BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

IN THE MATTER OF THE APPLICATION	)	**Docket No.**
OF ATMOS ENERGY CORPORATION	)	
FOR REVIEW AND ADJUSTMENT OF ITS	)	
NATURAL GAS RATES	)	**12-ATMG-~~514~~-RTS**

PREPARED DIRECT TESTIMONY

OF

WILLIAM E. AVERA

On Behalf of

ATMOS ENERGY CORPORATION

DIRECT TESTIMONY OF WILLIAM E. AVERA

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. William E. Avera, 3907 Red River, Austin, Texas, 78751.

Q. IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

A. Qualifications

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received a B.A. degree with a major in economics from Emory University. After serving in the U.S. Navy, I entered the doctoral program in economics at the University of North Carolina at Chapel Hill. Upon receiving my Ph.D., I joined the faculty at the University of North Carolina and taught finance in the Graduate School of Business. I subsequently accepted a position at the University of Texas at Austin where I taught courses in financial management and investment

analysis. I then went to work for International Paper Company in New York City as Manager of Financial Education, a position in which I had responsibility for all corporate education programs in finance, accounting, and economics.

In 1977, I joined the staff of the Public Utility Commission of Texas ("PUCT") as Director of the Economic Research Division. During my tenure at the PUCT, I managed a division responsible for financial analysis, cost allocation and rate design, economic and financial research, and data processing systems, and I testified in cases on a variety of financial and economic issues. Since leaving the PUCT, I have been engaged as a consultant. I have participated in a wide range of assignments involving utility-related matters on behalf of utilities, industrial customers, municipalities, and regulatory commissions. I have previously testified before the Federal Energy Regulatory Commission ("FERC"), as well as the Federal Communications Commission, the Surface Transportation Board (and its predecessor, the Interstate Commerce Commission), the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies, courts, and legislative committees in over 40 states, including the State Corporation Commission of the State of Kansas ("KCC" or the "Commission").

In 1995, I was appointed by the PUCT to the Synchronous Interconnection Committee to advise the Texas legislature on the costs and benefits of connecting Texas to the national electric transmission grid. In addition, I served as an outside director of Georgia System Operations Corporation, the system operator for electric cooperatives in Georgia.

I have served as Lecturer in the Finance Department at the University of Texas at Austin and taught in the evening graduate program at St. Edward's University for twenty years. In addition, I have lectured on economic and regulatory topics in programs sponsored by universities and industry groups. I have taught in hundreds of educational programs for financial analysts in programs sponsored by the Association for Investment Management and Research, the Financial Analysts Review, and local financial analysts societies. These programs have been presented in Asia, Europe, and North America, including the Financial Analysts Seminar at Northwestern University. I hold the Chartered Financial Analyst (CFA®) designation and have served as Vice President for Membership of the Financial Management Association. I have also served on the Board of Directors of the North Carolina Society of Financial Analysts. I was elected Vice Chairman of the National Association of Regulatory Commissioners ("NARUC") Subcommittee on Economics and appointed to NARUC's Technical Subcommittee on the National Energy Act. I have also served as an officer of various other professional organizations and societies. A resume containing the details of my experience and qualifications is attached as Exhibit WEA-1.

B. Overview

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to present to the KCC my independent assessment of the fair rate of return on equity ("ROE") for the jurisdictional gas utility operations of Atmos Energy Corporation ("Atmos" or "the Company"). In

addition, I also examined the reasonableness of the Company's requested capital structure, considering both the specific risks faced by Atmos and other industry guidelines.

Q. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU RELIED ON TO SUPPORT THE OPINIONS AND CONCLUSIONS CONTAINED IN YOUR TESTIMONY.

A. To prepare my testimony, I used information from a variety of sources that would normally be relied upon by a person in my capacity. In connection with the present filing, I considered and relied upon corporate disclosures and management discussions, publicly available financial reports and filings, and other published information relating to Atmos. I also reviewed information relating generally to capital market conditions and specifically to investor perceptions, requirements, and expectations for utilities. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of the issues relevant to investors' required return for Atmos, and they form the basis of my analyses and conclusions.

Q. WHAT IS THE PRACTICAL TEST OF THE REASONABLENESS OF THE ROE USED IN SETTING A UTILITY'S RATES?

A. The ROE compensates equity investors for the use of their capital to finance the plant and equipment and other assets necessary to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. To be consistent with sound regulatory economics and the

standards set forth by the United States Supreme Court in the *Bluefield*[1] and *Hope*[2] cases, a utility's allowed return on equity should be sufficient to (1) fairly compensate the utility's investors, (2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and (3) maintain the utility's financial integrity.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I first reviewed the operations and finances of Atmos, and the general conditions in the utility industry and the capital markets. With this as a background, I conducted various well-accepted quantitative analyses to estimate the current cost of equity, including alternative applications of the discounted cash flow ("DCF") model and the Capital Asset Pricing Model ("CAPM"), an equity risk premium approach based on allowed rates of return, as well as reference to expected earned rates of return for utilities. Based on the cost of equity estimates indicated by my analyses, Atmos's ROE was evaluated taking into account the specific risks and potential challenges for its jurisdictional gas utility operations, as well as other factors (*e.g.*, flotation costs) that are properly considered in setting a fair ROE for the Company.

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[1] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).
[2] Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

C. Summary of Conclusions

Q. WHAT ARE YOUR FINDINGS REGARDING THE FAIR ROE FOR ATMOS?

A. Based on the results of my analyses and the economic requirements necessary to support continuous access to capital, I recommend an ROE for Atmos of 10.9%. The bases for my conclusion are summarized below:

- In order to reflect the risks and prospects associated with Atmos's jurisdictional utility operations, my analyses focused on reference groups of other natural gas utilities, as well as combination utilities with both gas and electric utility operations. Consistent with the fact that utilities must compete for capital with firms outside their own industry, I also referenced a proxy group of low-risk companies in the non-utility sector of the economy;
- Based on the results of these analyses, and giving less weight to extremes at the high and low ends of the range, I concluded that the cost of equity for the proxy groups of utilities and non-utility companies is in the 10.0% to 11.4% range, or 10.2% to 11.6% after incorporating an adjustment to account for the impact of common equity flotation costs;
- I recommend an ROE for Atmos at the midpoint of my 10.2% to 11.6% range, or 10.9%; and,
- The reasonableness of a 10.9% ROE for Atmos is also supported by the Company's greater investment risks and financial leverage relative to other gas utilities and the need to consider the expected upward trend in capital costs and support access to capital.

Q. WHAT OTHER EVIDENCE DID YOU CONSIDER IN EVALUATING YOUR ROE RECOMMENDATION IN THIS CASE?

A. My recommendation was reinforced by the following findings:

- Sensitivity to financial market and regulatory uncertainties has increased dramatically and investors recognize that constructive regulation is a key ingredient in supporting utility credit standing and financial integrity; and,
- Providing Atmos with the opportunity to earn a return that reflects these realities is an essential ingredient to support the Company's

financial position, which ultimately benefits customers by ensuring reliable service at lower long-run costs.

Q. WHAT IS YOUR CONCLUSION AS TO THE REASONABLENESS OF ATMOS'S CAPITAL STRUCTURE?

A. Based on my evaluation, I concluded that a common equity ratio of 51.66% represents a reasonable capitalization for Atmos. This conclusion was based on the following findings:

- Atmos's common equity ratio falls within the range of capitalizations maintained by the proxy group of combination utilities based on data at year-end and near-term expectations;
- The Company's 51.66% common equity ratio is less than the average historical capitalization maintained by the proxy group of gas utilities and falls short of near-term expectations.

II. FUNDAMENTAL ANALYSES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. As a predicate to subsequent quantitative analyses, this section briefly reviews the operations and finances of Atmos. In addition, it examines the risks and prospects for the utility industry and conditions in the capital markets and the general economy. An understanding of the fundamental factors driving the risks and prospects of utilities is essential in developing an informed opinion of investors' expectations and requirements that are the basis of a fair ROE.

A. Atmos Energy Corporation

Q. BRIEFLY DESCRIBE ATMOS.

A. Atmos is engaged primarily in natural gas distribution, serving over 3 million customers in 12 states, including approximately 128,000 in Kansas. Atmos is also

engaged in natural gas marketing, pipeline and storage operations, and natural gas management and marketing services. At fiscal year-end 2011, Atmos had total assets of approximately $7.3 billion and revenues during fiscal year 2011 were some $4.3 billion.

