

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

Petition for increase in rates by Gulf)
Power Company.)
)
_____)

Docket No. 110138-EI

Filed: October 14, 2011

DIRECT TESTIMONY:

OF

J. RANDALL WOOLRIDGE

ON BEHALF OF THE CITIZENS OF THE STATE OF FLORIDA

DOCUMENT NUMBER - DATE

07554 OCT 14 =

FPSC-COMMISSION CLERK

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DIRECT TESTIMONY

OF

J. RANDALL WOOLRIDGE

On Behalf of the Office of Public Counsel

Before the

Florida Public Service Commission

Docket No. 110138-EI

I. IDENTIFICATION OF WITNESS AND SUMMARY OF TESTIMONY

Q. PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION.

A. My name is J. Randall Woolridge, and my business address is 120 Haymaker Circle, State College, PA 16801. I am a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed University Fellow in Business Administration at the University Park Campus of the Pennsylvania State University. I am also the Director of the Smeal College Trading Room and President of the Nittany Lion Fund, LLC. A summary of my educational background, research, and related business experience is provided in Exhibit JRW-1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I have been asked by the Florida Office of Public Counsel (“OPC”) to provide an opinion as to the overall fair rate of return or cost of capital for Gulf Power Company ("Gulf Power" or "Company") and to evaluate Gulf Power’s rate of return testimony in this proceeding.

1 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

2 A. First, I review my cost of capital recommendation for Gulf Power. Second, I provide an
3 assessment of capital costs in today's capital markets. Third, I discuss the selection of a
4 proxy group of electric utility companies for estimating the cost of capital for Gulf
5 Power. Fourth, I present my recommendations for the Company's capital structure and
6 debt cost rate. Fifth, I discuss the concept of the cost of equity capital, and then estimate
7 the equity cost rate for Gulf Power. Sixth, I provide a critique of Gulf Power's rate of
8 return testimony. Finally, I discuss why it is appropriate to include a parent debt
9 adjustment to Gulf's income tax expense calculation.

10

11 **Q. PLEASE REVIEW YOUR RECOMMENDATIONS REGARDING THE**
12 **APPROPRIATE RATE OF RETURN FOR GULF POWER.**

13 A. I have employed the Company's proposed capital structure, but I adjusted the
14 Company's proposed short-term and long-term cost rates. I applied the Discounted
15 Cash Flow Model ("DCF") and the Capital Asset Pricing Model ("CAPM") to a proxy
16 group of publicly-held electric utility companies ("Electric Proxy Group"). My analysis
17 indicates that an equity cost rate of 9.25% is appropriate for Gulf Power. Using my
18 capital structure and debt and equity cost rates, I recommend an overall rate of return of
19 5.89% for Gulf Power. This recommendation is summarized in Exhibit JRW-2. On
20 another related matter, I also provide an evaluation of Mr. Teel's discussion of the
21 Parent Debt Adjustment Rule 25-14.004, F.A.C.

22

23 **Q. PLEASE SUMMARIZE THE PRIMARY ISSUES REGARDING RATE OF**
24 **RETURN IN THIS PROCEEDING.**

1 A. Gulf Power witness Mr. Richard J. McMillan provides the Company's proposed
2 capital structure and long-term debt cost rate, and Dr. James H. Vander Weide
3 recommends a common equity cost rate for Gulf Power. Gulf Power's recommended
4 capital structure includes 1.30% short-term debt, 47.83% long-term debt, 5.31%
5 preferred stock, and 46.87% common equity. Gulf Power uses short-term and long-
6 term debt cost rates of 2.12% and 5.45%, a preferred stock cost rate of 6.65% and an
7 equity cost rate of 11.7%.

8 I have used the Company's proposed capital structure ratios. I have adjusted
9 the proposed short-term and long-term debt cost rates and the preferred stock cost rate
10 to reflect current market interest rates. I have recommended an equity cost rate of
11 9.25% for Gulf Power. Gulf Power witness Dr. James H. Vander Weide's proposed
12 common equity cost rate is 11.7%. Both Dr. Vander Weide and I have applied the
13 DCF and the CAPM approaches to a proxy group of publicly-held companies. Dr.
14 Vander Weide has also used a Risk Premium ("RP") approach to estimate an equity
15 cost rate for Gulf Power. Dr. Vander Weide employs a proxy group of twenty-four
16 electric utilities. I have employed a proxy group of twenty-eight electric utilities that
17 is quite similar to Dr. Vander Weide's group. In his DCF approach, Dr. Vander
18 Weide uses a quarterly DCF model and relies exclusively on the projected earnings
19 per share ("EPS") growth rates of Wall Street analysts. I provide empirical evidence
20 that demonstrates the long-term earnings growth rates of Wall Street analysts are
21 overly optimistic and upwardly-biased. Consequently, in developing a DCF growth
22 rate, I have used both historic and projected growth rate measures and have evaluated
23 growth in dividends, book value, and earnings per share.

24 The RP and CAPM approaches require an estimate of the base interest rate
25 and the equity risk premium. In both approaches, Dr. Vander Weide's base interest

1 rate is above current market rates. However, the major area of disagreement involves
2 our significantly different views on the alternative approaches to measuring the equity
3 risk premium, as well as the magnitude of equity risk premium. Dr. Vander Weide's
4 equity risk premiums are excessive and do not reflect current market fundamentals.
5 As I highlight in my testimony, there are three methodologies for estimating an equity
6 risk premium – historic returns, surveys, and expected return models. Dr. Vander
7 Weide uses a historical equity risk premium which is based on historic stock and
8 bond returns. He also calculates an expected risk premium in which he applies the
9 DCF approach to the S&P 500 and public utility stocks. I provide evidence that risk
10 premiums based on historic stock and bond returns are subject to empirical errors
11 which result in upwardly biased measures of expected equity risk premiums. I
12 demonstrate that Dr. Vander Weide's projected equity risk premiums, which use
13 analysts' EPS growth rate projections, include unrealistic assumptions regarding
14 future economic and earnings growth and stock returns. Finally, I demonstrate that
15 Dr. Vander Weide's market and equity risk premiums are well above the market and
16 equity risk premiums used in the real world of finance.

17 Finally, Dr. Vander Weide makes two unwarranted adjustments in developing
18 an equity cost rate. In his DCF, RP, and CAPM approaches, Dr. Vander Weide
19 makes an unnecessary adjustment for flotation costs. This serves to inflate his DCF
20 equity cost rate. In addition, Dr. Vander Weide also makes an overall leverage
21 adjustment to his equity cost rate estimate. This adjustment is based on the leverage
22 difference between the market value capital structures of his electric utility group and
23 Gulf Power's book value capital structure, which is used for ratemaking purposes. The
24 adjustment increases his equity cost rate estimate by 90 basis points. In my testimony I

1 discuss why this adjustment is not appropriate and highlight the fact that it produces
2 illogical results.

3 In the end, the most significant areas of disagreement in measuring Gulf Power's
4 cost of capital are: (1) the appropriate debt and preferred stock cost rates; (2) the
5 dividend yield in the quarterly DCF model; (3) Dr. Vander Weide's exclusive use of the
6 projected growth rates of Wall Street analysts to measure expected DCF growth; (4) the
7 base interest rate as well as the market or equity risk premium in the RP and CAPM
8 approaches; (5) Dr. Vander Weide's unwarranted flotation cost adjustments to his equity
9 cost rate results; and (6) an erroneous leverage adjustment based on the market value
10 capital structures of his proxy group.

11 12 **II. CAPITAL COSTS IN TODAY'S MARKETS**

13 14 **Q. PLEASE DISCUSS CAPITAL COSTS IN U.S. MARKETS.**

15 A. Long-term capital cost rates for U.S. corporations are a function of the required
16 returns on risk-free securities plus a risk premium. The risk-free rate of interest is the
17 yield on long-term U.S Treasury bonds. The yields on ten-year U.S. Treasury bonds
18 from 1953 to the present are provided on page 1 of Exhibit JRW-3. These yields
19 peaked in the early 1980s and have generally declined since that time. In the summer
20 of 2003, these yields hit a 60-year low at 3.33%. They subsequently increased and
21 fluctuated between the 4.0% and 5.0% levels over the next four years in response to
22 ebbs and flows in the economy. Ten-year Treasury yields began to decline in mid-
23 2007 at the beginning of the current financial crisis. In 2008 Treasury yields declined
24 to below 3.0% as a result of the expansion of the mortgage and subprime market
25 credit crisis, the turmoil in the financial sector, the government bailout of financial

1 institutions, and the economic recession. Overall, these economic developments led
2 investors to seek out low risk investments. These yields have declined from 2.5% to
3 just below 2.0% during the past six months.

4 Panel B on page 1 of Exhibit JRW-3 shows the differences in yields between
5 ten-year Treasuries and Moody's Baa rated bonds since the year 2000. This
6 differential primarily reflects the additional risk required by bond investors for the
7 risk associated with investing in corporate bonds. The difference also reflects, to
8 some degree, yield curve changes over time. The Baa rating is the lowest of the
9 investment grade bond ratings for corporate bonds. The yield differential hovered in
10 the 2.0% to 3.0% area until 2005, declined to 1.5% until late 2007, and then increased
11 significantly in response to the current financial crisis. This differential peaked at
12 6.0% at the height of the financial crisis in early 2009, due to tightening in credit
13 markets, which increased corporate bond yields, and the "flight to quality," which
14 decreased treasury yields. The differential subsequently declined and has been in the
15 2.5% range over the past six months.

16 As previously noted, the risk premium is the return premium required by
17 investors to purchase riskier securities. The risk premium required by investors to buy
18 corporate bonds is observable based on yield differentials in the markets. The equity
19 risk premium is the return premium required to purchase stocks as opposed to bonds.
20 The equity risk premium is not readily measurable in the markets (as are bond risk
21 premiums) since expected stock market returns are not readily observable. As a
22 result, equity risk premiums must be estimated using market data. There are
23 alternative methodologies to estimating the equity risk premium, and the alternative
24 approaches and equity risk premium results are subject to much debate. One way to
25 estimate the equity risk premium is to compare the mean returns on bonds and stocks

1 over long historical periods. Measured in this manner, the equity risk premium has
2 been in the 5% to 7% range. However, studies by leading academics indicate the
3 forward-looking equity risk premium is actually in the 4.0% to 5.0% range. These
4 lower equity risk premium results are in line with the findings of equity risk premium
5 surveys of CFOs, academics, analysts, companies, and financial forecasters.

6

7 **Q. PLEASE DESCRIBE HOW THE FINANCIAL CRISIS HAS IMPACTED THE**
8 **FINANCIAL MARKETS.**

9 A. United States Treasury Rates have declined to levels not seen since the 1950s. This
10 reflects the “flight to quality” in the credit markets, as investors have sought out low
11 risk investments, and the massive monetary stimulus provided by the Federal Reserve
12 Board. The credit market for corporate and utility debt experienced higher rates
13 during the financial crisis.

14 However, the long-term credit market has improved significantly. The credit
15 crisis was associated with concerns among credit providers – mainly financial
16 institutions – in terms of making loans and investing in bonds due to the
17 overleveraging and perceived weakness of the economy. Panel A of page 2 of
18 Exhibit JRW-3 provides the yields on A, BBB+, and BBB rated public utility bonds.
19 These yields peaked in November 2008, declined by about 200 to 300 basis points
20 (“BPs”) through the summer of 2010, and have since increased about 50 to 75 BPs.
21 For example, the yields on “A” rated utility bonds, which peaked at over 7.50% in
22 November of 2008, declined to 5.0% to 6.0% range in 2010. They have recently
23 declined to the 4.5% range. Panel B of page 2 of Exhibit JRW-3 provides the yield
24 spreads on A, BBB+, and BBB rated public utility bonds relative to Treasury bonds.
25 These yield spreads increased dramatically in the third quarter of 2008 during the

1 peak of the financial crisis and have since decreased to pre-crisis levels. For example,
2 the yield spread between 30-year, ‘A’ rated utility bonds and 30-Year Treasury
3 bonds, increased from 1.5% to 3.5% in November of 2008. This yield spread
4 decreased to below 1.5% as of the summer of 2009, and has since declined below this
5 figure.

6 In sum, while the economy continues to face significant problems, the actions
7 of the government and Federal Reserve had a large effect on the credit markets. The
8 capital costs for utilities, as measured by the yields on 30-year utility bonds, have
9 declined to pre-financial crisis levels.

10

11 **III. PROXY GROUP SELECTION**

12

13 **Q. PLEASE DESCRIBE YOUR APPROACH TO DEVELOPING A FAIR RATE**
14 **OF RETURN RECOMMENDATION FOR GULF POWER.**

15 A. To develop a fair rate of return recommendation for Gulf Power, I evaluated the
16 return requirements of investors on the common stock of a proxy group of publicly-
17 held electric utility companies (“Electric Proxy Group”).

18

19 **Q. PLEASE DESCRIBE YOUR PROXY GROUP OF COMPANIES.**

20 A. My Electric Proxy Group consists of twenty-eight electric utility companies. The
21 selection criteria include the following:

22 1. Listed as Electric Utility by *Value Line Investment Survey* and listed as an
23 Electric Utility or Combination Electric & Gas company in *AUS Utilities Report*;

24 2. At least 50% of revenues from regulated electric operations as reported by *AUS*
25 *Utilities Report*;

- 1 3. An investment grade bond rating as reported by *AUS Utilities Report*;
- 2 4. Pays a cash dividend;
- 3 5. Not involved in an acquisition of another utility, and/or was not the target of an
- 4 acquisition, in the past year; and
- 5 6. Analysts' long-term EPS growth rate forecasts available from Yahoo, Reuters,
- 6 and Zacks.

7 The Electric Proxy Group includes twenty-eight companies. Summary financial
8 statistics for the proxy group are listed on page 1 of Exhibit JRW-4.¹ The median
9 operating revenues and net plant for the Electric Proxy Group are \$4,078.0M and
10 \$8,678.4M, respectively. The group receives 79% of revenues from regulated electric
11 operations, has an A-/BBB+ bond rating from Standard & Poor's, a current common
12 equity ratio of 45.4%, and an earned return on common equity of 10.3%.

13

14 **IV. CAPITAL STRUCTURE RATIOS AND DEBT COST RATES**

15

16 **Q. WHAT IS GULF POWER'S CURRENT CAPITAL STRUCTURE FOR**
17 **RATEMAKING PURPOSES?**

18 A. Gulf Power's recommended capital structure as for ratemaking purposes of December
19 31, 2012, includes 1.70% short-term debt, 39.29% long-term debt, 4.36% preferred
20 stock, 38.50% common equity, 1.27 % customer deposits, 15.34% deferred taxes, and
21 0.17% investment tax credit. Gulf Power's recommended capital structure for
22 investor sources includes 1.30% short-term debt, 47.83% long-term debt, 5.31%
23 preferred stock, and 46.87% common equity.

24

¹ In my testimony, I present financial results using both mean and medians as measures of central tendency. However, due to outliers among means, I have used the median as a measure of central tendency.

1 **Q. WHAT CAPITAL STRUCTURE ARE YOU EMPLOYING FOR GULF**
2 **POWER?**

3 A. I am using the Company's recommended capital structure. Page 2 of Exhibit JRW-5
4 provides the capital structures for Gulf Power and Southern Company. The
5 Company's recommended capital structure is in line with its recent capital structure
6 as well as the capital structure of Southern Company. In addition, as discussed
7 above, the current common equity ratio for the Electric Proxy Group is 45.4%.²
8

9 **Q. WHAT SENIOR CAPITAL COST RATES ARE HAVE BEEN USED BY**
10 **GULF POWER?**

11 A. The Company uses projected short-term and long-term debt cost rates of 2.12% and
12 5.45% and a preferred stock cost rate of 6.65%. These projections were made as of
13 September 2010. The short-term debt cost rate is based on a projected London
14 Interbank Offered Rate ("LIBOR") rate of 3.15% as of December 31, 2012. The
15 current LIBOR rate is 0.25%. The long-term debt cost rate includes bond issues at
16 6.50% in 2011, and 8.05% and 7.70% in 2012. These projected rates are based on the
17 yields on long-term U. S. Treasury bonds plus 190 basis points. The current yield on
18 long-term U. S. Treasury bonds 2.80%. In addition, the current yield on long-term
19 utility bonds is below 5.0%. Finally, the preferred stock cost rate includes a new
20 issue at 7.45%, which is based on the long-term Treasury yields that are well above
21 current yields.
22

23 **Q. WHAT SENIOR CAPITAL COST RATES ARE YOU USING IN YOUR COST**
24 **OF CAPITAL CALCULATION FOR GULF POWER?**

² OPC witness Ramas has recommended an adjustment in her testimony to Accumulated Deferred Income Taxes which has not been reflected in my recommended capital structure amounts.

1 A. As indicated above, the senior capital cost rates developed by the Company were
2 developed in September of 2010 and are based on projected short-term and long-term
3 interest rates that are well in excess of the interest rates in the market today.
4 Therefore, I am using the Company's projected 2011 senior capital cost rates as
5 provided in MFR D-3, D-4, and D-5. I have made one adjustment to the long-term
6 debt cost rate. The Company estimated a yield of 6.50% for a projected bond issue in
7 April of 2011. The actual yield on the bonds issued in May of this year was 5.75%.
8 With this adjustment, the short-term, long-term, and preferred stock cost rates as
9 projected by Gulf Power are 0.35%, 4.98%, and 6.40%. These are the senior capital
10 cost rates I have used in developing a cost of capital for Gulf Power.

11
12 **V. THE COST OF COMMON EQUITY CAPITAL**

13
14 **A. Overview**

15 **Q. WHY MUST AN OVERALL COST OF CAPITAL OR FAIR RATE OF**
16 **RETURN BE ESTABLISHED FOR A PUBLIC UTILITY?**

17 A. In a competitive industry, the return on a firm's common equity capital is determined
18 through the competitive market for its goods and services. Due to the capital
19 requirements needed to provide utility services and to the economic benefit to society
20 from avoiding duplication of these services, some public utilities are monopolies. It
21 is not appropriate to permit monopoly utilities to set their own prices because of the
22 lack of competition and the essential nature of the services. Thus, regulation seeks to
23 establish prices that are fair to consumers and, at the same time, are sufficient to meet
24 the operating and capital costs of the utility (i.e., provide an adequate return on capital
25 to attract investors).

1

2 **Q. PLEASE PROVIDE AN OVERVIEW OF THE COST OF CAPITAL IN THE**
3 **CONTEXT OF THE THEORY OF THE FIRM.**

4 A. The total cost of operating a business includes the cost of capital. The cost of
5 common equity capital is the expected return on a firm's common stock that the
6 marginal investor would deem sufficient to compensate for risk and the time value of
7 money. In equilibrium, the expected and required rates of return on a company's
8 common stock are equal.

9 Normative economic models of the firm, developed under very restrictive
10 assumptions, provide insight into the relationship between firm performance or
11 profitability, capital costs, and the value of the firm. Under the economist's ideal
12 model of perfect competition, where entry and exit are costless, products are
13 undifferentiated, and there are increasing marginal costs of production, firms produce
14 up to the point where price equals marginal cost. Over time, a long-run equilibrium is
15 established where price equals average cost, including the firm's capital costs. In
16 equilibrium, total revenues equal total costs, and because capital costs represent
17 investors' required return on the firm's capital, actual returns equal required returns,
18 and the market value must equal the book value of the firm's securities.

19 In the real world, firms can achieve competitive advantage due to product
20 market imperfections. Most notably, companies can gain competitive advantage
21 through product differentiation (adding real or perceived value to products) and by
22 achieving economies of scale (decreasing marginal costs of production). Competitive
23 advantage allows firms to price products above average cost and thereby earn
24 accounting profits greater than those required to cover capital costs. When these
25 profits are in excess of that required by investors, or when a firm earns a return on

1 equity in excess of its cost of equity, investors respond by valuing the firm's equity in
2 excess of its book value.

3 James M. McTaggart, founder of the international management consulting
4 firm Marakon Associates, described this essential relationship between the return on
5 equity, the cost of equity, and the market-to-book ratio in the following manner:³

6 Fundamentally, the value of a company is determined
7 by the cash flow it generates over time for its owners,
8 and the minimum acceptable rate of return required by
9 capital investors. This "cost of equity capital" is used
10 to discount the expected equity cash flow, converting it
11 to a present value. The cash flow is, in turn, produced
12 by the interaction of a company's return on equity and
13 the annual rate of equity growth. High return on equity
14 (ROE) companies in low-growth markets, such as
15 Kellogg, are prodigious generators of cash flow, while
16 low ROE companies in high-growth markets, such as
17 Texas Instruments, barely generate enough cash flow to
18 finance growth.

19 A company's ROE over time, relative to its cost of
20 equity, also determines whether it is worth more or less
21 than its book value. If its ROE is consistently greater
22 than the cost of equity capital (the investor's minimum
23 acceptable return), the business is economically
24 profitable and its market value will exceed book value.
25 If, however, the business earns an ROE consistently
26 less than its cost of equity, it is economically
27 unprofitable and its market value will be less than book
28 value.

29 As such, the relationship between a firm's return on equity, cost of equity, and
30 market-to-book ratio is relatively straightforward. A firm that earns a return on
31 equity above its cost of equity will see its common stock sell at a price above its book
32 value. Conversely, a firm that earns a return on equity below its cost of equity will
33 see its common stock sell at a price below its book value.

34

³ James M. McTaggart, "The Ultimate Poison Pill: Closing the Value Gap," *Commentary* (Spring 1988), p. 2.

1 **Q. PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE RELATIONSHIP**
2 **BETWEEN RETURN ON EQUITY AND MARKET-TO-BOOK RATIOS.**

3 A. This relationship is discussed in a classic Harvard Business School case study entitled
4 “A Note on Value Drivers.” On page 2 of that case study, the author describes the
5 relationship very succinctly:⁴

6 For a given industry, more profitable firms – those able to generate
7 higher returns per dollar of equity – should have higher market-to-
8 book ratios. Conversely, firms which are unable to generate
9 returns in excess of their cost of equity should sell for less than
10 book value.

11

<i>Profitability</i>	<i>Value</i>
<i>If ROE > K</i>	<i>then Market/Book > 1</i>
<i>If ROE = K</i>	<i>then Market/Book = 1</i>
<i>If ROE < K</i>	<i>then Market/Book < 1</i>

12
13
14
15

16 To assess the relationship by industry, as suggested above, I performed a
17 regression study between estimated return on equity (“ROE”) and market-to-book
18 ratios using natural gas distribution, electric utility and water utility companies. I
19 used all companies in these three industries that are covered by *Value Line* and have
20 estimated ROE and market-to-book ratio data. The results are presented in Panels A-
21 C of Exhibit JRW-6. The average R-squares for the electric, gas, and water
22 companies are 0.65, 0.60, and 0.92, respectively.⁵ This demonstrates the strong
23 positive relationship between ROEs and market-to-book ratios for public utilities.

24

25 **Q. WHAT ECONOMIC FACTORS HAVE AFFECTED THE COST OF EQUITY**
26 **CAPITAL FOR PUBLIC UTILITIES?**

⁴ Benjamin Esty, “A Note on Value Drivers,” Harvard Business School, Case No. 9-297-082, April 7, 1997.

⁵ R-square measures the percent of variation in one variable (e.g., market-to-book ratios) explained by another variable (e.g., expected ROE). R-squares vary between zero and 1.0, with values closer to 1.0 indicating a higher relationship between two variables.

1 A. Exhibit JRW-7 provides indicators of public utility equity cost rates over the past
2 decade. Page 1 shows the yields on long-term 'A' rated public utility bonds. These
3 yields peaked in the early 2000s at over 8.0%, declined to about 5.0% in 2005, and
4 rose to 6.0% in 2006 and 2007. They stayed in that 6.0% range until the third quarter
5 of 2008 when they spiked to almost 7.5% during the financial crisis. They have since
6 retreated and are now below 5.0%.

7 Page 2 of Exhibit JRW-7 provides the dividend yields for the proxy group.
8 The dividend yields for the Electric Proxy Group generally declined slightly over the
9 decade until 2007. They increased in 2008 and 2009 in response to the financial
10 crisis, but declined in 2010 to about 4.75%.

11 Average earned returns on common equity and market-to-book ratios for the
12 group are on page 3 of Exhibit JRW-7. The average earned returns on common equity
13 for the Electric Proxy Group were in the 9.0%-12.0% range over the past decade, and
14 ended 2010 at 9.75%. The average market-to-book ratio for the group has been in the
15 1.20X to 1.80X during the decade. The average declined to about 1.20X in 2009, but
16 increased to 1.30X in 2010.

17

18 **Q. WHAT FACTORS DETERMINE INVESTORS' EXPECTED OR REQUIRED**
19 **RATE OF RETURN ON EQUITY?**

20 A. The expected or required rate of return on common stock is a function of market-wide
21 as well as company-specific factors. The most important market factor is the time
22 value of money as indicated by the level of interest rates in the economy. Common
23 stock investor requirements generally increase and decrease with like changes in
24 interest rates. The perceived risk of a firm is the predominant factor that influences
25 investor return requirements on a company-specific basis. A firm's investment risk is

1 often separated into business and financial risk. Business risk encompasses all factors
2 that affect a firm's operating revenues and expenses. Financial risk results from
3 incurring fixed obligations in the form of debt in financing its assets.

4

5 **Q. HOW DOES THE INVESTMENT RISK OF UTILITIES COMPARE WITH**
6 **THAT OF OTHER INDUSTRIES?**

7 A. Due to the essential nature of their service as well as their regulated status, public
8 utilities are exposed to a lesser degree of business risk than other, non-regulated
9 businesses. The relatively low level of business risk allows public utilities to meet
10 much of their capital requirements through borrowing in the financial markets,
11 thereby incurring greater than average financial risk. Nonetheless, the overall
12 investment risk of public utilities is below most other industries.

13 Exhibit JRW-8 provides an assessment of investment risk for 100 industries as
14 measured by beta, which according to modern capital market theory, is the only
15 relevant measure of investment risk. These betas come from the *Value Line*
16 *Investment Survey* and are compiled annually by Aswath Damodaran of New York
17 University.⁶ The study shows that the investment risk of utilities is very low. The
18 average beta for electric, water, and gas utility companies are 0.75, 0.70, and 0.65,
19 respectively. These are well below the *Value Line* average of 1.15. As such, the cost
20 of equity for utilities is among the lowest of all industries in the U.S.

21

22 **Q. HOW CAN THE EXPECTED OR REQUIRED RATE OF RETURN ON**
23 **COMMON EQUITY CAPITAL BE DETERMINED?**

⁶ Available at <http://www.stern.nyu.edu/~adamodar>.

1 A. The costs of debt and preferred stock are normally based on historical or book values
2 and can be determined with a great degree of accuracy. The cost of common equity
3 capital, however, cannot be determined precisely and must instead be estimated from
4 market data and informed judgment. This return to the stockholder should be
5 commensurate with returns on investments in other enterprises having comparable
6 risks.

7 According to valuation principles, the present value of an asset equals the
8 discounted value of its expected future cash flows. Investors discount these expected
9 cash flows at their required rate of return that, as noted above, reflects the time value
10 of money and the perceived riskiness of the expected future cash flows. As such, the
11 cost of common equity is the rate at which investors discount expected cash flows
12 associated with common stock ownership.

13 Models have been developed to ascertain the cost of common equity capital
14 for a firm. Each model, however, has been developed using restrictive economic
15 assumptions. Consequently, judgment is required in selecting appropriate financial
16 valuation models to estimate a firm's cost of common equity capital, in determining
17 the data inputs for these models, and in interpreting the models' results. All of these
18 decisions must take into consideration the firm involved as well as current conditions
19 in the economy and the financial markets.

20

21 **Q. HOW DO YOU PLAN TO ESTIMATE THE COST OF EQUITY CAPITAL**
22 **FOR THE COMPANY?**

23 A. I rely primarily on the discounted cash flow ("DCF") model to estimate the cost of
24 equity capital. Given the investment valuation process and the relative stability of the
25 utility business, I believe that the DCF model provides the best measure of equity cost

1 rates for public utilities. It is my experience that this Commission has traditionally
2 relied on the DCF method. I have also performed a capital asset pricing model
3 (“CAPM”) study, but I give these results less weight because I believe that risk
4 premium studies, of which the CAPM is one form, provide a less reliable indication
5 of equity cost rates for public utilities.

6

7 **B. DCF Analysis**

8 **Q. DESCRIBE THE THEORY BEHIND THE TRADITIONAL DCF MODEL.**

9 A. According to the DCF model, the current stock price is equal to the discounted value
10 of all future dividends that investors expect to receive from investment in the firm.
11 As such, stockholders’ returns ultimately result from current as well as future
12 dividends. As owners of a corporation, common stockholders are entitled to a *pro*
13 *rata* share of the firm’s earnings. The DCF model presumes that earnings that are not
14 paid out in the form of dividends are reinvested in the firm so as to provide for future
15 growth in earnings and dividends. The rate at which investors discount future
16 dividends, which reflects the timing and riskiness of the expected cash flows, is
17 interpreted as the market’s expected or required return on the common stock.
18 Therefore, this discount rate represents the cost of common equity. Algebraically, the
19 DCF model can be expressed as:

20
$$P = \frac{D_1}{(1+k)^1} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_n}{(1+k)^n}$$

21 where P is the current stock price, D_n is the dividend in year n, and k is the
22 cost of common equity.
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1 **Q. IS THE DCF MODEL CONSISTENT WITH VALUATION TECHNIQUES**
2 **EMPLOYED BY INVESTMENT FIRMS?**

3 A. Yes. Virtually all investment firms use some form of the DCF model as a valuation
4 technique. One common application for investment firms is called the three-stage
5 DCF or dividend discount model (“DDM”). The stages in a three-stage DCF model
6 are presented in Exhibit JRW-9. This model presumes that a company’s dividend
7 payout progresses initially through a growth stage, then proceeds through a transition
8 stage, and finally assumes a steady-state stage. The dividend-payment stage of a firm
9 depends on the profitability of its internal investments, which, in turn, is largely a
10 function of the life cycle of the product or service.

11 1. Growth stage: Characterized by rapidly expanding sales, high profit margins,
12 and abnormally high growth in earnings per share. Because of highly profitable
13 expected investment opportunities, the payout ratio is low. Competitors are attracted
14 by the unusually high earnings, leading to a decline in the growth rate.

15 2. Transition stage: In later years increased competition reduces profit margins
16 and earnings growth slows. With fewer new investment opportunities, the company
17 begins to pay out a larger percentage of earnings.

18 3. Maturity (steady-state) stage: Eventually the company reaches a position
19 where its new investment opportunities offer, on average, only slightly attractive
20 ROEs. At that time its earnings growth rate, payout ratio, and ROE stabilize for the
21 remainder of its life. The constant-growth DCF model is appropriate when a firm is in
22 the maturity stage of the life cycle.

23 In using this model to estimate a firm’s cost of equity capital, dividends are projected
24 into the future using the different growth rates in the alternative stages, and then the

1 equity cost rate is the discount rate that equates the present value of the future
2 dividends to the current stock price.

3

4 **Q. HOW DO YOU ESTIMATE STOCKHOLDERS' EXPECTED OR REQUIRED**
5 **RATE OF RETURN USING THE DCF MODEL?**

6 A. Under certain assumptions, including a constant and infinite expected growth rate, and
7 constant dividend/earnings and price/earnings ratios, the DCF model can be
8 simplified to the following:

$$9 \quad P = \frac{D_1}{k - g}$$

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21 **Q. IN YOUR OPINION, IS THE CONSTANT-GROWTH DCF MODEL**
22 **APPROPRIATE FOR PUBLIC UTILITIES?**

23 A. Yes. The economics of the public utility business indicate that the industry is in the
24 steady-state or constant-growth stage of a three-stage DCF. The economics include
25 the relative stability of the utility business, the maturity of the demand for public
26 utility services, and the regulated status of public utilities (especially the fact that their
27 returns on investment are effectively set through the ratemaking process). The DCF
28 valuation procedure for companies in this stage is the constant-growth DCF. In the

1 constant-growth version of the DCF model, the current dividend payment and stock
2 price are directly observable. However, the primary problem and controversy in
3 applying the DCF model to estimate equity cost rates entails estimating investors'
4 expected dividend growth rate.

5

6 **Q. WHAT FACTORS SHOULD ONE CONSIDER WHEN APPLYING THE DCF**
7 **METHODOLOGY?**

8 A. One should be sensitive to several factors when using the DCF model to estimate a
9 firm's cost of equity capital. In general, one must recognize the assumptions under
10 which the DCF model was developed in estimating its components (the dividend
11 yield and expected growth rate). The dividend yield can be measured precisely at any
12 point in time, but tends to vary somewhat over time. Estimation of expected growth
13 is considerably more difficult. One must consider recent firm performance, in
14 conjunction with current economic developments and other information available to
15 investors, to accurately estimate investors' expectations.

