric
30 utilities. Because they provide a longer term perspective, these results are less volatile
31 than the DCF calculations. One of these methods recognized the risk associated with

¹⁰ *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 size of company, and I applied the compensation method recommended by Ibbotson
2 Associates. Using this method produced an average CAPM result of 11.93 percent for
3 OGE Energy and an average of 11.32 percent for the comparable electric utilities. I
4 have illustrated these results in Schedule DAM-21. The other method was an
5 historical CAPM method that recognized the long-term risk premium between
6 corporate bonds and electric utility common equities. The second CAPM method is a
7 method that does not require any recognition of the size bias.

8
9 **Q. What did this historical CAPM method show?**

10 **A.** This method produced an estimated cost of common equity for OGE Energy of 13.32
11 percent. For the comparable electric utilities, it produced an average CAPM cost of
12 common equity of 12.59 percent. I calculate and illustrate these results in Schedule
13 DAM-22.

14
15 **XIX. RECOMMENDED ALLOWED RETURN**

16 **Q. Please summarize some of the key factors that you relied upon in reaching a**
17 **recommended allowed return for OG&E?**

18 **A.** The recent and continuing volatility in the financial markets and the persistent,
19 increasing inflation expectations are important backdrops to reaching a recommended
20 allowed return in this proceeding. Most importantly, the aggressive Federal Reserve
21 policies have not reduced long-term interest rates on bonds, and analysts forecast
22 increases in long-term rates. Long-term rates are the most relevant, competitive rates
23 for OG&E common equity investors during the period that rates in this proceeding
24 will be in effect.

25 As representative of current market returns, the comparable electric utilities
26 have expected returns on common equity of 12.2 percent in the long term. This is an
27 important competitive standard in the current, volatile markets. The DCF results for
28 OGE Energy and the comparable electric utilities cover a wide range, characterizing
29 the volatility of that market measure. The relevant DCF results range from 11.17
30 percent to 13.70 percent. The less volatile, longer perspective CAPM results range

1 from 11.32 percent to 12.59 percent in current markets. I show a summary of the
2 relevant DCF and CAPM results in Schedule DAM-23.

3 The forecasts for increasing long-term interest rates and inflation and the
4 decline in the common equity market suggest that a return toward the midpoint of
5 these wide-ranging results, which is close to the competitive returns of the comparable
6 companies, is an appropriate return. Finally, the extremely low common equity ratio of
7 OG&E indicates relatively high financial risk when compared to the comparable
8 electric utilities.

9
10 **Q. What rate of return on common equity are you recommending for OG&E in this**
11 **proceeding?**

12 **A.** For ratemaking purposes, I am recommending an allowed return on common equity
13 for OG&E in the range of 11.75 percent to 12.25 percent. The market values are very
14 unlikely to recover to the level that would justify the lower end of this range.
15 Consequently, at minimum, the midpoint of my range, or 12.00 percent, is a
16 conservative return on common equity for OG&E at this time. Furthermore, interest
17 rate and inflation forecasts indicate that the upper end of my recommended range, or
18 12.25 percent, is prudent in the current markets.

19
20 **Q. What return on total capital are you recommending for OG&E in this**
21 **proceeding?**

22 **A.** Based on the relevant capital structure, the cost of long-term and short-term debt and
23 the other components in the capital structure, my recommended allowed return will
24 result in a range in the total cost of capital appropriate for this proceeding of 7.17
25 percent to 7.38 percent. I have illustrated the calculation of this recommended allowed
26 total return on Schedule DAM-24.

27
28 **XX. FINANCIAL INTEGRITY TEST**

29 **Q. You mentioned previously that you verified the adequacy of your recommended**
30 **allowed return for OG&E. Please explain how you tested the adequacy of your**
31 **recommendation.**

1 A. As a test of financial integrity of my recommended allowed return, I calculated the
2 After-Tax Interest Coverage ratio at my recommended allowed return range for
3 OG&E, and I compared that coverage level to the after tax coverages of the
4 comparable companies. In this way, I could determine if my recommended allowed
5 return is in line with the current coverages of other, comparable electric utilities in
6 today's markets.

7

8 Q. **What was the result of this adequacy test of you recommendation?**

9 A. As Schedule DAM-25 shows, OG&E's After-Tax Interest coverage is in the range of
10 3.21 to 3.30 times at my recommended allowed return range. The After Tax Coverage
11 of OG&E is difficult to evaluate. This is because of the various components included
12 in the ratemaking capital structure that are not included in the *Value Line* capital
13 structure which represent the financial analysts' reporting of the sources of capital.
14 Despite this data difference, by comparison, it is clear that the coverages of the
15 comparable electric utilities range from 2.27 times to 4.18 times in the current
16 markets. My recommended allowed return produces coverages that are consistent
17 with those of the comparable electric utilities. This confirms that even the upper end of
18 my recommended range is consistent with the returns of comparable electric utilities
19 in current markets.