Q. WHERE DOES ATMOS OBTAIN THE CAPITAL USED TO FINANCE ITS INVESTMENT IN GAS UTILITY PLANT?

A. Atmos's common stock is publicly traded on the New York Stock Exchange, and at fiscal year-end 2011, it had approximately $2.2 billion in long-term debt outstanding. Atmos is rated triple-B by the two major bond rating agencies – "BBB+" by Standard & Poor's Corporation ("S&P") and "Baa1" by Moody's Investors Service ("Moody's").

Q. DOES ATMOS ANTICIPATE THE NEED FOR ADDITIONAL CAPITAL IN THE FUTURE?

A. Yes. Atmos will require capital in order to fund new investment in natural gas utility facilities to meet customer growth, and provide for necessary maintenance and replace its utility infrastructure. Capital expenditures for Atmos's gas distribution system total more than $400 million annually. In addition to its investments to replace infrastructure and expand system capacity, the Company must repay or refinance long-term debt maturities of approximately $250 million in 2013 and $500 million in 2015.

B. Utility Industry

Q. HOW HAVE INVESTORS' RISK PERCEPTIONS FOR THE UTILITY INDUSTRY EVOLVED?

A. Implementation of structural change and related events caused investors to rethink their assessment of the relative risks associated with the utility industry. Investors have witnessed steady erosion in credit quality throughout the utility industry, both as a result of revised perceptions of the risks in the industry and the weakened finances of the utilities themselves.

Beginning in approximately 1980, the natural gas industry was buffeted by decreasing demand and prices, a natural gas glut, an ever-changing federal regulatory environment, and increased competition among participants and with other fuels. These developments spawned striking structural changes, not only within the pipeline segment of the industry, but for LDCs as well, with both experiencing "bypass" as large commercial, industrial, and wholesale customers sought to acquire gas supplies at the lowest possible cost. Structural changes within the utility industry have forced LDCs to confront new complexities and risks entailed in actively contracting for economical and secure energy supplies. Coupled with an increasingly competitive market environment, these structural changes have resulted in LDCs having greater business risk and operating leverage.

Q. IS THE POTENTIAL FOR ENERGY MARKET VOLATILITY AN ONGOING CONCERN FOR INVESTORS?

A. Yes. In recent years utilities and their customers have had to contend with dramatic fluctuations in gas costs due to ongoing price volatility in the spot markets, and investors recognize the potential for further turmoil in energy markets. While lower consumption brought about by the economic slowdown and higher production levels have contributed to a significant decline in gas costs, investors recognize the potential that such trends could quickly reverse. S&P observed that "short-term price volatility from numerous possibilities ... is always possible,"[3] while Moody's concluded that utilities remain exposed to fluctuations in energy prices, observing, "This view, that commodity prices remain low, could easily be proved incorrect, due to the evidence of historical volatility."[4] Fitch pointed out that utilities remain exposed to natural gas price shocks, and that, "a more balanced supply-demand picture will likely result in higher natural gas prices."[5]

Volatile energy markets can discourage potential customers from choosing natural gas, cause fuel substitution, and lead to decreased customer usage, all of which increases the risks of investing in natural gas distribution utilities and places additional pressure on their bond ratings. Moody's echoed this sentiment,

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[3] Standard & Poor's Corporation, "Top 10 Investor Questions: U.S. Regulated Electric Utilities," *RatingsDirect* (Jan. 22, 2010).
[4] Moody's Investors Service, "U.S. Electric Utilities: Uncertain Times Ahead; Strengthening Balance Sheets Now Would Protect Credit," *Special Comment* (Oct. 28, 2010).
[5] Fitch Ratings Ltd., "2012 Outlook, Utilities, Power and Gas," *Outlook Report* (Dec. 5, 2011).

concluding that reduced demand and margins challenge LDCs during periods of volatile natural gas prices.[6]

Q. WHAT OTHER RISKS ARE FACED BY UTILITIES?

A. The rapid rise in utility rates that can result from higher wholesale energy prices has heightened investor concerns over the implications for regulatory uncertainty. Fitch noted that, in light of continued economic weakness, "Regulators' decisions in rate cases remain a key credit factor for regulated utilities."[7]

Investors are also aware of the financial and regulatory pressures faced by utilities associated with the need to support significant capital investments. While enhancing the infrastructure necessary to meet the energy needs of customers is certainly desirable, the associated capital expenditures impose additional financial responsibilities on utilities that are heightened during times of capital market turmoil. As The Value Line Investment Survey ("Value Line") observed with respect to gas utilities:

> The economy remains weighed down by tight credit, a soft housing market, and high unemployment. The weakness in the housing sector has particularly affected this industry. The large inventory of unsold houses has limited the need for natural gas. This is particularly troubling for these utilities as we enter the peak heating season. Moreover, customer growth has declined, which continues to pressure revenues across this group. Additionally, more conservation consumer spending has impacted customer usage, which has hurt volumes. Lastly, bill collection has been difficult given high unemployment rates. Looking ahead, these

[6] Moody's Investors Service, "North American Natural Gas Transmission & Distribution," *Industry Outlook* (Sep. 2007).
[7] Fitch Ratings Ltd., "2012 Outlook: Utilities, Power, and Gas," *Outlook Report* (Dec. 5, 2011).

factors will likely continue to play on these companies as the calendar turns to 2011.[8]

In addition to uncertainties over customer usage and growth, utilities such as Atmos continue to face the same ongoing challenges and risks that have confronted them in the past, including those related to inflation, non-rate regulatory changes, tax law changes, environmental laws and regulations, operating hazards, and capital market uncertainties, as well as extraordinary risks such as legal liabilities and natural disasters.

C. Impact of Capital Market Conditions

Q. WHAT ARE THE IMPLICATIONS OF RECENT CAPITAL MARKET CONDITIONS?

A. As Value Line recently recognized, "It has been a turbulent year for the financial markets, to say the least."[9] Investors have faced a myriad of challenges and uncertainties, including the threat of a U.S. government default and political brinkmanship over raising the federal debt ceiling. The sovereign debt crisis in Europe has also dealt a harsh blow to investor confidence, and concerns over potential exposure to a Euro-zone default has again undermined confidence in the financial and banking sector. Meanwhile, speculation that the economy is poised on the brink of a "double-dip" recession has increased, with unemployment remaining stubbornly high, lackluster consumer confidence, and continued weakness plaguing the real estate sector.

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[8] The Value Line Investment Survey at 547 (Dec. 10, 2010).
[9] The Value Line Investment Survey at 541 (Dec. 9, 2011).

Investors have had to confront ongoing fluctuations in share prices and stress in the credit markets.[10] In response, investors have repeatedly fled to the safety of U.S. Treasury bonds, and stock prices have experienced renewed volatility. As the *Wall Street Journal* noted in August 2011:

> Stocks spiraled downward Thursday as investors buckled under the strain of the global economic slowdown and the failure of policy makers to stabilize financial markets. ... The nervousness among investors is being reflected in an extraordinary rally in U.S. Treasury bonds, regarded as a safe haven for investors in time of turmoil. ... The Dow's decline was its biggest point drop since the market was plunging amid a crisis of confidence in banks in late 2008. On Thursday, the focus shifted to world governments, which are laboring under mountains of debt and have diminished ability to prop up the financial system.[11]

The dramatic rise in the price of gold and other commodities also attests to investors' heightened concerns over prospective challenges and risks, including the overhanging threat of inflation, a double-dip recession, and renewed economic turmoil. With respect to utilities, Moody's noted the dangers to credit availability associated with exposure to European banks,[12] and concluded:

> Over the past few months, we have been reminded that global financial markets, which are still receiving extraordinary intervention benefits by sovereign governments, are exposed to turmoil. Access to the capital markets could therefore become intermittent, even for safer, more defensive sectors like the power industry.[13]

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[10] *See, e.g.,* Gongloff, Mark, "Stock Rebound Is a Crisis Flashback – Late Surge Recalls Market's Volatility at Peak of Credit Difficulties; Unusual Correlations," *Wall Street Journal* at B1 (Feb. 6, 2010).

[11] Lauricella, Tom, "Stocks Nose-Dive Amid Global Fears – Weak Outlook, Government Debt Worries Drive Dow's Biggest Point Drop Since '08," *Wall Street Journal* at A1 (Aug. 5, 2011).

[12] Moody's Investors Service, "Electric Utilities Stable But Face Increasing Regulatory Uncertainty," *Industry Outlook* (Jul. 22, 2010).

[13] Moody's Investors Service, "Regulation Provides Stability As Risks Mount," *Industry Outlook* (Jan. 19, 2011).

Uncertainties surrounding economic and capital market conditions heighten the risks faced by utilities, which, as described earlier, face a variety of operating and financial challenges.