16

17 **Q. PLEASE DISCUSS EXHIBIT JRW-10.**

18 A. My DCF analysis is provided in Exhibit JRW-10. The DCF summary is on page 1 of
19 this Exhibit, and the supporting data and analysis for the dividend yield and expected
20 growth rate are provided on the following pages of the Exhibit.

21

22 **Q. WHAT DIVIDEND YIELDS ARE YOU EMPLOYING IN YOUR DCF**
23 **ANALYSIS FOR THE PROXY GROUP?**

24 A. The dividend yields on the common stock for the companies in the proxy group are
25 provided on page 2 of Exhibit JRW-10 for the six-month period ending October 2011.

1 For the DCF dividend yields for the Group, I use the average of the six month and
2 October 2011 dividend yields. The table below shows these dividend yields.

Proxy Group	October 2011 Dividend Yield	6-Month Average Dividend Yield	DCF Dividend Yield
Electric Proxy Group	4.4%	4.5%	4.45%

3 **Q. PLEASE DISCUSS THE APPROPRIATE ADJUSTMENT TO THE SPOT**
4 **DIVIDEND YIELD.**

5 A. According to the traditional DCF model, the dividend yield term relates to the
6 dividend yield over the coming period. As indicated by Professor Myron Gordon,
7 who is commonly associated with the development of the DCF model for popular use,
8 this is obtained by: (1) multiplying the expected dividend over the coming quarter by
9 4 and (2) dividing this dividend by the current stock price to determine the
10 appropriate dividend yield for a firm, that pays dividends on a quarterly basis.⁷

11 In applying the DCF model, some analysts adjust the current dividend for growth
12 over the coming year as opposed to the coming quarter. This can be complicated
13 because firms tend to announce changes in dividends at different times during the
14 year. As such, the dividend yield computed based on presumed growth over the
15 coming quarter as opposed to the coming year can be quite different. Consequently,
16 it is common for analysts to adjust the dividend yield by some fraction of the long-
17 term expected growth rate.

18

19 **Q. GIVEN THIS DISCUSSION, WHAT ADJUSTMENT FACTOR WILL YOU**
20 **USE FOR YOUR DIVIDEND YIELD?**

⁷ *Petition for Modification of Prescribed Rate of Return*, Federal Communications Commission, Docket No. 79-05, Direct Testimony of Myron J. Gordon and Lawrence I. Gould at 62 (April 1980).

1 A. I will adjust the dividend yield by one-half (1/2) the expected growth, so as to reflect
2 growth over the coming year.

3

4 **Q. PLEASE DISCUSS THE GROWTH RATE COMPONENT OF THE DCF**
5 **MODEL.**

6 A. There is much debate as to the proper methodology to employ in estimating the growth
7 component of the DCF model. By definition, this component is investors'
8 expectation of the long-term dividend growth rate. Presumably, investors use some
9 combination of historical and/or projected growth rates for earnings and dividends per
10 share and for internal or book value growth to assess long-term potential.

11 **Q. WHAT GROWTH DATA HAVE YOU REVIEWED FOR THE PROXY**
12 **GROUP?**

13 A. I have analyzed a number of measures of growth for companies in the Electric Proxy
14 Group. I reviewed *Value Line's* historical and projected growth rate estimates for
15 earnings per share ("EPS"), dividends per share ("DPS"), and book value per share
16 ("BVPS"). In addition, I utilized the average EPS growth rate forecasts of Wall
17 Street analysts as published by Yahoo, Reuters and Zacks. These services solicit
18 five-year earnings growth rate projections from securities analysts and compile and
19 publish the means and medians of these forecasts. Finally, I also assessed prospective
20 growth as measured by prospective earnings retention rates and earned returns on
21 common equity.

22

23 **Q. PLEASE DISCUSS HISTORICAL GROWTH IN EARNINGS AND**
24 **DIVIDENDS AS WELL AS INTERNAL GROWTH.**

1 A. Historical growth rates for EPS, DPS, and BVPS are readily available to virtually all
2 investors and are presumably an important ingredient in forming expectations
3 concerning future growth. However, one must use historical growth numbers as
4 measures of investors' expectations with caution. In some cases, past growth may not
5 reflect future growth potential. Also, employing a single growth rate number (for
6 example, for five or ten years), is unlikely to accurately measure investors'
7 expectations due to the sensitivity of a single growth rate figure to fluctuations in
8 individual firm performance as well as overall economic fluctuations (i.e., business
9 cycles). However, one must appraise the context in which the growth rate is being
10 employed. According to the conventional DCF model, the expected return on a
11 security is equal to the sum of the dividend yield and the expected long-term growth
12 in dividends. Therefore, to best estimate the cost of common equity capital using the
13 conventional DCF model, one must look to long-term growth rate expectations.

14 Internally generated growth is a function of the percentage of earnings
15 retained within the firm (the earnings retention rate) and the rate of return earned on
16 those earnings (the return on equity). The internal growth rate is computed as the
17 retention rate times the return on equity. Internal growth is significant in determining
18 long-run earnings and therefore, dividends. Investors recognize the importance of
19 internally generated growth and pay premiums for stocks of companies that retain
20 earnings and earn high returns on internal investments.

21

22 **Q. ARE YOU RELYING EXCLUSIVELY ON THE EPS FORECASTS OF WALL**
23 **STREET ANALYSTS IN ARRIVING AT A DCF GROWTH RATE FOR THE**
24 **PROXY GROUP?**

25 A. No. There are several issues with using the EPS growth rate forecasts of Wall Street

1 analysts as DCF growth rates. First, the appropriate growth rate in the DCF model is
2 the dividend growth rate, not the earnings growth rate. Nonetheless, over the very
3 long term, dividend and earnings will have to grow at a similar growth rate.
4 Therefore, consideration must be given to other indicators of growth, including
5 prospective dividend growth, internal growth, as well as projected earnings growth.
6 Second, and most significantly, it is well known that the long-term EPS growth rate
7 forecasts of Wall Street securities analysts are overly optimistic and upwardly biased.
8 This has been demonstrated in a number of academic studies over the years. Hence,
9 using these growth rates as a DCF growth rate will provide an overstated equity cost
10 rate. This issue is addressed in later in my testimony.

11

12 **Q. IS IT YOUR OPINION THAT STOCK PRICES REFLECT THE UPWARD BIAS**
13 **IN THE EPS GROWTH RATE FORECASTS?**

14 A. Yes, I do believe that investors are well aware of the bias in analysts' EPS growth rate
15 forecasts, and therefore, stock prices reflect the upward bias. In other words,
16 investors compensate for the upward bias in analysts' EPS growth rate forecasts by
17 paying a lower price for the stock.

18

19 **Q. HOW DOES THAT AFFECT THE USE OF THESE FORECASTS IN A DCF**
20 **EQUITY COST RATE STUDY?**

21 A. According to the DCF model, the equity cost rate is a function of the dividend yield and
22 expected growth rate. Since stock prices reflect the bias, it would affect the dividend
23 yield. But, in the application of the DCF model, the DCF growth rate needs to be
24 adjusted downward from the projected EPS growth rate to reflect the upward bias.

1 **Q. PLEASE DISCUSS THE SERVICES THAT PROVIDE ANALYSTS' EPS**
2 **FORECASTS.**

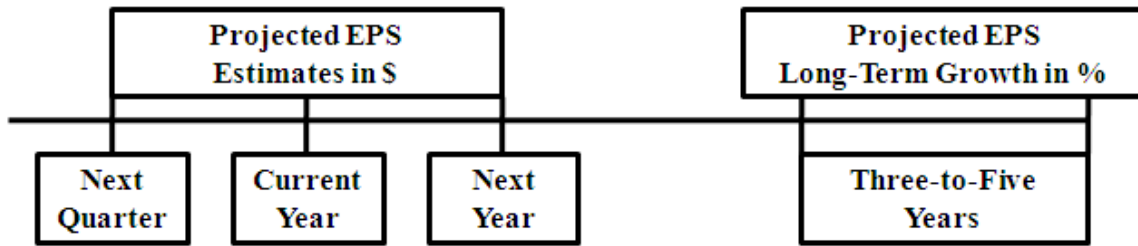
3 A. Analysts' EPS forecasts for companies are collected and published by a number of
4 different investment information services, including Institutional Brokers Estimate
5 System ("I/B/E/S"), Bloomberg, FactSet, Zacks, First Call and Reuters, among others.
6 These services solicit and publish the EPS forecasts of analysts of investment and
7 financial service firms and publish the average EPS estimates for future quarterly and
8 annual time periods as well as the average long-term EPS growth rate forecasts.

9

10 **Q. PLEASE PROVIDE AN EXAMPLE OF THESE EPS FORECASTS.**

11 A. The following example provides the EPS forecasts compiled by Reuters for ALLETE
12 Resources. The EPS estimates are in dollars and cents per share, and the services report
13 the high, low and mean of the estimates collected for analysts. The long-term projected
14 EPS growth rate is expressed in percentage terms. As shown in the figure below, the
15 projected EPS near-term estimates are usually provided for the next quarter, the current
16 fiscal year, and the next fiscal year. The long-term projected EPS growth rate is for a
17 three-to-five year time period.

18



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Consensus Earnings Estimates
 ALLETE, Inc
www.reuters.com
 August 5, 2011

6

	# of Estimates	Mean	High	Low
Earnings (per share)				
Quarter Ending Sep-11	4	0.54	0.57	0.51
Quarter Ending Dec-11	4	0.60	0.65	0.55
Year Ending Dec-11	4	2.50	2.60	2.45
Year Ending Dec-12	4	2.62	2.65	2.60
LT Growth Rate (%)	4	5.75	8.00	5.00

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These figures can be interpreted as follows. The top line shows that four analysts provided EPS estimates for the quarter ending September 2011. The mean, high and low estimates are \$0.54, 0.57, and \$0.51, respectively. The second line shows the quarterly EPS estimates for the quarter ending December 2011. Lines three and four show the annual EPS estimates for the fiscal years ending December 2011 and 2012. The quarterly and annual EPS forecasts in lines 1-4 are expressed in dollars and cents. The long-term growth rate is expressed as a percent. For ALLETE, four analysts have provided long-term EPS growth rate forecasts, with mean, high and low growth rates of 5.75%, 8.00%, and 5.00%.

Q. WHICH OF THESE EPS FORECASTS IS USED IN DEVELOPING A DCF GROWTH RATE?

1 A. The DCF growth rate is the long-term projected growth rate in EPS, DPS, and BVPS.
2 Therefore, in developing an equity cost rate using the DCF model, the projected long-
3 term growth rate is the projection used in the DCF model.

4

5 **Q. PLEASE DISCUSS THE ISSUES IN USING THE EPS FORECASTS OF WALL**
6 **STREET ANALYSTS IN ARRIVING AT A DCF GROWTH RATE?**

7 A. There are several issues with using the EPS growth rate forecasts of Wall Street
8 analysts as DCF growth rates. First, the appropriate growth rate in the DCF model is
9 the dividend growth rate, not the earnings growth rate. Nonetheless, over the very
10 long-term, dividend and earnings grow at a similar growth rate. Second, and most
11 significantly, it is well-known that the long-term EPS growth rate forecasts of Wall
12 Street securities analysts are overly optimistic and upwardly biased. This has been
13 demonstrated in a number of academic studies over the years. Hence, using these
14 growth rates as a DCF growth rate will provide an overstated equity cost rate. This
15 issue is discussed at length later in my testimony.

16

17 **Q. PLEASE DISCUSS THE DIFFERENT SOURCES OF ANALYSTS' LONG-**
18 **TERM EPS GROWTH RATE FORECASTS**

19 A. Thompson Reuters, based in New York, is a major provider of investment information
20 and publishes analysts' EPS forecasts under different names, including I/B/E/S, First
21 Call, and Reuters. Bloomberg, FactSet, and Zacks are independently owned and publish
22 their own set of analysts' EPS forecasts for companies. As far as I am aware, none of
23 these services reveal: (1) the analysts who are solicited for forecasts; or (2) the analysts
24 who actually provide the EPS forecasts that are used in the compilations published by
25 the services. I/B/E/S, Bloomberg, FactSet, and First Call are fee-based services. These

1 services usually provide detailed reports and other data in addition to analysts' EPS
2 forecasts. Thompson Reuters and Zacks do provide limited EPS forecasts data free-of-
3 charge on the internet. Yahoo finance (<http://finance.yahoo.com>) lists Thompson
4 Reuters as the source of its summary EPS forecasts. The Reuters website
5 (www.reuters.com) also publishes EPS forecasts from Thompson Reuters, but with
6 more detail. Zacks (www.zacks.com) publishes its summary forecasts on its website.
7 Zacks estimates are also available on other websites, such as msn.money
8 (<http://money.msn.com>). As such, Thompson Reuters and Zacks are the ultimate
9 sources of EPS forecasts that are provided free-of-charge at different sites on the
10 internet.

11
12 **Q. WHAT ARE YOUR OBSERVATIONS ON THE ALTERNATIVE SOURCES**
13 **OF ANALYSTS' LONG-TERM EPS GROWTH RATE FORECASTS?**

14 A. It is my experience that there is not one single figure that represents analysts'
15 projected EPS growth rate for a company. Page 5 of Exhibit JRW-10 provides
16 analysts' projected EPS growth rates for the proxy group companies as published by
17 Reuters, Yahoo, and Zacks. These are the primary providers of analysts' EPS growth
18 rate forecasts available free-of-charge on the internet. As previously indicated,
19 I/B/E/S is not a free service. These data were collected on October 3, 2011. Of the
20 twenty-eight companies, only three (Avista, IDACORP, and MGE) have the same
21 growth rate forecast from the three services. In addition, only six of the companies
22 have the same growth rate forecasts from Yahoo and Reuters, both of which have
23 Thompson Reuters as the source of projected long-term earnings growth rate
24 forecasts.

25

1 **Q. BASED ON THIS DISCUSSION, WHAT MEASURE OF ANALYSTS' LONG-**
2 **TERM EPS GROWTH RATE FORECASTS ARE YOU USING?**

3 A. I am using the average of three services published on the internet – Yahoo, Zacks,
4 and Reuters – as the measure of analysts' projected long-term EPS growth rate
5 forecast.

6

7 **Q. PLEASE DISCUSS THE HISTORICAL GROWTH OF THE COMPANIES IN**
8 **THE GROUP AS PROVIDED IN THE *VALUE LINE INVESTMENT***
9 ***SURVEY*.**

10 A. Historic growth rates for the companies in the Electric Proxy Group, as published in
11 the *Value Line Investment Survey*, are provided on page 3 of Exhibit JRW-10. Due to
12 the presence of outliers, I once again use the medians in the analysis. The historical
13 growth measures in EPS, DPS, and BVPS for the Electric Proxy Group, as measured
14 by the medians, range from -0.5% to 7.0%, with an average of 3.4%.

15

16 **Q. PLEASE SUMMARIZE *VALUE LINE'S* PROJECTED GROWTH RATES**
17 **FOR THE COMPANIES IN THE PROXY GROUP.**

18 A. *Value Line's* projections of EPS, DPS and BVPS growth for the companies in the
19 Electric Proxy Group are shown on page 4 of Exhibit JRW-10. As above, due to the
20 presence of outliers, both the mean and medians are used in the analysis. For the
21 Electric Proxy Group, the central tendency measure ranges from 3.5% to 5.5%, with
22 an average of 4.4%.

23

24

25

Also provided on page 4 of Exhibit JRW-10 are the sustainable or prospective
internal growth rates for the proxy group as measured by *Value Line's* average
projected retention rate and return on shareholders' equity. As noted above,

1 sustainable or internal growth is significant and a primary driver of long-run earnings
2 growth. For the Electric Proxy Group, the average prospective sustainable growth rate
3 is 4.2%.

4

5 **Q. PLEASE ASSESS GROWTH FOR THE PROXY GROUP AS MEASURED BY**
6 **ANALYSTS' FORECASTS OF EXPECTED 5-YEAR EPS GROWTH.**

7 A. Yahoo, Zacks, and Reuters publish Wall Street analysts' five-year EPS growth rate
8 forecasts for the companies in the proxy group. These forecasts are provided for the
9 companies in the Electric Proxy Group on page 5 of Exhibit JRW-10. The medians of
10 the analysts' projected EPS growth rates for the Electric Group is 5.1%.⁸

11

12 **Q. PLEASE SUMMARIZE YOUR ANALYSIS OF THE HISTORICAL AND**
13 **PROSPECTIVE GROWTH OF THE PROXY GROUP.**

14 A. The summary DCF growth rate indicators for the Electric Proxy Group are shown on
15 page 6 of Exhibit JRW-10. The average of the growth rate indicators for the Electric
16 Proxy Group is 4.3%. The average *Value Line*'s projected growth rates in EPS, DPS,
17 and BVPS is 4.4% and *Value Line*'s sustainable growth rate is 4.2 %. The average of
18 analysts' projected EPS growth rates is 5.1%. The average of the projected and
19 prospective growth rate indicators for the Group is 4.6%. Given these results, and
20 giving more weight to the projections, an expected DCF growth rate in the 4.5% to
21 5.0% is reasonable. I will use the midpoint of this range, 4.75%, as my DCF growth
22 rate for the Electric Proxy Group.

⁸ Since there appears to be overlap in analyst coverage between the three services, I have averaged the expected five-year EPS growth rates from the three services for each company to arrive at an expected EPS growth rate by company.

1 **Q. BASED ON THE ABOVE ANALYSIS, WHAT IS YOUR INDICATED**
 2 **COMMON EQUITY COST RATE FOR THE DCF MODEL?**

3 A. My DCF-derived equity cost rates for the group is:

4
 5
 6 DCF Equity Cost Rate (k) = $\frac{D}{P}$ + g
 7
 8

9 **DCF Equity Cost Rates**

	Dividend Yield	1 + ½ Growth Adjustment	DCF Growth Rate	Equity Cost Rate
Electric Proxy Group	4.45%	1.02375	4.75%	9.3%

10

11 These results are summarized on page 1 of Exhibit JRW-10.

12

13 **C. CAPM Results**

14 **Q. PLEASE DISCUSS THE CAPM.**

15 A. The CAPM is a risk premium approach to gauging a firm’s cost of equity capital.
 16 According to the risk premium approach, the cost of equity is the sum of the interest
 17 rate on a risk-free bond (R_f) and a risk premium (RP), and is illustrated as follows:

18 $k = R_f + RP$
 19

20 The yield on long-term U.S. Treasury securities is normally used as R_f . Risk
 21 premiums are measured in different ways. The CAPM is a theory of the risk and
 22 expected returns of common stocks. In the CAPM, two types of risk are associated
 23 with a stock: (1) firm-specific risk or unsystematic risk and (2) market or systematic
 24 risk, which is measured by a firm’s beta. The only risk that investors receive a return
 25 for bearing is systematic risk.

1 According to the CAPM, the expected return on a company’s stock, which is
2 also the equity cost rate (K), is equal to:

3
$$K = (R_f) + \beta * [E(R_m) - (R_f)]$$

4 Where:

- 5 • *K* represents the estimated rate of return on the stock;
- 6 • *E(R_m)* represents the expected return on the overall stock market. Frequently,
7 the “market” refers to the S&P 500;
- 8 • (*R_f*) represents the risk-free rate of interest;
- 9 • [*E(R_m) - (R_f)*] represents the expected equity or market risk premium—the
10 excess return that an investor expects to receive above the risk-free rate for
11 investing in risky stocks; and
- 12 • *Beta*—(β) is a measure of the systematic risk of an asset.

13
14
15 To estimate the required return or cost of equity using the CAPM requires
16 three inputs: (1) the risk-free rate of interest (*R_f*), (2) the beta (β), and (3) the expected
17 equity or market risk premium [*E(R_m) - (R_f)*]. *R_f* is the easiest of the inputs to
18 measure – it is the yield on long-term U.S. Treasury bonds. β, the measure of
19 systematic risk, is a little more difficult to measure because there are different
20 opinions about what adjustments, if any, should be made to historical betas due to
21 their tendency to regress to 1.0 over time. And finally, an even more difficult input to
22 measure is the expected equity or market risk premium (*E(R_m) - (R_f)*). I discuss each
23 of these inputs below.

24

25 **Q. PLEASE DISCUSS EXHIBIT JRW-11.**

26 A. Exhibit JRW-11 provides the summary results for my CAPM study. Page 1 shows
27 the summary of the results, and pages 2-11 contain the supporting data.

1 **Q. PLEASE DISCUSS THE RISK-FREE INTEREST RATE.**

2 A. The yield on long-term U.S. Treasury bonds has usually been viewed as the risk-free
3 rate of interest in the CAPM. The yield on long-term U.S. Treasury bonds, in turn,
4 has been considered to be the yield on U.S. Treasury bonds with 30-year maturities.

5
6 **Q. WHAT RISK-FREE INTEREST RATE ARE YOU USING IN YOUR CAPM?**

7 A. The yields on 30-year Treasury bonds have varied considerably over the six months.
8 These yields have been in the 3.0% to 4.5% range over the last six months. As of the
9 beginning this month, the rate on 30-year U.S. Treasury Bonds was about 3.0%.
10 Given the recent range of yields, and recognizing the recent decline in Treasury
11 yields, I use 4.0%, as the risk-free rate, or R_f , in my CAPM.

12
13 **Q. WHAT BETAS ARE YOU EMPLOYING IN YOUR CAPM?**

14 A. Beta (β) is a measure of the systematic risk of a stock. The market, usually taken to
15 be the S&P 500, has a beta of 1.0. The beta of a stock with the same price movement
16 as the market also has a beta of 1.0. A stock whose price movement is greater than
17 that of the market, such as a technology stock, is riskier than the market and has a
18 beta greater than 1.0. A stock with below average price movement, such as that of a
19 regulated public utility, is less risky than the market and has a beta less than 1.0.
20 Estimating a stock's beta involves running a linear regression of a stock's return on
21 the market return.

22 As shown on page 3 of Exhibit JRW-11, the slope of the regression line is the
23 stock's beta. A steeper line indicates the stock is more sensitive to the return on the
24 overall market. This means that the stock has a higher beta and greater than average
25 market risk. A less steep line indicates a lower beta and less market risk.

1 Numerous online investment information services, such as Yahoo and
2 Reuters, provide estimates of stock betas. Usually these services report different
3 betas for the same stock. The differences are usually due to: (1) the time period over
4 which the beta is measured and (2) any adjustments that are made to reflect the fact
5 that betas tend to regress to 1.0 over time. In estimating an equity cost rate for the
6 Electric Proxy Group, I use the betas for the companies as provided in the *Value Line*
7 *Investment Survey*. As shown on page 3 of Exhibit JRW-11, the median beta for the
8 companies in the Electric Proxy Group is 0.70.

9

10 **Q. PLEASE DISCUSS THE ALTERNATIVE VIEWS REGARDING THE**
11 **EQUITY RISK PREMIUM.**

12 A. The equity or market risk premium - $(E(R_m) - R_f)$ - is equal to the expected return on
13 the stock market (e.g., the expected return on the S&P 500 $(E(R_m))$) minus the risk-free
14 rate of interest (R_f) . The equity premium is the difference in the expected total return
15 between investing in equities and investing in “safe” fixed-income assets, such as
16 long-term government bonds. However, while the equity risk premium is easy to
17 define conceptually, it is difficult to measure because it requires an estimate of the
18 expected return on the market.

19

20 **Q. PLEASE DISCUSS THE ALTERNATIVE APPROACHES TO ESTIMATING**
21 **THE EQUITY RISK PREMIUM.**

22 A. Page 4 of Exhibit JRW-11 highlights the primary approaches to, and issues in,
23 estimating the expected equity risk premium. The traditional way to measure the
24 equity risk premium was to use the difference between historical average stock and
25 bond returns. In this case, historical stock and bond returns, also called ex post

1 returns, were used as the measures of the market's expected return (known as the ex
2 ante or forward-looking expected return). This type of historical evaluation of stock
3 and bond returns is often called the "Ibbotson Approach" after Professor Roger
4 Ibbotson, who popularized this method of using historical financial market returns as
5 measures of expected returns. Most historical assessments of the equity risk premium
6 suggest an equity risk premium of 5% to 7% above the rate on long-term U.S.
7 Treasury bonds. However, this can be a problem because: (1) *ex post* returns are not
8 the same as *ex ante* expectations, (2) market risk premiums can change over time,
9 increasing when investors become more risk-averse and decreasing when investors
10 become less risk-averse, and (3) market conditions can change such that *ex post*
11 historical returns are poor estimates of *ex ante* expectations.

12 The use of historical returns as market expectations has been criticized in
13 numerous academic studies.⁹ The general theme of these studies is that the large
14 equity risk premium discovered in historical stock and bond returns cannot be
15 justified by the fundamental data. These studies, which fall under the category "Ex
16 Ante Models and Market Data," compute *ex ante* expected returns using market data
17 to arrive at an expected equity risk premium. These studies have also been called
18 "Puzzle Research" after the famous study by Mehra and Prescott in which the authors
19 first questioned the magnitude of historical equity risk premiums relative to
20 fundamentals.¹⁰

21 In addition, there are a number of surveys of financial professionals regarding
22 the equity risk premium. *CFO Magazine* conducts a quarterly survey of CFOs which
23 includes questions regarding their views on the current expected returns on stocks and

⁹ The problems with using *ex post* historical returns as measures of *ex ante* expectations will be discussed at length later in my testimony.

¹⁰ R. Mehra and Edward Prescott, "The Equity Premium: A Puzzle," *Journal of Monetary Economics* (1985).

1 bonds. Usually over 500 CFOs participate in the survey.¹¹ Questions regarding
2 expected stock and bond returns are also included in the Federal Reserve Bank of
3 Philadelphia’s annual survey of financial forecasters which is published as the *Survey*
4 *of Professional Forecasters*.¹² This survey of professional economists has been
5 published for almost 50 years. In addition, Pablo Fernandez conducts occasional
6 surveys of financial analysts and companies regarding the equity risk premiums they
7 use in their investment and financial decision-making.

8

9 **Q. PLEASE PROVIDE A SUMMARY OF THE EQUITY RISK PREMIUM**
10 **STUDIES.**

11 A. Derrig and Orr (2003), Fernandez (2007), and Song (2007) have completed the most
12 comprehensive reviews to date of the research on the equity risk premium.¹³ Derrig
13 and Orr’s study evaluated the various approaches to estimating equity risk premiums
14 as well as the issues with the alternative approaches and summarized the findings of
15 the published research on the equity risk premium. Fernandez examined four
16 alternative measures of the equity risk premium – historical, expected, required, and
17 implied. He also reviewed the major studies of the equity risk premium and
18 presented the summary equity risk premium results. Song provides an annotated
19 bibliography and highlights the alternative approaches to estimating the equity risk
20 summary.

¹¹ See www.cfosurvey.org.

¹²Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*, (February 11, 2011). The *Survey of Professional Forecasters* was formerly conducted by the American Statistical Association (“ASA”) and the National Bureau of Economic Research (“NBER”) and was known as the ASA/NBER survey. The survey, which began in 1968, is conducted each quarter. The Federal Reserve Bank of Philadelphia, in cooperation with the NBER, assumed responsibility for the survey in June 1990.

¹³ See Richard Derrig and Elisha Orr, “Equity Risk Premium: Expectations Great and Small,” Working Paper (version 3.0), Automobile Insurers Bureau of Massachusetts, (August 28, 2003); Pablo Fernandez, “Equity Premium: Historical, Expected, Required, and Implied,” IESE Business School Working Paper, (2007); Zhiyi Song, “The Equity Risk Premium: An Annotated Bibliography,” CFA Institute, (2007).

1 Page 5 of Exhibit JRW-11 provides a summary of the results of the primary
2 risk premium studies reviewed by Derrig and Orr, Fernandez, and Song, as well as
3 other more recent studies of the equity risk premium. In developing page 5 of Exhibit
4 JRW-11, I have categorized the studies as discussed on page 4 of Exhibit JRW-11. I
5 have also included the results of the “Building Blocks” approach to estimating the
6 equity risk premium, including a study I performed. The Building Blocks approach is
7 a hybrid approach employing elements of both historic and *ex ante* models.
8

9 **Q. PLEASE DISCUSS YOUR DEVELOPMENT OF AN EQUITY RISK**
10 **PREMIUM COMPUTED USING THE BUILDING BLOCKS**
11 **METHODOLOGY.**

12 A. Ibbotson and Chen (2003) evaluate the ex post historical mean stock and bond returns
13 in what is called the Building Blocks approach.¹⁴ They use 75 years of data and
14 relate the compounded historical returns to the different fundamental variables
15 employed by different researchers in building ex ante expected equity risk premiums.
16 Among the variables included were inflation, real EPS and DPS growth, ROE and
17 book value growth, and price-earnings (“P/E”) ratios. By relating the fundamental
18 factors to the ex post historical returns, the methodology bridges the gap between the
19 ex post and ex ante equity risk premiums. Ilmanen (2003) illustrates this approach
20 using the geometric returns and five fundamental variables – inflation (“CPI”),
21 dividend yield (“D/P”), real earnings growth (“RG”), repricing gains (“PEGAIN”) and
22 return interaction/reinvestment (“INT”).¹⁵ This is shown on page 7 of Exhibit
23 JRW-11. The first column breaks the 1926-2000 geometric mean stock return of

¹⁴ Roger Ibbotson and Peng Chen, “Long Run Returns: Participating in the Real Economy,” *Financial Analysts Journal*, (January 2003).

¹⁵ Antti Ilmanen, “Expected Returns on Stocks and Bonds,” *Journal of Portfolio Management*, (Winter 2003), p. 11.

1 10.7% into the different return components demanded by investors: the historical
2 U.S. Treasury bond return (5.2%), the excess equity return (5.2%), and a small
3 interaction term (0.3%). This 10.7% annual stock return over the 1926-2000 period
4 can then be broken down into the following fundamental elements: inflation (3.1%),
5 dividend yield (4.3%), real earnings growth (1.8%), repricing gains (1.3%) associated
6 with higher P/E ratios, and a small interaction term (0.2%).

7

8 **Q. HOW ARE YOU USING THIS METHODOLOGY TO DERIVE AN EX ANTE**
9 **EXPECTED EQUITY RISK PREMIUM?**

10 A. The third column in the graph on page 7 of Exhibit JRW-11 shows current inputs to
11 estimate an ex ante expected market return. These inputs include the following:
12 CPI – To assess expected inflation, I have employed expectations of the short-term
13 and long-term inflation rate. Long term inflation forecasts are available in the Federal
14 Reserve Bank of Philadelphia’s publication entitled *Survey of Professional*
15 *Forecasters*. While this survey is published quarterly, only the first quarter survey
16 includes long-term forecasts of gross domestic product (“GDP”) growth, inflation,
17 and market returns. In the first quarter 2011 survey, published on February 11, 2011,
18 the average long-term (10-year) expected inflation rate as measured by the CPI was
19 2.30% (see Panel A of page 8 of Exhibit JRW-11).

20 The University of Michigan’s Survey Research Center surveys consumers on
21 their short-term (one-year) inflation expectations on a monthly basis. As shown on
22 page 9 of Exhibit JRW-11, the current short-term expected inflation rate is 3.5%.

23 As a measure of expected inflation, I will use the average of the long-term
24 (2.3%) and short-term (3.5%) inflation rate measures, or 2.8%.

1 D/P – As shown on page 10 of Exhibit JRW-11, the dividend yield on the S&P 500
2 has fluctuated from 1.0% to almost 3.5% over the past decade. Ibbotson and Chen
3 (2003) report that the long-term average dividend yield of the S&P 500 is 4.3%.
4 Currently, the S&P 500 dividend yield is 2.4%. I will use this figure in my ex ante
5 risk premium analysis.

6 RG – To measure expected real growth in earnings, I use the historical real earnings
7 growth rate of the S&P 500 and the expected real GDP growth rate. The S&P 500
8 was created in 1960 and includes 500 companies which come from ten different
9 sectors of the economy. On page 11 of Exhibit JRW-11, real EPS growth is
10 computed using the CPI as a measure of inflation. The real growth figure over 1960-
11 2010 period for the S&P 500 is 2.6%.

12 The second input for expected real earnings growth is expected real GDP
13 growth. The rationale is that over the long-term, corporate profits have averaged a
14 relatively consistent 5.50% of U.S. GDP.¹⁶ Expected GDP growth, according to the
15 Federal Reserve Bank of Philadelphia’s *Survey of Professional Forecasters*, is 2.9%
16 (see Panel B of page 8 of Exhibit JRW-11).

17 Given these results, I will use 2.75%, for real earnings growth.

18 PEGAIN – PEGAIN is the repricing gain associated with an increase in the P/E ratio.
19 It accounted for 1.3% of the 10.7% annual stock return in the 1926-2000 period. In
20 estimating an ex ante expected stock market return, one issue is whether investors
21 expect P/E ratios to increase from their current levels. The P/E ratios for the S&P
22 500 over the past 25 years are shown on page 10 of Exhibit JRW-11. The run-up and
23 eventual peak in P/Es in the year 2000 is very evident in the chart. The average P/E
24 declined until late 2006, and then increased to higher high levels, primarily due to the

¹⁶Marc. H. Goedhart, et al, “The Real Cost of Equity,” *McKinsey on Finance* (Autumn 2002), p.14.