20

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

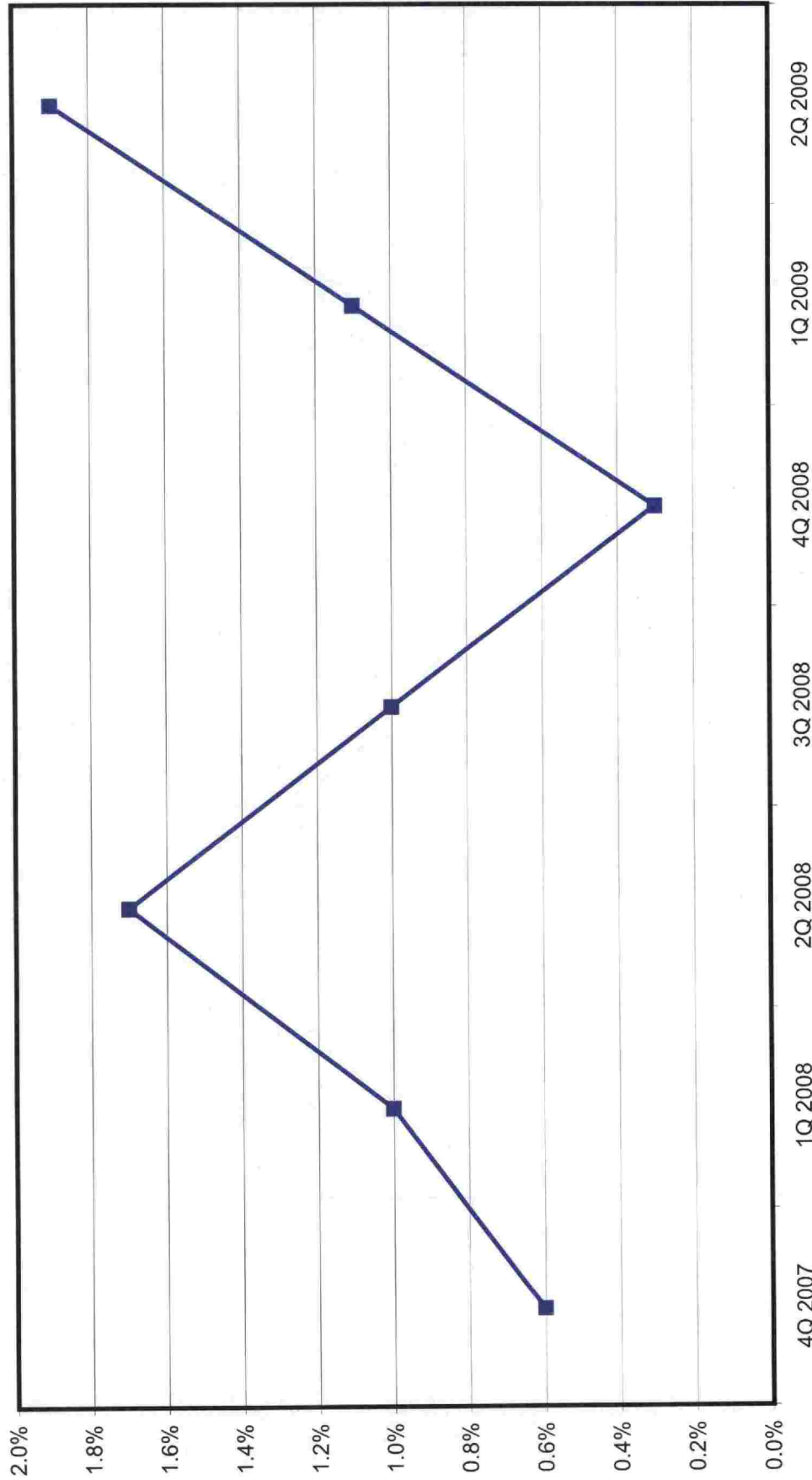
22 A. Yes, it does.