Q. HOW DO INTEREST RATES ON LONG-TERM BONDS COMPARE WITH THOSE PROJECTED FOR THE NEXT FEW YEARS?

A. Table WEA-1 below compares current interest rates on 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds with near-term projections from Value Line, IHS Global Insight, Blue Chip Financial Forecasts ("Blue Chip"), S&P, and the Energy Information Administration ("EIA"):

TABLE WEA-1
INTEREST RATE TRENDS

	Current (a)	2012	2013	2014	2015
30-Yr. Treasury					
Value Line (b)	3.6%	3.9%	4.1%	4.5%	5.0%
IHS Global Insight (c)	3.6%	3.3%	3.8%	4.5%	5.1%
Blue Chip (d)	3.6%	3.7%	4.2%	4.8%	5.3%
AAA Corporate					
Value Line (b)	4.4%	4.6%	4.7%	5.2%	5.7%
IHS Global Insight (c)	4.4%	4.2%	4.5%	5.1%	6.0%
Blue Chip (d)	4.4%	4.3%	4.7%	5.4%	5.8%
S&P (e)	4.4%	4.2%	4.5%	5.1%	6.0%
AA Utility					
IHS Global Insight (c)	4.5%	4.5%	4.9%	5.6%	6.5%
EIA (f)	4.5%	5.5%	6.4%	7.0%	7.4%

(a) Based on monthly average bond yields for the six-month period Jun. - Nov. 2011 reported at www.credittrends.moodys.com and http://www.federalreserve.gov/releases /h15/data.htm.
(b) The Value Line Investment Survey, Forecast for the U.S. Economy (Nov. 25, 2011).
(c) IHS Global Insight, *U.S. Economic Outlook* at 19 (Oct. 2011).
(d) *Blue Chip Financial Forecasts,* Vol. 30, No. 12 (Dec. 1, 2011).
(e) Standard & Poor's Corporation, "U.S. Economic Forecast: Too Big To Bail," *RatingsDirect* (Nov. 16, 2011).
(f) Energy Information Administration, *Annual Energy Outlook 2011* (April 26, 2011).

As evidenced above, there is a clear consensus that the cost of permanent capital will be higher in the 2012-2015 timeframe than it is currently. As a result, current cost of capital estimates are conservative, because they are likely to understate investors' requirements at the time the rates set in this proceeding become effective.

Q. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR ATMOS?

A. No one knows the future of our complex global economy. We know that the financial crisis had been building for a long time, and few predicted that the economy would fall as rapidly as it did, or that corporate bond yields would fluctuate as dramatically as they have. While conditions in the economy and capital markets appear to have stabilized significantly since 2009, investors continue to react swiftly and negatively to any future signs of trouble in the financial system or economy. Given the importance of reliable utility service, it would be unwise to ignore investors' increased sensitivity to risk and future capital market trends in evaluating a fair ROE in this case. Similarly, the Company's capital structure must also preserve the financial flexibility necessary to maintain access to capital even during times of unfavorable market conditions.

III. CAPITAL MARKET ESTIMATES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. In this section, I develop capital market estimates of the cost of common equity. First, I address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF,

CAPM, and risk premium analyses conducted to estimate the cost of common equity for benchmark groups of comparable risk firms and evaluate expected earned rates of return for utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair ROE.

A. Economic Standards

Q. WHAT ROLE DOES THE RETURN ON COMMON EQUITY PLAY IN A UTILITY'S RATES?

A. The return on common equity is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Competition for investor funds is intense and investors are free to invest their funds wherever they choose. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks.

Q. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete with each other for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can generally be expressed as:

$$k_i = R_f + RP_i$$

where: R_f = Risk-free rate of return, and
RP_i = Risk premium required to hold riskier asset i.

Thus, the required rate of return for a particular asset at any time is a function of: (1) the yield on risk-free assets, and (2) the asset's relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk.

Q. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?

A. Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. The observed yields on government securities, which are considered free of default risk, and bonds of various rating categories demonstrate that the risk-return tradeoff does, in fact, exist in the capital markets.

Q. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?

A. It is generally accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets –

including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold common stocks and other assets, just as when choosing among fixed-income securities.

Q. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES BETWEEN FIRMS?

A. No. The risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. Long-term debt is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. The last investors in line are common shareholders. They receive only the net revenues, if any, remaining after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt.

Q. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?

A. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the utility

specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

B. Comparable Risk Groups

Q. HOW DID YOU IMPLEMENT THESE QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR ATMOS?

A. Application of the DCF model and other quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply the DCF model and other quantitative methods to a proxy group of publicly traded companies that investors regard as risk-comparable.

Q. WHAT SPECIFIC PROXY GROUPS OF UTILITIES DID YOU RELY ON FOR YOUR ANALYSIS?

A. I examined quantitative estimates of investors' required rate of return for a proxy group of natural gas utilities, consisting of those publicly traded LDCs included in Value Line's Natural Gas (Distribution) industry. After excluding two utilities (AGL Resources Inc. and Nicor Inc.) due to a major merger, this resulted in a group of 10 companies, which I refer to as the "Gas Utility Group."

In addition, my analyses also considered those utilities followed by Value Line with: (1) both gas and electric utility operations, and (2) S&P corporate credit ratings of "BBB-", "BBB", or "BBB+". In addition, I excluded two firms that otherwise would have been in the proxy group, but are not appropriate for inclusion because of involvement in a major merger, as well as one firm that suspended dividend payments in 2011. These criteria resulted in a proxy group composed of 18 companies, which I refer to as the "Combination Utility Group."

Q. WHAT OTHER PROXY GROUP DID YOU INCLUDE IN EVALUATING A FAIR ROE FOR ATMOS?

A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient criterion in establishing a meaningful benchmark to evaluate a fair ROE is relative risk, not the particular business activity or degree of regulation. With regulation taking the place of competitive market forces, required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition. Consistent with this accepted regulatory standard, I also applied the DCF model to a reference group of comparable risk companies in the non-utility sectors of the economy. I refer to these companies as the "Non-Utility Group."

Q. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR CAPITAL?

A. Yes. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. Clearly, the total capital invested in utility stocks is only the tip of the iceberg of total common

stock investment, and there are a plethora of other enterprises available to investors beyond those in the utility industry. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk.

Q. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO CONSIDER REQUIRED RETURNS FOR NON-UTILITY COMPANIES?

A. Yes. Returns in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to "business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Similarly, the *Hope* case states:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[14]

As in the *Bluefield* decision, there is nothing to restrict "other enterprises" solely to the utility industry.

Indeed, in teaching regulatory policy I usually observe that in the early applications of the comparable earnings approach, utilities were explicitly eliminated due to a concern about circularity. In other words, soon after the *Hope* decision regulatory commissions did not want to get involved in circular logic by looking to the returns of utilities that were established by the same or similar

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[14] *Federal Power Comm'n v. Hope Natural Gas Co.* (320 U.S. 391, 1944).

regulatory commissions in the same geographic region. To avoid circularity, regulators looked only to the returns of non-utility companies.

Q. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY GROUP MAKE THE ESTIMATION OF THE COST OF EQUITY USING THE DCF MODEL MORE RELIABLE?

A. Yes. The estimates of growth from the DCF model depend on analysts' forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry, or by the industry falling into favor or disfavor by analysts. The result of such distortions would be to bias the DCF estimates for utilities. For example, Value Line observed that near-term growth rates understate the longer-term expectations for gas utilities:

> Natural Gas Utility stocks have fallen near the bottom of our Industry spectrum for Timeliness. Accordingly, short-term investors would probably do best to find a group with better prospects over the coming six to 12 months. Longer-term, we expect these businesses to rebound. An improved economic environment, coupled with stronger pricing, should boost results across this sector over the coming years.[15]

Because the Non-Utility Group includes low risk companies from many industries, it diversifies away any distortion that may be caused by the ebb and flow of enthusiasm for a particular sector.

Q. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY GROUP?

A. My comparable risk proxy group was composed of those U.S. companies followed by Value Line that: 1) pay common dividends; 2) have a Safety Rank of

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[15] The Value Line Investment Survey at 445 (Mar. 12, 2010).

"1"; 3) have a Financial Strength Rating of "B++" or greater; 4) have a beta of 0.75 or less; and, 5) have investment grade credit ratings from S&P.

Q. DO THESE CRITERIA PROVIDE OBJECTIVE EVIDENCE TO EVALUATE INVESTORS' RISK PERCEPTIONS?

A. Yes. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (*e.g.*, "A+") are used to show relative standing within a category. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad, objective measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services also provide relative assessments of risks that are considered by investors in forming their expectations for common stocks. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory

information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. Finally, Value Line's beta measures the volatility of a security's price relative to the market as a whole. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00.