1 decline in EPS as a result of the financial crisis and the recession. The current average
2 P/E for the S&P 500 is approximately 13.0, which is in line with the historic average.
3 Since the current figure is near the historic average, a PEGAIN would not be
4 appropriate in estimating an ex ante expected stock market return.

5

6 **Q. GIVEN THIS DISCUSSION, WHAT IS THE EX ANTE EXPECTED**
7 **MARKET RETURN AND EQUITY RISK PREMIUM USING THE**
8 **“BUILDING BLOCKS METHODOLOGY”?**

9 A. My expected market return is represented by the last column on the right in the graph
10 entitled “Decomposing Equity Market Returns: The Building Blocks Methodology”
11 set forth on page 7 of Exhibit JRW-11. As shown, my expected market return of
12 7.95% is composed of 2.8% expected inflation, 2.4% dividend yield, and 2.75% real
13 earnings growth rate.

14

15 **Q. IS AN EXPECTED MARKET RETURN OF 7.95% CONSISTENT WITH THE**
16 **FORECASTS OF MARKET PROFESSIONALS?**

17 A. Yes. In the first quarter 2011 *Survey of Financial Forecasters*, published on February
18 11, 2011 by the Federal Reserve Bank of Philadelphia, the mean long-term expected
19 return on the S&P 500 was 7.37% (see Panel D of page 8 of Exhibit JRW-11).

20

21 **Q. IS AN EXPECTED MARKET RETURN OF 7.95% CONSISTENT WITH THE**
22 **EXPECTED MARKET RETURNS OF CORPORATE CHIEF FINANCIAL**
23 **OFFICERS (CFOs)?**

24 A. Yes. John Graham and Campbell Harvey of Duke University conduct a quarterly
25 survey of corporate CFOs. The survey is a joint project of Duke University and *CFO*

1 *Magazine*. In the September 2011 survey, the mean expected return on the S&P 500
2 over the next ten years was 6.5%.¹⁷

3

4 **Q. GIVEN THIS EXPECTED MARKET RETURN, WHAT IS THE EX ANTE**
5 **EQUITY RISK PREMIUM USING THE BUILDING BLOCKS**
6 **METHODOLOGY?**

7 A. The current 30-year U.S. Treasury yield is approximately 3.00%. This ex ante equity
8 risk premium is simply the expected market return from the Building Blocks
9 methodology minus this risk-free rate:

10

11 Ex Ante Equity Risk Premium = 7.95% - 3.0% = 4.95%

12

13 **Q. HOW ARE YOU USING THIS EQUITY RISK PREMIUM ESTIMATE IN**
14 **YOUR CAPM EQUITY COST RATE STUDY?**

15 A. This is only one estimate of the equity risk premium. As shown on page 5 of Exhibit
16 JRW-11, I am also using the results of over thirty other studies and surveys to
17 determine an equity risk premium for my CAPM.

18

19 **Q. PLEASE DISCUSS PAGE 5 OF EXHIBIT JRW-11.**

20 A. Page 5 of Exhibit JRW-11 provides a summary of the results of the equity risk
21 premium studies that I have reviewed. These include the results of: (1) the various
22 studies of the historical risk premium, (2) *ex ante* equity risk premium studies, (3)
23 equity risk premium surveys of CFOs, Financial Forecasters, analysts, companies and

¹⁷ The survey results are available at www.cfosurvey.org.

1 academics, and (4) the Building Block approaches to the equity risk premium. There
2 are results reported for over thirty studies, and the median equity risk premium is
3 5.03%.

4

5 **Q. PLEASE HIGHLIGHT THE RESULTS OF THE MORE RECENT RISK**
6 **PREMIUM STUDIES AND SURVEYS?**

7 A. The studies cited on page 5 of Exhibit JRW-11 include all equity risk premium
8 studies and surveys I could identify that were published over the past decade and that
9 provided an equity risk premium estimate. Most of these studies were published prior
10 to the financial crisis of the past two years. In addition, some of these studies were
11 published in the early 2000s at the market peak. It should be noted that many of these
12 studies (as indicated) used data over long periods of time (as long as fifty years of
13 data) and so they were not estimating an equity risk premium as of a point in time
14 (e.g., the year 2001). To assess the effect of the earlier studies on the equity risk
15 premium, on page 6 of Exhibit JRW-11 I have reconstructed page 5 of Exhibit JRW-
16 11, but I have eliminated all studies dated before January 2, 2010. The median for
17 this subset of studies is 5.10%.

18

19 **Q. GIVEN THESE RESULTS, WHAT EQUITY RISK PREMIUM ARE YOU**
20 **USING IN YOUR CAPM?**

21 A. I use the median equity risk premium for the 2010-11 studies and surveys, which is
22 5.10%.

23

1 **Q. IS YOUR *EX ANTE* EQUITY RISK PREMIUM CONSISTENT WITH THE**
2 **EQUITY RISK PREMIUMS USED BY CFOS AND FINANCIAL**
3 **FORECASTERS?**

4 A. Yes. My risk premium is below historic averages and therefore is consistent with
5 surveys of CFOs and financial forecasters. In the September 2011 CFO survey
6 conducted by *CFO Magazine* and Duke University, the expected 10-year equity risk
7 premium was 4.2%. In addition, the financial forecasters in the previously referenced
8 Federal Reserve Bank of Philadelphia survey project both stock and bond returns. As
9 shown on Panels D and E of page 8 of Exhibit JRW-11, the mean long-term expected
10 stock and bond returns were 7.37% and 4.50%, respectively. This provides an *ex ante*
11 equity risk premium of 2.87%.

12

13 **Q. IS YOUR *EX ANTE* EQUITY RISK PREMIUM CONSISTENT WITH THE**
14 **EQUITY RISK PREMIUMS OF FINANCIAL ANALYSTS AND**
15 **COMPANIES?**

16 A. Yes. Pablo Fernandez recently published the results of a 2011 survey of financial
17 analysts and companies. This survey included over 6,000 responses. The median
18 equity risk premium employed by both U.S. analysts and companies was 5.0% and
19 5.2%.

20

21 **Q. IS YOUR *EX ANTE* EQUITY RISK PREMIUM CONSISTENT WITH THE**
22 **EQUITY RISK PREMIUMS USED BY THE LEADING CONSULTING**
23 **FIRMS?**

24 A. Yes. McKinsey & Co. is widely recognized as the leading management consulting
25 firm in the world. It published a study entitled “The Real Cost of Equity” in which

1 the McKinsey authors developed an *ex ante* equity risk premium for the U.S. In
2 reference to the decline in the equity risk premium, as well as what is the appropriate
3 equity risk premium to employ for corporate valuation purposes, the McKinsey
4 authors concluded the following:

5 We attribute this decline not to equities becoming less
6 risky (the inflation-adjusted cost of equity has not
7 changed) but to investors demanding higher returns in
8 real terms on government bonds after the inflation
9 shocks of the late 1970s and early 1980s. We believe
10 that using an equity risk premium of 3.5 to 4 percent in
11 the current environment better reflects the true long-
12 term opportunity cost of equity capital and hence will
13 yield more accurate valuations for companies.¹⁸

14

15 **Q. WHAT EQUITY COST RATE IS INDICATED BY YOUR CAPM ANALYSIS?**

16 A. The results of my CAPM study for the proxy group are provided below:

17

$$K = (R_f) + \beta * [E(R_m) - (R_f)]$$

	Risk-Free Rate	Beta	Equity Risk Premium	Equity Cost Rate
Electric Proxy Group	4.0%	0.70	5.10%	7.6%

18

These results are summarized on page 1 of Exhibit JRW-11.

19

20 **VI. EQUITY COST RATE SUMMARY**

21

22 **Q. PLEASE SUMMARIZE YOUR EQUITY COST RATE STUDY.**

23 A. The results for my DCF and CAPM analyses for the proxy group of electric utility
24 companies re indicated below:

	DCF	CAPM
Electric Proxy Group	9.3%	7.6%

¹⁸ Marc H. Goedhart, *et al.*, "The Real Cost of Equity," *McKinsey on Finance* (Autumn 2002), p. 15.

1 **Q. GIVEN THESE RESULTS, WHAT IS YOUR ESTIMATED EQUITY COST**
2 **RATE FOR THE GROUP?**

3 A. These results indicate that the appropriate equity cost rate for Gulf Power is in the
4 7.6% to 9.3% range. However, since I give greater weight to the results of the DCF
5 model, I believe that the appropriate equity cost rate for Gulf Power is 9.25%.

6

7 **Q. PLEASE INDICATE WHY A 9.25% RETURN IS APPROPRIATE FOR GULF**
8 **POWER AT THIS TIME.**

9 A. There are several reasons why 9.25% ROE is an appropriate for the Company in this
10 case. First, as shown on Exhibit JRW-8, the electric utility industry is among the
11 lowest risk industries as measured by beta. As such, the cost of equity capital for the
12 industry is among the lowest in the U.S. according to the CAPM. Second, as shown in
13 Exhibit JRW-3, capital costs for utilities, as indicated by long-term bond yields, have
14 declined to their pre-financial crisis levels. Third, while the financial markets have
15 recovered significantly in the past year, the economy has not. The economic times are
16 still viewed as being difficult, with nearly nine percent unemployment. As a result,
17 interest rates and inflation are at relatively low levels, and hence the expected returns
18 on financial assets – from savings accounts to Treasury bills to common stocks – are
19 low. Therefore, in my opinion, a 9.25% return is appropriate for Gulf Power.

20

21 **VII. CRITIQUE OF GULF POWER'S RATE OF RETURN TESTIMONY**

22

23 **Q. PLEASE SUMMARIZE DR. VANDER WEIDE'S RATE OF RETURN**
24 **RECOMMENDATION FOR GULF POWER.**

1 A. Gulf Power witness Mr. Richard J. McMillan provides the Company's proposed
2 capital structure and long-term debt cost rate, and Dr. James H. Vander Weide
3 recommends a common equity cost rate for Gulf Power. Gulf Power's rate of return
4 recommendation is summarized on page 1 of Exhibit JRW-12. Gulf Power's
5 recommended capital structure includes 1.30% short-term debt, 47.83% long-term
6 debt, 5.31% preferred stock, and 46.87% common equity. Gulf Power uses short-
7 term and long-term debt cost rates of 2.12% and 5.45%, a preferred stock cost rate of
8 6.65% and an equity cost rate of 11.7%.

9

10 **Q. WHAT ISSUES DO YOU HAVE WITH THE COMPANY'S COST OF**
11 **CAPITAL POSITION?**

12 A. The primary areas of disagreement in measuring Gulf Power' cost of capital are: (1) the
13 appropriate debt and preferred stock cost rates for Gulf Power; (2) the dividend yield in
14 the quarterly DCF model; (3) the exclusive use of the projected growth rates of Wall
15 Street analysts to measure expected DCF growth; (4) the base interest rate as well as the
16 market or equity risk premium in the RP and CAPM approaches; (5) unwarranted
17 flotation cost adjustments to his equity cost rate results; and (6) an erroneous leverage
18 adjustment based on the market value capital structures of his proxy group. The debt
19 and preferred stock cost rate issues were discussed previously. The other issues are
20 addressed below.

21

22 **Q. PLEASE REVIEW DR. VANDER WEIDE'S EQUITY COST RATE**
23 **APPROACHES.**

24 A. Dr. Vander Weide uses an electric utility proxy group and employs DCF, CAPM, and
25 RP equity cost rate approaches. Dr. Vander Weide's equity cost rate estimates for

1 Gulf Power are summarized in the in Panel A of Exhibit JRW-13. Based on these
2 figures, he concludes that the appropriate equity cost rate for the Company is 11.7%.

3

4 **Q. PLEASE DISCUSS YOUR ISSUES WITH DR. VANDER WEIDE'S**
5 **RECOMMENDED EQUITY COST RATE.**

6 A. Dr. Vander Weide's requested return on common equity is too high, primarily
7 due to: (A) the use of a quarterly DCF dividend yield adjustment in his DCF
8 approach; (B) an inflated growth rate in his DCF approach; (C) excessive equity risk
9 premiums in his RP and CAPM approaches; (D) unwarranted flotation cost
10 adjustments to his equity cost rate results; and (E) an erroneous leverage adjustment
11 based on the market value capital structures of his proxy group. The flotation cost
12 and leverage adjustment are discussed later in the testimony. The individual equity
13 cost rate approaches are reviewed below.

14

15 **A. DCF Approach**

16 **Q. PLEASE SUMMARIZE DR. VANDER WEIDE'S DCF ESTIMATES.**

17 A. On pages 20-30 of his testimony and his Exhibit No. ___(JVW-1), Schedule 1, Dr.
18 Vander Weide develops an equity cost rate by applying a DCF model to his group of
19 electric utility companies. In the traditional DCF approach, the equity cost rate is the
20 sum of the dividend yield and expected growth. Dr. Vander Weide makes adjustments to
21 the dividend yield to reflect the quarterly payment of dividends. Dr. Vander Weide uses
22 one measure of DCF expected growth - the projected EPS growth rate forecasts from
23 Wall Street analysts as provided by I/B/E/S. Dr. Vander Weide's DCF results are
24 provided in Panel B of Exhibit JRW-13. Based on these figures, Dr. Vander Weide
25 claims that the DCF equity cost rate for the Vander Weide Proxy Group is 10.7%.

1

2 **Q. PLEASE DISCUSS THE ADJUSTMENT TO THE DIVIDEND YIELD TO**
3 **REFLECT THE QUARTERLY PAYMENT OF DIVIDENDS.**

4 A. In Exhibit___(JVW-2), Schedule 2, Dr. Vander Weide discusses his quarterly DCF
5 model. Dr. Vander Weide’s approach compounds the quarterly dividend payment over
6 the year to compute the dividend yield. This compounding process results in an
7 overstated dividend yield.

8 There are several issues with the quarterly adjustment process. First, as
9 discussed earlier in my testimony, the appropriate dividend yield adjustment for
10 growth in the DCF model is the expected dividend for the next quarter multiplied by
11 four. The quarterly adjustment procedure is inconsistent with this approach. The
12 quarterly model includes an adjustment to reflect the time value of money. Each
13 quarterly dividend is compounded to the end of the year using the long-term growth
14 rate as the compounding factor. As such, this approach presumes that investors require
15 additional compensation during the coming year because their dividends are paid out
16 quarterly instead of being paid all in a lump sum. The error in this logic and approach
17 is that the investor receives the money from each quarterly dividend and has the
18 option to reinvest it as he or she chooses. This reinvestment generates its own
19 compounding, but it is outside of the dividend payments of the issuing company. Dr.
20 Vander Weide’s approach serves to duplicate this compounding process, thereby
21 inflating the return to the investor.

22 Finally, as previously discussed, the appropriate growth rate adjustment to the
23 dividend yield in the DCF model is complicated because companies change their
24 quarterly dividend payments at different times during the year. This means that it is
25 not appropriate to make a full-year adjustment to the dividend yield. Therefore, I

1 have adjusted the dividend yield for the Electric Proxy Group by 1/2 the expected
2 growth rate. This is consistent with the approach used by the Federal Energy
3 Regulatory Commission.¹⁹

4

5 **Q. PLEASE CRITIQUE DR. VANDER WEIDE'S DCF GROWTH RATE**
6 **MEASURES.**

7

8 A. Dr. Vander Weide uses the projected EPS growth rate forecasts of Wall Street
9 analysts as compiled by I/B/E/S in estimating as his DCF growth rate. His market-
10 value weighted average for the group is 6.0%.

11

12 **Q. PLEASE DISCUSS THE PRIMARY ERROR IN DR. VANDER WEIDE'S DCF**
13 **GROWTH RATE ANALYSIS.**

14 A. The primary issue is that Dr. Vander Weide relied exclusively on the long-term EPS
15 growth rate forecasts of Wall Street analysts in developing a DCF growth rate. This
16 is an error. These growth rate forecasts are overly optimistic and upwardly biased.
17 The results of the research on Wall Street analysts' EPS growth rate forecasts are
18 unambiguous on this issue.

19

20 **Q. PLEASE REVIEW THE ACADEMIC RESEARCH ON THE ACCURACY OF**
21 **ANALYSTS' NEAR-TERM EPS ESTIMATES AND LONG-TERM EPS**
22 **GROWTH RATE FORECASTS.**

23 A. There is a long history of studies that evaluate how well analysts forecast near-term EPS
24 estimates and long-term EPS growth rates. Most of the early studies evaluated the

¹⁹ Opinion No. 414-A, *Transcontinental Gas Pipe Line Corp.*, 84 FERC ¶61,084 (1998).

1 accuracy of earnings forecasts for the next quarter or the next year. These studies
2 demonstrate that analysts make overly optimistic EPS earnings forecasts (Stickel
3 (1990); Brown (1997); Chopra (1998)).²⁰ Harris (1999) published the first study
4 examining the accuracy of long-term EPS growth rate forecasts.²¹ He evaluated the
5 accuracy of analysts' long-term EPS forecasts over the 1982-1997 time period. He
6 concluded the following: (1) the accuracy of analysts' long-term EPS forecasts is very
7 low; (2) a superior long-run method to forecast long-term EPS growth is to assume
8 that all companies will have an earnings growth rate equal to historic GDP growth;
9 and (3) analysts' long-term EPS forecasts are significantly upwardly biased, with
10 forecasted earnings growth exceeding actual earnings growth by seven percent per
11 annum. Subsequent studies by DeChow, P., A. Hutton, and R. Sloan (2000), and
12 Chan, Karceski, and Lakonishok (2003) also conclude that analysts' long-term EPS
13 growth rate forecasts are overly optimistic and upwardly biased.²²

14 More recent studies have shown that the optimistic bias tends to be larger for
15 longer-term forecasts and smaller for forecasts made nearer to the EPS announcement
16 date. Richardson, Teoh, and Wysocki (2004) report that the upward bias in earnings
17 growth rates declines in the quarters leading up to the earnings announcement date.²³
18 They call this result the "walk-down to beatable analyst forecasts." They hypothesize
19 that the walk-down might be driven by the "earning-guidance game," in which

²⁰ S. Stickel, "Predicting Individual Analyst Earnings Forecasts," *Journal of Accounting Research*, Vol. 28, 409-417, 1990. Brown, L.D., "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal*, Vol. 53, 81-88, 1997, and Chopra, V.K., "Why So Much Error in Analysts' Earnings Forecasts?" *Financial Analysts Journal*, Vol. 54, 30-37 (1998).

²¹ R.D. Harris, "The Accuracy, Bias, and Efficiency of Analysts' Long Run Earnings Growth Forecasts," *Journal of Business Finance & Accounting*, pp. 725-55 (June/July 1999).

²² P. DeChow, A. Hutton, and R. Sloan, "The Relation Between Analysts' Forecasts of Long-Term Earnings Growth and Stock Price Performance Following Equity Offerings," *Contemporary Accounting Research* (2000) and K. Chan, L., Karceski, J., & Lakonishok, J., "The Level and Persistence of Growth Rates," *Journal of Finance* pp. 643-684, (2003).

²³ S. Richardson, S. Teoh, and P. Wysocki, "The Walk-Down to Beatable Analyst Forecasts: The Role of Equity Issuance and Insider Trading Incentives," *Contemporary Accounting Research*, pp. 885-924, (2004).

1 analysts give optimistic forecasts at the start of a fiscal year, then revise their
2 estimates downwards until the firm can beat the forecasts at the earnings
3 announcement date.

4 In sum, there have been many studies of analysts' earnings forecasts. The
5 studies conclude (almost unanimously) that analysts' earnings forecasts of short-term
6 earnings estimates and long-term earnings growth rates are overly optimistic. In terms
7 of analysts' projections of long-term earnings growth, all previous studies have come
8 to this conclusion.

9 .

10 **Q. PLEASE DISCUSS YOUR STUDY OF THE ACCURACY OF ANALYSTS'**
11 **LONG-TERM EARNINGS GROWTH RATES.**

12 A. To evaluate the accuracy of analysts' EPS forecasts, I have compared actual 3-5 year
13 EPS growth rates with forecasted EPS growth rates on a quarterly basis over the past
14 20 years for all companies covered by the I/B/E/S data base. In Panel A of page 1 of
15 Exhibit JRW-14, I show the average analysts' forecasted 3-5 year EPS growth rate
16 with the average actual 3-5 year EPS growth rate for the past twenty years.

17 The following example shows how the results can be interpreted. For the 3-5 year
18 period prior to the first quarter of 1999, analysts had projected an EPS growth rate of
19 15.13%, but companies generated an average annual EPS growth rate over the 3-5
20 years of only 9.37%. This projected EPS growth rate figure represented the average
21 projected growth rate for over 1,510 companies, with an average of 4.88 analyst
22 forecasts per company. For the entire twenty-year period of the study, for each
23 quarter there were, on average, 5.6 analysts' EPS projections for 1,281 companies.
24 Overall, my findings indicate that forecast errors for long-term estimates are
25 predominantly positive, which indicates an upward bias in growth rate estimates. The

1 mean and median forecast errors over the observation period are 143.06% and
2 75.08%, respectively. The forecasting errors are negative for only eleven of the eighty
3 quarterly time periods: five consecutive quarters starting at the end of 1995, and six
4 consecutive quarters starting in 2006. As shown in Panel A of page 1 of Exhibit
5 JRW-14, the quarters with negative forecast errors were for the 3-5 year periods
6 following earnings declines associated with the 1991 and 2001 economic recessions
7 in the U.S. Thus, there is evidence of a persistent upward bias in long-term EPS
8 growth forecasts.

9 The average 3-5 year EPS growth rate projections for all companies provided in the
10 I/B/E/S database on a quarterly basis from 1988 to 2008 are shown in Panel B of page
11 1 of Exhibit JRW-14. In this graph, no comparison to actual EPS growth rates is
12 made, and hence, there is no follow-up period. Therefore, since companies are not
13 lost from the sample due to a lack of follow-up EPS data, these results are for a larger
14 sample of firms. Analysts' forecasts for EPS growth were higher for this larger
15 sample of firms, with a more pronounced run-up and then decline around the stock
16 market peak in 2000. The average projected growth rate hovered in the 14.5%-17.5%
17 range until 1995 and then increased dramatically over the next five years to 23.3% in
18 the fourth quarter of the year 2000. Forecasted EPS growth has since declined to the
19 15.0% range.

20

21 **Q. HAVE THE MARKETS OBSERVED THE UPWARD BIAS IN ANALYSTS'**
22 **GROWTH RATE FORECASTS THAT YOU OBSERVE?**

23 A. Yes. Page 2 of Exhibit JRW-14 provides an article published in the *Wall Street Journal*,
24 dated March 21, 2008, that discusses the upward bias in analysts' EPS growth rate

1 forecasts.²⁴ In addition, a recent *Bloomberg Businessweek* article also highlighted the
2 upward bias in analysts' EPS forecasts, citing a study by McKinsey Associates. This
3 article is provided on pages 3 and 4 of Exhibit JRW-14. The article concludes with the
4 following:²⁵

5 ***The bottom line:** Despite reforms intended to improve Wall Street research,*
6 *stock analysts seem to be promoting an overly rosy view of profit prospects.*

7

8 **Q. PLEASE ADDRESS THE COMPARATIVE ACCURACY OF ANALYSTS' EPS**
9 **FORECASTS AND HISTORIC AND TIME-SERIES ESTIMATES OF EPS**
10 **GROWTH.**

11 A. As highlighted by the classic study by Brown and Rozeff (1976) and the other studies
12 that followed, analysts' forecasts of quarterly earnings estimates are superior to the
13 estimates derived from historic and time-series analyses.²⁶ This is often attributed to the
14 information and timing advantage that analysts have over historic and time-series
15 analyses. However, more recently Bradshaw, Drake, Myers, and Myers (2009)
16 discovered that time-series estimates of annual earnings are more accurate over
17 longer horizons than analysts' forecasts of earnings. As the authors state, "These
18 findings suggest an incomplete and misleading generalization about the superiority of
19 analysts' forecasts over even simple time-series-based earnings forecasts."²⁷

20 With respect to long-term earnings growth, analysts' forecasts of long-term
21 growth have not been found to be superior to other historic growth rate measures. Harris

²⁴ Andrew Edwards, "Study Suggests Bias in Analysts' Rosy Forecasts," *Wall Street Journal* (March 21, 2008), p. C6.

²⁵ Roben Farzad, 'For Analysts, Things are Always Looking Up,' *Bloomberg Businessweek* (June 14, 2010), pp. 39-40.

²⁶ L. Brown and M. Rozeff, "The Superiority of Analyst Forecasts as Measures of Expectations: Evidence from Earnings," *The Journal of Finance* 33 (1): pp. 1-16 (1976).

²⁷ M. Bradshaw, M. Drake, J. Myers, and L. Myers, "A Re-examination of Analysts' Superiority Over Time-Series Forecasts," Working paper, (1999), <http://ssrn.com/abstract=1528987>.

1 (1999) concluded that historic GDP growth was superior to analysts' forecasts for
2 long run earnings growth. These results are supported by empirical results of Chan,
3 Karceski, and Lakonishok (2003).

4 **Q. WHAT IMPACT HAVE NEW STOCK MARKET AND REGULATORY**
5 **DEVELOPMENTS HAD ON ANALYSTS' EPS GROWTH RATE**
6 **FORECASTS?**

7 A. Analysts' EPS growth rate forecasts have subsided somewhat since the stock market
8 peak of 2000. Two regulatory developments over the past decade have potentially
9 impacted analysts' EPS growth rate estimates. First, Regulation Fair Disclosure ("Reg
10 FD") was introduced by the Securities and Exchange Commission ("SEC") in
11 October of 2000. Reg FD prohibits private communication between analysts and
12 management so as to level the information playing field in the markets. With Reg
13 FD, analysts are less dependent on gaining access to management to obtain
14 information and therefore, are not as likely to make optimistic forecasts to gain access
15 to management. Second, the conflict of interest within investment firms with
16 investment banking and analyst operations was addressed in the Global Analysts
17 Research Settlements ("GARS"). GARS, as agreed upon on April 23, 2003, between
18 the SEC, NASD, NYSE and ten of the largest U.S. investment firms, includes a
19 number of regulations that were introduced to prevent [investment bankers](#) from
20 pressuring [analysts](#) to provide favorable projections.

21 The impact of these regulatory developments on the accuracy of short-term
22 EPS estimates was addressed in a recent study by Hovakimian and Saenyasiri
23 (2009).²⁸ They investigate analysts' forecasts of annual earnings for the following
24 time periods: (1) the time prior to Reg FD (1984-2000); (2) the time period after Reg

²⁸ A. Hovakimian and E. Saenyasiri, "Conflicts of Interest and Analysts Behavior: Evidence from Recent Changes in Regulation," *Financial Analysts Journal* (July-August, 2010), pp. 96-107.

1 FD but prior to GARS (2000-2002),²⁹ and (3) the time period after GARS (2002-
2 2006). For the pre-Reg FD period, Hovakimian and Saenyasiri find that analysts
3 generally made overly optimistic forecasts of annual earnings. The forecast bias was
4 higher for early forecasts and steadily declined in the months leading up to the
5 earnings announcement. The results are similar for the time period after Reg FD but
6 prior to GARS. However, the bias was lower in the later forecasts (the forecasts
7 made just prior to the announcement). For the time period after GARS, the average
8 forecasts declined significantly, but a positive bias remains. In sum, Hovakimian and
9 Saenyasiri find that: (1) analysts make overly optimistic short-term forecasts of
10 annual earnings; (2) Reg FD had no effect on this bias; and (3) GARS did result in a
11 significant reduction in the bias, but analysts' short-term forecasts of annual earnings
12 still have a small positive bias.

13 Whereas Hovakimian and Saenyasiri evaluated the impact of regulations on
14 analysts' short-term EPS estimates, there is little research on the impact of Reg FD
15 and GARS on the long-term EPS forecasts of Wall Street analysts. My study with
16 Patrick Cusatis did find that the long-term EPS growth rate forecasts of analysts did
17 not decline significantly and have continued to be overly-optimistic in the post Reg
18 FD and GARS period.³⁰ Analysts' long-term EPS growth rate forecasts before and
19 after GARS are about two times the level of historic GDP growth. These
20 observations are supported by a *Wall Street Journal* article entitled "Analysts Still
21 Coming Up Rosy – Over-Optimism on Growth Rates is Rampant – and the Estimates
22 Help to Buoy the Market's Valuation." The following quote provides insight into the

²⁹ Whereas the GARS settlement was signed in 2003, rules addressing analysts' conflict of interest by separating the research and investment banking activities of analysts went into effect with the passage of NYSE and NASD rules in July of 2002.

³⁰ P. Cusatis and J. R. Woolridge, "The Accuracy of Analysts' Long-Term EPS Growth Rate Forecasts," Working Paper, (July 2008).

1 continuing bias in analysts' forecasts:

2 Hope springs eternal, says Mark Donovan, who manages
3 Boston Partners Large Cap Value Fund. "You would have
4 thought that, given what happened in the last three years,
5 people would have given up the ghost. But in large measure
6 they have not.

7 These overly optimistic growth estimates also show that, even
8 with all the regulatory focus on too-bullish analysts allegedly
9 influenced by their firms' investment-banking relationships, a
10 lot of things haven't changed. Research remains rosy and many
11 believe it always will.³¹

12

13

14 **Q. HOW DO THESE OBSERVATIONS COMPARE WITH THE FINDINGS OF**
15 **A RECENT MCKINSEY STUDY ON THE IMPACT OF THESE**
16 **REGULATIONS ON THE ACCURACY OF ANALYSTS' EPS GROWTH**
17 **RATE FORECASTS?**

18 A. McKinsey recently published a study entitled "Equity Analysts: Still too Bullish" in
19 which they reported on a study of the accuracy on analysts long-term EPS growth rate
20 forecasts. They concluded that after a decade of stricter regulation, analysts' long-
21 term earnings forecasts continue to be excessively optimistic.

22 They made the following observation (emphasis added):³²

23

24 Alas, a recently completed update of our work only reinforces this
25 view—despite a series of rules and regulations, dating to the last
26 decade, that were intended to improve the quality of the analysts'
27 long-term earnings forecasts, restore investor confidence in them,
28 and prevent conflicts of interest. For executives, many of whom go
29 to great lengths to satisfy Wall Street's expectations in their financial
30 reporting and long-term strategic moves, this is a cautionary tale
31 worth remembering. This pattern confirms our earlier findings that
32 analysts typically lag behind events in revising their forecasts to

³¹ Ken Brown, "Analysts Still Coming Up Rosy – Over-Optimism on Growth Rates is Rampant – and the Estimates Help to Buoy the Market's Valuation," *Wall Street Journal*, p. C1, (January 27, 2003).

³² Marc H. Goedhart, Rishi Raj, and Abhishek Saxena, "Equity Analysts, Still Too Bullish," *McKinsey on Finance*, pp. 14-17, (Spring 2010).

1 reflect new economic conditions. When economic growth
2 accelerates, the size of the forecast error declines; when economic
3 growth slows, it increases. So as economic growth cycles up and
4 down, the actual earnings S&P 500 companies report occasionally
5 coincide with the analysts' forecasts, as they did, for example, in
6 1988, from 1994 to 1997, and from 2003 to 2006. Moreover,
7 analysts have been persistently overoptimistic for the past 25 years,
8 with estimates ranging from 10 to 12 percent a year, compared with
9 actual earnings growth of 6 percent. Over this time frame, actual
10 earnings growth surpassed forecasts in only two instances, both
11 during the earnings recovery following a recession. On average,
12 analysts' forecasts have been almost 100 percent too high.
13 (Emphasis added.)
14
15
16

17 **Q. ARE YOUR OBSERVATIONS REGARDING THE UPWARD BASIS OF**
18 **ANALYSTS' EPS GROWTH RATE FORECASTS APPLICABLE TO**
19 **UTILITY COMPANIES?**

20 A. Yes. To evaluate whether analysts' EPS growth rate forecasts are upwardly biased for
21 utility companies, I conducted a study similar to the one described above using a
22 group of electric utility companies. The results are shown on Panels A and B of page
23 5 of Exhibit JRW-14. The projected EPS growth rates for electric utilities have been
24 in the 4% to 6% range over the last twenty years, with the recent figures
25 approximately 5%. As shown, the achieved EPS growth rates have been volatile and
26 on average, below the projected growth rates. Over the entire period, the average
27 quarterly 3-5 year projected and actual EPS growth rates are 4.59% and 2.90%,
28 respectively.