Oklahoma Gas & Electric Company

LIST OF SCHEDULES

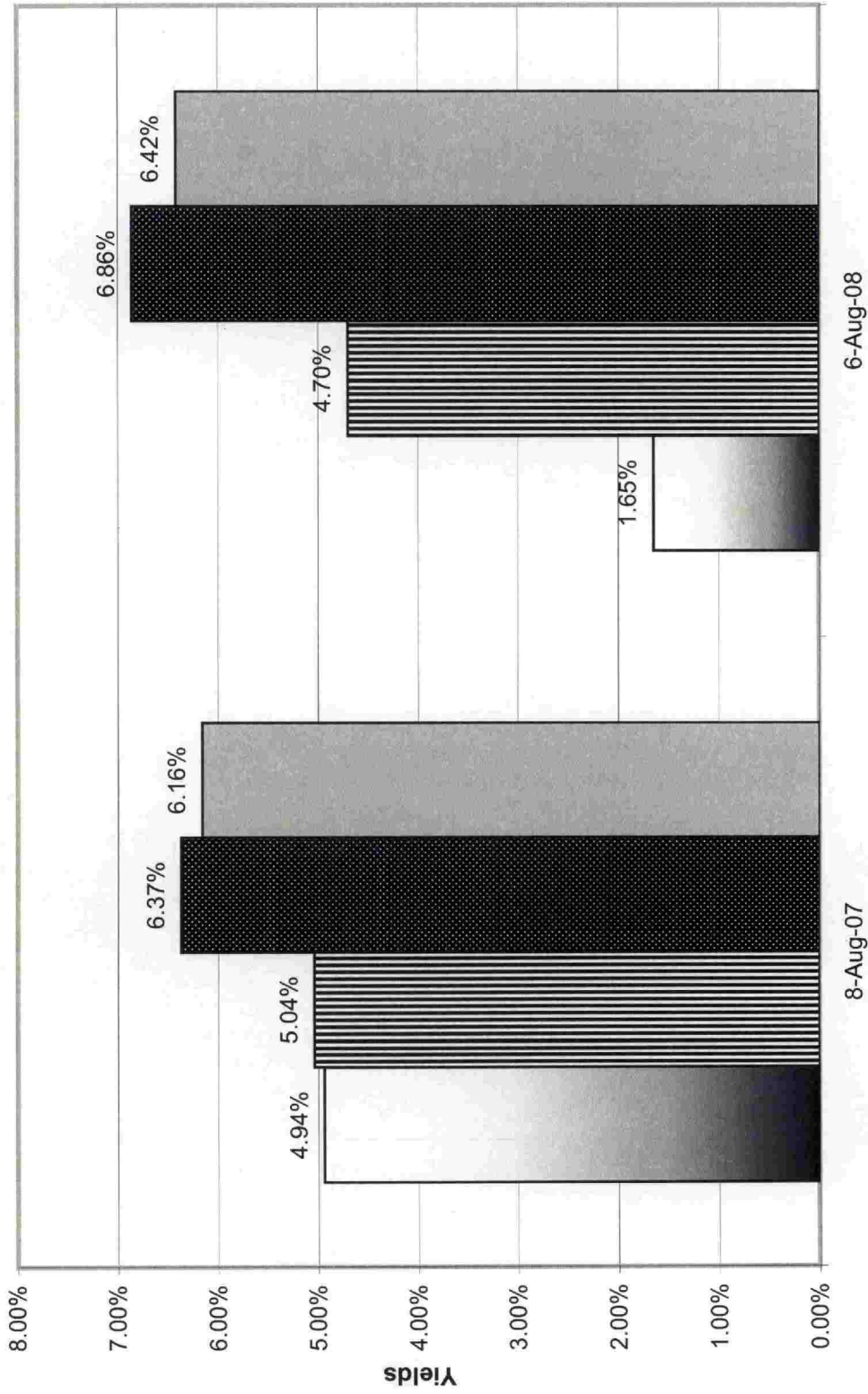
SCHEDULE DAM-1	Chart of Blue Chip Real GDP Forecasts
SCHEDULE DAM-2	Chart of Historical Bond Yield Statistics
SCHEDULE DAM-3	Chart of Blue Chip Interest Rate Forecasts
SCHEDULE DAM-4	Chart of Value Line Financial Forecasts
SCHEDULE DAM-5	Capital Structure as of December 31, 2007
SCHEDULE DAM-6	Comparison 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 Average Annual Price / Earnings Ratios
SCHEDULE DAM-13	Discounted Cash Flow Growth Rate Summary
SCHEDULE DAM-14	Dividend Growth Rate Discounted Cash Flow Using Current Share Prices
SCHEDULE DAM-15	Dividend Growth Rate Discounted Cash Flow Using 52-Week Share Prices
SCHEDULE DAM-16	Earnings Growth Rate Discounted Cash Flow Using Current Share Prices
SCHEDULE DAM-17	Earning Growth Rate Discounted Cash Flow Using 52- Week Share Prices
SCHEDULE DAM-18	Projected Growth Rate Discounted Cash Flow Using Current Share Prices
SCHEDULE DAM-19	Projected Growth Rate Discounted Cash Flow Using 52-Week Share Prices
SCHEDULE DAM-20	Page 60 from Ibbotson SBBI 2008 Yearbook Valuation Edition
SCHEDULE DAM-21	Size Adjusted Capital Asset Pricing Model
SCHEDULE DAM-22	Historical Capital Asset Pricing Model
SCHEDULE DAM-23	Summary of Financial Models' Analysis
SCHEDULE DAM-24	Proposed Cost of Capital
SCHEDULE DAM-25	Comparison of After-Tax Times Interest Earned Ratios