Q. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUPS COMPARE WITH ATMOS?

A. Table WEA-2 below compares the Gas Utility Group, the Combination Utility Group, and Non-Utility Group with Atmos across four key indicia of investment risk:

TABLE WEA-2
COMPARISON OF RISK INDICATORS

	S&P	Value Line		
Proxy Group	**Credit Rating**	**Safety Rank**	**Financial Strength**	**Beta**
Gas Utility	A-	2	B++	0.69
Combination Utility	BBB	2	B++	0.74
Non-Utility	A	1	A+	0.66
Atmos	BBB+	2	B+	0.70

Q. WHAT DOES THIS COMPARISON INDICATE REGARDING INVESTORS' ASSESSMENT OF THE RELATIVE RISKS OF YOUR PROXY GROUPS?

A. As shown above, the average corporate credit ratings for the Gas Utility and Non-Utility Groups indicate less risk than for Atmos, while the Company's "BBB+" rating denotes somewhat greater strength than the average "BBB" rating assigned to the Combination Utility Group. Meanwhile, the average Value Line Safety Rank for the two groups of utilities is identical to Atmos, with the Company's lower Financial Strength Rating suggesting higher risk. The higher beta value for the Combination Utility Group indicates somewhat greater risk than for Atmos and the group of LDCs. With respect to the Non-Utility Group, its average Safety Rank and Financial Strength Rating are both superior to the values for Atmos and the groups of utilities, with its 0.66 average beta also suggesting less risk. Considered together, a comparison of these objective measures, which incorporate a broad spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, indicates that investors would likely conclude that the overall investment risks for Atmos are comparable to those of the firms in the proxy groups of utilities.

While the impact of differences in regulation is reflected in objective risk measures, my analyses conservatively focus on a lower-risk group of non-utility firms. The 35 companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include household names such as AT&T, Coca-Cola, Colgate-Palmolive, Johnson & Johnson, and

Wal-Mart – to name a few – have long corporate histories, well-established track records, and exceedingly conservative risk profiles. Many of these companies pay dividends on a par with utilities, with the average dividend yield for the group approaching 3%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

C. Discounted Cash Flow Analyses

Q. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. In other words, the cash flows that investors expect from a stock are estimated, and given its current market price, we can "back-into" the discount rate, or cost of common equity, that investors implicitly used in bidding the stock to that price. Notationally, the general form of the DCF model is as follows:

$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \cdots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

where: P_0 = Current price per share;
P_t = Expected future price per share in period t;
D_t = Expected dividend per share in period t;
k_e = Cost of common equity.

That is, the cost of common equity is the discount rate that will equate the current price of a share of stock with the present value of all expected cash flows from the stock.

Q. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?

A. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[16]

$$P_0 = \frac{D_1}{k_e - g}$$

where: g = Investors' long-term growth expectations.

The cost of common equity (k_e) can be isolated by rearranging terms within the equation:

$$k_e = \frac{D_1}{P_0} + g$$

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and, 2) growth (g).

[16] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity.

In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

Q. WHAT FORM OF THE DCF MODEL DID YOU USE?

A. I applied the constant growth DCF model to estimate the cost of common equity for Atmos, which is the form of the model most commonly relied on to establish the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

Q. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (g) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q. HOW WAS THE DIVIDEND YIELD FOR THE GAS UTILITY GROUP DETERMINED?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by the average stock price for the 30 days ended November 18, 2011 to arrive at the expected dividend yield for each utility. The stock prices, expected dividends, and resulting dividend yields for the firms in the Gas Utility Group are

presented on page 1 of 3 of Exhibit WEA-2. As shown there, dividend yields for the firms in the Gas Utility Group ranged from 2.7% to 4.2%, and averaged 3.6%.

Q. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q. ARE HISTORICAL GROWTH RATES LIKELY TO BE REPRESENTATIVE OF INVESTORS' EXPECTATIONS FOR UTILITIES?

A. No. If past trends in earnings, dividends, and book value are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, where structural and industry changes have led to declining dividends, earnings pressure, and, in many cases, significant write-offs. While these conditions serve to distort historical growth measures, they are not representative of long-term growth for the utility industry or the expectations that investors have incorporated into current market prices. As a result, historical

growth measures for utilities do not currently meet the requirements of the DCF model.

Q. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?

A. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts' growth forecasts.

Q. DID YOU CONSIDER EXPECTED DIVIDEND GROWTH RATES IN APPLYING THE DCF MODEL?

A. Yes. As noted earlier, the DCF model is predicated on the assumption that investors arrive at the price they are willing to pay for a particular common stock by discounting future cash flows at their required rate of return. Growth rates in dividends per share ("DPS") are frequently used as a basis to apply the constant growth DCF model, and my DCF analysis for the Gas Utility Group incorporated the DPS growth projections published by Value Line. The projected DPS growth rates for each of the firms in the Gas Utility Group are shown on page 2 of 3 of Exhibit WEA-2.

Q. ARE DPS GROWTH RATES LIKELY TO PROVIDE A MEANINGFUL GUIDE TO INVESTORS' GROWTH EXPECTATIONS FOR UTILITIES?

A. No. While the DCF model is technically concerned with growth in dividend cash flows, implementation of this DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities,

dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry, with the payout ratio for utilities falling from almost 80% historically to on the order of 60%.[17] As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

Q. ARE THESE DISTORTIONS ASSOCIATED WITH DPS GROWTH RATES SELF-EVIDENT?

A. Yes. The projected DPS growth rates published by Value Line for each of the firms in the Gas Utility and Combination Utility Groups are shown on page 2 of 3 of Exhibit WEA-2 and Exhibit WEA-4, respectively. As shown there, many of the individual DPS growth rates were zero or negative, and as discussed subsequently, many more values also produce cost of equity estimates that are simply illogical.

Q. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A. As payout ratios for firms in the utility industry trended downward, investors' focus has increasingly shifted from dividends to earnings as a measure of long-term growth. Future trends in earnings per share ("EPS"), which provide the

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[17] *See, e.g.,* The Value Line Investment Survey (Mar. 29, 1996 at 472, Dec. 9, 2011 at 541). Similarly, the payout ratio for electric utilities fell from approximately 80% historically to on the order of 60%. The Value Line Investment Survey (Sep. 15, 1995 at 161, Nov. 25, 2011 at 137).

source for future dividends and ultimately support share prices, play a pivotal role in determining investors' long-term growth expectations. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community, and surveys of analytical techniques relied on by professional analysts indicate that growth in earnings is far more influential that trends in DPS. Apart from Value Line, investment advisory services do not generally publish comprehensive DPS growth projections, and this scarcity of dividend growth rates relative to the abundance of earnings forecasts attests to their relative influence. The fact that securities analysts focus on growth in EPS, and that dividend growth rates are not routinely published, indicates that projected EPS growth rates are likely to provide a superior indicator of the future long-term growth expected by investors.

Q. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE GAS UTILITY GROUP?

A. The projected EPS growth rates for each of the firms in the Gas Utility Group reported by Value Line, Thomson Reuters ("IBES"), and Zacks Investment Research ("Zacks") are displayed on page 2 of 3 of Exhibit WEA-2.[18]

[18] Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

Q. SOME ARGUE THAT ANALYSTS' GROWTH RATES ARE BIASED. DO YOU BELIEVE THESE PROJECTIONS ARE INAPPROPRIATE FOR ESTIMATING INVESTORS' REQUIRED RETURN USING THE DCF MODEL?

A. No. In applying the DCF model to estimate the cost of common equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

Any claims that analysts' estimates are not relied upon by investors are illogical given the reality of a competitive market for investment advice. The market for investment advice is intensely competitive, and securities analysts are personally and professionally motivated to provide the most accurate assessment possible of future growth trends. If financial analysts' forecasts do not add value to investors' decision making, then it is irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications (*e.g.*, Value Line) implies that investors use them as a basis for their expectations.

The continued success of investment services such as Thomson Reuters and Value Line, and the fact that projected growth rates from such sources are widely referenced, provides strong evidence that investors give considerable weight to analysts' earnings projections in forming their expectations for future growth. While the projections of securities analysts may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any bias in analysts' forecasts – whether pessimistic or optimistic – is similarly irrelevant if investors share the analysts' views. Earnings growth projections of security analysts provide the most frequently referenced guide to investors' views and are widely accepted in applying the DCF model. As explained in *New Regulatory Finance*:

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth]. The accuracy of these forecasts in the sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations.[19]

Q. ARE THERE OTHER MEANS TO ESTIMATE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. Yes. In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return

[19] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006).

and the payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Despite the fact that these conditions are seldom, if ever, met in practice, this "sustainable growth" approach may provide a rough guide for evaluating a firm's growth prospects and is frequently proposed in regulatory proceedings.