29 Overall, the upward bias in EPS growth rate projections for electric utility
30 companies is not as pronounced as it is for all companies. Nonetheless, the results
31 here are consistent with the results for companies in general -- analysts' projected
32 EPS growth rate forecasts are upwardly-biased for utility companies.
33

1 **Q. WHAT ABOUT VALUE LINE'S GROWTH RATE FORECASTS?**

2 A. *Value Line* has a decidedly positive bias to its earnings growth rate forecasts as well. To
3 assess *Value Line*'s earnings growth rate forecasts, I used the *Value Line Investment*
4 *Analyzer*. The results are summarized in Panel A of Page 6 of Exhibit JRW-14. I
5 initially filtered the database and found that *Value Line* has 3-5 year EPS growth rate
6 forecasts for 1,996 firms. The average projected EPS growth rate was 14.45%. This is
7 high given that the average historical EPS growth rate in the U.S. is about 7%. A major
8 factor seems to be that *Value Line* only predicts negative EPS growth for 56 companies.
9 This is less than three percent of the companies covered by *Value Line*. Given the ups
10 and downs of corporate earnings, this is unreasonable.

11 To put this figure in perspective, I screened the *Value Line* companies to see
12 what percent of companies covered by *Value Line* had experienced negative EPS growth
13 rates over the past five years. *Value Line* reported a five-year historic growth rate for
14 2,147 companies. The results are shown in Panel B of page 6 of Exhibit JRW-14 and
15 indicate that the average 5-year historic growth rate was 8.38%, and *Value Line* reported
16 negative historic growth for 654 firms which represents 30.4% of these companies.

17 These results indicate that *Value Line*'s EPS forecasts are excessive and
18 unrealistic. It appears that the analysts at *Value Line* are similar to their Wall Street
19 brethren in that they are reluctant to forecast negative earnings growth.

20

21 **Q. DR. VANDER WEIDE HAS DEFENDED THE USE OF ANALYSTS' EPS**
22 **FORECASTS IN HIS DCF MODEL BY CITING A STUDY HE PUBLISHED**
23 **WITH DR. WILLARD CARLETON. PLEASE DISCUSS DR. VANDER**
24 **WEIDE'S STUDY.**

25

1 A. Dr. Vander Weide cites the study on page 25 of his testimony. In the study, Dr.
2 Vander Weide performs a linear regression of a company's stock price to earnings
3 ratio (P/E) on the dividend yield payout ratio (D/E), alternative measures of growth
4 (g), and four measures of risk (beta, covariance, r-squared, and the standard deviation
5 of analysts' growth rate projections). He performed the study for three one-year
6 periods – 1981-1982, and 1983 – and used a sample of approximately 65 companies.
7 His results indicated that regressions measuring growth as analysts' forecasted EPS
8 growth were more statistically significant than those using various historic measures
9 of growth. Consequently, he concluded that analysts' growth rates are superior
10 measures of expected growth.

11

12 **Q. PLEASE CRITIQUE DR. VANDER WEIDE'S STUDY.**

13 A. Before highlighting the errors in the study, it is important to note that the study was
14 published twenty years ago, used a sample of only sixty-five companies, and
15 evaluated a three-year time period (1981-83) that was over twenty-five years ago.
16 Since that time, many more exhaustive studies have been performed using
17 significantly larger data bases and, from these studies, much has been learned about
18 Wall Street analysts and their stock recommendations and earnings forecasts.
19 Nonetheless, there are several errors that invalidate the results of the study.

20

21 **Q. PLEASE DESCRIBE THE ERRORS IN DR. VANDER WEIDE'S STUDY.**

22 A. The primary error in the study is that his regression model is misspecified. As a
23 result, he cannot conclude whether one growth rate measure is better than the other.
24 The misspecification results from the fact that Dr. Vander Weide did not actually
25 employ a modified version of the DCF model. Instead, he used a "linear

1 approximation.” He used the approximation so that he did not have to measure k,
2 investors’ required return, directly; instead, he used some proxy variables for risk.
3 The error in this approach is there can be an interaction between growth (g) and
4 investors’ required return (k) which could lead him to conclude that one growth rate
5 measure is superior to others. Furthermore, due to this problem, analysts’ EPS
6 forecasts could be upwardly biased and still appear to provide better measures of
7 expected growth.

8 There are other errors in the study as well that further invalidate the results.
9 Dr. Vander Weide does not use both historic and analysts’ projections growth rate
10 measures in the same regression to assess if both historic and forecasts should be used
11 together to measure expected growth. In addition, he did not perform any tests to
12 determine if the difference between historic and projected growth measures is
13 statistically significant. Without such tests, he cannot make any conclusions about
14 the superiority of one measure versus the other.

15

16 **B. Risk Premium (“RP”) Approach**

17 **Q. PLEASE REVIEW DR. VANDER WEIDE'S RP ANALYSIS.**

18 A. On pages 30-38 of his testimony and in Exhibit No. ___(JVW-1), Schedules 1-4, Dr.
19 Vander Weide develops an equity cost rate using expected (ex ante) and historical (ex
20 post) RP models. Dr. Vander Weide’s RP results are provided in Panels C and D of
21 Exhibit JRW-13. In his ex ante RP approach, Dr. Vander Weide computes an expected
22 stock return by applying the DCF model to the S&P utilities and the S&P 500 and uses
23 the EPS growth rate forecasts of Wall Street analysts as his growth rate. He then
24 subtracts the yield on ‘A’ rated utility bonds. In his historic RP model, Dr. Vander
25 Weide’s computes a historical risk premium as the difference in the arithmetic mean

1 stock and bond returns. The stock returns are computed for different time periods for
2 several different indexes, including S&P and Moody's electric utility indexes as well
3 as the S&P 500. Both his ex ante and ex post RP studies include an adjustment for
4 flotation costs. His ex ante and ex post RP studies provide equity cost rates of 11.0%
5 and 10.8%.

6 **Q. WHAT ARE THE ERRORS IN DR. VANDER WEIDE'S RP ANALYSES?**

7 A. The errors in Dr. Vander Weide's RP equity cost rate approaches include: (1) an inflated
8 base interest rate; (2) excessive risk premiums in both the ex ante and ex post RP
9 studies; and (3) the inclusion of flotation costs. The flotation cost issue is addressed
10 later in the testimony. The other two issues are discussed below.

11

12 **Q. PLEASE DISCUSS THE BASE YIELD OF DR. VANDER WEIDE'S RISK**
13 **PREMIUM ANALYSES.**

14 A. The base yield in Dr. Vander Weide's RP analyses is the projected yield on 'A' rated
15 utility bonds. There are two issues with his projected 6.15% 'A' rated utility bond
16 yield. First, the yield is well above current market rates. As shown on Page 2 of
17 Exhibit JRW-3, the current yield on long-term, 'A' rated public utility bonds is about
18 4.5%. Second, Vander Weide's base yield is erroneous and inflates the required
19 return on equity in two ways. First, long-term bonds are subject to interest rate risk, a
20 risk which does not affect common stockholders since dividend payments (unlike
21 bond interest payments) are not fixed but tend to increase over time. Second, the base
22 yield in Dr. Vander Weide's risk premium study is subject to credit risk since it is not
23 default risk-free like an obligation of the U.S. Treasury. As a result, its yield-to-
24 maturity includes a premium for default risk and therefore is above its expected

1 return. Hence, using such a bond's yield-to-maturity as a base yield results in an
2 overstatement of investors' return expectations.

3

4 **Q. DR. VANDER WEIDE EMPLOYS A DCF-BASED EX ANTE RISK**
5 **PREMIUM APPROACH. PLEASE DISCUSS THE ERRORS IN THIS**
6 **APPROACH.**

7 A. Dr. Vander Weide computes a DCF-based equity risk premium in Exhibit__(J VW-1),
8 Schedule 2. Dr. Vander Weide estimates an expected return using the DCF model and
9 subtracts a concurrent measure of interest rates. The expected return is computed for
10 utilities using the DCF model with analysts' EPS growth rate forecasts for the growth
11 rate. Then Dr. Vander Weide employs 'A' rated utility yields as a measure of interest
12 rates. From the results of his study, he concludes that an appropriate ex ante risk
13 premium is 4.90%.

14 The primary error in this approach is the DCF-based or ex ante risk premium.
15 This ex ante risk premium uses of the EPS growth rate forecasts of Wall Street
16 analysts as the one and only measure of growth in the DCF model. This issue was
17 previously addressed. In short, as I discuss and demonstrate in Appendix A, analysts'
18 EPS growth rate forecasts are upwardly biased estimates of actual EPS growth for
19 companies in general as well as for electric utilities.

20

21 **Q. PLEASE REVIEW DR. VANDER WEIDE'S EX POST OR HISTORIC RP**
22 **STUDY.**

23 A. Dr. Vander Weide performs an ex-post or historical RP study that appears in
24 Exhibit__(J VW-1), Schedules 3 and 4. This study involves an assessment of the
25 historical differences between S&P Public Utility Index and the S&P 500 stock returns

1 and public utility bond returns over various time periods between the years 1937-2010.
2 From the results of his study, he concludes that an appropriate risk premium is 4.35%.

3

4 **Q. PLEASE ADDRESS THE ISSUES INVOLVED IN USING HISTORICAL**
5 **STOCK AND BOND RETURNS TO COMPUTE A FORWARD-LOOKING OR**
6 **EX ANTE RISK PREMIUM.**

7 A. Using the historical relationship between stock and bond returns to measure an ex
8 ante equity risk premium is erroneous and, especially in this case, overstates the true
9 market equity risk premium. The equity risk premium is based on expectations of the
10 future. When past market conditions vary significantly from the present, historic data
11 does not provide a realistic or accurate barometer of expectations of the future. Using
12 historical returns to measure the ex ante equity risk premium ignores current market
13 conditions and masks the change in the risk and return relationship between stocks
14 and bonds. This change suggests that the equity risk premium has declined.

15

16 **Q. PLEASE ADDRESS THE ISSUES INVOLVED IN USING HISTORICAL**
17 **STOCK AND BOND RETURNS TO COMPUTE A FORWARD-LOOKING OR**
18 **EX ANTE RISK PREMIUM.**

19 A. Using the historical relationship between stock and bond returns to measure an ex
20 ante equity risk premium is erroneous and, especially in this case, overstates the true
21 market equity risk premium. The equity risk premium is based on expectations of the
22 future and when past market conditions vary significantly from the present, historic
23 data does not provide a realistic or accurate barometer of expectations of the future.
24 Using historical returns to measure the ex ante equity risk premium ignores current
25 market conditions and masks the change in the risk and return relationship between

1 stocks and bonds. This change suggests that the equity risk premium has declined.

2

3 **Q. PLEASE DISCUSS THE PROBLEMS WITH USING HISTORIC STOCK**
4 **AND BOND RETURNS TO ESTIMATE AN EQUITY RISK PREMIUM.**

5 A. There are a number of flaws in using historic returns over long time periods to
6 estimate expected equity risk premiums. These issues include:

7 1) Biased historical bond returns

8 2) Use of the arithmetic versus the geometric mean return

9 3) The large error in measuring the equity risk premium using historical returns

10 4) Unattainable and biased historical stock returns

11 5) Company Survivorship bias

12 6) The “Peso Problem” - U.S. stock market survivorship bias

13 These issues will be addressed in order.

14

15 1) Biased Historical Bond Returns

16 **Q. HOW ARE HISTORICAL BOND RETURNS BIASED?**

17 A. An essential assumption of these studies is that over long periods of time, investors’
18 expectations are realized. However, the experienced returns of bondholders in the past
19 invalidate this critical assumption. Historic bond returns are biased downward as a
20 measure of expectancy because of capital losses suffered by bondholders in the past. As
21 such, risk premiums derived from this data are biased upwards.

22

23 2) The Arithmetic versus the Geometric Mean Return

24 **Q. PLEASE DISCUSS THE ISSUE RELATING TO THE USE OF THE**
25 **ARITHMETIC VERSUS THE GEOMETRIC MEAN RETURNS IN THE**

1 **IBBOTSON METHODOLOGY.**

2 A. The measure of investment return has a significant effect on the interpretation of the
3 risk premium results. When analyzing a single security price series over time (i.e., a
4 time series), the best measure of investment performance is the geometric mean
5 return. Using the arithmetic mean overstates the return experienced by investors. In
6 a study entitled “Risk and Return on Equity: The Use and Misuse of Historical
7 Estimates,” Carleton and Lakonishok make the following observation: “The
8 geometric mean measures the changes in wealth over more than one period on a buy
9 and hold (with dividends invested) strategy.”³³ Since Dr. Vander Weide’s historic
10 study covers more than one period (and he assumes that dividends are reinvested), he
11 should be employing the geometric mean and not the arithmetic mean.

12

13 **Q. PLEASE PROVIDE AN EXAMPLE DEMONSTRATING THE PROBLEM**
14 **WITH USING THE ARITHMETIC MEAN RETURN.**

15 A. To demonstrate the upward bias of the arithmetic mean, consider the following
16 example. Assume that you have a stock (that pays no dividend) that is selling for
17 \$100 today, increases to \$200 in one year, and then falls back to \$100 in two years.

18 The table below shows the prices and returns.

Time Period	Stock Price	Annual Return
0	\$100	
1	\$200	100%
2	\$100	-50%

19

20 The arithmetic mean return is simply $(100\% + (-50\%))/2 = 25\%$ per year. The
21 geometric mean return is $((2 * .50)^{(1/2)} - 1 = 0\%$ per year. Therefore, the arithmetic

³³ Willard T. Carleton and Josef Lakonishok, “Risk and Return on Equity: The Use and Misuse of Historical Estimates,” *Financial Analysts Journal*, pp. 38-47, (January-February, 1985).

1 mean return suggests that your stock has appreciated at an annual rate of 25%, while
2 the geometric mean return indicates an annual return of 0%. Since after two years,
3 your stock is still only worth \$100, the geometric mean return is the appropriate
4 return measure. For this reason, when stock returns and earnings growth rates are
5 reported in the financial press, they are generally reported using the geometric mean.
6 This is because of the upward bias of the arithmetic mean. As further evidence of the
7 appropriate mean return measure, the SEC requires equity mutual funds to report
8 historic return performance using geometric mean and not arithmetic mean returns.³⁴
9 Therefore, the historic arithmetic mean return measures are biased and should be
10 disregarded.

11
12 **Q. PLEASE PROVIDE ADDITIONAL INSIGHTS INTO THE DEBATE OVER**
13 **THE USE OF THE ARITHMETIC VERSUS THE GEOMETRIC MEAN**
14 **RETURN IN DEVELOPING AN EXPECTED MARKET RISK PREMIUM.**

15 A. In measuring historic returns to develop an expected equity risk premium, finance
16 texts will often recommend the use of an arithmetic mean return as a measure of
17 central tendency. A common justification for using the arithmetic mean return is that
18 since annual stock returns are not serially correlated, the best measure of a return for
19 next year is the arithmetic mean of past returns. On the other hand, Damodaran
20 suggests that such an estimate is not appropriate in estimating an equity risk
21 premium:³⁵

22 “There are, however, strong arguments that can be made for the
23 use of geometric averages. First, empirical studies seem to
24 indicate that returns on stocks are negatively correlated over long
25 periods of time. Consequently, the arithmetic average return is

³⁴ SEC, Form N-1A.

³⁵ Aswath. Damodaran, “A New “Risky” World Order: Unstable Risk Premiums - Implications for Practice”
NUU Working Paper, 2010, p. 25.

1 likely to overstate the premium. Second, while asset pricing
2 models may be single period models, the use of these models to
3 get expected returns over long periods (such as five or ten years)
4 suggests that the estimation period may be much longer than a
5 year. In this context, the argument for geometric average
6 premiums becomes stronger.”
7

8
9
10
11
12 3) The Error in Measuring Equity Risk Premiums with Historic Data

13 **Q. PLEASE DISCUSS THE ERROR IN MEASURING THE EQUITY RISK**
14 **PREMIUM USING HISTORICAL STOCK AND BOND RETURNS.**

15 A. Measuring the equity risk premium using historical stock and bond returns is subject to a
16 substantial forecasting error. For example, the arithmetic mean long-term equity risk
17 premium of approximately 6.5% has a standard deviation of over 20.0%. This may be
18 interpreted in the following way with respect to the historical distribution of the long-
19 term equity risk premium using a standard normal distribution and a 95%, +/- 2 standard
20 deviation confidence interval: We can say, with a 95% degree of confidence, that the
21 true equity risk premium is between -34.7% and +47.7%. As such, the historical equity
22 risk premium is measured with a substantial amount of error.

23
24 4) Unattainable and Biased Historic Stock Returns

25 **Q. YOU NOTE THAT HISTORIC STOCK RETURNS ARE BIASED USING**
26 **THE IBBOTSON METHODOLOGY. PLEASE ELABORATE.**

27 A. Returns developed using Ibbotson's methodology are computed on stock indexes and
28 therefore: (1) cannot be reflective of expectations because these returns are unattainable

1 to investors and (2) produce biased results. This methodology assumes: (1) monthly
2 portfolio rebalancing and (2) reinvestment of interest and dividends. Monthly portfolio
3 rebalancing presumes that investors rebalance their portfolios at the end of each month
4 in order to have an equal dollar amount invested in each security at the beginning of
5 each month. The assumption generates high transaction costs and thereby renders these
6 returns unattainable to investors. In addition, an academic study demonstrates that the
7 monthly portfolio rebalancing assumption produces biased estimates of stock returns.³⁶

8 Transaction costs themselves provide another bias in historic versus expected
9 returns. In the past, the observed stock returns were not the realized returns of
10 investors, due to the much higher transaction costs of previous decades. These higher
11 transaction costs are reflected through the higher commissions on stock trades and the
12 lack of low cost mutual funds like index funds.

13

14 5) Company Survivorship Bias

15 **Q. HOW DOES COMPANY SURVIVORSHIP BIAS AFFECT THE HISTORIC**
16 **EQUITY RISK PREMIUM?**

17 A. Using historic data to estimate an equity risk premium suffers from company
18 survivorship bias. Company survivorship bias results when using returns from
19 indexes like the S&P 500. The S&P 500 includes only companies that have survived.
20 The fact that returns of firms that did not perform well were dropped from these
21 indexes is not reflected. Therefore, these stock returns are upwardly biased because
22 they only reflect the returns from more successful companies.

23

³⁶ See Richard Roll, "On Computing Mean Returns and the Small Firm Premium," *Journal of Financial Economics*, pp. 371-86, (1983).

1 6) The “Peso Problem” - U.S. Stock Market Survivorship Bias

2 **Q. WHAT IS THE “PESO PROBLEM,” AND HOW DOES IT RELATE TO**
3 **SURVIVORSHIP BIAS IN U. S. STOCK MARKET RETURNS?**

4 A. The use of historic return data also suffers from the so-called “Peso Problem,” which
5 is also known as U.S. stock market survivorship bias. The “peso problem” issue was
6 first highlighted by the Nobel laureate, Milton Friedman, and gets its name from
7 conditions related to the Mexican peso market in the early 1970s. This issue involves
8 the fact that past stock market returns were higher than were expected at the time
9 because despite war, depression and other social, political, and economic events, the
10 U.S. economy survived and did not suffer hyperinflation, invasion and/or the
11 calamities of other countries. As such, highly improbable events, which may or may
12 not occur in the future, are factored into stock prices, leading to seemingly low
13 valuations. Higher than expected stock returns are then earned when these events do
14 not subsequently occur. Therefore, the “peso problem” indicates that historic stock
15 returns are overstated as measures of expected returns because the U.S. markets have
16 not experienced the disruptions of other major markets around the world.

17
18 **Q. DO YOU HAVE ANY OTHER THOUGHTS ON THE USE OF HISTORICAL**
19 **RETURN DATA TO ESTIMATE AN EQUITY RISK PREMIUM?**

20 A. Yes. Jay Ritter, a Professor of Finance at the University of Florida, identified the use
21 of historical stock and bond return data to estimate a forward-looking equity risk
22 premium as one of the “Biggest Mistakes” taught by the finance profession.³⁷ His
23 argument is based on the theory behind the equity risk premium, the excessive results
24 produced by historical returns, and the previously-discussed errors such as

³⁷ Jay Ritter, “The Biggest Mistakes We Teach,” *Journal of Financial Research* (Summer 2002).

1 survivorship bias in historical data.

2

3 **C. CAPM Approach**

4 **Q. PLEASE DISCUSS DR. VANDER WEIDE'S CAPM.**

5 A. On pages 38-46 of his testimony and in Exhibit No. ___(JWV-1), Schedules 5-8, Dr.
6 Vander Weide develops an equity cost rate using the CAPM and two different market
7 risk premium approaches. Dr. Vander Weide's CAPM results are provided in Panels
8 E and F of Exhibit JRW-13. Dr. Vander Weide estimates equity cost rates of 10.7%
9 using his expected CAPM and 9.20% using his historical CAPM approach. He elects
10 to not recommend the use of the CAPM results due to the notion that the CAPM
11 underestimates the equity cost rate for companies such as utilities that have betas less
12 than 1.0.

13

14 **Q. WHAT ARE THE ERRORS IN DR. VANDER WEIDE'S CAPM ANALYSIS?**

15 A. There are three flaws with Dr. Vander Weide's CAPM analysis: (1) his risk-free rate of
16 4.45%; (2) the historic and expected market risk premiums; and (3) the flotation cost
17 adjustment. The flotation cost adjustment is discussed later in the testimony. The other
18 issues are addressed below.

19

20 **Q. PLEASE DISCUSS DR. VANDER WEIDE'S RISK-FREE RATE OF INTEREST**
21 **IN HIS CAPM.**

22 A. Dr. Vander Weide uses a risk-free rate of interest of 4.45% in his CAPM. This well in
23 excess of the current yield on long-term Treasury bonds, which is less than 3.0%

24

1 **Q. PLEASE ADDRESS THE PROBLEMS WITH DR. VANDER WEIDE'S**
2 **HISTORIC CAPM.**

3 A. Dr. Vander Weide's historical CAPM uses an equity risk premium of 6.7%, which is
4 based on the difference between the arithmetic mean stock and bond income returns
5 over the 1926-2010 period. The errors associated with computing an expected equity
6 risk premium using historical stock and bond returns were addressed at length earlier
7 in my testimony. In short, there is a myriad of empirical problems, which result in
8 historical market returns producing inflated estimates of expected risk premiums.
9 Among the errors are the U.S. stock market survivorship bias (the 'Peso Problem'),
10 the company survivorship bias (only successful companies survive – poor companies
11 do not survive), and unattainable return bias (the Ibbotson procedure presumes
12 monthly portfolio rebalancing). In addition, in this case, Dr. Vander Weide has
13 compounded the error by using the bond income return and not the actual bond
14 return. By omitting the price change component of the bond return, he has magnified
15 the historic risk premium by not matching the returns on stock with the actual returns
16 on bonds.

17

18 **Q. PLEASE REVIEW THE ERRORS IN DR. VANDER WEIDE'S EQUITY OR**
19 **MARKET RISK PREMIUM IN HIS EXPECTED CAPM APPROACH.**

20 A. Dr. Vander Weide develops an expected equity risk premium for his CAPM of 8.85% in
21 Exhibit No. ___(JVW-1), Schedule 8 by applying the DCF model to the S&P 500. Dr.
22 Vander Weide estimates an expected market return of 13.3% using a dividend yield
23 of 2.7% and an expected DCF growth rate of 10.6%. The most significant error with
24 this approach is that the expected DCF growth rate is the projected 5-year EPS
25 growth rate for the companies in the S&P 500 as reported by I/B/E/S. As explained

1 below, this produces an overstated expected market return and equity risk premium.

2

3 **Q. PLEASE REVIEW DR. VANDER WEIDE'S EQUITY OR MARKET RISK**
4 **PREMIUM IN HIS CAPM APPROACH.**

5 A. The primary problem with Dr. Vander Weide's CAPM analysis is the size of the market
6 or equity risk premium. Dr. Vander Weide develops an expected market risk premium
7 of 8.85% by: (1) applying the DCF model to the S&P 500 to get an expected market
8 return; and (2) subtracting the risk-free rate of interest. Dr. Vander Weide's estimated
9 market return of 13.3% for the S&P 500 equals the sum of the dividend yield of 2.7%
10 and expected EPS growth rate of 10.6%. The expected EPS growth rate is the
11 average of the expected EPS growth rates from I/B/E/S. The primary error in this
12 approach is his expected DCF growth rate. As previously discussed, the expected
13 EPS growth rates of Wall Street analysts are upwardly biased. Therefore, as
14 explained below, this produces an overstated expected market return and equity risk
15 premium.

16

17 **Q. BEYOND YOUR PREVIOUS DISCUSSION OF THE UPWARD BIAS IN**
18 **WALL STREET ANALYSTS' EPS GROWTH RATE FORECASTS, WHAT**
19 **OTHER EVIDENCE CAN YOU PROVIDE TO DEMONSTRATE THAT DR.**
20 **VANDER WEIDE'S S&P 500 GROWTH RATE IS EXCESSIVE?**

21 A. A long-term EPS growth rate of 10.6% is not consistent with historic as well as
22 projected economic and earnings growth in the U.S for several reasons: (1) Dr.
23 Vander Weide's projected EPS growth rate of 10.6% is almost double long-term EPS
24 and economic growth, as measured by GDP; (2) more recent trends in GDP growth,

1 as well as projections of GDP growth, suggest slower economic and earnings growth
2 in the future; and (3) over time, EPS growth tends to lag behind GDP growth.

3 The long-term economic, earnings, and dividend growth rate in the U.S. has
4 only been in the 5% to 7% range. I performed a study of the growth in nominal GDP,
5 S&P 500 stock price appreciation, and S&P 500 EPS and DPS growth since 1960.
6 The results are provided on page 1 of Exhibit JRW-15, and a summary is given in the
7 table below.

8
9
10

11 **GDP, S&P 500 Stock Price, EPS, and DPS Growth**
12 **1960-Present**

Nominal GDP	6.94%
S&P 500 Stock Price Appreciation	6.34%
S&P 500 EPS	6.81%
S&P 500 DPS	5.04%
Average	6.28%

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These results indicate that historically the long-run growth rate for GDP, S&P
EPS, and S&P DPS in the 5% to 7% range. By comparison, Dr. Vander Weide's
long-run growth rate projection of 10.6% is overstated. These estimates suggest that
companies in the U.S. would be expected to: (1) increase their growth rate of EPS by
almost 100% in the future and (2) maintain that growth indefinitely in an economy
that is expected to grow at about one-half of his projected growth rates.

21 **Q. DO MORE RECENT DATA SUGGEST THAT THE U.S. ECONOMY**
22 **GROWTH IS FASTER OR SLOWER THAN THE LONG-TERM DATA?**

1 A. The more recent trends suggest that future economic growth will be lower than the long-
2 term historic GDP growth. The historic GDP growth rates for 10-, 20-, 30-, 40- and 50-
3 years are presented in Panel A of page 2 of Exhibit JRW-15. These figures clearly
4 suggest that GDP growth in recent decades has slowed and that a figure in the range of
5 4.0% to 5.0% is more appropriate today for the U.S. economy. These figures indicate
6 that Dr. Vander Weide's long-term growth EPS growth rate of 10.6% is inflated.

7
8 **Q. WHAT LEVEL OF GDP GROWTH IS FORECASTED BY ECONOMISTS AND**
9 **VARIOUS GOVERNMENT AGENCIES?**

10 A. There are several forecasts of annual GDP growth that are available from economists
11 and government agencies. These are listed in Panel B of page 2 of Exhibit JRW-15.
12 The mean 10-year nominal GDP growth forecast (as of February 2011) by economists in
13 the recent *Survey of Professional Forecasters* is 5.2%. The Energy Information
14 Administration (EIA), in its projections used in preparing *Annual Energy Outlook*,
15 forecasts long-term GDP growth of 4.8% for the period 2009-2035. The
16 Congressional Budget Office, in its forecasts for the period 2010 to 2021, projects a
17 nominal GDP growth rate of 5.6%. As such, projections of nominal GDP growth
18 provide additional evidence that Dr. Vander Weide's long-term EPS growth rate of
19 10.6% is overstated.

20
21 **Q. PLEASE HIGHLIGHT THE RECENT RESEARCH ON THE LINK**
22 **BETWEEN ECONOMIC AND EARNINGS GROWTH AND EQUITY**
23 **RETURNS.**

24 A. Brad Cornell of the California Institute of Technology recently published a study on
25 GDP growth, earnings growth, and equity returns. He finds that long-term EPS

1 growth in the U.S. is directly related GDP growth, with GDP growth providing an
2 upward limit on EPS growth. In addition, he finds that long-term stock returns are
3 determined by long-term earnings growth. He concludes with the following
4 observations:³⁸

5 “The long-run performance of equity investments is
6 fundamentally linked to growth in earnings. Earnings growth, in
7 turn, depends on growth in real GDP. This article demonstrates
8 that both theoretical research and empirical research in
9 development economics suggest relatively strict limits on future
10 growth. In particular, real GDP growth in excess of 3 percent in
11 the long run is highly unlikely in the developed world. In light of
12 ongoing dilution in earnings per share, this finding implies that
13 investors should anticipate real returns on U.S. common stocks to
14 average no more than about 4–5 percent in real terms.”
15

16 Given current inflation in the 2% to 3% range, the results imply nominal
17 expected stock market returns in the 6% to 8% range. As such, Dr. Vander Weide’s
18 projected earnings growth rates and implied expected stock market returns are not
19 indicative of the realities of the U.S. economy and stock market.

20

21 **Q. PLEASE PROVIDE A SUMMARY ASSESSMENT OF DR. VANDER WEIDE’S**
22 **EQUITY RISK PREMIUMS DERIVED FROM EXPECTED MARKET**
23 **RETURNS.**

24 A. Dr. Vander Weide’s equity risk premium of 8.85% derived from his expected market
25 return of 13.3% is not reflective of the risk premiums used in the real world of finance.
26 Investment banks, analysts, companies, consulting firms, and CFOs use the equity risk
27 premium concept every day in making financing, investment, and valuation decisions. I
28 provided the results of over thirty academic studies and recent surveys of these financial
29 professionals. These equity risk premium estimates are in the 4% to 5% range and not in

³⁸ Bradford Cornell, “Economic Growth and Equity Investing,” *Financial Analysts Journal* (January- February, 2010), p. 63.

1 the 8%-10% range. On this issue, the opinions of CFOs are especially relevant. CFOs
2 deal with capital markets on an ongoing basis since they must continually assess and
3 evaluate capital costs for their companies. They are well aware of the historical equity
4 risk premium results as published by Ibbotson Associates as well as Wall Street
5 analysts' projections. Nonetheless, the CFOs in the September 2011 *CFO Magazine* –
6 Duke University Survey of almost 500 CFOs shows an expected equity risk premium
7 of 4.2% over the next ten years. In addition, surveys conducted in 2011 by Fernandez
8 indicate that financial analysts and companies are using equity risk premiums of about
9 5.0%. As such, using these real world equity risk premiums, the appropriate equity
10 cost rate for Gulf Power Company should be in the 8.0% to 9.0% range and not in the
11 11.0% range.

12 **D. Flotation Costs**

13 **Q. PLEASE DISCUSS DR. VANDER WEIDE'S ADJUSTMENT FOR FLOTATION**
14 **COSTS.**

15 A. Dr. Vander Weide claims that an upward adjustment to the equity cost rate is
16 warranted for flotation costs. This adjustment factor is erroneous for several reasons.
17 First, he has not identified any actual flotation costs for the Company. Therefore, the
18 Company is requesting annual revenues in the form of a higher return on equity for
19 flotation costs that have not been identified. Second, it is commonly argued that a
20 flotation cost adjustment (such as that used by the Company) is necessary to prevent
21 the dilution of the existing shareholders. In this case, Dr. Vander Weide justifies a
22 flotation cost adjustment by referring to bonds and the manner in which issuance
23 costs are recovered by including the amortization of bond flotation costs in annual
24 financing costs. However, this is incorrect for several reasons:

1 (1) If an equity flotation cost adjustment is similar to a debt flotation cost
2 adjustment, the fact that the market-to-book ratios for electric utility companies are
3 over 1.3X actually suggests that there should be a flotation cost reduction (and not
4 increase) to the equity cost rate. This is because when (a) a bond is issued at a price
5 in excess of face or book value, and (b) the difference between market price and the
6 book value is greater than the flotation or issuance costs, the cost of that debt is lower
7 than the coupon rate of the debt. The amount by which market values of electric
8 utility companies are in excess of book values is much greater than flotation costs.
9 Hence, if common stock flotation costs were exactly like bond flotation costs, and
10 one was making an explicit flotation cost adjustment to the cost of common equity,
11 the adjustment would be downward;

12 (2) If a flotation cost adjustment is needed to prevent dilution of existing
13 stockholders' investment, then the reduction of the book value of stockholder
14 investment associated with flotation costs can occur only when a company's stock is
15 selling at a market price at/or below its book value. As noted above, electric utility
16 companies are selling at market prices well in excess of book value. Hence, when
17 new shares are sold, existing shareholders realize an increase in the book value per
18 share of their investment, not a decrease;

19 (3) Flotation costs consist primarily of the underwriting spread or fee and not out-
20 of-pocket expenses. On a per share basis, the underwriting spread is the difference
21 between the price the investment banker receives from investors and the price the
22 investment banker pays to the company. Hence, these are not expenses that must be
23 recovered through the regulatory process. Furthermore, the underwriting spread is
24 known to the investors who are buying the new issue of stock, who are well aware of
25 the difference between the price they are paying to buy the stock and the price that the

1 Company is receiving. The offering price which they pay is what matters when
2 investors decide to buy a stock based on its expected return and risk prospects.
3 Therefore, the company is not entitled to an adjustment to the allowed return to
4 account for those costs; and

5 (4) Flotation costs, in the form of the underwriting spread, are a form of a
6 transaction cost in the market. They represent the difference between the price paid
7 by investors and the amount received by the issuing company. Whereas the Company
8 believes that it should be compensated for these transaction costs, it has not accounted
9 for other market transaction costs in determining a cost of equity for the Company.
10 Most notably, brokerage fees that investors pay when they buy shares in the open
11 market are another market transaction cost. Brokerage fees increase the effective
12 stock price paid by investors to buy shares. If the Company had included these
13 brokerage fees or transaction costs in its DCF analysis, the higher effective stock
14 prices paid for stocks would lead to lower dividend yields and equity cost rates. This
15 would result in a downward adjustment to their DCF equity cost rate.