**Oklahoma Gas and Electric Company
Real GDP Consensus Forecast**



Source: Blue Chip Financial Forecasts, August 1, 2008

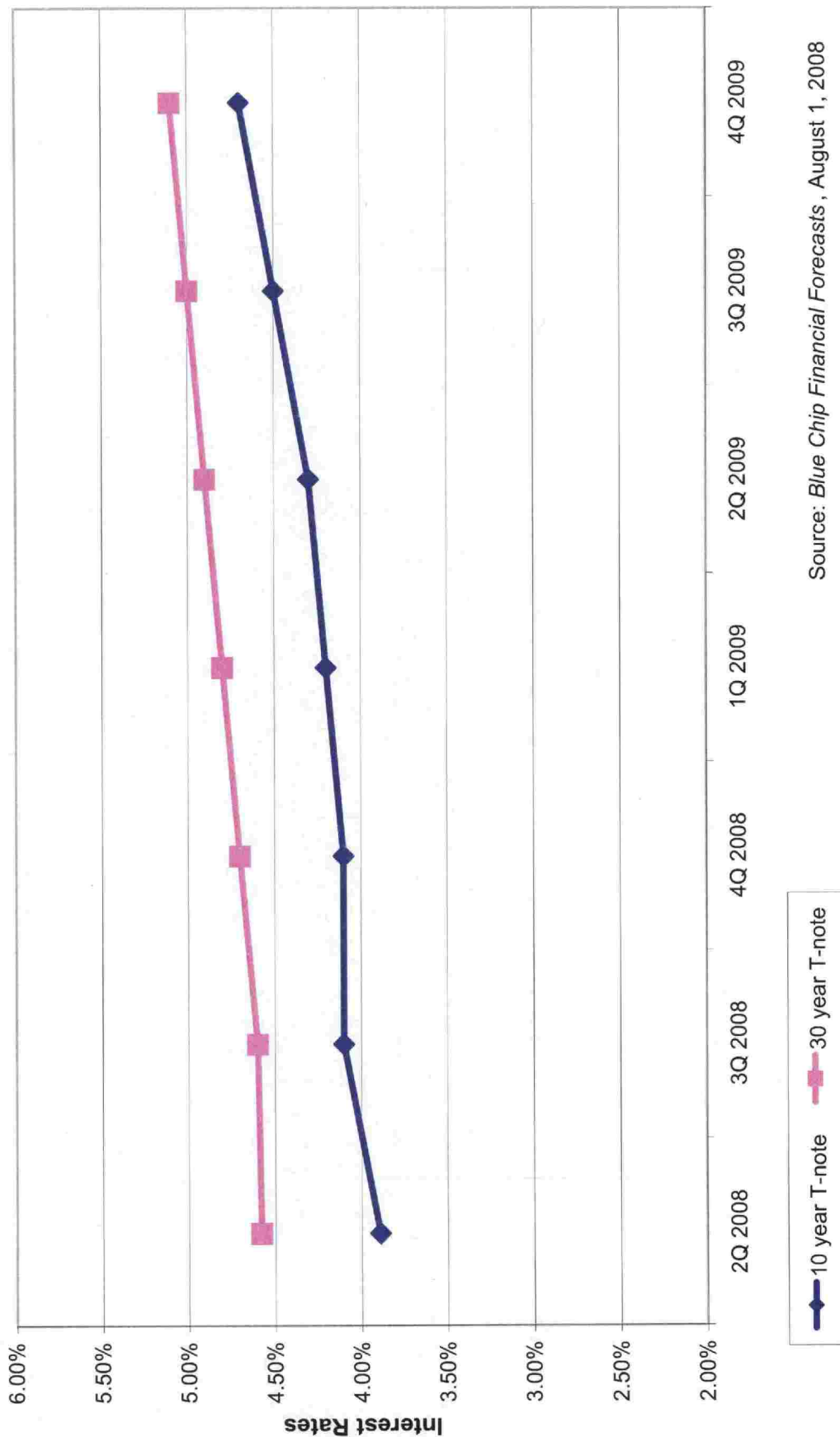
**Oklahoma Gas and Electric Company
Comparison of Selected Bond Yields**



3 month Treasury
 Utility Baa/BBB
 30 year Treasury
 Industrial A

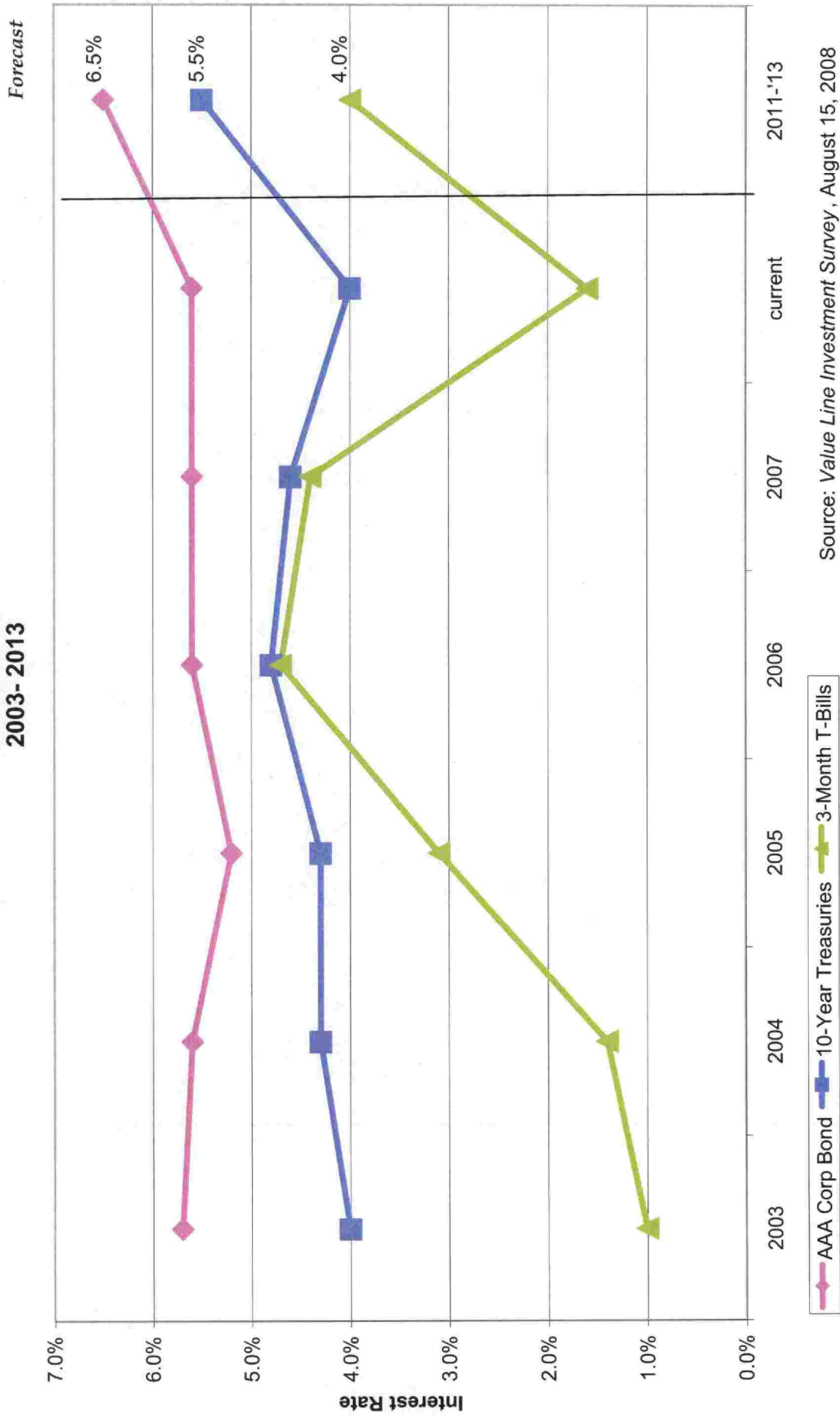
Source: Value Line Selection and Opinion, August 15, 2008