Accordingly, while I believe that analysts' EPS forecasts provide a superior and more direct guide to investors' growth expectations, I have included the "sustainable growth" approach for completeness. The sustainable growth rate is calculated by the formula, $g = br+sv$, where "b" is the expected retention ratio, "r" is the expected earned return on equity, "s" is the percent of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate.

Q. WHAT IS THE PURPOSE OF THE "SV" TERM?

A. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. When a company's stock price is greater than its book value per share, the per-share contribution in excess of book value associated with new stock issues will accrue to the current shareholders. This increase to the book value of existing shareholders leads to higher expected earnings and dividends, with the "sv" factor incorporating this additional growth component.

Q. WHAT GROWTH RATE DOES THE EARNINGS RETENTION METHOD SUGGEST FOR THE GAS UTILITY GROUP?

A. The sustainable, "br+sv" growth rates for each firm in the Gas Utility Group are summarized on page 3 of 3 of Exhibit WEA-2, with the underlying details being presented on Exhibit WEA-3. For each firm, the expected retention ratio (b) was calculated based on Value Line's projected dividends and earnings per share. Likewise, each firm's expected earned rate of return (r) was computed by dividing projected earnings per share by projected net book value. Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, consistent with the theory underlying this approach to estimating investors' growth expectations. Meanwhile, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth in common shares outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

Q. WHAT COST OF EQUITY ESTIMATES WERE IMPLIED FOR THE GAS UTILITY GROUP USING THE DCF MODEL?

A. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on page 3 of 3 of Exhibit WEA-2.

Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE COMBINATION UTILITY GROUP?

A. I applied the DCF model to the Combination Utility Group in exactly the same manner described above for the Gas Utility Group. The results of my DCF analysis for the Combination Utility Group are presented in Exhibit WEA-4, with the sustainable, "br+sv" growth rates being developed on Exhibit WEA-5.

Q. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE EXTREME LOW OR HIGH OUTLIERS?

A. Yes. In applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

Q. HOW DID YOU EVALUATE DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. It is a basic economic principle that investors can be induced to hold more risky assets only if they expect to earn a return to compensate them for their risk bearing. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, the DCF results must be adjusted to eliminate estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds.

Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE PROXY GROUPS OF UTILITIES?

A. S&P corporate credit ratings for the firms in the Gas Utility Group ranged from "BBB-" to "A+", with Moody's monthly yields on triple-B and single-A bonds averaging approximately 4.9% and 4.3%, respectively, in November 2011.[20] It is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. Consistent with this principle, the DCF results for the Gas Utility and Combination Utility Groups must be adjusted to eliminate estimates that are determined to be extreme low outliers when compared against the yields available to investors from less risky utility bonds.

Q. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. In a 2002 opinion establishing its current precedent for determining ROEs for electric utilities, for example, FERC noted:

> An adjustment to this data is appropriate in the case of PG&E's low-end return of 8.42 percent, which is comparable to the average Moody's "A" grade public utility bond yield of 8.06 percent, for October 1999. Because investors cannot be expected to purchase stock if debt, which has less risk than stock, yields essentially the same return, this low-end return cannot be considered reliable in this case.[21]

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[20] Moody's Investors Service, www.credittrends.com.

[21] *Southern California Edison Company*, 92 FERC ¶ 61,070 at p. 22 (2000).

For gas utilities, FERC noted in *Kern River Gas Transmission Company* that:

> [T]he 7.31 and 7.32 percent costs of equity for El Paso and Williams found by the ALJ are only 110 and 122 basis points above that average yield for public utility debt.[22]

The Commission upheld the opinion of Staff and the Administrative Law Judge that cost of equity estimates for these two proxy group companies "were too low to be credible."[23]

The practice of eliminating low-end outliers has been affirmed in numerous FERC proceedings,[24] and in its April 15, 2010 decision in *SoCal Edison*, FERC affirmed that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[25]

Q. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. As indicated earlier, while corporate bond yields have declined substantially as the worst of the financial crisis has abated, it is generally expected that long-term interest rates will rise as the recession ends and the economy returns to a more normal pattern of growth. As shown in Table WEA-3 below, forecasts of IHS Global Insight and the EIA imply average single-A and triple-B bond yields of approximately 6.3% and 6.8%, respectively, over the period 2012-2015:

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[22] *Kern River Gas Transmission Company*, Opinion No. 486, 117 FERC ¶ 61,077 at P 140 & n. 227 (2006).
[23] *Id.*
[24] *See, e.g., Virginia Electric Power Co.*, 123 FERC ¶ 61,098 at P 64 (2008).
[25] *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").

TABLE WEA-3
IMPLIED BBB BOND YIELD

	2012-15
Projected AA Utility Yield	
IHS Global Insight (a)	5.39%
EIA (b)	6.57%
Average	5.98%
Current A - AA Yield Spread (c)	0.27%
Implied Single-A Utility Yield	**6.25%**
Current BBB - AA Yield Spread (c)	0.83%
Implied Triple-B Utility Yield	**6.81%**

(a) IHS Global Insight, *U.S. Economic Outlook* at 19 (Oct. 2011).
(b) Energy Information Administration, *Annual Energy Outlook 2011* (Apr. 26, 2011).
(c) Based on monthly average bond yields for the six-month period June - November 2011.

The increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely referenced Blue Chip Financial Forecasts, which projects that yields on corporate bonds will climb more than 100 basis points through the period 2013-2017.[26]

Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE INDIVIDUAL DCF ESTIMATES FOR THE PROXY GROUPS OF UTILITIES?

A. As highlighted on page 3 of 3 of Exhibit WEA-2 and WEA-4, low-end DCF estimates ranged from 1.7% to 6.9%, with many of these values being below current yields on utility bonds. In light of the risk-return tradeoff principle and the test applied in *SoCal Edison*, it is inconceivable that investors are not

[26] *Blue Chip Financial Forecasts*, Vol. 30, No. 12 (Dec. 1, 2011).

requiring a substantially higher rate of return for holding common stock, which is the riskiest of a utility's securities. As a result, consistent with the test of economic logic applied by FERC and the upward trend expected for utility bond yields, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

Q. DO YOU ALSO RECOMMEND EXCLUDING ESTIMATES AT THE HIGH END OF THE RANGE OF DCF RESULTS?

A. Yes. The upper end of the cost of common equity range produced for the Combination Utility Group was set by cost of equity estimates of 18.1% and 17.0%. When compared with the balance of the remaining estimates, these values are implausible and should be excluded in evaluating the results of the DCF model. This is also consistent with the precedent adopted by FERC, which has established that estimates found to be "extreme outliers" should be disregarded in interpreting the results of the DCF model.[27]

Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE GAS UTILITY GROUP?

A. As summarized in Table WEA-4, below, after eliminating illogical values, application of the constant growth DCF model to the firms in the Gas Utility Group resulted in cost of common equity estimates in the 8.2% to 10.1% range:

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[27] See, *e.g.*, *ISO New England, Inc.*, 109 FERC ¶ 61,147 at P 205 (2004).

TABLE WEA-4
DCF RESULTS –GAS UTILITY GROUP

Growth Rate	Average Cost of Equity
DPS	8.9%
EPS	
Value Line	10.1%
IBES	9.4%
Zacks	8.2%
br+sv	10.0%

Q. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE COMBINATION UTILITY GROUP?

A. As shown on page 3 of 3 of Exhibit WEA-4 and summarized in Table WEA-5, below, after eliminating illogical values, application of the constant growth DCF model resulted in cost of common equity estimates ranging from 9.1% to 10.3%:

TABLE WEA-5
DCF RESULTS – COMBINATION UTILITY GROUP

Growth Rate	Average Cost of Equity
DPS	9.8%
EPS	
Value Line	10.3%
IBES	10.1%
Zacks	9.4%
br+sv	9.1%

Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY GROUP?

A. The results of my constant growth DCF analysis for the Non-Utility Group, which mirror those for the two groups of utilities, are presented in Exhibit WEA-6. As summarized in Table WEA-6, below, after eliminating illogical low and high-end values, application of the constant growth DCF model resulted in cost of common equity estimates ranging from 10.6% to 12.0%:

TABLE WEA-6
DCF RESULTS – NON-UTILITY GROUP

Growth Rate	Average Cost of Equity
DPS	10.6%
EPS	
Value Line	11.7%
IBES	11.7%
Zacks	12.0%
br+sv	11.8%

As discussed earlier, reference to the Non-Utility Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition.