16

17 **E. Leverage Adjustment**

18 **Q. PLEASE REVIEW DR. VANDER WEIDE'S LEVERAGE ADJUSTMENT.**

19 A. Dr. Vander Weide has added a leverage adjustment of 90 basis points to the estimated
20 equity cost rates that he estimated using the DCF, RP, and CAPM approaches. Dr.
21 Vander Weide claims that this is needed since (1) market values are greater than book
22 values for utilities and (2) the overall rate of return is applied to a book value
23 capitalization in the ratemaking process. This adjustment is unwarranted for the
24 following reasons:

25 (1) The market value of a firm's equity exceeds the book value of equity when the

1 firm is expected to earn more on the book value of investment than investors require.
2 This relationship is described very succinctly in the Harvard Business School case study
3 which I quote earlier in my testimony. As such, the reason that market values exceed
4 book values is that the company is earning a return on equity in excess of its cost of
5 equity;

6 (2) Despite Dr. Vander Weide's contention that this represents a leverage
7 adjustment, there is no change in leverage. There is no need for a leverage adjustment
8 since there is no change in leverage. The Company's financial statements and fixed
9 financial obligations remain the same;

10 (3) Financial publications and investment firms report capitalizations on a book
11 value and not a market value basis; and

12 (4) Dr. Vander Weide has presented his leverage adjustment in many rate cases
13 before many regulatory commissions. In response OPC interrogatories, Dr. Vander
14 Weide indicated that he: (1) has testified in over 400 cases before regulatory
15 commissions; and (2) had been recommending the leverage adjustment to his cost of
16 equity since the early 1990s. However, he could not identify any proceeding in which
17 he has testified in which the regulatory commission had adopted his leverage
18 adjustment.

19

20 **Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT REGULATORY**
21 **COMMISSIONS HAVE REJECTED DR. VANDER WEIDE'S LEVERAGE**
22 **ADJUSTMENT?**

23 A. I believe that Dr. Vander Weide's leverage adjustment has been rejected by
24 regulatory commissions because it increases the ROEs for utilities that have high
25 returns on common equity and decreases the ROEs for utilities that have low returns

1 on common equity.

2 In the graphs presented in Exhibit JRW-6, I have demonstrated that there is a
3 strong positive relationship between expected returns on common equity and market-to-
4 book ratios for public utilities. Hence, in the context of Dr. Vander Weide's leverage
5 adjustment, this means that: (1) for a utility with a relatively high market-to-book ratio
6 (e.g., 2.5) and ROE (e.g., 12.0%), the leverage adjustment will increase the estimated
7 equity cost rate, while (2) for a utility with a relatively low market-to-book ratio (e.g.,
8 0.5) and ROE (e.g., 5.0%), the leverage adjustment will decrease the estimated equity
9 cost rate. Therefore, the adjustment will result in even higher market-to-book ratios for
10 utilities with relatively high ROEs and even lower market-to-book ratios for utilities
11 with relatively low ROEs.

12 **VIII. PARENT DEBT ADJUSTMENT**

13
14 **Q. PLEASE REVIEW THE COMMISSION'S POLICY REGARDING THE**
15 **PARENT DEBT ADJUSTMENT TO REDUCE A UTILITY'S INCOME TAX**
16 **EXPENSE RELATED TO ITS PARENT COMPANY'S DEBT.**

17 A. Rule 25-14.004, F.A.C., provides that "the income tax expense of a regulated
18 company shall be adjusted to reflect the income tax expense of the parent debt that
19 may be invested in the equity of the subsidiary where a parent-subsidiary relationship
20 exists and the parties to the relationship join in the filing of a consolidated income tax
21 return." Further, Rule 25-14.004(3), F.A.C., states that "it shall be a rebuttable
22 presumption that a parent's investment in any subsidiary or in its own operations shall
23 be considered to have been made in the same ratios as exist in the parent's overall
24 capital structure."

1 In several recent cases, the Commission has found that the companies have
2 not effectively rebutted the presumption that the parent debt adjustment should be
3 applied.³⁹ In ruling that a parent debt adjustment was required in a case involving
4 Indiantown Company, Inc., the Commission stated:

5 Based on our analysis, the rule requires that a parent debt
6 adjustment be made in this proceeding. Further, the rule does not
7 allow for specific identification of debt from the parent to the
8 subsidiary utility. Since the utility is included in the consolidated
9 income tax returns of the parent, we believe that it would be very
10 difficult to prove specific identification to only the utility. Rule 25-
11 14.004(3), Florida Administrative Code, states that it shall be a
12 rebuttable presumption that a parent's investment in any subsidiary
13 or in its own operations shall be considered to have been made in
14 the same ratios as exist in the parent's overall capital structure.⁴⁰
15 Additionally, in the most recent Progress Energy Florida rate case, the

16 Commission found that PEF had not demonstrated that the investment made by
17 Progress Energy in PEF could be attributed to any source other than the general funds
18 of the parent and that PEF did not meet its burden of proof to demonstrate its claim
19 that all contributions made and expected to be made by Progress Energy to PEF in
20 2009 and 2010 would be from funds generated from common equity issuances at
21 Progress Energy.⁴¹

22
23 **Q. PLEASE PROVIDE YOUR ASSESSMENT OF GULF'S POSITION ON THE**
24 **PARENT DEBT ADJUSTMENT.**

25 A. Gulf witness Mr. Teel claims that the Parent Debt Adjustment should not be made in
26 this case. He makes two arguments: (1) The parent debt adjustment was not an issue

³⁹ See Order No. PSC-09-0411-FOF-GU, page 38, issued June 9, 2009, in Docket No. O80318-GU, In re: Petition for rate increase by Peoples Gas System; Order No. PSC-09-0283-FOF-EI, issued April 30, 2009 in Docket No. 080317-EI, In re: Petition for rate increase by Tampa Electric Company.

⁴⁰ See Order No. PSC-00-2054-PAA-WS, issued October 27, 2000, in Docket No. 990939-WS, In re: Application for rate increase in Martin County by Indiantown Company, Inc.

⁴¹ See Order No. PSC-10-0131-FOF-EI, issued March 5, 2010, in Docket No. 090079-EI, In re: Petition for increase in rates by Progress Energy Florida, Inc.

1 in the Company's last rate case; and (2) since the last rate case, Gulf Power has paid
2 more in dividends to Southern than Southern has invested in capital contributions to
3 Gulf Power.

4 The fact that the order in Gulf's last rate case was silent on the subject of a
5 parent debt adjustment provides no support for Gulf's position in this current case.
6 The parent debt adjustment applies unless Gulf can overcome the rebuttable
7 presumption that the rule creates. In this regard, Mr. Teel says that Gulf sent more
8 dividends to Southern Company over a period of years than the amount of equity that
9 Southern invested in Gulf. The fallacy in this reasoning is that it is impossible to
10 "trace dollars" (i.e., attribute particular monies to certain sources of funds). Further,
11 as shown in Schedule D-2, the capital structure of Southern Company, after the
12 elimination of subsidiary debt, has debt outstanding on an ongoing basis. Therefore,
13 in the absence of an all equity capital structure at the parent level, a PDA is
14 appropriate for Gulf Power.

15

16 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATION ON THE PARENT**
17 **DEBT ADJUSTMENT.**

18 A. Given the Commission's recent decisions in dockets involving Tampa Electric,
19 People's Gas and Progress Energy Florida, the existence of debt in Southern
20 Company's capital structure, and the impossibility of tracing funds to specific equity
21 issuances, a parent debt adjustment is appropriate in this case.

22

23

24 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

25 A. Yes.

Educational Background, Research, and Related Business Experience

J. Randall Woolridge

J. Randall Woolridge is a Professor of Finance and the Goldman, Sachs & Co. and Frank P. Smeal Endowed Faculty Fellow in Business Administration in the College of Business Administration of the Pennsylvania State University in University Park, PA. In addition, Professor Woolridge is Director of the Smeal College Trading Room and President and CEO of the Nittany Lion Fund, LLC.

Professor Woolridge received a Bachelor of Arts degree in Economics from the University of North Carolina, a Master of Business Administration degree from the Pennsylvania State University, and a Doctor of Philosophy degree in Business Administration (major area-finance, minor area-statistics) from the University of Iowa. At Iowa he received a Graduate Fellowship and was awarded membership in Beta Gamma Sigma, a national business honorary society. He has taught Finance courses at the University of Iowa, Cornell College, and the University of Pittsburgh, as well as the Pennsylvania State University. These courses include corporation finance, commercial and investment banking, and investments at the undergraduate, graduate, and executive MBA levels.

Professor Woolridge's research has centered on the theoretical and empirical foundations of corporation finance and financial markets and institutions. He has published over 35 articles in the best academic and professional journals in the field, including the *Journal of Finance*, the *Journal of Financial Economics*, and the *Harvard Business Review*. His research has been cited extensively in the business press. His work has been featured in the *New York Times*, *Forbes*, *Fortune*, *The Economist*, *Financial World*, *Barron's*, *Wall Street Journal*, *Business Week*, *Washington Post*, *Investors' Business Daily*, *Worth Magazine*, *USA Today*, and other publications. In addition, Dr. Woolridge has appeared as a guest to discuss the implications of his research on CNN's *Money Line*, CNBC's *Morning Call* and *Business Today*, and Bloomberg's *Morning Call*.

Professor Woolridge's popular stock valuation book, *The StreetSmart Guide to Valuing a Stock* (McGraw-Hill, 2003), was released in its second edition. He has also co-authored *Spinoffs and Equity Carve-Outs: Achieving Faster Growth and Better Performance* (Financial Executives Research Foundation, 1999) as well as a textbook entitled *Basic Principles of Finance* (Kendall Hunt, 2011). Dr. Woolridge is a founder and a managing director of www.valuepro.net - a stock valuation website.

Professor Woolridge has also consulted with and prepared research reports for major corporations, financial institutions, and investment banking firms, and government agencies. In addition, he has directed and participated in over 500 university- and company- sponsored professional development programs for executives in 25 countries in North and South America, Europe, Asia, and Africa.

Dr. Woolridge has prepared testimony and/or provided consultation services in the following cases:

Pennsylvania: Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Pennsylvania Public Utility Commission; Bell Telephone Company (R-811819), Peoples Natural Gas Company (R-832315), Pennsylvania Power Company (R-832409), Western Pennsylvania Water Company (R-832381), Pennsylvania Power Company (R-842740), Pennsylvania Gas and Water Company (R-850178), Metropolitan Edison Company (R-860384), Pennsylvania Electric Company (R-860413), North Penn Gas Company (R-860535), Philadelphia Electric Company (R-870629), Western Pennsylvania Water Company (R-870825), York Water Company (R-870749), Pennsylvania-American Water Company (R-880916), Equitable Gas Company (R-880971), the Bloomsburg Water Co. (R-891494), Columbia Gas of Pennsylvania, Inc. (R-891468), Pennsylvania-American Water Company (R-90562), Breezewood Telephone Company (R-901666), York Water Company (R-901813), Columbia Gas of Pennsylvania, Inc. (R-901873), National Fuel Gas Corporation (R-911912), Pennsylvania-American Water Company (R-911909), Borough of Media Water Fund (R-912150), UGI Utilities, Inc. - Electric Utility Division (R-922195), Dauphin Consolidated Water Supply Company - General Waterworks of Pennsylvania, Inc. (R-932604), National Fuel Gas Corporation (R-932548), Commonwealth Telephone Company (I-

920020), Conestoga Telephone and Telegraph Company (I-920015), Peoples Natural Gas Company (R-932866), Blue Mountain Consolidated Water Company (R-932873), National Fuel Gas Corporation (R-942991), UGI - Gas Division (R-953297), UGI - Electric Division (R-953534), Pennsylvania-American Water Company (R-973944), Pennsylvania-American Water Company (R-994638), Philadelphia Suburban Water Company (R-994868;R-994877;R-994878; R-9948790), Philadelphia Suburban Water Company (R-994868), Wellsboro Electric Company (R-00016356), Philadelphia Suburban Water Company (R-00016750), National Fuel Gas Corporation (R-00038168), Pennsylvania-American Water Company (R-00038304), York Water Company (R-00049165), Valley Energy Company (R-00049345), Wellsboro Electric Company (R-00049313), National Fuel Gas Corporation (R-00049656), T.W. Phillips Gas and Oil Co. (R-00051178), PG Energy (R-00061365), City of Dubois Water Company (Docket No. R-00050671), R-00049165), York Water Company (R-00061322), Emporium Water Company (R-00061297), Pennsylvania-American Water Company (R-00072229), UGI Central Penn Gas (Docket No. R-2008-2079675), Columbia Gas of Pennsylvania, Inc. (R-2009-2149262), Pennsylvania-American Water Company – Claysville, Clarion, Northeast, and Coatesville (R-2010-2166210, R-2010-2166208, R-2010-2166212, and R-2010-2166214), Peoples Natural Gas Company (Docket No. R-2010-2201702), City of Lancaster Water Fund (Docket No. 2010-2179103).

New Jersey: Dr. Woolridge prepared testimony for the New Jersey Department of the Public Advocate, Division of Rate Counsel: New Jersey-American Water Company (R-91081399J), New Jersey-American Water Company (R-92090908J), and Environmental Disposal Corp. (R-94070319).

Alaska: Dr. Woolridge prepared testimony for Attorney General's Office of Alaska: Golden Heart Utilities, Inc. and College Utilities Corp. (Water Public Utility Service TA-29-118 and Sewer Public Utility Service TA-82-97), Anchorage Water and Wastewater Utility (TA-106-122), Anchorage Water and Wastewater Utility (TA-08-157 and TA-08-158), Municipal Light & Power (TA304-121).

Arizona: Dr. Woolridge prepared testimony for Utility Division staff of the Arizona Corporation Commission, Arizona Public Service Company (Docket No. E-01345A-06-0009).

Hawaii: Dr. Woolridge prepared testimony for the Hawaii Office of the Consumer Advocate: East Honolulu Community Services, Inc. (Docket No. 7718).

Delaware: Dr. Woolridge prepared testimony for the Delaware Division of Public Advocate: Artesian Water Company (R-00-649). Dr. Woolridge prepared testimony for the staff of the Public Service Commission: Artesian Water Company (R-06-158).

Ohio: Dr. Woolridge prepared testimony for the Ohio Office of Consumers' Council: SBC Ohio (Case No. 02-1280-TP-UNC R-00-649), Cincinnati Gas & Electric Company (Case No. 05-0059-EL-AIR), Dominion East Ohio Company (Case No. 07-829-GA-AIR), Cleveland Electric Illuminating Company and Toledo Edison Company (Case No. 08-935-EL-SSO), Columbia Gas of Ohio, Inc. (Case No. 08-0072-GA-AIR), and Columbus Southern Power Company (Case No. 08-917-EL-SSO).

Texas: Dr. Woolridge prepared testimony for the Atmos Cities Steering Committee: Mid-Texas Division of Atmos Energy Corp. (Docket No. 9670), Atmos Pipeline LLC (GUD No. 10000).

New York: Dr. Woolridge prepared testimony for the County of Nassau in New York State: Long Island Lighting Company (PSC Case No. 942354).

Florida: Dr. Woolridge prepared testimony for the Office of Public Counsel in Florida: Florida Power & Light Co. (Docket No. 050045-EL), Tampa Electric Company (Docket No 080317-EI), Peoples Gas Company (Docket No 080318-GU), Florida Power & Light Co. (Docket Nos. 080677-EI & 090130-EI), and Progress Energy Florida, (Docket No. 090079-EI).

Nebraska: Dr. Woolridge prepared testimony for the Office of Public Advocate: Source Gas Distribution Co. (Docket No. NG-0060), Black Hills (Docket No. NG-0061), SourceGas Distribution Company (Docket No. NG-0060).

Indiana: Dr. Woolridge prepared testimony for the Indiana Office of Utility Consumer Counsel (OUCC) in the following cases: Southern Indiana Gas and Electric Company (IURC Cause No. 43111 and IURC Cause No. 43112), and Northern Indiana Public Service Company (IURC Cause No. 43526).

Oklahoma: Dr. Woolridge prepared testimony for the Oklahoma Industrial Energy Companies (OIEC) in the following cases: Public Service Company of Oklahoma (Cause No. PUD 200600285), Oklahoma Gas & Electric Company (Cause No. PUD 200700012).

Connecticut: Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Connecticut: United Illuminating (Docket No. 96-03-29), Yankee Gas Company (Docket No. 04-06-01), Southern Connecticut Gas Company (Docket No. 03-03-17), the United Illuminating Company (Docket No. 05-06-04), Connecticut Light and Power Company (Docket No. 05-07-18), Birmingham Utilities, Inc. (Docket No. 06-05-10), Connecticut Water Company (Docket No. 06-07-08), Connecticut Natural Gas Corp. (Docket No. 06-03-04), Aquarion Water Company (Docket No. 07-05-09), Yankee Gas Company (Docket No. 06-12-02), Connecticut Light and Power Company (Docket No. 07-07-01), the United Illuminating Company (Docket No. 08-07-03), Connecticut Natural Gas Corp. (Docket No. 08-12-06), Southern Connecticut Gas Company (Docket No. 08-12-06), Connecticut Water Company (Docket No. 09-12-11), Connecticut Light and Power Company (Docket No. 09-12-05), Yankee Gas Company (Docket No. 10-12-02).

California: Dr. Woolridge prepared testimony for the Office of Ratepayer Advocate in California: San Gabriel Valley Water Company (Docket No. 05-08-021), Pacific Gas & Electric (Docket No. 07-05-008), San Diego Gas & Electric (Docket No. 07-05-007), Southern California Edison (Docket No. 07-05-003), California-American Water Company (Docket No. 08-05-003), Golden State Water Company (Docket No. 08-05-004), and California Water Service Company (Docket No. 08-05-002), California Water Utilities (Valencia, San Jose, San Gabriel, Park Valley, and Suburban (Docket No. 09-06-005).

Colorado: Dr. Woolridge prepared testimony for the Office of Consumer Counsel in Colorado: Public Service Company of Colorado (Docket No. 09AL-299E), and Public Service Company of Colorado (Docket No. 08S-520E).

South Carolina: Dr. Woolridge prepared testimony for the Office of Regulatory Staff in South Carolina: South Carolina Electric and Gas Company (Docket No. 2005-113-G), Carolina Water Service Co. (Docket No. 2006-87-WS), Tega Cay Water Company (Docket No. 2006-97-WS), United Utilities Companies, Inc. (Docket No. 2006-107-WS).

Missouri: Dr. Woolridge prepared testimony for the Department of Energy in Missouri: Kansas City Power & Light Company (Case No. ER-2006-0314). Dr. Woolridge prepared testimony for the Office of Attorney General of Missouri: Union Electric Company (CASE NO. ER-2007-0002).

Kentucky: Dr. Woolridge prepared testimony for the Office of Attorney General in Kentucky: Kentucky-American Water Company (Case No. 2004-00103), Union Heat, Light, and Power Company (Case No. 2004-00042), Kentucky Power Company (Case No. 2005-00341), Union Heat, Light, and Power Company (Case No. 2006-00172), Atmos Energy Corp. (Case No. 2006-00464), Columbia Gas Company (Case No. 2007-00008), Delta Natural Gas Company (Case No. 2007-00089), Kentucky-American Water Company (Case No. 2007-00143), Columbia Gas Company (Case No. 2009-00141), Kentucky-American Water Company (Case No. 2010-00136), Kentucky Utilities and Louisville Gas & Electric (Case No. 2009-00549 and Case No. 2009-00548).

Massachusetts: Dr. Woolridge prepared testimony for the Office of Attorney General: National Grid (Docket No. D.P.U. 09-39), National Grid (Docket No. D.P.U. 10-55), New England Gas Company (D.P.U. 10-114), Western Massachusetts Electric Company (D.P.U 10-70), Fitchburg Gas and Electric Light Company (D.P.U. 11-01).

Washington, D.C.: Dr. Woolridge prepared testimony for the Office of the People's Counsel in the District of Columbia: Potomac Electric Power Company (Formal Case No. 939), Potomac Electric Power Company (Formal Case No. 1036), Washington Gas Light Company (Formal Case No. 1054).

Washington: Dr. Woolridge consulted with trial staff of the Washington Utilities and Transportation Commission on the following cases: Puget Energy Corp. (Docket Nos. UE-011570 and UG-011571); and Avista Corporation (Docket No. UE-011514).

Kansas: Dr. Woolridge prepared testimony on behalf of the Kansas Citizens' Utility Ratepayer Board in the following cases: Western Resources Inc. (Docket No. 01-WSRE-949-GIE), UtiliCorp (Docket No. 02-UTCG701-CIG), and Westar Energy, Inc. (Docket No. 05-WSEE-981-RTS).

Utah: Dr. Woolridge prepared testimony on behalf of the Utah Committee on Consumer Services (CCS) in the following case: Questar Gas Company (Docket No. No. 07-057-13).

FERC: Dr. Woolridge has prepared testimony on behalf of the Pennsylvania Office of Consumer Advocate in the following cases before the Federal Energy Regulatory Commission: National Fuel Gas Supply Corporation (RP-92-73-000) and Columbia Gulf Transmission Company (RP97-52-000).

Vermont: Dr. Woolridge prepared testimony for the Department of Public Service in the Central Vermont Public Service (Docket No. 6988) and Vermont Gas Systems, Inc. (Docket No. 7160).

Gulf Power Company
OPC Recommended Cost of Capital

Weighted Average Cost of Capital - Regulatory Capital Structure

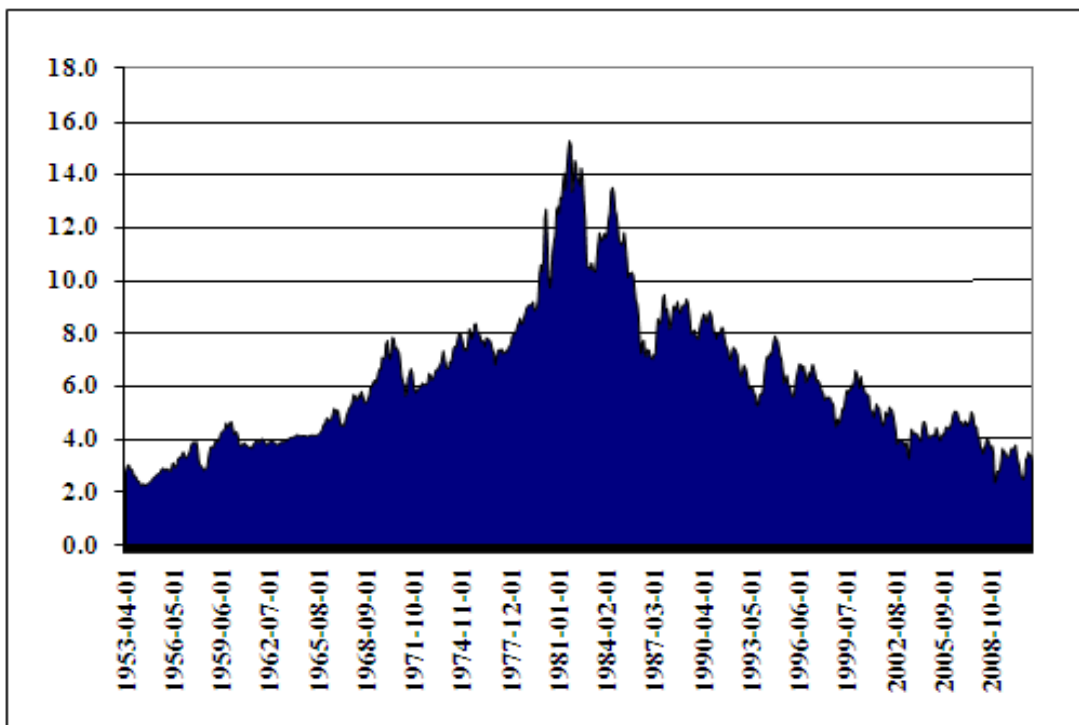
Capital	Capitalization Amounts	Capitalization Ratios	Cost Rate	Weighted Cost Rate
Short-Term Debt	\$ 17,955	1.07%	0.35%	0.00%
Long-Term Debt	\$ 658,459	39.29%	4.98%	1.96%
Preferred Stock	\$ 73,077	4.36%	6.40%	0.28%
Common Equity	\$ 645,222	38.50%	9.25%	3.56%
Customer Deposits	\$ 21,264	1.27%	6.00%	0.08%
Deferred Taxes	\$ 257,098	15.34%	0.00%	0.00%
Investment Credit - Weighted Cost	\$ 2,929	0.17%	5.45%	0.01%
Totals	\$ 1,676,004	100.00%		5.89%

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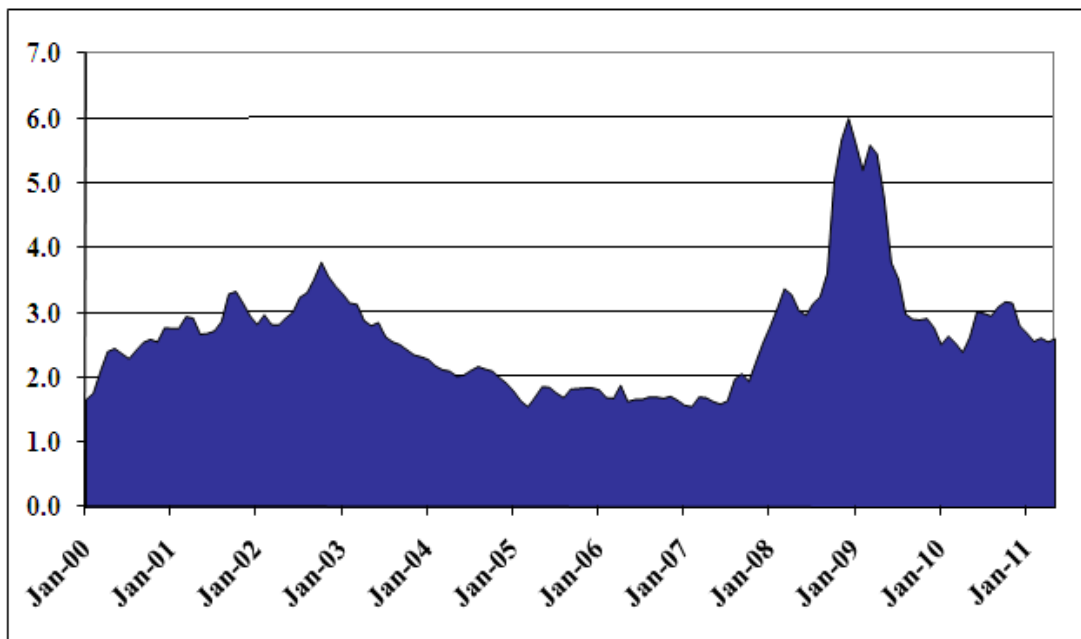
Panel B - OPC's Recommended Capitalization Ratios for Gulf Power - Investor Provided Capital

Capital	Capitalization Amounts	Capitalization Ratios	Cost Rate	Weighted Cost Rate
Short-Term Debt	\$ 17,955	1.30%	0.35%	0.00%
Long-Term Debt	\$ 658,459	47.83%	4.98%	2.38%
Preferred Stock	\$ 73,077	5.31%	6.40%	0.34%
Common Equity	\$ 645,222	46.87%	9.25%	2.73%
	\$ 1,376,758	100.00%		5.45%

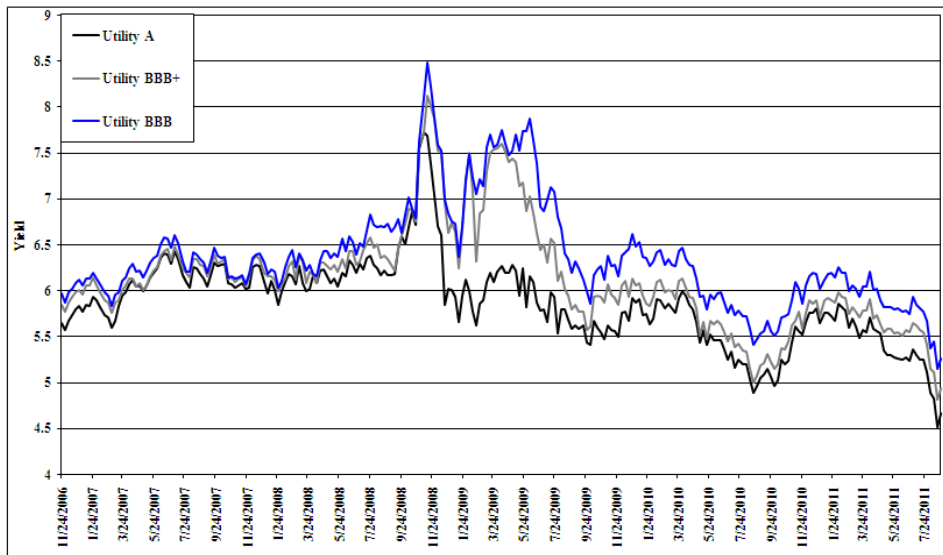
Panel A
Ten-Year Treasury Yields
1953-Present



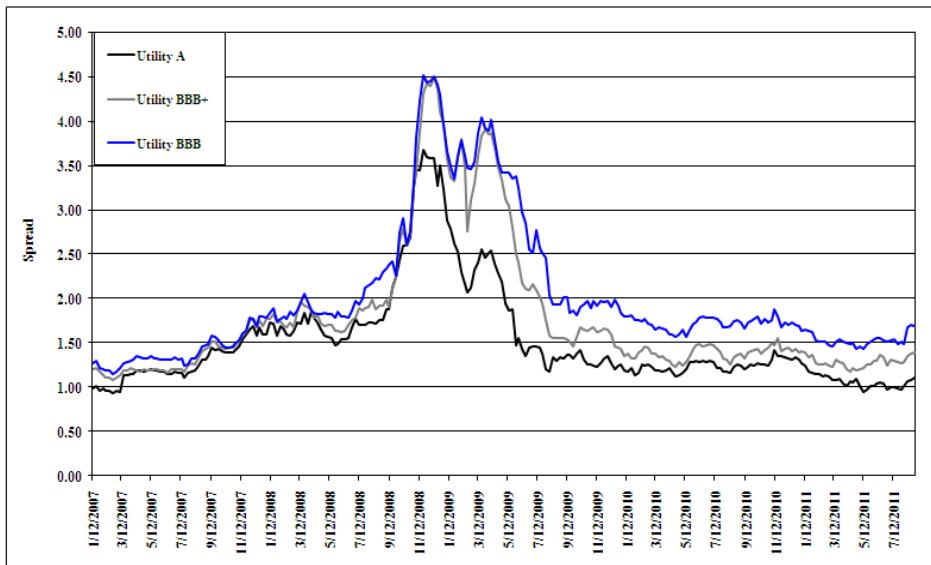
Panel B
Long-Term Moody's Baa Yields Minus Ten-Year Treasury Yields
2000-Present



Panel A
Thirty-Year Public Utility Yields



Panel B
Thirty-Year Public Utility Yield Spread Over Treasuries



Docket No. 110138-EI

Exhibit JRW-4

Summary Financial Statistics for Proxy Group

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Gulf Power Company
Summary Financial Statistics
Electric Proxy Group

Company	Operating Revenue (\$mil)	Percent Elec Revenue	Percent Gas Revenue	Net Plant (\$mil)	S&P Bond Rating	Moody's Bond Rating	Pre-Tax Interest Coverage	Primary Service Area	Common Equity Ratio	Return on Equity	Market to Book Ratio
ALLETE, Inc. (NYSE-ALE)	924.3	91		1,861.1	A-	Baa1	3.8	MN, WI	56.4	8.7	1.29
Alliant Energy Corporation (NYSE-LNT)	3,548.8	76	14	6,866.4	A-/BBB+	A2/A3	3.9	WS,IA,IL,MN	51.3	11.0	1.37
Ameren Corporation (NYSE-AEE)	7,703.0	86	14	17,945.0	BBB-	Baa2	3.1	IL,MO	50.8	1.2	0.88
American Electric Power Co. (NYSE-AEP)	14,837.0	94		36,064.0	BBB	Baa2	3.1	10 States	43.2	10.6	1.28
Avista Corporation (NYSE-AVA)	1,578.7	63	34	2,764.3	BBB+	Baa1	3.2	WA,OR,ID	47.2	9.1	1.15
Cleco Corporation (NYSE-CNL)	1,127.1	98		2,811.5	BBB	Baa2	3.9	LA	49.8	12.7	1.45
CMS Energy Corporation (NYSE-CMS)	6,544.0	59	37	10,255.0	BBB+	A3	2.5	MI	28.2	14.5	1.60
Consolidated Edison, Inc. (NYSE-ED)	13,189.0	68	14	24,358.0	A-	A3/Baa1	3.5	NY,PA	51.3	9.6	1.39
DTE Energy Company (NYSE-DTE)	8,771.0	58	19	13,284.0	A	A2	2.9	MI	45.8	10.4	1.19
Edison International (NYSE-EIX)	12,622.0	81		31,460.0	BBB+	A1	3.0	CA	42.6	10.1	1.09
Entergy Corporation (NYSE-ETR)	11,209.8	77	2	24,638.9	A-/BBB+	Baa1	4.2	AK,LA,MS,TX	40.7	14.7	1.26
Great Plains Energy Incorporated (NYSE-GXP)	2,254.6	100		6,924.4	BBB	Baa2	2.2	MO,KS	41.8	6.0	0.86
Hawaiian Electric Industries, Inc. (NYSE-HE)	2,895.2	91		3,205.0	BBB-	Baa2	3.3	HI	46.9	7.6	1.44
IDACORP, Inc. (NYSE-IDA)	1,027.8	100		3,307.0	A-	A2	3.0	ID	50.1	9.2	1.14
MGE Energy, Inc. (NYSE-MGEE)	545.7	67	31	979.1	AA-	A1	4.3	WI	59.6	11.8	1.73
Nextera Energy (NYSE-NEE)	15,199.0	70		40,854.0	A	Aa3	3.2	FL	41.0	12.9	1.54
OGE Energy Corp. (NYSE-OGE)	3,772.5	57	11	6,934.2	BBB+	Baa1	4.2	OK,AR	44.7	14.3	1.87
Pepco Holdings, Inc. (NYSE-POM)	6,627.0	72	4	7,878.0	A	A3	2.0	DC,MD,VA,NJ	47.8	4.9	0.97
PG&E Corporation (NYSE-PCG)	14,415.0	77	23	32,127.0	BBB+	A3	3.3	CA	47.6	9.4	1.40
Pinnacle West Capital Corp. (NYSE-PNW)	3,282.1	98		9,478.4	BBB-	Baa2	3.0	AZ	48.9	8.8	1.26
Portland General Electric (NYSE-POR)	1,814.0	99		4,227.0	A-	A3	2.8	OR	47.7	10.3	1.03
SCANA Corporation (NYSE-SCG)	4,515.0	54	19	9,949.0	A-	A3	2.9	SC,NC,GA	42.2	10.3	1.31
Southern Company (NYSE-SO)	17,623.9	97		43,213.0	A	A2/A3	4.1	GA,AL,FL,MS	44.7	11.8	1.94
TECO Energy, Inc. (NYSE-TE)	3,358.6	61	15	5,858.5	BBB+	Baa1	3.0	FL	41.6	10.9	1.67
UniSource Energy Corporation (NYSE-UNS)	1,512.3	84	9	3,060.3	BBB+	NR		AZ	30.4	13.8	1.56
Westar Energy, Inc. (NYSE-WR)	2,107.8	100		6,174.1	BBB+	Baa1	2.9	KS	42.8	8.2	1.17
Wisconsin Energy Corporation (NYSE-WEC)	4,383.4	70	28	9,821.3	A-	A1	3.4	WI	44.6	13.5	1.77
Xcel Energy Inc. (NYSE-XEL)	10,450.5	82	17	21,513.5	A	A3	3.1	MN,WI,ND,SD,MI	45.0	10.3	1.37
Mean	6,351.4	80	18	13,850.4	BBB+	A3/Baa1	3.3		45.5	10.2	1.36
Median	4,078.0	79	16	8,678.2	BBB+	A3/Baa1	3.1		45.4	10.3	1.34

Data Source: AUS Utility Reports, September, 2011; Pre-Tax Interest Coverage and Primary Service Territory are from Value Line Investment Survey, 2011.