Oklahoma Gas and Electric Company
Blue Chip Treasury Forecasts



Source: Blue Chip Financial Forecasts, August 1, 2008

Oklahoma Gas and Electric Company
Value Line Interest Rates and Forecasts
2003- 2013



Source: Value Line Investment Survey, August 15, 2008

Oklahoma Gas & Electric Company

Proposed Capital Structure

Adjusted as of December 31, 2007

Item	Amount	Share
Long-Term Debt	\$1,433,132,342	33.38%
Common Equity	\$1,801,929,378	41.96%
Accumulated Deferred Income Taxes	\$644,688,707	15.01%
Pre-1971 ADITC	\$0	0.00%
Post-1970 ADITC - Long Term Debt	\$9,732,764	0.23%
Post-1970 ADITC - Short Term Debt	\$0	0.00%
Post-1970 ADITC - Equity	\$12,237,359	0.28%
Customer Deposits	\$53,633,284	1.25%
Short-Term / Interim Debt	\$0	0.00%
Current, Accrued and Other Liabilities	\$338,577,290	7.89%
Totals	\$4,293,931,124	100.00%

Source: *Oklahoma Gas & Electric Company Work Papers*

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Common Equity Ratios

Company	2004	2005	2006	2007	2008E	Forecast '11-'13
OGE Energy Corp.	47.4%	50.5%	54.4%	55.6%	52.0%	51.5%
DPL, Inc.	32.8%	37.9%	31.1%	35.8%	42.0%	47.0%
Northeast Utilities	34.0%	35.1%	39.7%	48.8%	44.0%	47.0%
Nstar	40.2%	38.6%	39.7%	40.1%	39.5%	49.5%
Pepco Holdings	39.6%	42.3%	45.1%	45.9%	46.0%	47.0%
Pinnacle West	53.3%	56.8%	51.6%	53.0%	51.5%	50.0%
SCANA Corp.	42.6%	46.6%	47.2%	49.7%	47.5%	45.5%
Wisconsin Energy	43.3%	46.7%	48.2%	49.2%	48.0%	51.0%
Comparable Companies' Averages	40.8%	43.4%	43.2%	46.1%	45.5%	48.1%

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.	A	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	4
SCANA Corp.	2	3
Wisconsin Energy	2	3
Comparable Companies' Average	2.3	3.1

Source: *Value Line Investment Survey*

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Returns on Common Equity

	2004	2005	2006	2007	2008E	Forecast '11-'13
OGE Energy Corp.	12.3%	12.1%	14.1%	14.5%	13.0%	11.5%
DPL, Inc.	20.7%	11.9%	17.5%	24.2%	24.0%	19.0%
Northeast Utilities	5.1%	5.1%	4.3%	8.4%	9.0%	9.5%
Nstar	13.1%	12.8%	13.1%	13.0%	13.5%	14.5%
Pepco Holdings	7.7%	7.7%	7.0%	7.4%	9.5%	11.0%
Pinnacle West	8.0%	6.5%	9.2%	8.5%	8.0%	8.0%
SCANA Corp.	12.2%	11.8%	10.5%	10.8%	11.5%	10.5%
Wisconsin Energy	8.8%	11.3%	10.8%	10.9%	10.0%	12.0%
Comparable Companies' Averages	10.8%	9.6%	10.3%	11.9%	12.2%	12.1%