Q. DO THE HIGHER DCF ESTIMATES FOR THE NON-UTILITY GROUP DEMONSTRATE THAT THE RISKS OF THESE COMPANIES ARE GREATER THAN ATMOS?

A. No. While we are accustomed to associating higher risk with higher ROE, DCF estimates of investors' required rate of return do not always produce that result. Performing the DCF calculations for the Non-Utility Group produced ROE estimates that are higher than the DCF estimates for the proxy groups of utilities, even though the risks that investors associate with the group of non-utility firms – as measured by S&P's credit ratings and Value Line's Safety Rank, Financial Strength, and Beta – are lower than the risks investors associate with the Gas Utility and Combination Utility Groups. The actual cost of equity is unobservable, and DCF estimates may depart from these values because investors' expectations may not be captured by the inputs to the ROE model, particularly the assumed growth rate. Nevertheless, regulators have relied upon DCF calculations

for years in evaluating a fair ROE. The divergence between the DCF estimates for the utility and non-utility companies suggests that both should be considered to ensure a balanced end-result.

D. Capital Asset Pricing Model

Q. PLEASE DESCRIBE THE CAPM.

A. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where: R_j = required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and,
β_j = beta, or systematic risk, for stock j.

Like the DCF model, the CAPM is an *ex-ante,* or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q. HOW DID YOU APPLY THE CAPM TO ESTIMATE THE COST OF COMMON EQUITY?

A. Application of the CAPM to the proxy groups of utilities based on a forward-looking estimate for investors' required rate of return from common stocks is

presented on Exhibit WEA-8. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm was obtained from Value Line, and the growth rate was equal to the consensus earnings growth projections for each firm published by IBES, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 370 individual firms, current estimates imply an average growth rate over the next five years of 11.0%. Combining this average growth rate with a year-ahead dividend yield of 2.5% results in a current cost of common equity estimate for the market as a whole (R_m) of approximately 13.5%. Subtracting a 3.0% risk-free rate based on the average yield on 30-year Treasury bonds produced a market equity risk premium of 10.5%.

Q. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE CAPM?

A. I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. ... Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.[28]

Q. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE CAPM?

A. As explained by *Morningstar*:

> One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones.[29]

Because empirical research indicates that the CAPM does not fully account for observed differences in rates of return attributable to firm size, a modification is required to account for this size effect.

According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, Morningstar has developed size premiums that need to be added to the theoretical CAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the CAPM cost of

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[28] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).
[29] *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at p. 83 (footnote omitted).

equity.[30] Accordingly, my CAPM analyses incorporated an adjustment to recognize the impact of size distinctions, as measured by market capitalization.

Q. WHAT COST OF EQUITY ESTIMATE WAS INDICATED FOR THE GAS UTILITY GROUP BASED ON THIS FORWARD-LOOKING APPLICATION OF THE CAPM?

A. The average market capitalization of the Gas Utility Group is $2.4 billion. Based on data from *Morningstar*, this means that the theoretical CAPM cost of equity estimate must be increased by 181 basis points to account for the industry group's relatively smaller size. As shown on page 1 of 2 of Exhibit WEA-8, adjusting the 10.2% theoretical CAPM result to incorporate this size adjustment results in an average indicated cost of common equity of 12.0%.

Q. WHAT COST OF COMMON EQUITY WAS INDICATED FOR THE COMBINATION UTILITY GROUP BASED ON THIS FORWARD-LOOKING APPLICATION OF THE CAPM?

A. As shown on page 2 of 2 of Exhibit WEA-8, applying the forward-looking CAPM approach to the firms in the Combination Utility Group results in an average theoretical cost of equity estimate of 10.8%, or 11.6% after incorporating the size adjustment corresponding to the group's average market capitalization of $7.4 billion.

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[30] *Id.* at Table C-1.

Q. IS IT APPROPRIATE TO CONSIDER ANTICIPATED CAPITAL MARKET CHANGES IN APPLYING THE CAPM?

A. Yes. As discussed earlier, there is widespread consensus that interest rates will increase materially as the economy continues to strengthen. As a result, current bond yields are likely to understate capital market requirements at the time the outcome of this proceeding becomes effective. Accordingly, in addition to the use of current bond yields, I also applied the CAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight and Blue Chip.

Q. WHAT COST OF EQUITY WAS PRODUCED BY THE CAPM AFTER INCORPORATING FORECASTED BOND YIELDS?

A. As shown on page 1 of 2 of Exhibit WEA-9, incorporating a forecasted Treasury bond yield for 2012-2015 implied a cost of equity of approximately 10.7% for the Gas Utility Group, or 12.5% after adjusting for the impact of relative size. For the Combination Utility Group (page 2 of 2 of Exhibit WEA-9), projected bond yields implied a theoretical CAPM estimate of 11.2%, or 12.0% after incorporating the size adjustment.

Q. SHOULD THE CAPM APPROACH BE APPLIED USING HISTORICAL RATES OF RETURN?

A. No. The CAPM cost of common equity estimate is calibrated from investors' required risk premium between Treasury bonds and common stocks. In response to heightened uncertainties, investors have repeatedly sought a safe haven in U.S. government bonds and this "flight to safety" has pushed Treasury yields

significantly lower while yield spreads for corporate debt have widened. This distortion not only impacts the absolute level of the CAPM cost of equity estimate, but it affects estimated risk premiums. Economic logic would suggest that investors' required risk premium for common stocks over Treasury bonds has also increased.

Meanwhile, backward-looking approaches incorrectly assume that investors' assessment of the required risk premium between Treasury bonds and common stocks is constant, and equal to some historical average. At no time in recent history has the fallacy of this assumption been demonstrated more concretely. This incongruity between investors' current expectations and historical risk premiums is particularly relevant during periods of heightened uncertainty and rapidly changing capital market conditions, such as those experienced recently.[31]

Q. HAS THE FEDERAL RESERVE CONTINUED TO PURSUE A POLICY OF ACTIVELY MANAGING LONG-TERM GOVERNMENT BOND YIELDS?

A. Yes. In September 2011, the Federal Reserve announced "Operation Twist," involving the exchange of short-term Treasury instruments for longer-term government bonds, in an effort to put downward pressure on long-term interest rates. The ongoing potential for renewed turmoil in the capital markets has

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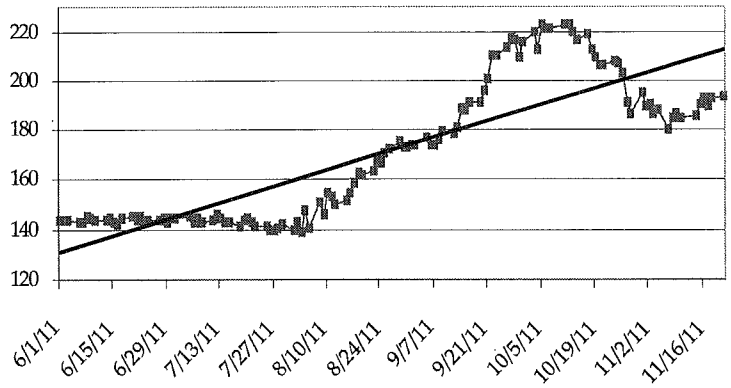
[31] FERC has previously rejected CAPM methodologies based on historical data because whatever historical relationships existed between debt and equity securities may no longer hold. *See Orange & Rockland Utils., Inc., 40 F.E.R.C. P63,053, at pp. 65,208 -09 (1987), aff'd, Opinion No. 314, 44 F.E.R.C. P61,253 at 65,208.*

certainly come to a head in recent months, with common stock prices exhibiting the dramatic volatility that is indicative of heightened sensitivity to risk.