Exhibit JRW-5
Gulf Power Company
Capital Structure Ratios

Panel A - Gulf Power's Recommended Capitalization Ratios and Cost Rates

Capital	Capitalization Amounts	Capitalization Ratios	Cost Rate
Short-Term Debt	\$ 17,955	1.07%	2.12%
Long-Term Debt	\$ 658,459	39.29%	5.48%
Preferred Stock	\$ 73,077	4.36%	6.65%
Common Equity	\$ 645,222	38.50%	11.70%
Customer Deposits	\$ 21,264	1.27%	6.00%
Deferred Taxes	\$ 257,098	15.34%	0.00%
Investment Credit - Weighted Cost	\$ 2,929	0.17%	8.45%
Totals	\$ 1,676,004	100.00%	

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Panel B - Gulf Power's Recommended Capitalization Ratios - Investor Provided Capital

Capital	Capitalization Amounts	Capitalization Ratios	Cost Rate
Short-Term Debt	\$ 17,955	1.30%	2.12%
Long-Term Debt	\$ 658,459	47.83%	5.48%
Preferred Stock	\$ 73,077	5.31%	6.65%
Common Equity	\$ 645,222	46.87%	11.70%
	\$ 1,376,758	100.00%	

Docket No. 110138-EI
Exhibit JRW-5
Capital Structure Ratios and Debt Cost Rate
Page 2 of 2

Exhibit JRW-5
Gulf Power Company
Capital Structure Ratios

Panel A - Gulf Power Company's Year-End Capitalization - Per Books - 2009 - 2010

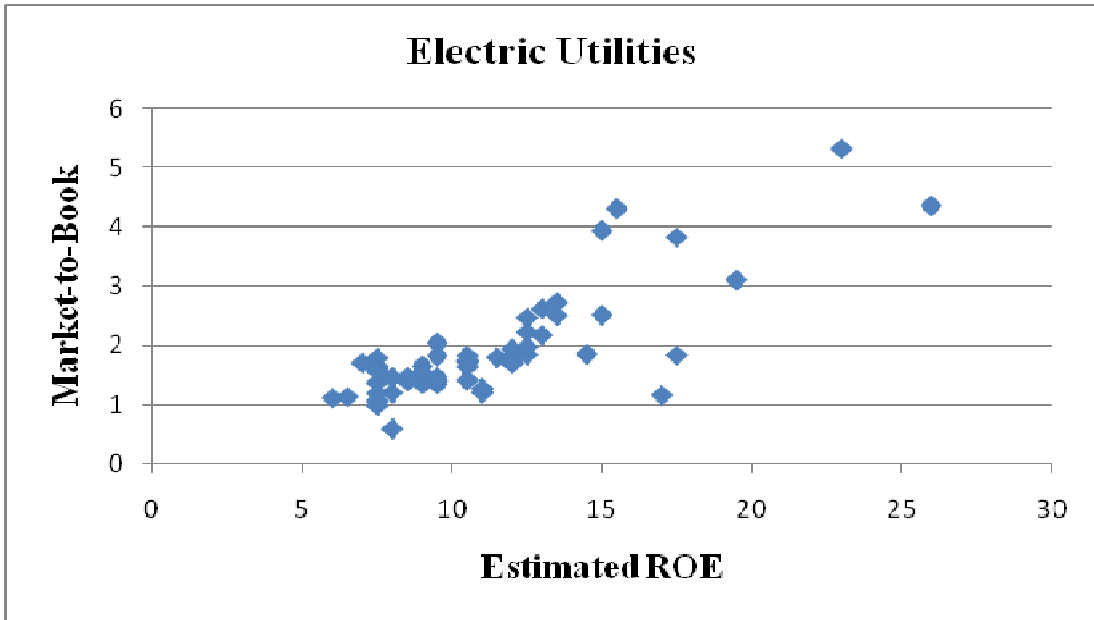
Class of Capital	2008		2009		2010		2011		2012	
	Amount (000's)	Percent of Total	Amount (000's)	Percent of Total	Amount (000's)	Percent of Total	Amount (000's)	Percent of Total	Amount (000's)	Percent of Total
Short-Term Debt	148,239.5	7.73	230,330.8	9.96	203,183.5	8.16	41,153.0	1.6	39,990.0	1.47
Long-Term Debt	849,264.7	44.29	978,913.7	42.35	1,114,397.6	44.74	1,234,918.0	47.95	1,315,439.0	48.32
Preference Stock	97,998.3	5.11	97,998.3	4.24	97,998.3	3.93	137,998.0	5.36	137,998.0	5.07
Common Stock Equity	822,091.6	42.87	1,004,291.7	43.45	1,075,035.5	43.17	1,161,291.0	45.09	1,228,867.0	45.14
Total	1,917,594.1	100	2,311,535.5	100	2,490,614.9	100	2,575,360.0	100	2,722,294.0	100

Panel D - Southern Company's Year-End Capitalization

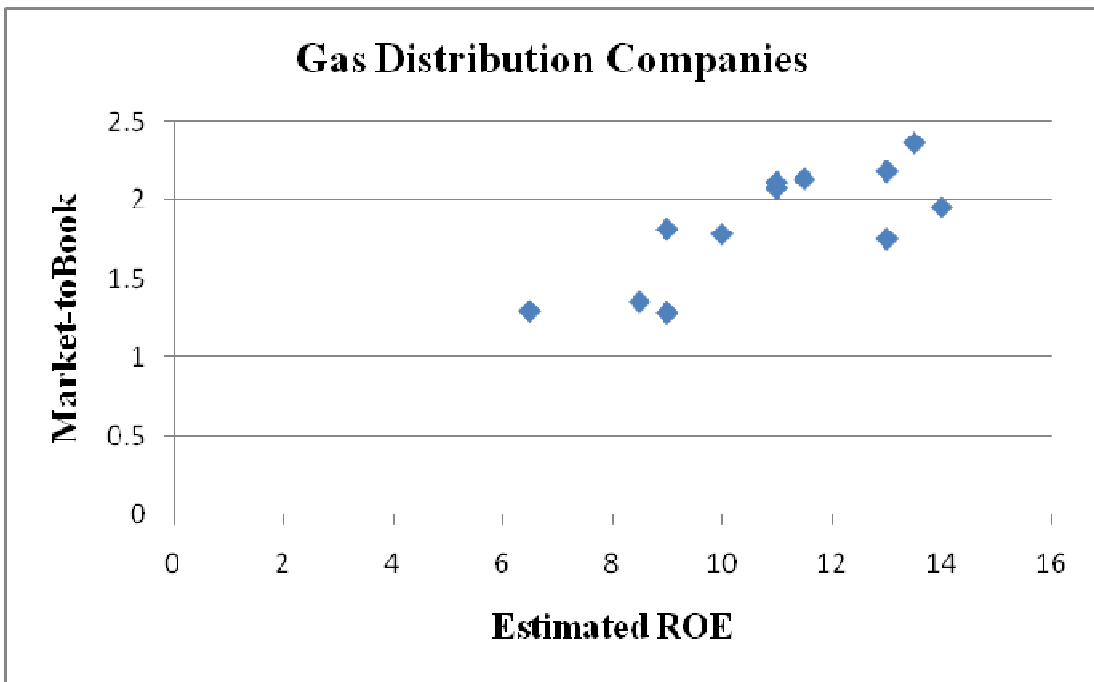
Class of Capital	2008		2009		2010	
	Amount (000's)	Percent of Total	Amount (000's)	Percent of Total	Amount (000's)	Percent of Total
Short-Term Debt	1,569,852	5.0%	1,751,904	5.1%	2,597,691	7.3%
Long-Term Debt	16,816,438	53.9%	18,131,244	53.2%	18,154,299	51.2%
Preference Stock	1,081,863	3.5%	1,081,823	3.2%	1,081,824	3.1%
Common Stock Equity	13,275,757	42.6%	14,877,334	43.6%	16,201,848	45.7%
Total	31,174,058	100.0%	34,090,401	100.0%	35,437,971	100.0%

The Relationship Between Estimated ROE and Market-to-Book Ratios

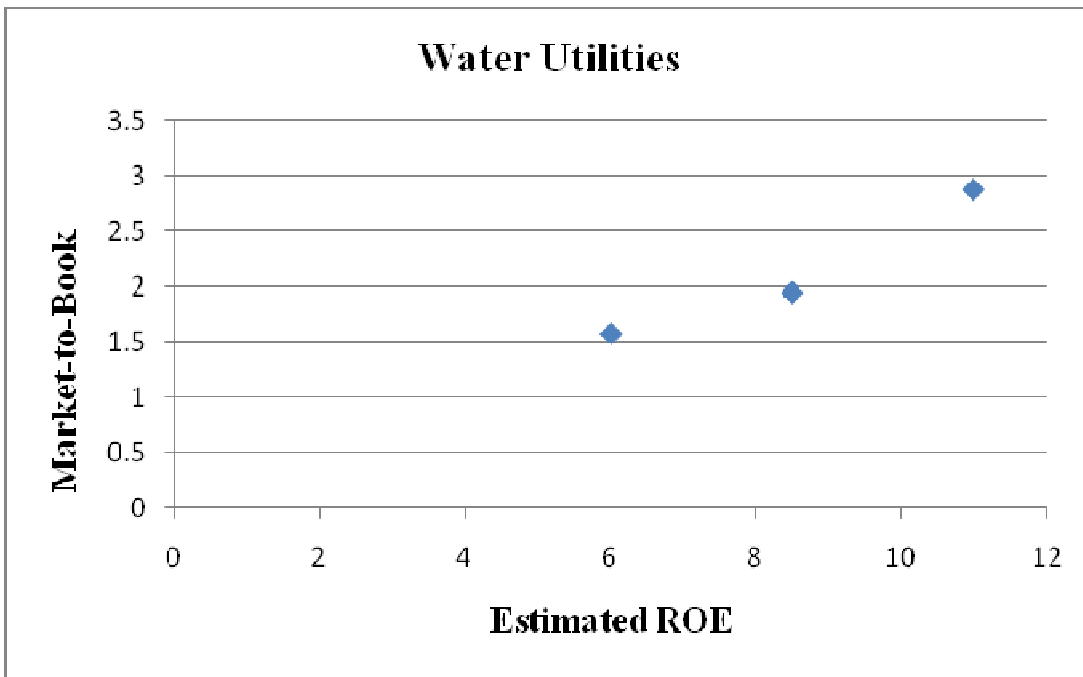
Panel A



Panel B

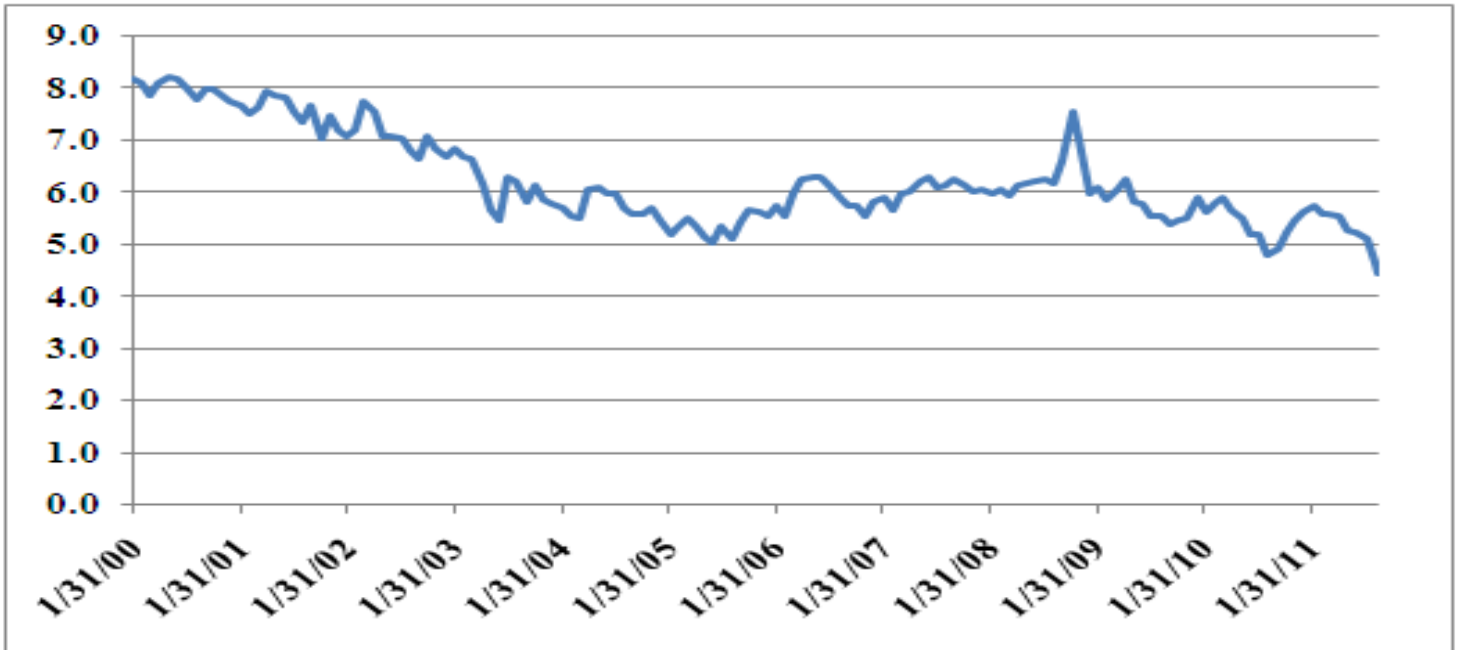


The Relationship Between Estimated ROE and Market-to-Book Ratios
Panel C

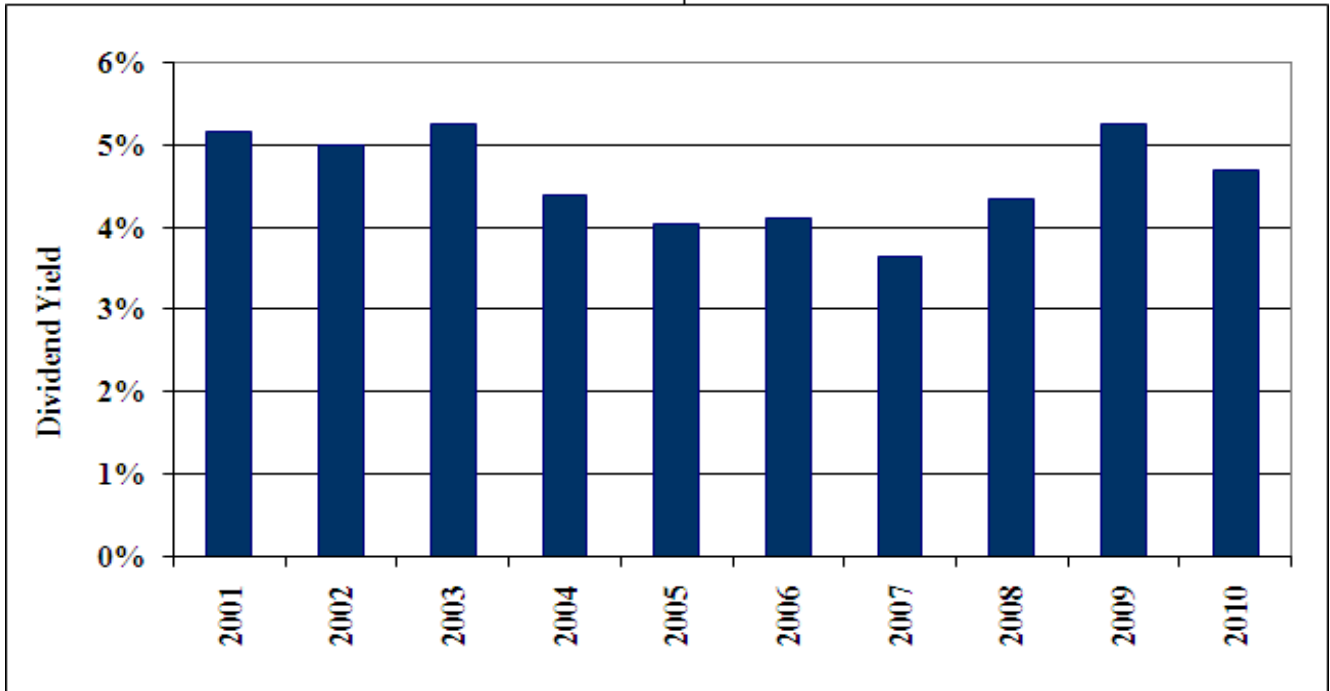


R-Square = .92, N=4.

Long-Term 'A' Rated Public Utility Bonds

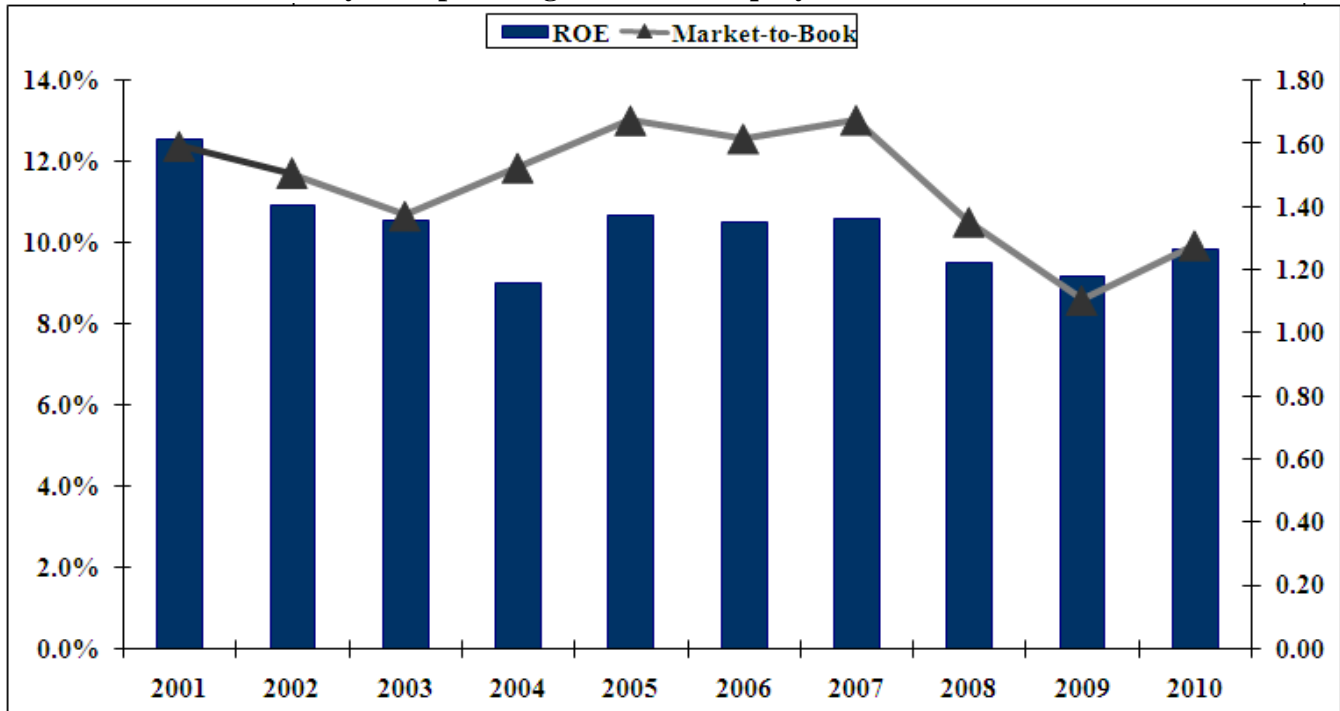


Electric Proxy Group Average Dividend Yield



Data Source: *Value Line Investment Survey*.

Electric Proxy Group Average Return on Equity and Market-to-Book Ratios



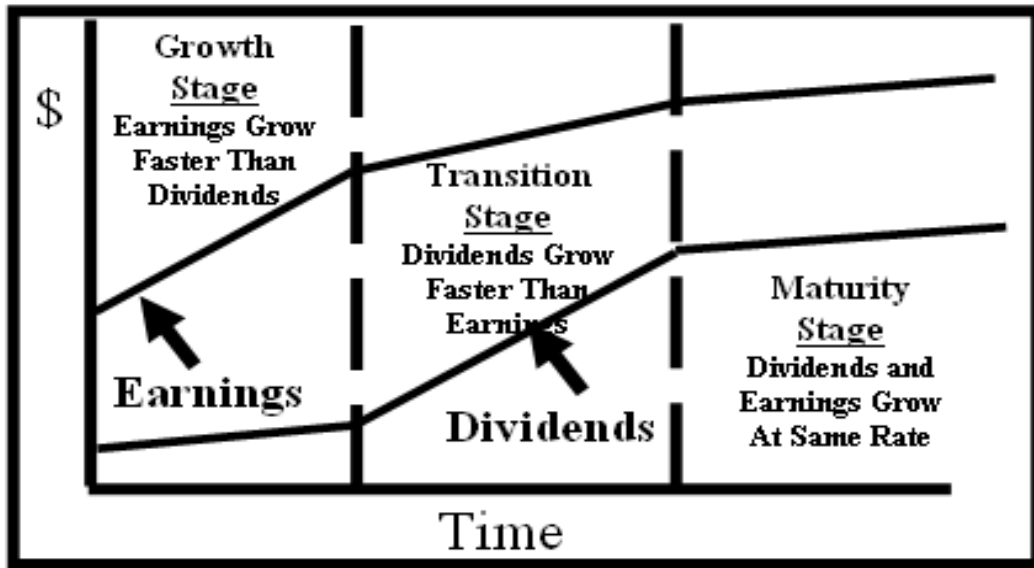
Data Source: Value Line Investment Survey.

Industry Average Betas

Industry Name	No.	Beta	Industry Name	No.	Beta	Industry Name	No.	Beta
Public/Private Equity	8	2.18	Retail Store	38	1.33	Packaging & Container	27	1.06
Heavy Truck/Equip Make	8	1.94	Building Materials	47	1.33	Computer Software/Svcs	247	1.06
Advertising	28	1.79	Metals & Mining (Div.)	69	1.33	Telecom. Equipment	104	1.04
Semiconductor Equip	14	1.79	Restaurant	60	1.33	Telecom. Utility	28	1.03
Auto Parts	47	1.78	Electrical Equipment	79	1.32	Medical Supplies	231	1.02
Hotel/Gaming	52	1.76	Shoe	18	1.31	Telecom. Services	85	1.01
Steel (Integrated)	13	1.72	Publishing	23	1.30	Utility (Foreign)	5	0.99
Entertainment	75	1.72	R.E.I.T.	6	1.29	Reinsurance	8	0.98
Newspaper	13	1.71	Chemical (Basic)	17	1.28	Oil/Gas Distribution	12	0.97
Furn/Home Furnishings	30	1.67	Railroad	14	1.28	Pharmacy Services	19	0.96
Engineering & Const	17	1.65	Computers/Peripherals	101	1.27	Bank (Midwest)	40	0.96
Steel (General)	19	1.59	Precision Instrument	83	1.27	Industrial Services	137	0.96
Coal	25	1.59	Toiletries/Cosmetics	15	1.27	Healthcare Information	26	0.94
Semiconductor	115	1.56	Wireless Networking	48	1.25	Insurance (Prop/Cas.)	67	0.92
Retail (Special Lines)	143	1.54	Natural Gas (Div.)	32	1.25	Retail Building Supply	8	0.92
Paper/Forest Products	37	1.52	Securities Brokerage	25	1.25	Beverage	34	0.92
Chemical (Diversified)	31	1.51	Funeral Services	5	1.22	Medical Services	139	0.88
Recreation	52	1.50	Diversified Co.	111	1.22	Food Processing	109	0.87
Automotive	19	1.50	Machinery	114	1.22	Bank (Canadian)	7	0.86
Oilfield Svcs/Equip.	95	1.48	Petroleum (Integrated)	23	1.21	Pipeline MLPs	11	0.85
Office Equip/Supplies	24	1.45	Air Transport	40	1.21	Environmental	69	0.85
Human Resources	24	1.44	Property Management	27	1.20	Educational Services	37	0.79
Metal Fabricating	30	1.44	Trucking	33	1.20	Electric Util. (Central)	23	0.78
Retail Automotive	15	1.44	Precious Metals	74	1.18	Electric Utility (West)	14	0.75
Cable TV	24	1.43	Household Products	22	1.17	Bank	418	0.75
Homebuilding	24	1.39	Aerospace/Defense	63	1.15	Retail/Wholesale Food	29	0.74
Entertainment Tech	31	1.39	Canadian Energy	10	1.14	Tobacco	13	0.73
Insurance (Life)	31	1.39	E-Commerce	52	1.14	Electric Utility (East)	25	0.73
Financial Svcs. (Div.)	230	1.37	Foreign Electronics	9	1.14	Water Utility	12	0.70
Maritime	53	1.37	Biotechnology	120	1.13	Thrift	181	0.70
Chemical (Specialty)	83	1.37	Electronics	158	1.13	Natural Gas Utility	27	0.65
Petroleum (Producing)	163	1.36	Drug	301	1.11	Total Market	5928	1.15
Apparel	48	1.35	Internet	180	1.11			
Power	68	1.34	Information Services	26	1.10			

Source: Damodaran Online 2011 - <http://pages.stern.nyu.edu/~adamodar/>

Three-Stage DCF Model



Source: William F. Sharpe, Gordon J. Alexander, and Jeffrey V. Bailey, Investments (Prentice-Hall, 1995), pp. 590-91.

Gulf Power Company
Discounted Cash Flow Analysis

Proxy Group

Dividend Yield*	4.45%
Adjustment Factor	<u>1.02375</u>
Adjusted Dividend Yield	4.6%
Growth Rate**	<u>4.75%</u>
Equity Cost Rate	9.3%

* Page 2 of Exhibit JRW-10

** Based on data provided on pages 3, 4, 5, and
6 of Exhibit JRW-10

**Gulf Power Company
Monthly Dividend Yields**

Electric Proxy Group

Company	May	Jun	Jul	Aug	Sep	Oct	Mean
ALLETE, Inc. (NYSE-ALE)	4.5%	4.5%	4.5%	4.3%	4.9%	4.6%	4.6%
Alliant Energy Corporation (NYSE-LNT)	4.4%	4.2%	4.2%	4.2%	4.5%	4.2%	4.3%
Ameren Corporation (NYSE-AEE)	5.4%	5.2%	5.3%	5.4%	5.4%	5.0%	5.3%
American Electric Power Co. (NYSE-AEP)	5.2%	4.7%	4.9%	4.9%	5.0%	4.8%	4.9%
Avista Corporation (NYSE-AVA)	4.7%	4.4%	4.4%	4.2%	4.7%	4.5%	4.5%
Cleco Corporation (NYSE-CNL)	2.9%	3.2%	3.2%	3.2%	3.4%	3.2%	3.2%
CMS Energy Corporation (NYSE-CMS)	4.3%	4.2%	4.3%	4.2%	4.4%	4.1%	4.3%
Consolidated Edison, Inc. (NYSE-ED)	4.7%	4.5%	4.5%	4.5%	4.4%	4.1%	4.5%
DTE Energy Company (NYSE-DTE)	4.5%	4.3%	4.8%	4.7%	5.0%	4.6%	4.7%
Edison International (NYSE-EIX)	3.3%	3.3%	3.3%	3.3%	3.6%	3.4%	3.4%
Energy Corporation (NYSE-ETR)	4.9%	4.8%	4.8%	4.9%	5.4%	5.0%	5.0%
Great Plains Energy Incorporated (NYSE-GXP)	4.2%	4.0%	4.0%	4.0%	4.6%	4.2%	4.2%
Hawaiian Electric Industries, Inc. (NYSE-HE)	5.1%	4.9%	5.2%	5.0%	5.5%	5.0%	5.1%
IDACORP, Inc. (NYSE-IDA)	3.1%	3.0%	3.1%	3.0%	3.3%	3.1%	3.1%
MGE Energy, Inc. (NYSE-MGEE)	3.7%	3.6%	3.7%	3.6%	3.7%	3.7%	3.7%
Nextra Energy (NYSE-NEE)	4.0%	3.8%	3.9%	3.9%	4.1%	4.0%	4.0%
OGE Energy Corp. (NYSE-OGE)	2.9%	2.9%	3.1%	2.9%	3.3%	3.1%	3.0%
Pepco Holdings, Inc. (NYSE-POM)	5.9%	5.4%	5.5%	5.6%	5.8%	5.6%	5.6%
PG&E Corporation (NYSE-PCG)	4.0%	4.0%	4.3%	4.3%	4.4%	4.2%	4.2%
Pinnacle West Capital Corp. (NYSE-PNW)	4.9%	4.6%	4.8%	4.8%	5.0%	4.7%	4.8%
Portland General Electric (NYSE-POR)	4.3%	4.0%	4.0%	4.1%	4.7%	4.4%	4.3%
SCANA Corporation (NYSE-SCG)	4.9%	4.6%	5.0%	4.8%	5.0%	4.7%	4.8%
Southern Company (NYSE-SO)	4.7%	4.7%	4.7%	4.7%	4.7%	4.4%	4.7%
TECO Energy, Inc. (NYSE-TE)	4.4%	4.5%	4.6%	4.5%	5.0%	4.7%	4.6%
UniSource Energy Corporation (NYSE-UNS)	4.7%	4.5%	4.5%	4.4%	4.7%	4.5%	4.6%
Westar Energy, Inc. (NYSE-WR)	4.9%	4.7%	4.8%	4.8%	5.1%	4.8%	4.9%
Wisconsin Energy Corporation (NYSE-WEC)	3.5%	3.3%	3.3%	4.3%	3.4%	3.3%	3.5%
Xcel Energy Inc. (NYSE-XEL)	4.2%	4.0%	4.1%	4.3%	4.5%	4.1%	4.2%
Mean	4.4%	4.2%	4.3%	4.3%	4.6%	4.3%	4.3%
Median	4.5%	4.4%	4.5%	4.3%	4.7%	4.4%	4.5%

Data Source: AUS Utility Reports , monthly issues.