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Declared Dividends

	2003	2004	2005	2006	2007	Past 5-Year Growth Rate
OGE Energy Corp.	1.33	1.33	1.33	1.34	1.37	0.0%
DPL, Inc.	0.94	0.96	0.96	1.00	1.04	1.0%
Northeast Utilities	0.58	0.63	0.68	0.73	0.78	10.0%
Nstar	1.09	1.13	0.87	1.54	1.33	3.5%
Pepco Holdings	1.00	1.00	1.00	1.04	1.04	0.0%
Pinnacle West	1.73	1.83	1.93	2.03	2.10	5.5%
SCANA Corp.	1.38	1.46	1.56	1.68	1.76	6.5%
Wisconsin Energy	0.80	0.83	0.88	0.92	1.00	-1.0%
Comparable Companies' Averages	1.07	1.12	1.13	1.28	1.29	3.6%

Source: Value Line Investment Survey

Oklahoma Gas & Electric Company

Comparable Electric Companies

Comparison of Dividend Payout Ratios

	2004	2005	2006	2007	2008E	Forecast '11-'13
OGE Energy Corp.	73%	72%	53%	51%	55%	53.0%
DPL, Inc.	53%	93%	90%	53%	53%	57.0%
Northeast Utilities	70%	72%	94%	50%	47%	44.0%
Nstar	64%	64%	63%	63%	64%	62.0%
Pepco Holdings	68%	69%	78%	68%	60%	60.0%
Pinnacle West	71%	85%	63%	70%	75%	73.0%
SCANA Corp.	55%	56%	65%	64%	61%	61.0%
Wisconsin Energy	45%	34%	35%	35%	38%	37.0%
Comparable Companies' Averages	60.9%	67.6%	69.7%	57.6%	56.9%	56.3%

Source: Value Line Investment Survey

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	13.3	14.0
DPL, Inc.	11.2	26.9	26.6	16.0	13.4	18.8
Northeast Utilities	20.8	19.8	27.1	18.7	14.6	20.2
Nstar	14.0	15.5	15.9	16.6	14.9	15.4
Pepco Holdings	13.6	14.9	18.1	18.2	12.9	15.5
Pinnacle West	15.8	19.2	13.7	14.9	12.8	15.3
SCANA Corp.	13.6	14.4	15.4	15.0	13.4	14.4
Wisconsin Energy	17.5	14.5	16.0	16.5	17.0	16.3
Comparable Companies' Averages	15.2	17.9	19.0	16.6	14.1	16.6

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		Value Line		Projections	
	EPS	DPS	Book Value	EPS	DPS	Book Value	EPS	DPS	Value Line	Yahoo!
OGE Energy Corp.	6.9%	1.7%	7.3%	8.5%	0.0%	5.5%	4.5%	2.5%	4.5%	4.0%
DPL Inc.	7.7%	3.9%	6.2%	-1.0%	1.0%	2.5%	11.0%	5.0%	11.0%	11.2%
Northeast Utilities	9.3%	6.6%	4.3%	8.5%	10.0%	2.5%	13.5%	6.0%	13.5%	8.2%
Nstar	6.3%	6.0%	5.5%	3.5%	3.5%	4.0%	7.5%	7.0%	7.5%	6.0%
Peppo Holdings	8.1%	9.3%	3.4%	-4.5%	0.0%	1.0%	13.0%	15.0%	13.0%	8.7%
Pinnacle West	2.4%	3.2%	2.7%	-2.5%	5.5%	3.5%	2.0%	2.0%	2.0%	4.0%
Scana Corp.	3.7%	4.8%	5.3%	4.0%	6.5%	4.0%	4.5%	4.0%	4.5%	4.8%
Wisconsin Energy	7.9%	7.9%	6.8%	9.0%	-1.0%	7.0%	8.0%	9.5%	8.0%	9.2%
Comparable Companies' Averages	6.50%	5.95%	4.89%	2.43%	3.64%	3.50%	8.50%	6.93%	8.50%	7.44%

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.	31.66	32.49	1.40	4.31%	4.42%	1.33	1.55	1.72%	6.02%	6.14%
DPL Inc.	25.51	25.99	1.10	4.23%	4.31%	0.95	1.34	3.94%	8.17%	8.25%
Northeast Utilities	24.67	25.14	0.83	3.30%	3.36%	0.58	1.03	6.59%	9.89%	9.95%
Nstar	31.75	32.52	1.43	4.40%	4.50%	1.10	1.85	5.98%	10.38%	10.49%
Pepco Holdings	24.50	25.01	1.12	4.48%	4.57%	0.81	1.80	9.33%	13.81%	13.90%
Pinnacle West	31.59	32.63	2.10	6.44%	6.65%	1.73	2.30	3.21%	9.65%	9.86%
Scana Corp.	35.53	36.45	1.84	5.05%	5.18%	1.38	2.10	4.78%	9.82%	9.95%
Wisconsin Energy	43.11	44.24	1.08	2.44%	2.51%	0.81	1.60	7.86%	10.30%	10.36%
Comparable Companies' Averages	30.95	31.71	1.36	4.33%	4.44%	1.05	1.72	5.95%	10.29%	10.40%