Nowhere has this been more evident than in the market for Treasury bonds, with yields being pushed significantly lower due to a global "flight to safety" in the face of rising political, economic, and capital market risks. In turn, this has led to a dramatic increase in risk premiums, as illustrated by the spreads between triple-B utility bond yields and 30-year Treasuries shown in Figure WEA-1, below:

FIGURE WEA-1
YIELD SPREAD (BASIS POINTS) – BBB UTILITY – 30-YR. TREASURY



This increase in the yield spread indicates that the additional compensation investors demand to take on higher risks has increased. As S&P observed:

> Standard & Poor's U.S. speculative-grade composite spread, which measures the extra yield above U.S. Treasury bonds that investors demand to hold the bonds of riskier companies, widened by 63% to 781 basis points (bps) from April 18, 2011, to Sept. 30, 2011. This sharp expansion reflected the bond market's increasing aversion to credit risk in an uncertain and riskier environment. ... During periods of stress, correlations frequently increase among risky

> asset classes such as the relationship between the return on speculative-grade bonds and the return from equities.[32]

Equity risk premiums cannot be observed directly, but because common stock investors are the last in line with respect to their claim on a utility's cash flows, higher yield spreads imply an even steeper increase in the additional return required from an investment in common equity. In short, heightened capital market and economic uncertainties, and the increase in risk premiums demanded by investors, further undermine any reliance on historical studies to apply the CAPM.

E. Risk Premium Method

Q. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.

A. The risk premium method extends the risk-return tradeoff observed with bonds to estimate investors' required rate of return on common stocks. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. Like the DCF model, the risk premium method is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields.

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[32] Standard & Poor's Corporation, "Recent Expansion In Credit Spreads Shows Bond Market Stress, But Less Severe Than During The Financial Crisis," *RatingsDirect* (Oct. 11, 2011).

Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?

A. I based my estimates of equity risk premiums for utilities on surveys of previously authorized rates of return on common equity. Authorized returns presumably reflect regulatory commissions' best estimates of the cost of equity, however determined, at the time they issued their final order. Such returns should represent a balanced and impartial outcome that considers the need to maintain a utility's financial integrity and ability to attract capital. Moreover, allowed returns are an important consideration for investors and have the potential to influence other observable investment parameters, including credit ratings and borrowing costs. Thus, these data provide a logical and frequently referenced basis for estimating equity risk premiums for regulated utilities.

Q. IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON AUTHORIZED RETURNS IN ASSESSING A FAIR ROE FOR ATMOS?

A. No. In establishing authorized returns, regulators typically consider the results of alternative market-based approaches, including the DCF model. Because allowed risk premiums consider objective market data (*e.g.*, stock prices dividends, beta, and interest rates), and are not based strictly on past actions of other regulators, this mitigates concerns over any potential for circularity.

Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM APPROACH USING SURVEYS OF ALLOWED RATES OF RETURN?

A. Surveys of previously authorized rates of return on common equity are frequently referenced as the basis for estimating equity risk premiums. The rates of return on common equity authorized utilities by regulatory commissions across the U.S. are

compiled by Regulatory Research Associates and published in its *Regulatory Focus* report. In Exhibit WEA-10, the average yield on public utility bonds is subtracted from the average allowed rate of return on common equity for gas utilities to calculate equity risk premiums for each quarter between 1980 and 2011.[33] Over this period, these equity risk premiums for gas utilities averaged 3.12%, and the yield on public utility bonds averaged 8.95%.

Application of the risk premium method to electric utilities is shown in Exhibit WEA-11. Based on annual data over the period 1974 through 2010, equity risk premiums for electric utilities averaged 3.36%.[34]

Q. IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM METHOD?

A. Yes. There is considerable evidence that the magnitude of equity risk premiums is not constant and that equity risk premiums tend to move inversely with interest rates. In other words, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for a 1% increase or decrease in interest rates, the cost of equity may only rise or fall, say, 50 basis points. Therefore, when implementing the risk premium method, adjustments may be required to incorporate this inverse relationship if current

[33] My analysis encompasses the entire period for which published data is available.

[34] My analysis used annual data for electric utilities because quarterly information was not available for the entire 1974-2010 period. Again, my application of the risk premium method included the entire period for which published data is available.

interest rate levels have diverged from the average interest rate level represented in the data set.

Finally, it is important to recognize that the historical focus of the risk premium studies almost certainly ensures that they fail to fully capture the significantly greater risks that investors now associate with providing utility service. As a result, they are likely to understate the cost of equity for a firm operating in today's utility industry.

Q. WHAT COST OF EQUITY IS IMPLIED BY SURVEYS OF ALLOWED RATES OF RETURN ON EQUITY?

A. Based on the regression output between the interest rates and equity risk premiums displayed on page 4 of 4 of Exhibit WEA-10, the equity risk premium for gas utilities increased approximately 45 basis points for each percentage point drop in the yield on average public utility bonds. As illustrated on page 1 of 4 of Exhibit WEA-10, with the average yield on single-A public utility bonds in November 2011 being 4.25%, this implied a current equity risk premium of 5.24% for gas utilities. Adding this equity risk premium to the average yield on triple-B utility bonds of 4.93% implies a current cost of equity of approximately 10.2%.

As shown on page 1 of 4 of Exhibit WEA-11, applying this approach using data for electric utilities also resulted in an implied cost of equity of 10.2%.

Q. WHAT COST OF EQUITY WAS PRODUCED BY THE RISK PREMIUM APPROACH AFTER INCORPORATING FORECASTED BOND YIELDS?

A. As shown on page 2 of 4 of Exhibit WEA-10, incorporating a forecasted yield for 2012-2015 and adjusting for changes in interest rates since the study period implied an equity risk premium of 4.34% for gas utilities. Adding this equity risk premium to the implied yield on triple-B public utility bonds for 2012-2015 of 6.81% resulted in an implied cost of equity of approximately 11.2%. Considering projected bond yields in applying the risk premium approach to electric utilities suggested a cost of equity of approximately 11.3% (page 2 of 4 of Exhibit WEA-11).

F. Expected Earnings Approach

Q. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE COST OF COMMON EQUITY?

A. As I noted earlier, I also evaluated the cost of common equity using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair rate of return established by the U.S. Supreme Court in *Bluefield* and *Hope*. Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?

A. Value Line reports that its analysts anticipate an average rate of return on common equity for the gas and electric utility industries of 10.5% over its 2014-2016 forecast horizon.[35] For the firms in the Gas Utility Group specifically, the returns on common equity projected by Value Line over its three-to-five year forecast horizon are shown on page 1 of 2 of Exhibit WEA-12, with values for the Combination Utility Group being presented on page 2 of 2 of Exhibit WEA-12.

Consistent with the rationale underlying the development of the br+sv growth rates, these year-end values were converted to average returns using the same adjustment factor discussed earlier and developed on Exhibits WEA-3 and WEA-5, respectively. As shown on page 1 of 2 of Exhibit WEA-12, Value Line's projections for the Gas Utility Group suggested an average ROE of 11.5%. The average indicated ROE for the Combination Utility Group (page 2 of 2 of Exhibit WEA-12) was 10.6%.

G. Flotation Costs

Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN DETERMINING THE ROE FOR ATMOS?

A. The common equity used to finance the investment in utility assets is provided from either the sale of stock in the capital markets or from retained earnings not paid out as dividends. When equity is raised through the sale of common stock, there are costs associated with "floating" the new equity securities. These

[35] The Value Line Investment Survey at 541 (Dec. 9, 2011) and 137 (Nov. 25, 2011).

flotation costs include services such as legal, accounting, and printing, as well as the fees and discounts paid to compensate brokers for selling the stock to the public. Also, some argue that the "market pressure" from the additional supply of common stock and other market factors may further reduce the amount of funds that a utility nets when it issues common equity.

Q. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO RECOGNIZE EQUITY ISSUANCE COSTS?

A. No. While debt flotation costs are recorded on the books of the utility, amortized over the life of the issue, and thus increase the effective cost of debt capital, there is no similar accounting treatment to ensure that equity flotation costs are recorded and ultimately recognized. Alternatively, no rate of return is authorized on flotation costs necessarily incurred to obtain a portion of the equity capital used to finance plant. In other words, equity flotation costs are not included in a utility's rate base because neither that portion of the gross proceeds from the sale of common stock used to pay flotation costs is available to invest in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless some provision is made to recognize these issuance costs, a utility's revenue requirements will not fully reflect all of the costs incurred for the use of investors' funds. Because there is no accounting convention to accumulate the flotation costs associated with equity issues, they must be accounted for indirectly, with an upward adjustment to the cost of common equity being the most logical mechanism.

Q. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE "BARE BONES" COST OF COMMON EQUITY TO ACCOUNT FOR ISSUANCE COSTS?

A. While there are a number of ways in which a flotation cost adjustment can be calculated, one of the most common methods used to account for flotation costs in regulatory proceedings is to apply an average flotation-cost percentage to a utility's dividend yield. Based on a review of the finance literature, *New Regulatory Finance* concluded:

> The flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, depending on the size and risk of the issue.[36]

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6%.[37]

Issuance costs are a legitimate consideration in setting the return on equity for a utility, and applying these expense percentages to a representative dividend yield for a utility of 4.5% implies a flotation cost adjustment on the order of 16 to 45 basis points.