Gulf Power Company
DCF Equity Cost Growth Rate Measures
Value Line Historic Growth Rates

Electric Proxy Group

Company	<i>Value Line</i> Historic Growth					
	Past 10 Years			Past 5 Years		
	Earnings	Dividends	Book Value	Earnings	Dividends	Book Value
ALLETE, Inc. (NYSE-ALE)				3.5%	17.5%	6.0%
Alliant Energy Corporation (NYSE-LNT)	3.0%	-3.5%	1.0%	9.0%	0.5%	3.5%
Ameren Corporation (NYSE-AEE)	-0.5%	-3.0%	3.5%	-1.5%	-6.0%	2.5%
American Electric Power Co. (NYSE-AEP)	2.5%	-3.5%	1.0%	2.0%	2.0%	5.0%
Avista Corporation (NYSE-AVA)	4.0%	2.0%	4.0%	11.5%	10.0%	4.0%
Cleco Corporation (NYSE-CNL)	4.5%	1.0%	7.5%	7.5%	0.5%	11.0%
CMS Energy Corporation (NYSE-CMS)	-7.5%	-9.5%	-6.0%	17.5%		1.5%
Consolidated Edison, Inc. (NYSE-ED)	1.0%	1.0%	3.5%	3.0%	1.0%	2.5%
DTE Energy Company (NYSE-DTE)		0.5%	3.5%	2.5%	1.0%	3.5%
Edison International (NYSE-EIX)		2.5%	9.5%	10.0%	15.5%	10.5%
Entergy Corporation (NYSE-ETR)	10.0%	9.0%	4.0%	10.0%	10.5%	4.0%
Great Plains Energy Incorporated (NYSE-GXP)	-3.5%	-4.0%	4.0%	-11.5%	-8.0%	7.0%
Hawaiian Electric Industries, Inc. (NYSE-HE)	-2.5%		2.0%	-6.0%		1.0%
IDACORP, Inc. (NYSE-IDA)	-0.5%	-4.5%	3.5%	11.0%	-2.5%	4.5%
MGE Energy, Inc. (NYSE-MGEE)	4.5%	1.0%	6.5%	7.0%	1.5%	6.5%
Nextra Energy (NYSE-NEE)	8.0%	6.0%	7.5%	12.0%	7.5%	9.0%
OGE Energy Corp. (NYSE-OGE)	3.5%	0.5%	5.0%	9.0%	1.5%	8.5%
Pepco Holdings, Inc. (NYSE-POM)	-0.5%		0.5%	-0.5%	1.5%	1.0%
PG&E Corporation (NYSE-PCG)		3.5%	5.5%	7.0%		10.5%
Pinnacle West Capital Corp. (NYSE-PNW)	-2.5%	4.5%	2.5%	0.5%	3.0%	0.5%
Portland General Electric (NYSE-POR)				7.5%		2.0%
SCANA Corporation (NYSE-SCG)	4.5%	3.5%	4.0%	2.0%	5.0%	4.5%
Southern Company (NYSE-SO)	2.0%	2.5%	2.5%	2.5%	4.0%	5.5%
TECO Energy, Inc. (NYSE-TE)	-5.5%	-4.5%	-1.5%	12.0%	-0.5%	5.0%
UniSource Energy Corporation (NYSE-UNS)	7.0%		8.0%	8.5%	13.0%	4.5%
Westar Energy, Inc. (NYSE-WR)		-4.5%	-3.0%	1.0%	7.0%	6.0%
Wisconsin Energy Corporation (NYSE-WEC)	8.0%	-1.0%	6.0%	8.5%	10.0%	7.5%
Xcel Energy Inc. (NYSE-XEL)	-1.0%	-4.0%		4.0%	4.0%	4.0%
Mean	1.8%	-0.2%	3.4%	5.3%	4.1%	5.1%
Median	2.3%	0.5%	3.5%	7.0%	2.5%	4.5%
Data Source: <i>Value Line Investment Survey.</i>	Average of Median Figures =			3.4%		

Gulf Power Company
DCF Equity Cost Growth Rate Measures
Value Line Projected Growth Rates

Company	Proxy Group			Value Line		
	Projected Growth			Sustainable Growth		
	Est'd. '08-'10 to '14-'16			Return on Equity	Retention Rate	Internal Growth
	Earnings	Dividends	Book Value			
ALLETE, Inc. (NYSE-ALE)	4.5%	2.0%	3.0%	9.5%	33.0%	3.1%
Alliant Energy Corporation (NYSE-LNT)	7.0%	6.0%	3.0%	12.0%	38.0%	4.6%
Ameren Corporation (NYSE-AEE)	-2.0%	-3.0%	1.5%	7.0%	38.0%	2.7%
American Electric Power Co. (NYSE-AEP)	4.5%	4.0%	4.5%	10.5%	45.0%	4.7%
Avista Corporation (NYSE-AVA)	4.5%	9.0%	3.0%	9.0%	32.0%	2.9%
Cleco Corporation (NYSE-CNL)	6.0%	9.5%	6.5%	9.5%	41.0%	3.9%
CMS Energy Corporation (NYSE-CMS)	7.0%	14.0%	5.0%	12.5%	42.0%	5.3%
Consolidated Edison, Inc. (NYSE-ED)	3.0%	1.0%	2.5%	9.5%	37.0%	3.5%
DTE Energy Company (NYSE-DTE)	3.5%	4.0%	3.5%	9.0%	36.0%	3.2%
Edison International (NYSE-EIX)	-1.0%	2.0%	5.0%	8.0%	54.0%	4.3%
Entergy Corporation (NYSE-ETR)	1.5%	3.0%	6.0%	11.5%	49.0%	5.6%
Great Plains Energy Incorporated (NYSE-GXP)	6.0%	1.5%	1.5%	7.5%	33.0%	2.5%
Hawaiian Electric Industries, Inc. (NYSE-HE)	11.0%	1.0%	3.0%	10.5%	35.0%	3.7%
IDACORP, Inc. (NYSE-IDA)	4.0%	4.0%	5.0%	8.5%	55.0%	4.7%
MGE Energy, Inc. (NYSE-MGEE)	4.0%	2.0%	4.0%	12.0%	45.0%	5.4%
Nextra Energy (NYSE-NEE)	3.5%	5.5%	7.0%	11.0%	51.0%	5.6%
OGE Energy Corp. (NYSE-OGE)	6.5%	4.0%	7.5%	12.0%	58.0%	7.0%
Pepco Holdings, Inc. (NYSE-POM)	2.5%	1.0%	2.0%	7.5%	29.0%	2.2%
PG&E Corporation (NYSE-PCG)	6.0%	4.5%	5.5%	11.5%	48.0%	5.5%
Pinnacle West Capital Corp. (NYSE-PNW)	6.0%	1.5%	2.5%	9.0%	35.0%	3.2%
Portland General Electric (NYSE-POR)	7.5%	3.0%	3.5%	9.0%	48.0%	4.3%
SCANA Corporation (NYSE-SCG)	3.0%	2.0%	5.0%	9.5%	41.0%	3.9%
Southern Company (NYSE-SO)	6.0%	4.0%	5.5%	13.0%	32.0%	4.2%
TECO Energy, Inc. (NYSE-TE)	10.5%	4.5%	5.0%	13.0%	40.0%	5.2%
UniSource Energy Corporation (NYSE-UNS)	9.5%	9.0%	5.0%	12.5%	39.0%	4.9%
Westar Energy, Inc. (NYSE-WR)	8.5%	3.0%	2.5%	10.0%	41.0%	4.1%
Wisconsin Energy Corporation (NYSE-WEC)	8.5%	15.5%	4.0%	14.0%	43.0%	6.0%
Xcel Energy Inc. (NYSE-XEL)	5.0%	3.0%	5.0%	0.0%	45.0%	0.0%
Mean	5.2%	4.3%	4.2%	9.9%	41.5%	4.1%
Median	5.5%	3.5%	4.3%	9.8%	41.0%	4.2%
Average of Median Figures =		4.4%				4.2%

Data Source: Value Line Investment Survey.

Gulf Power Company
DCF Equity Cost Growth Rate Measures
Analysts Projected EPS Growth Rate Estimates

Electric Proxy Group

Company	Yahoo First Call	Zack's	Reuters	Average
ALLETE, Inc. (NYSE-ALE)	6.0%	5.0%	6.0%	5.7%
Alliant Energy Corporation (NYSE-LNT)	6.5%	6.0%	6.0%	6.2%
Ameren Corporation (NYSE-AEE)	1.00%	4.00%	3.00%	2.7%
American Electric Power Co. (NYSE-AEP)	4.0%	4.0%	4.2%	4.1%
Avista Corporation (NYSE-AVA)	4.7%	4.7%	4.7%	4.7%
Cleco Corporation (NYSE-CNL)	3.0%	7.0%	3.0%	4.3%
CMS Energy Corporation (NYSE-CMS)	6.0%	5.5%	5.7%	5.8%
Consolidated Edison, Inc. (NYSE-ED)	3.6%	3.0%	3.9%	3.5%
DTE Energy Company (NYSE-DTE)	3.5%	5.0%	3.6%	4.0%
Edison International (NYSE-EIX)	2.9%	5.0%	3.0%	3.6%
Entergy Corporation (NYSE-ETR)	-1.1%	2.0%	3.3%	1.4%
Great Plains Energy Incorporated (NYSE-GXP)	5.8%	9.0%	5.9%	6.9%
Hawaiian Electric Industries, Inc. (NYSE-HE)	8.6%	8.6%	7.0%	8.1%
IDACORP, Inc. (NYSE-IDA)	4.7%	4.7%	4.7%	4.7%
MGE Energy, Inc. (NYSE-MGEE)	4.0%	4.0%	4.0%	4.0%
Nextra Energy (NYSE-NEE)	5.8%	6.7%	5.8%	6.1%
OGE Energy Corp. (NYSE-OGE)	7.2%	6.0%	6.6%	6.6%
Pepco Holdings, Inc. (NYSE-POM)	7.5%	4.3%	3.3%	5.0%
PG&E Corporation (NYSE-PCG)	3.8%	5.0%	5.2%	4.7%
Pinnacle West Capital Corp. (NYSE-PNW)	6.3%	5.3%	6.5%	6.0%
Portland General Electric (NYSE-POR)	5.3%	5.0%	5.5%	5.3%
SCANA Corporation (NYSE-SCG)	4.8%	4.3%	4.5%	4.6%
Southern Company (NYSE-SO)	6.0%	5.0%	5.9%	5.6%
TECO Energy, Inc. (NYSE-TE)	5.8%	4.7%	6.1%	5.5%
UniSource Energy Corporation (NYSE-UNS)	3.0%	3.0%	7.5%	4.5%
Westar Energy, Inc. (NYSE-WR)	5.2%	6.1%	6.0%	5.7%
Wisconsin Energy Corporation (NYSE-WEC)	7.1%	8.0%	8.2%	7.8%
Xcel Energy Inc. (NYSE-XEL)	5.1%	4.9%	5.3%	5.1%
Mean	4.9%	5.2%	5.1%	5.1%
Median	5.1%	5.0%	5.4%	5.1%

Data Sources: www.reuters.com, www.zacks.com, http://quote.yahoo.com, October 3, 2011.

Gulf Power Company
DCF Growth Rate Indicators

Summary Growth Rates

Growth Rate Indicator	Proxy Group
Historic <i>Value Line</i> Growth in EPS, DPS, and BVPS	3.4%
Projected <i>Value Line</i> Growth in EPS, DPS, and BVPS	4.4%
Sustainable Growth ROE * Retention Rate	4.2%
Projected EPS Growth from First Call, Zacks, and Reuters	5.1%
Average of Historic and Projected Growth Rates	4.3%
Average of Sustainable and Projected Growth Rates	4.6%

**Gulf Power Company
Capital Asset Pricing Model**

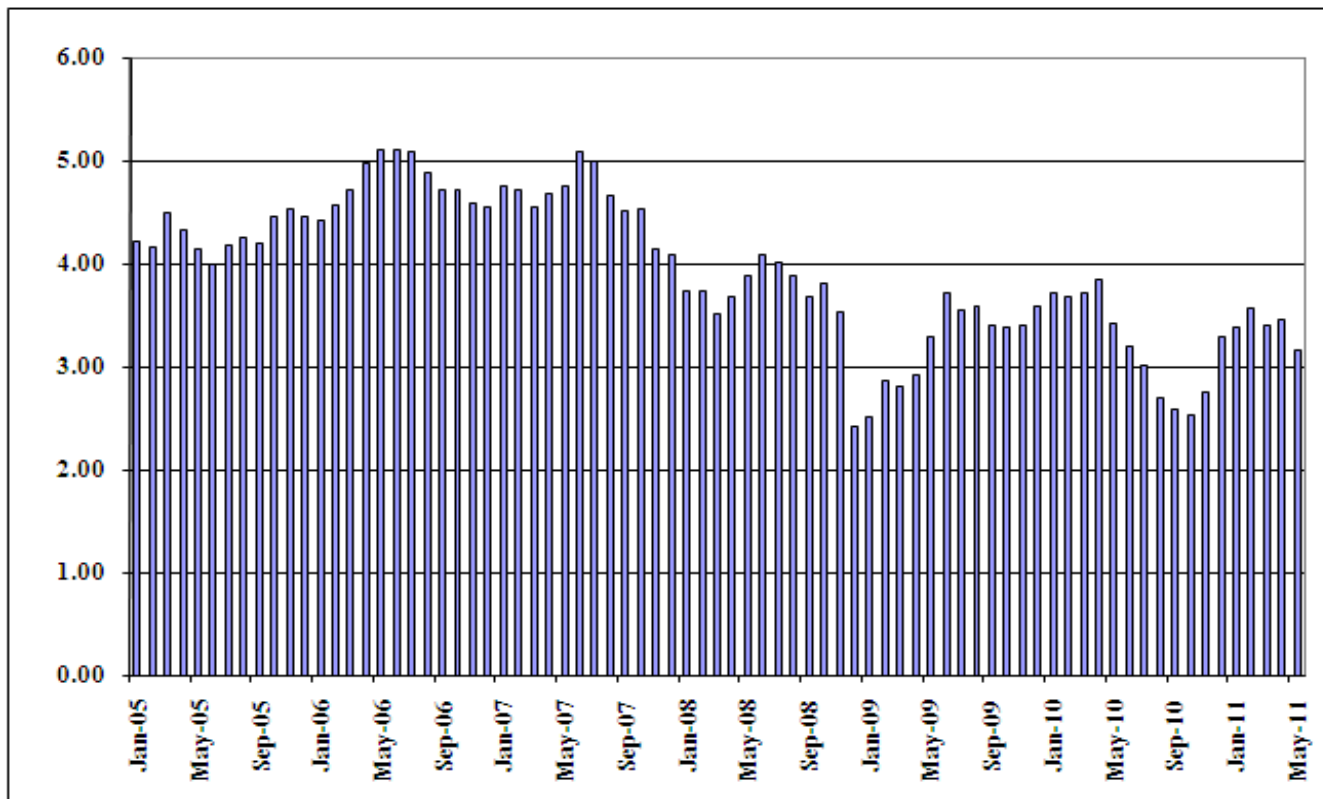
Electric Proxy Group

Risk-Free Interest Rate	4.00%
Beta*	0.75
Ex Ante Equity Risk Premium**	5.10%
CAPM Cost of Equity	7.8%

* See page 3 of Exhibit JRW-11

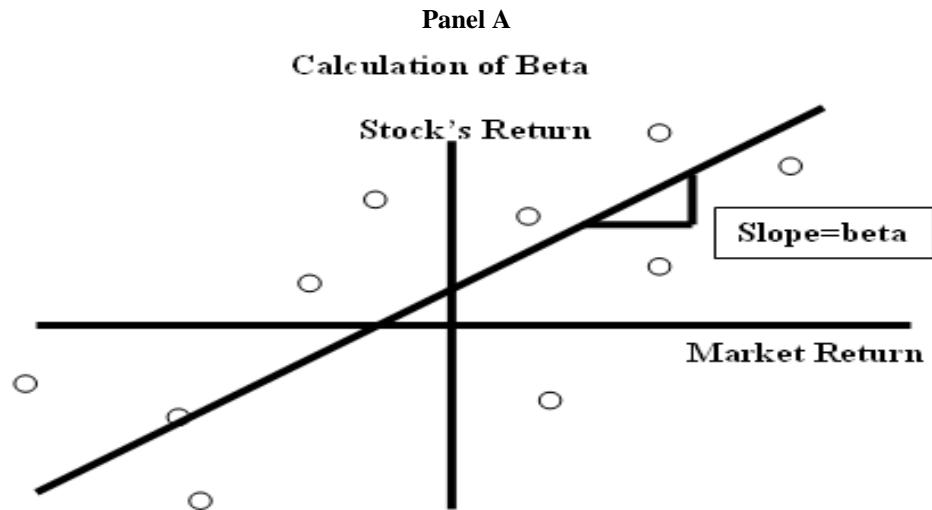
** See pages 5 and 6 of Exhibit JRW-11

Panel A
Ten-Year U.S. Treasury Yields
January 2000-Present



Panel B
Current Rates

U.S. Treasuries			
	COUPON	MATURITY	PRICE/YIELD
3-Month	0.000	11/17/2011	0.01 / 0.01
6-Month	0.000	02/16/2012	0.03 / 0.03
12-Month	0.000	07/26/2012	0.09 / 0.09
2-Year	0.375	07/31/2013	100-10¼ / 0.20
3-Year	0.500	08/15/2014	100-12 / 0.37
5-Year	1.500	07/31/2016	102-21+ / 0.95
7-Year	2.250	07/31/2018	105-01+ / 1.48
10-Year	2.125	08/15/2021	100-00 / 2.12
30-Year	3.750	08/15/2041	105-31 / 3.43



Electric Proxy Group

	Company Name	Beta
1	ALLETE, Inc. (NYSE-ALE)	0.70
2	Alliant Energy Corporation (NYSE-LNT)	0.70
3	Ameren Corporation (NYSE-AEE)	0.80
4	American Electric Power Co. (NYSE-AEP)	0.70
5	Avista Corporation (NYSE-AVA)	0.70
6	Cleco Corporation (NYSE-CNL)	0.65
7	CMS Energy Corporation (NYSE-CMS)	0.75
8	Consolidated Edison, Inc. (NYSE-ED)	0.65
9	DTE Energy Company (NYSE-DTE)	0.75
10	Edison International (NYSE-EIX)	0.80
11	Entergy Corporation (NYSE-ETR)	0.70
12	Great Plains Energy Incorporated (NYSE-GXP)	0.75
13	Hawaiian Electric Industries, Inc. (NYSE-HE)	0.70
14	IDACORP, Inc. (NYSE-IDA)	0.70
15	MGE Energy, Inc. (NASDAQ-MGEE)	0.60
16	NextEra Energy (NYSE-NEE)	0.75
17	OGE Energy Corp. (NYSE-OGE)	0.75
18	Pepco Holdings, Inc. (NYSE-POM)	0.80
19	PG&E Corporation (NYSE-PCG)	0.55
20	Pinnacle West Capital Corp. (NYSE-PNW)	0.70
21	Portland General Electric (NYSE-POR)	0.75
22	SCANA Corporation (NYSE-SCG)	0.65
23	Southern Company (NYSE-SO)	0.55
24	TECO Energy, Inc. (NYSE-TE)	0.85
25	UniSource Energy Corporation (NYSE-UNS)	0.75
26	Westar Energy, Inc. (NYSE-WR)	0.75
27	Wisconsin Energy Corporation (NYSE-WEC)	0.65

Risk Premium Approaches

	Historical Ex Post Excess Returns	Surveys	Ex Ante Models and Market Data
Means of Assessing the Equity-Bond Risk Premium	Historical average is a popular proxy for the ex ante premium – but likely to be misleading	Investor and expert surveys can provide direct estimates of prevailing expected returns/premiums	Current financial market prices (simple valuation ratios or DCF-based measures) can give most objective estimates of feasible ex ante equity-bond risk premium
Problems/Debated Issues	Time variation in required returns and systematic selection and other biases have boosted valuations over time, and have exaggerated realized excess equity returns compared with ex ante expected premiums	Limited survey histories and questions of survey representativeness. Surveys may tell more about hoped-for expected returns than about objective required premiums due to irrational biases such as extrapolation.	Assumptions needed for DCF inputs, notably the trend earnings growth rate, make even these models' outputs subjective. The range of views on the growth rate, as well as the debate on the relevant stock and bond yields, leads to a range of premium estimates.

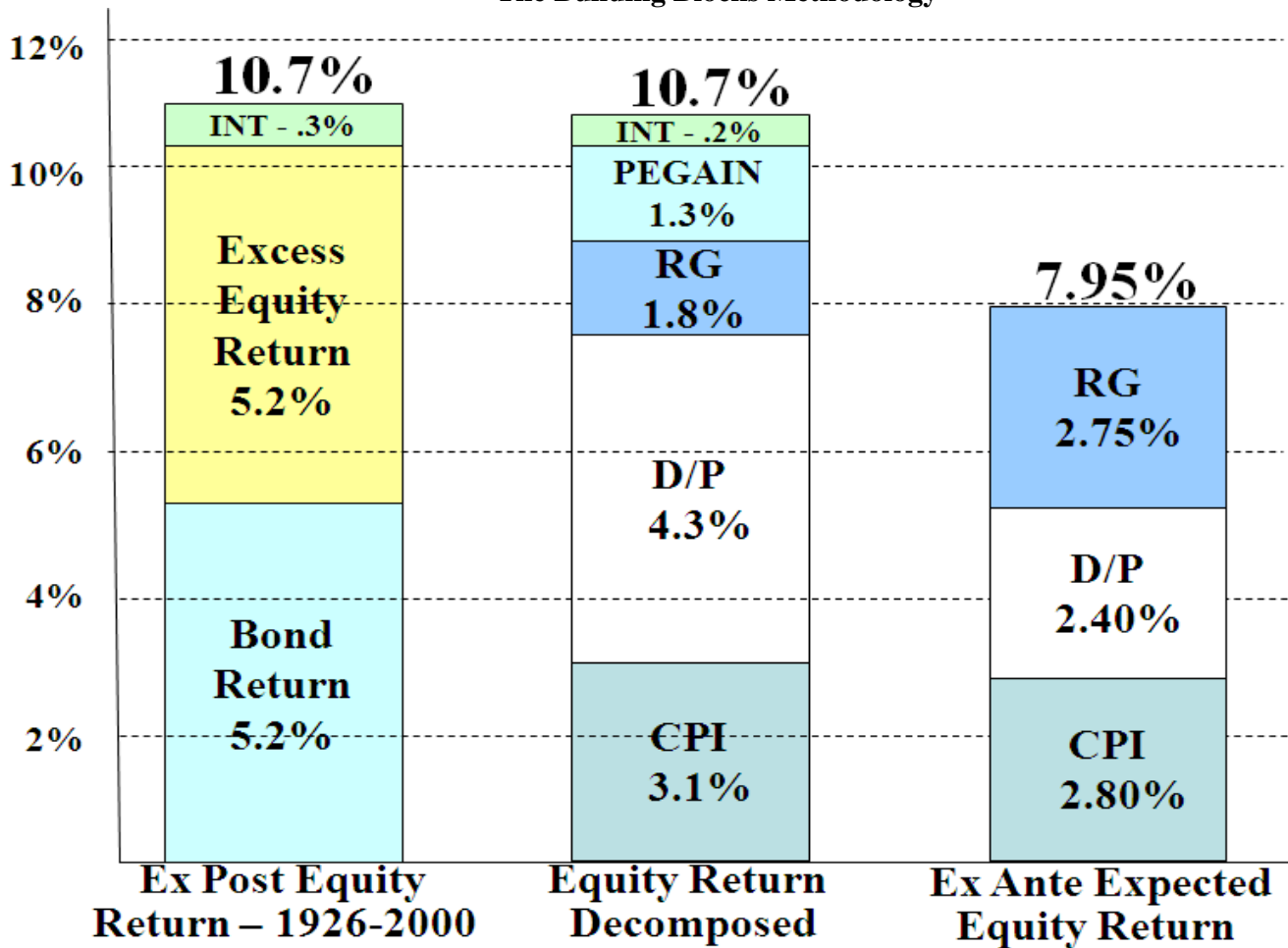
Source: Antti Ilmanen, "Expected Returns on Stocks and Bonds," *Journal of Portfolio Management*, (Winter 2003).

Gulf Power Company
Capital Asset Pricing Model
Equity Risk Premium

Category	Study Authors	Publication Date	Time Period Of Study	Methodology	Return Measure	Range		Midpoint of Range	Mean	Median
						Low	High			
Historical Risk Premium										
	Ibbotson	2011	1926-2010	Historical Stock Returns - Bond Returns	Arithmetic				6.00%	
	Bate	2008	1900-2007	Historical Stock Returns - Bond Returns	Geometric				4.40%	
	Shiller	2006	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				7.00%	
	Damodoran	2006	1926-2005	Historical Stock Returns - Bond Returns	Geometric				5.50%	
	Siegel	2005	1926-2005	Historical Stock Returns - Bond Returns	Arithmetic				6.70%	
	Dimson, Marsh, and Staunton	2006	1900-2005	Historical Stock Returns - Bond Returns	Geometric				5.10%	
	Goyal & Welch	2006	1872-2004	Historical Stock Returns - Bond Returns	Arithmetic				6.10%	
									4.60%	
									5.50%	
									4.77%	
	Median									5.50%
Ex Ante Models (Puzzle Research)										
	Claus Thomas	2001	1985-1998	Abnormal Earnings Model					3.00%	
	Arnott and Bernstein	2002	1810-2001	Fundamentals - Div Yld + Growth					2.40%	
	Constantinides	2002	1872-2000	Historical Returns & Fundamentals - P/D & P/E					6.90%	
	Cornell	1999	1926-1997	Historical Returns & Fundamental GDP/Earnings		3.50%	5.50%	4.50%	4.50%	
	Easton, Taylor, et al	2002	1981-1998	Residual Income Model					5.30%	
	Fama French	2002	1951-2000	Fundamental DCF with EPS and DPS Growth		2.55%	4.32%		3.44%	
	Harris & Marston	2001	1982-1998	Fundamental DCF with Analysts' EPS Growth					7.14%	
	Best & Byrne	2001								
	McKinsey	2002	1962-2002	Fundamental (P/E, D/P, & Earnings Growth)		3.50%	4.00%		3.75%	
	Siegel	2005	1802-2001	Historical Earnings Yield	Geometric				2.50%	
	Grabowski	2006	1926-2005	Historical and Projected		3.50%	6.00%	4.75%	4.75%	
	Maheu & McCurdy	2006	1885-2003	Historical Excess Returns, Structural Breaks,		4.02%	5.10%	4.56%	4.56%	
	Bostock	2004	1960-2002	Bond Yields, Credit Risk, and Income Volatility		3.90%	1.30%	2.60%	2.60%	
	Bakshi & Chen	2005	1982-1998	Fundamentals - Interest Rates					7.31%	
	Donaldson, Kamstra, & Kramer	2006	1952-2004	Fundamental, Dividend yld., Returns,, & Volatility		3.00%	4.00%	3.50%	3.50%	
	Campbell	2008	1982-2007	Historical & Projections (D/P & Earnings Growth)		4.10%	5.40%		4.75%	
	Best & Byrne	2001	Projection	Fundamentals - Div Yld + Growth					2.00%	
	Fernandez	2007	Projection	Required Equity Risk Premium					4.00%	
	DeLong & Magin	2008	Projection	Earnings Yield - TIPS					3.22%	
	Damodoran	2011	Projection	Fundamentals - Implied from FCF to Equity Model					7.64%	
Social Security										
	Office of Chief Actuary		1900-1995							
	John Campbell	2001	1860-2000	Historical & Projections (D/P & Earnings Growth)	Arithmetic	3.00%	4.00%	3.50%	3.50%	
			Projected for 75 Years		Geometric	1.50%	2.50%	2.00%	2.00%	
	Peter Diamond	2001	Projected for 75 Years	Fundamentals (D/P, GDP Growth)		3.00%	4.80%	3.90%	3.90%	
	John Shoven	2001	Projected for 75 Years	Fundamentals (D/P, P/E, GDP Growth)		3.00%	3.50%	3.25%	3.25%	
	Median									3.75%
Surveys										
	Survey of Financial Forecasters	2011	10-Year Projection	About 50 Financial Forecasters					2.87%	
	Duke - CFO Magazine Survey	2011	10-Year Projection	Approximately 500 CFOs					4.20%	
	Welch - Academics	2008	30-Year Projection	Random Academics		5.00%	5.74%	5.37%	5.37%	
	Fernandez - Academics	2011	Long-Term	Survey of Academics					5.50%	
	Fernandez - Analysts	2011	Long-Term	Survey of Analysts					5.00%	
	Fernandez - Companies	2011	Long-Term	Survey of Companies					5.20%	
	Median									5.10%
Building Block										
	Ibbotson and Chen	2011	1926-2010	Historical Supply Model (D/P & Earnings Growth)	Arithmetic			5.99%	4.95%	
					Geometric			3.91%		
	Woolridge		2011	Current Supply Model (D/P & Earnings Growth)					4.95%	
	Median									4.95%
Mean										4.83%

Exhibit JRW-11

Gulf Power Company
 Decomposing Equity Market Returns
 The Building Blocks Methodology



Gulf Power Company

2011 Survey of Professional Forecasters
 Philadelphia Federal Reserve Bank
 Long-Term Forecasts

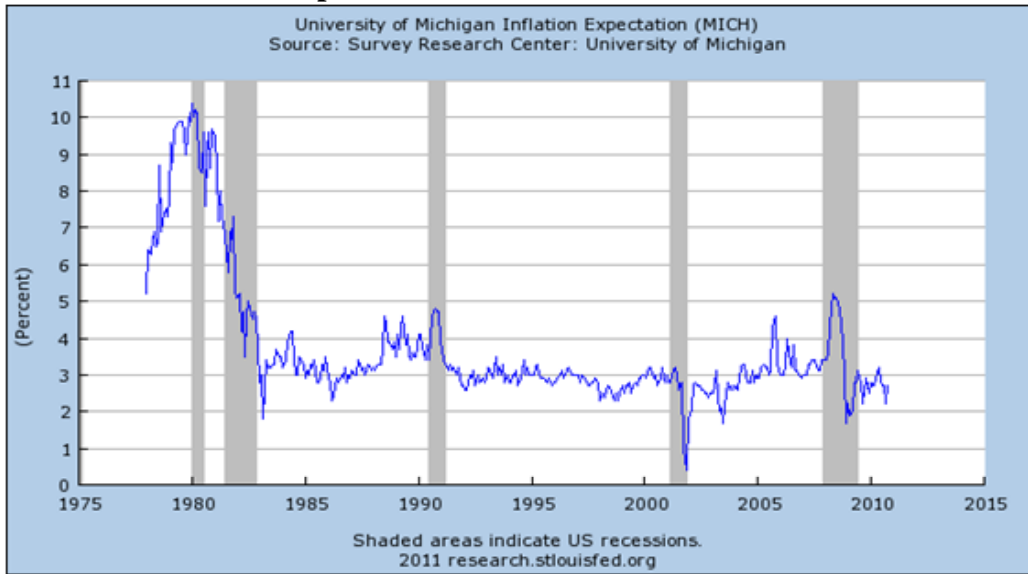
Table Seven
 LONG-TERM (10 YEAR) FORECASTS

Panel A		Panel B	
<u>SERIES: CPI INFLATION RATE</u>		<u>SERIES: REAL GDP GROWTH RATE</u>	
STATISTIC		STATISTIC	
MINIMUM	0.70	MINIMUM	1.70
LOWER QUARTILE	2.00	LOWER QUARTILE	2.70
MEDIAN	2.30	MEDIAN	2.84
UPPER QUARTILE	2.50	UPPER QUARTILE	3.20
MAXIMUM	3.50	MAXIMUM	4.00
MEAN	2.30	MEAN	2.93
STD. DEV.	0.55	STD. DEV.	0.48
N	36	N	34
MISSING	7	MISSING	9
Panel C		Panel D	
<u>SERIES: PRODUCTIVITY GROWTH</u>		<u>SERIES: STOCK RETURNS (S&P 500)</u>	
STATISTIC		STATISTIC	
MINIMUM	1.50	MINIMUM	4.20
LOWER QUARTILE	1.80	LOWER QUARTILE	6.30
MEDIAN	2.00	MEDIAN	7.25
UPPER QUARTILE	2.20	UPPER QUARTILE	8.25
MAXIMUM	3.00	MAXIMUM	12.00
MEAN	2.04	MEAN	7.37
STD. DEV.	0.35	STD. DEV.	1.80
N	26	N	20
MISSING	17	MISSING	23
Panel E		Panel F	
<u>SERIES: BOND RETURNS (10-YEAR)</u>		<u>SERIES: BILL RETURNS (3-MONTH)</u>	
STATISTIC		STATISTIC	
MINIMUM	-4.00	MINIMUM	-2.00
LOWER QUARTILE	4.25	LOWER QUARTILE	2.75
MEDIAN	4.88	MEDIAN	3.00
UPPER QUARTILE	5.00	UPPER QUARTILE	3.31
MAXIMUM	6.50	MAXIMUM	4.75
MEAN	4.50	MEAN	2.93
STD. DEV.	1.80	STD. DEV.	1.13
N	30	N	30
MISSING	13	MISSING	13

Source: Philadelphia Federal Reserve Bank, Survey of Professional Forecasters, February 11, 2011.