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		2008 Dividend	52 Week Yields		2002-04 DPS	2011-13E DPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
OGE Energy Corp.	29.12	38.30	1.40	3.66%	4.81%	1.33	1.55	1.72%	5.37%	6.52%
DPL Inc.	24.38	31.00	1.10	3.55%	4.51%	0.95	1.34	3.94%	7.48%	8.45%
Northeast Utilities	23.96	33.19	0.83	2.50%	3.46%	0.58	1.03	6.59%	9.09%	10.05%
Nstar	29.36	37.00	1.43	3.86%	4.87%	1.10	1.85	5.98%	9.85%	10.85%
Pepco Holdings	23.80	30.10	1.12	3.72%	4.71%	0.81	1.80	9.33%	13.05%	14.03%
Pinnacle West	30.26	44.50	2.10	4.72%	6.94%	1.73	2.30	3.21%	7.93%	10.15%
Scana Corp.	32.93	43.73	1.84	4.21%	5.59%	1.38	2.10	4.78%	8.98%	10.36%
Wisconsin Energy	41.06	50.48	1.08	2.14%	2.63%	0.81	1.60	7.86%	10.00%	10.49%
Comparable Companies' Averages	29.39	38.57	1.36	3.53%	4.67%	1.05	1.72	5.95%	9.48%	10.63%

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.	31.66	32.49	1.40	4.31%	4.42%	1.65	3.00	6.89%	11.20%	11.31%
DPL Inc.	25.51	25.99	1.10	4.23%	4.31%	1.21	2.35	7.69%	11.92%	12.00%
Northeast Utilities	24.67	25.14	0.83	3.30%	3.36%	1.08	2.40	9.32%	12.62%	12.68%
Nstar	31.75	32.52	1.43	4.40%	4.50%	1.73	3.00	6.31%	10.70%	10.81%
Peppo Holdings	24.50	25.01	1.12	4.48%	4.57%	1.53	3.10	8.14%	12.61%	12.71%
Pinnacle West	31.59	32.63	2.10	6.44%	6.65%	2.54	3.15	2.41%	8.84%	9.05%
Scana Corp.	35.53	36.45	1.84	5.05%	5.18%	2.52	3.50	3.73%	8.78%	8.91%
Wisconsin Energy	43.11	44.24	1.08	2.44%	2.51%	2.14	4.25	7.90%	10.34%	10.41%
Comparable Companies' Averages	30.95	31.71	1.36	4.33%	4.44%	1.82	3.11	6.50%	10.83%	10.94%

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		2008 Dividend	52 Week Yields		2002-04 EPS	2011-13E EPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
OGE Energy Corp.	29.12	38.30	1.40	3.66%	4.81%	1.65	3.00	6.89%	10.55%	11.70%
DPL Inc.	24.38	31.00	1.10	3.55%	4.51%	1.21	2.35	7.69%	11.24%	12.20%
Northeast Utilities	23.96	33.19	0.83	2.50%	3.46%	1.08	2.40	9.32%	11.82%	12.78%
Nstar	29.36	37.00	1.43	3.86%	4.87%	1.73	3.00	6.31%	10.17%	11.18%
Pepeco Holdings	23.80	30.10	1.12	3.72%	4.71%	1.53	3.10	8.14%	11.86%	12.84%
Pinnacle West	30.26	44.50	2.10	4.72%	6.94%	2.54	3.15	2.41%	7.12%	9.35%
Scana Corp.	32.93	43.73	1.84	4.21%	5.59%	2.52	3.50	3.73%	7.94%	9.32%
Wisconsin Energy	41.06	50.48	1.08	2.14%	2.63%	2.14	4.25	7.90%	10.04%	10.53%
Comparable Companies' Averages	29.39	38.57	1.36	3.53%	4.67%	1.82	3.11	6.50%	10.03%	11.17%

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.	31.66	32.49	1.40	4.31%	4.42%	4.50%	4.00%	8.31%	8.92%
DPL Inc.	25.51	25.99	1.10	4.23%	4.31%	11.00%	11.23%	15.23%	15.54%
Northeast Utilities	24.67	25.14	0.83	3.30%	3.36%	13.50%	8.22%	11.52%	16.86%
Nstar	31.75	32.52	1.43	4.40%	4.50%	7.50%	6.00%	10.40%	12.00%
Pepco Holdings	24.50	25.01	1.12	4.48%	4.57%	13.00%	8.67%	13.15%	17.57%
Pinnacle West	31.59	32.63	2.10	6.44%	6.65%	2.00%	4.00%	8.44%	10.65%
Scana Corp.	35.53	36.45	1.84	5.05%	5.18%	4.50%	4.75%	9.55%	9.93%
Wisconsin Energy	43.11	44.24	1.08	2.44%	2.51%	8.00%	9.19%	10.44%	11.70%
Comparable Companies' Averages	30.95	31.71	1.36	4.33%	4.44%	8.50%	7.44%	11.25%	13.46%

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		2008 Dividend	52 Week Yields		EPS Estimates		Cost of Capital	
	Low	High		Low	High	Value Line	Yahoo!	Low	High
OGE Energy Corp.	29.12	38.30	1.40	3.66%	4.81%	4.50%	4.00%	7.66%	9.31%
DPL Inc.	24.38	31.00	1.10	3.55%	4.51%	11.00%	11.23%	14.55%	15.74%
Northeast Utilities	23.96	33.19	0.83	2.50%	3.46%	13.50%	8.22%	10.72%	16.96%
Nstar	29.36	37.00	1.43	3.86%	4.87%	7.50%	6.00%	9.86%	12.37%
Pepco Holdings	23.80	30.10	1.12	3.72%	4.71%	13.00%	8.67%	12.39%	17.71%
Pinnacle West	30.26	44.50	2.10	4.72%	6.94%	2.00%	4.00%	6.72%	10.94%
Scana Corp.	32.93	43.73	1.84	4.21%	5.59%	4.50%	4.75%	8.71%	10.34%
Wisconsin Energy	41.06	50.48	1.08	2.14%	2.63%	8.00%	9.19%	10.14%	11.82%
Comparable Companies' Averages	29.39	38.57	1.36	3.53%	4.67%	8.50%	7.44%	10.44%	13.70%

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:

$$k_s = r_f + (\beta_s \times ERP) + SP_s$$

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:

$$k_s = r_f + (\beta_s \times ERP) + SP_s = 4.5\% + (0.53 \times 7.1\%) + 3.7\% = 12.0\%$$

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.	4.62%	0.90	7.10%	6.39%	0.92%	11.93%
DPL Inc.	4.62%	0.80	7.10%	5.68%	0.92%	11.22%
Northeast Utilities	4.62%	0.75	7.10%	5.33%	0.92%	10.87%
Nstar	4.62%	0.80	7.10%	5.68%	0.92%	11.22%
Pepco Holdings	4.62%	0.90	7.10%	6.39%	0.92%	11.93%
Pinnacle West	4.62%	0.80	7.10%	5.68%	0.92%	11.22%
Scana Corp.	4.62%	0.85	7.10%	6.04%	0.92%	11.58%
Wisconsin Energy	4.62%	0.80	7.10%	5.68%	0.92%	11.22%
Comparable Companies' Average	4.62%	0.81	7.10%	5.78%	0.92%	11.32%

Sources :

Value Line Investment Survey
 Ibbotson Associates 2008 S&P 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%	0.90	7.65%	5.67%	13.32%
DPL Inc.	14.70%	6.20%	8.50%	0.80	6.80%	5.67%	12.47%
Northeast Utilities	14.70%	6.20%	8.50%	0.75	6.38%	5.67%	12.05%
Nstar	14.70%	6.20%	8.50%	0.80	6.80%	5.67%	12.47%
Pepco Holdings	14.70%	6.20%	8.50%	0.90	7.65%	5.67%	13.32%
Pinnacle West	14.70%	6.20%	8.50%	0.80	6.80%	5.67%	12.47%
Scana Corp.	14.70%	6.20%	8.50%	0.85	7.23%	5.67%	12.90%
Wisconsin Energy	14.70%	6.20%	8.50%	0.80	6.80%	5.67%	12.47%
Comparable Companies' Average	14.70%	6.20%	8.50%	0.81	6.92%	5.67%	12.59%

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	11.93%	13.32%	11.32%	12.59%
Earnings Growth DCF Analysis	10.55%	11.70%	10.03%	11.17%
Projected Growth DCF Analysis	7.66%	9.31%	10.44%	13.70%

Oklahoma Gas & Electric Company

Proposed Cost of Capital

Adjusted as of December 31, 2007

Item	Amount	Share	Embedded Cost		Weighted Cost	
			11.75%	12.00%	11.75%	12.00%
Long-Term Debt	\$1,433,132,342	33.38%	6.39%	12.25%	2.13%	12.25%
Common Equity	\$1,801,929,378	41.96%	11.75%	12.25%	4.93%	5.14%
Accumulated Deferred Income Taxes	\$644,688,707	15.01%	0.00%	0.00%	0.00%	0.00%
Pre-1971 ADITC	\$0	0.00%	0.00%	0.00%	0.00%	0.00%
Post-1970 ADITC - Long Term Debt	\$9,732,764	0.23%	6.39%	6.39%	0.01%	0.01%
Post-1970 ADITC - Short Term Debt	\$0	0.00%	5.54%	5.54%	0.00%	0.00%
Post-1970 ADITC - Equity	\$12,237,359	0.28%	11.75%	12.25%	0.03%	0.03%
Customer Deposits	\$53,633,284	1.25%	4.41%	4.41%	0.06%	0.06%
Short-Term / Interim Debt	\$0	0.00%	5.54%	5.54%	0.00%	0.00%
Current, Accrued and Other Liabilities	\$338,577,290	7.89%	0.00%	0.00%	0.00%	0.00%
Totals	\$4,293,931,124	100.00%			7.17%	7.38%

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	@11.75% ROE	3.21
	@12.00% ROE	3.25
	@12.25% ROE	3.30
DPL Inc.		4.18
Northeast Utilities		2.52
Nstar		2.46
Pepco Holdings		2.58
Pinnacle West		2.45
Scana Corp.		2.81
Wisconsin Energy		2.56
Comparable Companies' Average		2.79

Source : *Value Line Investment Survey*