Gulf Power Company

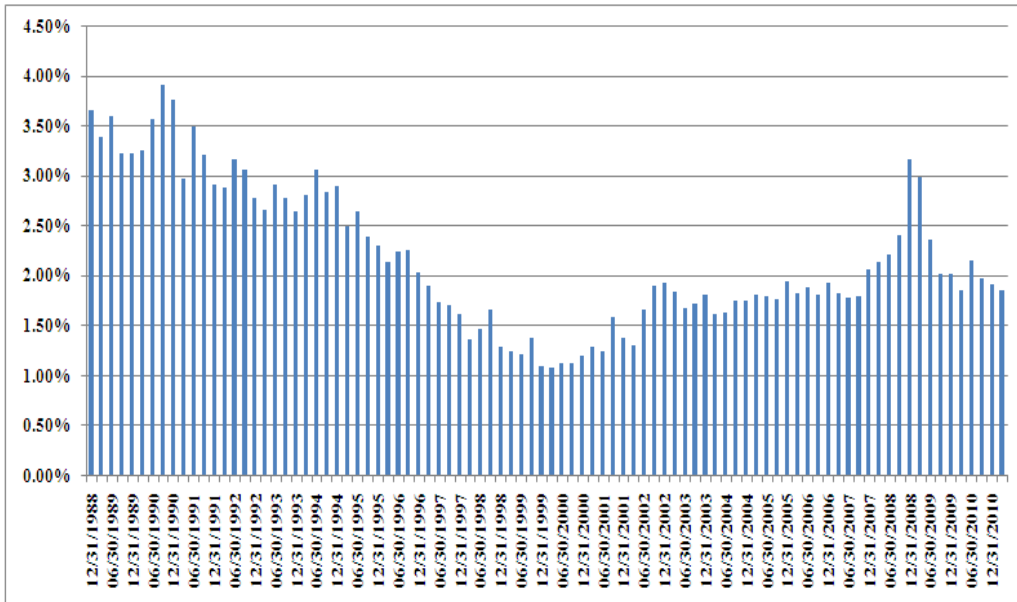
**University of Michigan Survey Research Center
Expected Short-Term Inflation Rate**



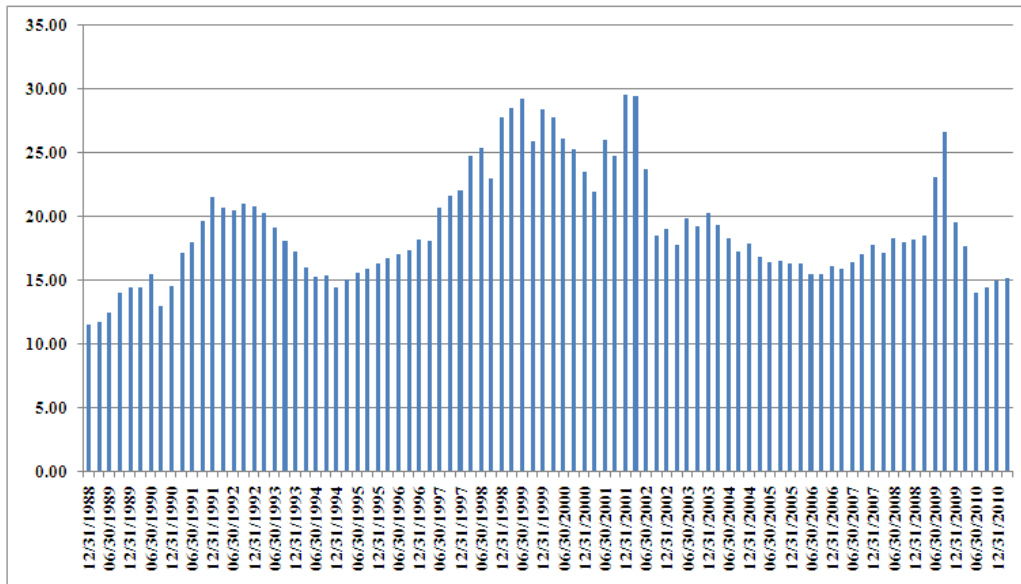
Data Source: <http://research.stlouisfed.org/fred2/series/MICH?cid=98>

Decomposing Equity Market Returns The Building Blocks Methodology

S&P 500 Dividend Yield



S&P 500 P/E Ratio



Gulf Power Company
CAPM
Real S&P 500 EPS Growth Rate

Year	S&P 500 EPS	Annual Inflation CPI	Inflation Adjustment Factor	Real S&P 500 EPS	
1960	3.10	1.48		3.10	
1961	3.37	0.07	1.01	3.35	
1962	3.67	1.22	1.02	3.59	
1963	4.13	1.65	1.04	3.99	
1964	4.76	1.19	1.05	4.55	
1965	5.30	1.92	1.07	4.97	
1966	5.41	3.35	1.10	4.90	
1967	5.46	3.04	1.14	4.80	
1968	5.72	4.72	1.19	4.81	
1969	6.10	6.11	1.26	4.83	10-Year
1970	5.51	5.49	1.34	4.13	2.89%
1971	5.57	3.36	1.38	4.04	
1972	6.17	3.41	1.43	4.33	
1973	7.96	8.80	1.55	5.13	
1974	9.35	12.20	1.74	5.37	
1975	7.71	7.01	1.86	4.14	
1976	9.75	4.81	1.95	4.99	
1977	10.87	6.77	2.08	5.22	
1978	11.64	9.03	2.27	5.13	
1979	14.55	13.31	2.57	5.66	10-Year
1980	14.99	12.40	2.89	5.18	2.30%
1981	15.18	8.94	3.15	4.82	
1982	13.82	3.87	3.27	4.23	
1983	13.29	3.80	3.40	3.91	
1984	16.84	3.95	3.53	4.77	
1985	15.68	3.77	3.66	4.28	
1986	14.43	1.13	3.70	3.90	
1987	16.04	4.41	3.87	4.15	
1988	22.77	4.42	4.04	5.64	
1989	24.03	4.65	4.22	5.69	10-Year
1990	21.73	6.11	4.48	4.85	-0.65%
1991	19.10	3.06	4.62	4.14	
1992	18.13	2.90	4.75	3.81	
1993	19.82	2.75	4.88	4.06	
1994	27.05	2.67	5.01	5.40	
1995	35.35	2.54	5.14	6.88	
1996	35.78	3.32	5.31	6.74	
1997	39.56	1.70	5.40	7.33	
1998	38.23	1.61	5.48	6.97	
1999	45.17	2.68	5.63	8.02	10-Year
2000	52.00	3.39	5.82	8.93	6.29%
2001	44.23	1.55	5.92	7.48	
2002	47.24	2.38	6.06	7.80	
2003	54.15	1.88	6.17	8.77	
2004	67.01	3.26	6.37	10.51	5-Year
2005	68.32	3.42	6.60	10.35	3.00%
2006	81.96	2.54	6.77	12.11	
2007	87.51	4.08	7.04	12.43	
2008	65.39	0.09	7.05	9.28	
2009	59.65	2.72	7.24	8.24	
2010	83.66	1.50	7.35	11.39	
Data Source: http://pages.stern.nyu.edu/~adamodar/				Real EPS Growth	2.6%

**Gulf Power Company
 Cost of Capital**

Weighted Average Cost of Capital - Regulatory Capital Structure

Capital	Capitalization Amounts	Capitalization Ratios	Cost Rate	Weighted Cost Rate
Short-Term Debt	\$ 17,955	1.07%	2.12%	0.02%
Long-Term Debt	\$ 658,459	39.29%	5.45%	2.14%
Preferred Stock	\$ 73,077	4.36%	6.65%	0.29%
Common Equity	\$ 645,222	38.50%	11.70%	4.50%
Customer Deposits	\$ 21,264	1.27%	6.00%	0.08%
Deferred Taxes	\$ 257,098	15.34%	0.00%	0.00%
Investment Credit - Zero Cost	\$ 2,929	0.17%	8.45%	0.01%
Totals	\$ 1,676,004	100.00%		7.05%

MFR D-1a

Panel B - Gulf Power's Requested Capitalization Ratios - Investor Provided Capital

Capital	Capitalization Amounts	Capitalization Ratios	Cost Rate	Weighted Cost Rate
Short-Term Debt	\$ 17,955	1.30%	2.12%	0.03%
Long-Term Debt	\$ 658,459	47.83%	5.45%	2.61%
Preferred Stock	\$ 73,077	5.31%	6.65%	0.35%
Common Equity	\$ 645,222	46.87%	11.70%	5.48%
	\$ 1,376,758	100.00%		8.45%

Panel A

Summary of Equity Cost Rate Approaches and Results

Approach	Cost of Equity
DCF	10.7%
Ex Ante Risk Premium	11.0%
Ex Post Risk Premium	10.8%
Ex Ante CAPM	10.7%
Ex Post CAPM	9.2%
Average of First Three Methods	10.8%
Capital Structure Adjustment	0.9%
Equity Cost Rate	11.7%

Panel B

Summary of Dr. Vander Weide's DCF Results

Average Adjusted Dividend Yield*	4.70%
Growth**	6.00%
Adjusted DCF Equity Cost Rate	10.70%

* Includes adjustments for quarterly payments and flotation costs

** Expected EPS Growth from IBES

Panel C

Summary of Dr. Vander Weide's Ex Ante Risk Premium Results

'A' Rated PU Yield	6.15%
Ex Ante Risk Premium*	4.9%
Adjusted RP Equity Cost Rate	11.0%

* Flotation Cost included in risk premium

Panel D

Summary of Dr. Vander Weide's Ex Post Risk Premium Results

'A' Rated PU Yield	6.15%
Historic Risk Premium*	4.35%
Equity Cost Rate	10.50%
Flotation Cost Adjustment	0.30%
Adjusted RP Equity Cost Rate	10.80%

* Midpoint of 4.1% and 4.6%

Panel E

Summary of Dr. Vander Weide's Expected CAPM Results

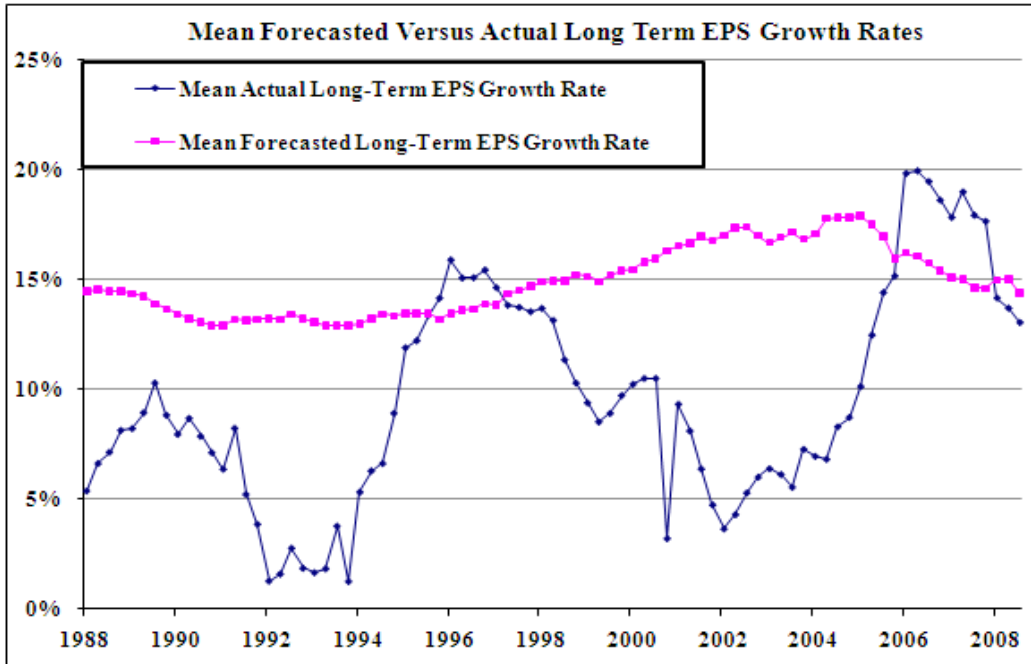
Risk-Free Rate	4.45%
Beta	0.67
Equity Risk Premium	8.85%
CAPM Result	10.38%
Flotation Cost Adjustment	0.26%
Adjusted CAPM Equity Cost Rate	10.70%

Panel F

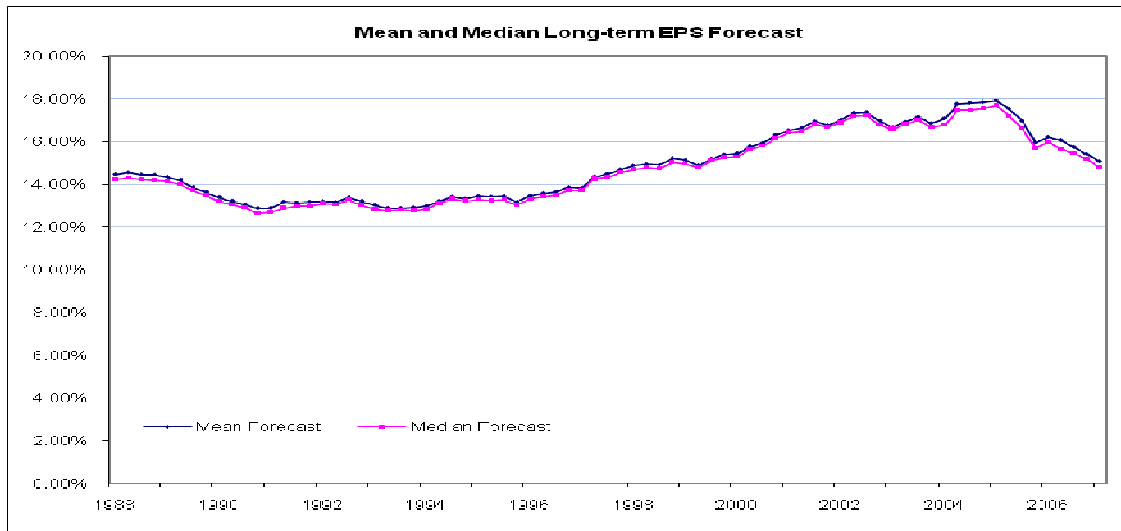
Summary of Dr. Vander Weide's Historical CAPM Results

Risk-Free Rate	4.45%
Beta	0.67
Equity Risk Premium	6.70%
CAPM Result	8.94%
Flotation Cost Adjustment	0.26%
Adjusted CAPM Equity Cost Rate	9.20%

Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
1988-2009



Panel B
Long-Term Forecasted EPS Growth Rates
1988-2007



Source: Patrick J. Cusatis and J. Randall Woolridge, "The Accuracy of Analysts' Long-Term Earnings Per Share Growth Rate Forecasts," (July, 2008).

THE WALL STREET JOURNAL.

Study Suggests Bias in Analysts' Rosy Forecasts

By **ANDREW EDWARDS**

March 21, 2008; Page C6

Despite an economy teetering on the brink of a recession -- if not already in one -- analysts are still painting a rosy picture of earnings growth, according to a study done by Penn State's Smeal College of Business.

The report questions analysts' impartiality five years after then-New York Attorney General Eliot Spitzer forced analysts to pay \$1.5 billion in damages after finding evidence of bias.

"Wall Street analysts basically do two things: recommend stocks to buy and forecast earnings," said J. Randall Woolridge, professor of finance. "Previous studies suggest their stock recommendations do not perform well, and now we show that their long-term earnings-per-share growth-rate forecasts are excessive and upwardly biased."

The report, which examined analysts' long-term (three to five years) and one-year per-share earnings expectations from 1984 through 2006 found that companies' long-term earnings growth surpassed analysts' expectations in only two instances, and those came right after recessions.

Over the entire time period, analysts' long-term forecast earnings-per-share growth averaged 14.7%, compared with actual growth of 9.1%. One-year per-share earnings expectations were slightly more accurate: The average forecast was for 13.8% growth and the average actual growth rate was 9.8%.

"A significant factor in the upward bias in long-term earnings-rate forecasts is the reluctance of analysts to forecast" profit declines, Mr. Woolridge said. The study found that nearly one-third of all companies experienced profit drops over successive three-to-five-year periods, but analysts projected drops less than 1% of the time.

The study's authors said, "Analysts are rewarded for biased forecasts by their employers, who want them to hype stocks so that the brokerage house can garner trading commissions and win underwriting deals."

They also concluded that analysts are under pressure to hype stocks to generate trading commissions, and they often don't follow stocks they don't like.

Write to Andrew Edwards at andrew.edwards@dowjones.com

Markets & Finance June 10, 2010, 5:00PM EST

**Bloomberg
Businessweek**

For Analysts, Things Are Always Looking Up

They're raising earnings estimates for U.S. companies at a record pace

By Roben Farzad

For years, the rap on Wall Street securities analysts was that they were shills, reflexively producing upbeat research on companies they cover to help their employers win investment banking business. The dynamic was well understood: Let my bank take your company public, or advise it on this acquisition, and—wink, wink—I will recommend your stock through thick or thin. After the Internet bubble burst, that was supposed to change. In April 2003 the Securities & Exchange Commission reached a settlement with 10 Wall Street firms in which they agreed, among other things, to separate research from investment banking.

Seven years on, Wall Street analysts remain a decidedly optimistic lot. Some economists look at the global economy and see troubles—the European debt crisis, persistently high unemployment worldwide, and housing woes in the U.S. Stock analysts as a group seem unfazed. Projected 2010 profit growth for companies in the Standard & Poor's 500-stock index has climbed seven percentage points this quarter, to 34 percent, data compiled by Bloomberg show. According to Sanford C. Bernstein (AB), that's the fastest pace since 1980, when the Dow Jones industrial average was quoted in the hundreds and Nancy Reagan was getting ready to order new window treatments for the Oval Office.

Among the companies analysts expect to excel: Intel (INTL) is projected to post an increase in net income of 142 percent this year. Caterpillar, a multinational that gets much of its revenue abroad, is expected to boost its net income by 47 percent this year. Analysts have also hiked their S&P 500 profit estimate for 2011 to \$95.53 a share, up from \$92.45 at the beginning of January, according to Bloomberg data. That would be a record, surpassing the previous high reached in 2007.

With such prospects, it's not surprising that more than half of S&P 500-listed stocks boast overall buy ratings. It is telling that the proportion has essentially held constant at both the market's October 2007 high and March 2009 low, bookends of a period that saw stocks fall by more than half. If the analysts are correct, the market would appear to be attractively priced right now. Using the \$95.53 per share figure, the price-to-earnings ratio of the S&P 500 is a modest 11 as of June 9. If, however, analysts end up being too high by, say, 20 percent, the P/E would jump to almost 14.

If history is any guide, chances are good that the analysts are wrong. According to a recent McKinsey report by Marc Goedhart, Rishi Raj, and Abhishek Saxena, "Analysts have been persistently over-optimistic for 25 years," a stretch that saw them peg earnings growth at 10 percent to 12 percent a year when the actual number was ultimately 6 percent. "On average," the researchers note, "analysts' forecasts have been almost 100 percent too high," even after regulations were enacted to weed out conflicts and improve the rigor of their calculations. As the chart below shows, in most years analysts have been forced to lower their estimates after it became apparent they had set them too high.

While a few analysts, like Meredith Whitney, have made their names on bearish calls, most are chronically bullish. Part of the problem is that despite all the reforms they remain too aligned with the companies they cover. "Analysts still need to get the bulk of their information from companies, which have an incentive to be over-optimistic," says Stephen Bainbridge, a professor at UCLA Law School who specializes in the securities industry. "Meanwhile, analysts don't want to threaten that ongoing access by being too negative." Bainbridge says that with the era of the overpaid, superstar analyst long over, today's job description calls for resisting the urge to be an iconoclast. "It's a matter of herd behavior," he says.

So what's a more plausible estimate of companies' earning power? Looking at factors including the strengthening dollar, which hurts exports, and higher corporate borrowing costs, David Rosenberg, chief economist at Toronto-based investment shop Gluskin Sheff + Associates, says "disappointment looms." Bernstein's Adam Parker says every 10 percent drop in the value of the euro knocks U.S. corporate earnings down by 2.5 percent to 3 percent. He sees the S&P 500 earning \$86 a share next year.

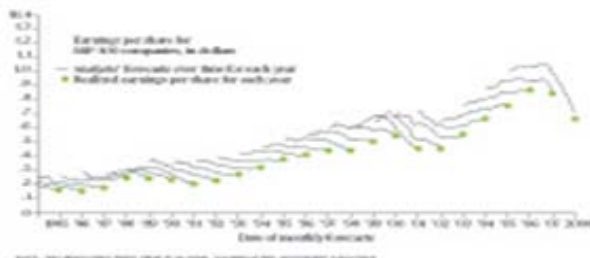
As realities hit home, "It's only natural that analysts will have to revise down their views," says Todd Salamone, senior vice-president at Schaeffer's Investment Research. The market may be making its own downward adjustment, as the S&P 500 has already fallen 14 percent from its high in April. If precedent holds, analysts are bound to curb their enthusiasm belatedly, telling us next year what we really needed to know this year.

The bottom line: Despite reforms intended to improve Wall Street research, stock analysts seem to be promoting an overly rosy view of profit prospects.

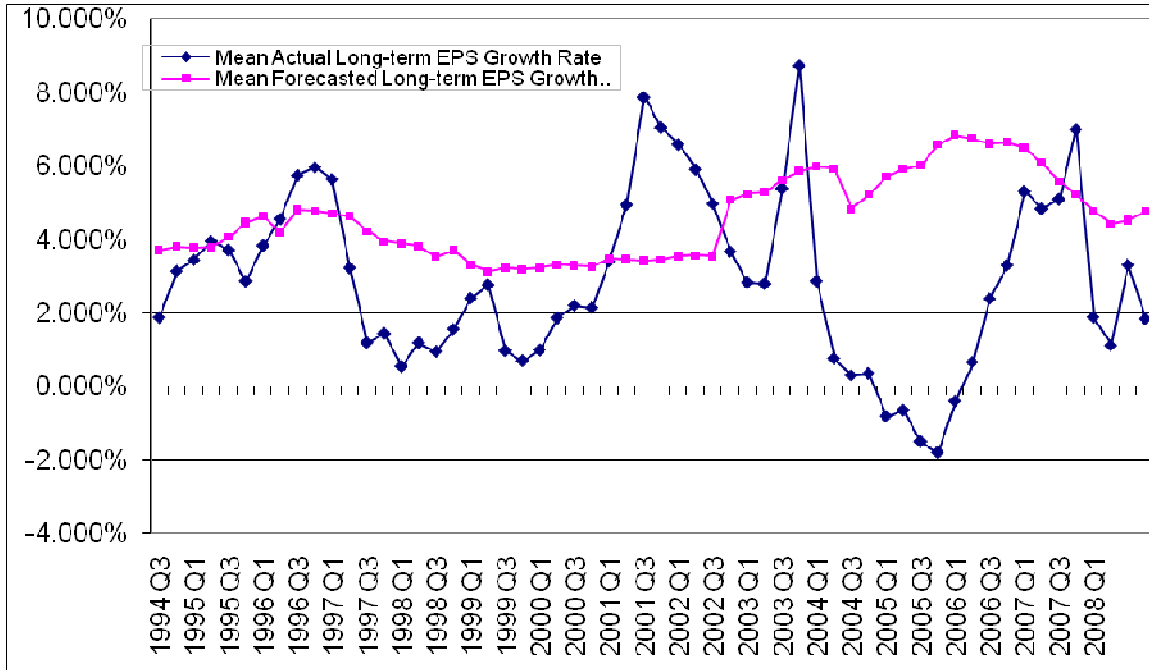
Bloomberg Businessweek Senior Writer Farzad covers Wall Street and international finance.

The Earnings Roller Coaster

Analysts have a long history of overestimating future profits. As this chart from McGraw-Hill shows, analysts on average tend to start high and ratchet their numbers down as the companies get closer to releasing their results. Initial estimates proved to be too low in only a few cases.

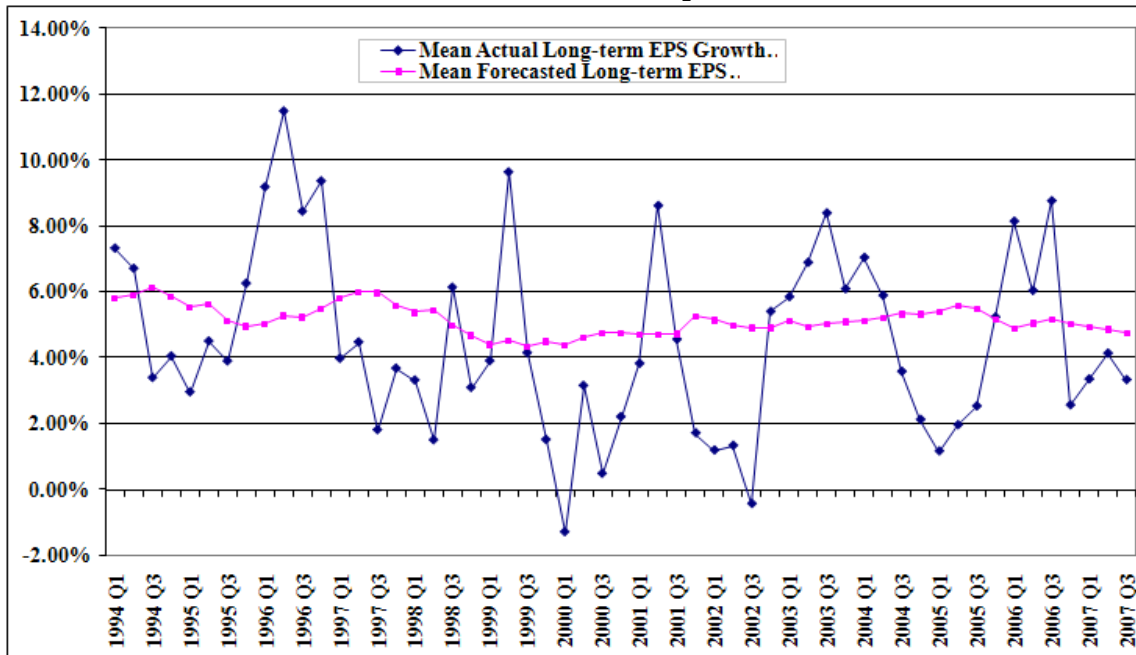


Panel A
Long-Term Forecasted Versus Actual EPS Growth Rates
Electric Utility Companies
1988-2008



Data Source: IBES

Panel B
Long-Term Forecasted Versus Actual EPS Growth Rates
Gas Distribution Companies



Panel A
Value Line 3-5 year EPS Growth Rate Forecasts

	Average Projected EPS Growth rate	Number of Negative EPS Growth Projections	Percent of Negative EPS Growth Projections
1,996 Companies	14.45%	56	2.81%

Panel B
Historical Five-Year EPS Growth Rates for Value Line Companies

	Average Historical EPS Growth rate	Number with Negative Historical EPS Growth	Percent with Negative Historical EPS Growth
2,147 Companies	8.38%	654	30.40%

Source: *Value Line Investment Analyzer*, April 2011.

Growth Rates
GNP, S&P 500 Price, EPS, and DPS

	GDP	S&P 500	Earnings	Dividends	
1960	526.4	58.11	3.10	1.98	
1961	544.8	71.55	3.37	2.04	
1962	585.7	63.1	3.67	2.15	
1963	617.8	75.02	4.13	2.35	
1964	663.6	84.75	4.76	2.58	
1965	719.1	92.43	5.30	2.83	
1966	787.7	80.33	5.41	2.88	
1967	832.4	96.47	5.46	2.98	
1968	909.8	103.86	5.72	3.04	
1969	984.4	92.06	6.10	3.24	
1970	1038.3	92.15	5.51	3.19	
1971	1126.8	102.09	5.57	3.16	
1972	1237.9	118.05	6.17	3.19	
1973	1382.3	97.55	7.96	3.61	
1974	1499.5	68.56	9.35	3.72	
1975	1637.7	90.19	7.71	3.73	
1976	1824.6	107.46	9.75	4.22	
1977	2030.1	95.1	10.87	4.86	
1978	2293.8	96.11	11.64	5.18	
1979	2562.2	107.94	14.55	5.97	
1980	2788.1	135.76	14.99	6.44	
1981	3126.8	122.55	15.18	6.83	
1982	3253.2	140.64	13.82	6.93	
1983	3534.6	164.93	13.29	7.12	
1984	3930.9	167.24	16.84	7.83	
1985	4217.5	211.28	15.68	8.20	
1986	4460.1	242.17	14.43	8.19	
1987	4736.4	247.08	16.04	9.17	
1988	5100.4	277.72	22.77	10.22	
1989	5482.1	353.4	24.03	11.73	
1990	5800.5	330.22	21.73	12.35	
1991	5992.1	417.09	19.10	12.97	
1992	6342.3	435.71	18.13	12.64	
1993	6667.4	466.45	19.82	12.69	
1994	7085.2	459.27	27.05	13.36	
1995	7414.7	615.93	35.35	14.17	
1996	7838.5	740.74	35.78	14.89	
1997	8332.4	970.43	39.56	15.52	
1998	8793.5	1229.23	38.23	16.20	
1999	9353.5	1469.25	45.17	16.71	
2000	9951.5	1320.28	52.00	16.27	
2001	10286.2	1148.09	44.23	15.74	
2002	10642.3	879.82	47.24	16.08	
2003	11142.1	1111.91	54.15	17.88	
2004	11867.8	1211.92	67.01	19.41	
2005	12638.4	1248.29	68.32	22.38	
2006	13398.9	1418.3	81.96	25.05	
2007	14061.8	1468.36	87.51	27.73	
2008	14369.1	903.25	65.39	28.05	
2009	14119.0	1115.10	59.65	22.31	
2010	14660.4	1257.64	83.66	23.12	Average
Growth	6.94%	6.34%	6.81%	5.04%	6.28%

Data Sources: GDP - <http://research.stlouisfed.org/fred2/categories/106>
 S&P 500, EPS and DPS - <http://pages.stern.nyu.edu/~adamodar/>

Panel A
Historic GDP Growth Rates

10-Year Average	4.2%
20-Year Average	4.9%
30-Year Average	5.8%
40-Year Average	6.9%
50-Year Average	6.9%
60-Year Average	6.9%
Average of Periods	6.0%

Panel B
Projected GDP Growth Rates

	Time Frame	Projected Nominal GDP Growth Rate
Congressional Budget Office	2010-2021	5.6%
Survey of Financial Forecasters	Ten Year	5.2%
Energy Information Administration	2009-2035	4.8%

Sources:

http://www.cbo.gov/ftpdocs/120xx/doc12039/01-26_FY2011Outlook.pdf_page_XIII

http://www.eia.gov/forecasts/aeo/tables_ref.cfm_Table_20

<http://www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters/2011/survg111.cfm>