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[36] Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* at 323 (1994).

[37] Application of Yankee Gas Services Company for a Rate Increase, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost percentage of 3.6 percent.

IV. RECOMMENDED RETURN ON EQUITY

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. In addition to presenting the conclusions of my evaluation of a fair ROE on equity range for Atmos, this section also discusses the relationship between ROE and preservation of a utility's financial integrity and the ability to attract capital. In addition, I evaluate the reasonableness of the Company's requested capital structure.

A. Summary of Quantitative Results

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR QUANTITATIVE ANALYSES.

A. The cost of common equity estimates produced by the various capital market oriented analyses described in my testimony are summarized in Table WEA-7, below:

TABLE WEA-7
SUMMARY OF QUANTITATIVE RESULTS

DCF	Gas Utility	Combination Utility	Non-Utility
Dividend Growth	8.9%	9.8%	10.6%
Earnings Growth			
Value Line	10.1%	10.3%	11.7%
IBES	9.4%	10.1%	11.7%
Zacks	8.2%	9.4%	12.0%
br + sv	10.0%	9.1%	11.8%
CAPM - Current Bond Yield			
Unadjusted	10.2%	10.8%	
Size Adjusted	12.0%	11.6%	
CAPM - Projected Bond Yield			
Unadjusted	10.7%	11.2%	
Size Adjusted	12.5%	12.0%	
Utility Risk Premium			
Current Bond Yields	10.2%	10.2%	
Projected Bond Yields	11.1%	11.3%	
Expected Earnings			
Value Line 2014-16	10.5%	10.5%	
Utility Proxy Group	11.5%	10.6%	

Based on my assessment of the relative strengths and weaknesses inherent in each method, and conservatively giving less emphasis to the upper- and lower-most boundaries of the range of DCF results, I concluded that my analyses indicate a fair ROE in the 10.0% to 11.4% range. After incorporating an adjustment for flotation costs of 20 basis points to my "bare bones" cost of equity range, I concluded that my analyses indicate a fair ROE in the 10.2% to 11.6% range.

B. Implications for Financial Integrity

Q. WHY IS IT IMPORTANT TO ALLOW ATMOS AN ADEQUATE ROE?

A. Given the importance of the utility industry to the economy and society, it is essential to maintain reliable and economical service to all consumers. While Atmos remains committed to providing reliable gas utility service, a utility's

ability to fulfill its mandate can be compromised if it lacks the necessary financial wherewithal or is unable to earn a return sufficient to attract capital.

As documented earlier, the major rating agencies have warned of exposure to uncertainties associated with political and regulatory developments, especially in view of the current financial and operating pressures in the utility industry, and uncertain economic and financial market conditions. Investors understand just how swiftly unforeseen circumstances can lead to deterioration in a utility's financial condition, and stakeholders have discovered first hand how difficult and complex it can be to remedy the situation after the fact. Investors' increased reticence to supply additional capital during times of crisis highlights the need to preserve financial flexibility and the importance of allowing an adequate ROE.

Q. WHAT ROLE DOES REGULATION PLAY IN ENSURING THAT ATMOS HAS ACCESS TO CAPITAL UNDER REASONABLE TERMS AND ON A SUSTAINABLE BASIS?

A. Investors recognize that regulation has its own risks, and that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity, particularly during times of adverse conditions. Fitch concluded, "[G]iven the lingering rate of unemployment and voter concerns about the economy, there could well be pockets of adverse rate decisions, and those companies with little financial cushion could suffer adverse effects." [38] Moody's has also emphasized the need for regulatory support, concluding:

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[38] Fitch Ratings Ltd., "U.S. Utilities, Power and Gas 2010 Outlook," *Global Power North America Special Report* (Dec. 4, 2009).

> For the longer term, however, we are becoming increasingly concerned about possible changes to our fundamental assumptions about regulatory risk, particularly the prospect of a more adversarial political (and therefore regulatory) environment. A prolonged recessionary climate with high unemployment, or an intense period of inflation, could make cost recovery more uncertain.[39]

Similarly, S&P concluded, "the quality of regulation is at the forefront of our analysis of utility creditworthiness."[40]

Q. DO CUSTOMERS BENEFIT BY ENHANCING THE UTILITY'S FINANCIAL FLEXIBILITY?

A. Yes. Providing an ROE that is both commensurate with those available from investments of corresponding risk and sufficient to maintain the Company's ability to attract capital is consistent with the economic requirements embodied in the U.S. Supreme Court's *Bluefield* and *Hope* decisions; but it is also in customers' best interests. Ultimately, it is customers and the service area economy that enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure a reliable energy supply. By the same token, customers also bear a significant burden when the ability of the utility to attract capital is impaired and service quality is compromised.

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[39] Moody's Investors Service, "U.S. Regulated Electric Utilities, Six-Month Update," *Industry Outlook* (July 2009).

[40] Standard & Poor's Corporation, "Assessing U.S. Utility Regulatory Environments," *RatingsDirect* (Nov. 7, 2008).

C. Capital Structure

Q. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A. Yes. Other things equal, a higher debt ratio, or lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive his contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow, if any, that will remain.

Q. WHAT COMMON EQUITY RATIO IS IMPLICIT IN ATMOS'S REQUESTED CAPITAL STRUCTURE?

A. Atmos's capital structure is presented in the testimony of Mr. Joe Christian. As summarized there, common equity as a percent of the capital sources used to compute the overall ROE for Atmos was 51.66%.

Q. HOW CAN THE COMPANY'S REQUESTED CAPITAL STRUCTURE BE EVALUATED?

A. It is generally accepted that the norms established by comparable firms provide one valid benchmark against which to evaluate the reasonableness of a utility's capital structure. The capital structure maintained by other utilities should reflect their collective efforts to finance themselves so as to minimize capital costs while preserving their financial integrity and ability to attract capital. Moreover, these

industry capital structures should also incorporate the requirements of investors (both debt and equity), as well as the influence of regulators.

Q. WHAT IS THE AVERAGE CAPITALIZATION FOR THE GAS UTILITY GROUP?

A. As shown on page 1 of 2 of Exhibit WEA-13, for the firms in the Gas Utility Group, common equity ratios at fiscal year-end 2010 ranged between 45.2% and 63.9% and averaged 54.5% of long-term capital. Meanwhile, Value Line expects an average common equity ratio for the Gas Utility Group of 59.6% for its three-to-five year forecast horizon.

Q. WHAT AVERAGE CAPITALIZATION IS MAINTAINED BY THE COMBINATION UTILITY GROUP?

A. Capitalization ratios for the firms in the Combination Utility Group are shown on page 2 of 2 of Exhibit WEA-13. Common equity ratios at year-end 2010 ranged between 25.3% and 55.6% and averaged 45.7% of long-term capital for the Combination Utility Group, with Value Line projecting an average common equity ratio for 2014-2016 in the range of 31.5% to 58.5%, and averaging 48.5%.

Q. WHAT IMPLICATION DOES THE INCREASING RISK OF THE UTILITY INDUSTRY HAVE FOR THE CAPITAL STRUCTURE MAINTAINED BY ATMOS?

A. As discussed earlier, utilities are facing the potential for energy market volatility, rising cost structures, the need to finance significant capital investment plans, uncertainties over accommodating economic and financial market uncertainties, and ongoing regulatory risks. Taken together, these considerations warrant a

stronger balance sheet to deal with an increasingly uncertain environment. A more conservative financial profile, in the form of a higher common equity ratio, is consistent with increasing uncertainties and the need to maintain the continuous access to capital that is required to fund operations and necessary system investment, including times of adverse capital market conditions.

Moody's has repeatedly warned investors of the risks associated with debt leverage and fixed obligations and advised utilities not to squander the opportunity to strengthen the balance sheet as a buffer against future uncertainties.[41] More recently, Moody's concluded:

> From a credit perspective, we believe a strong balance sheet coupled with abundant sources of liquidity represents one of the best defenses against business and operating risk and potential negative ratings actions.[42]

Similarly, S&P noted that, "we generally consider a debt to capital level of 50% or greater to be aggressive or highly leveraged for utilities."[43]

Q. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO ATMOS'S PROPOSED CAPITAL STRUCTURE?

A. Based on my evaluation, I concluded that the Company's requested capital structure represents a reasonable mix of capital sources from which to calculate the overall rate of return. The 51.66% common equity ratio requested by Atmos is consistent with the range of capitalization maintained by the Combination

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[41] Moody's Investors Service, "Storm Clouds Gathering on the Horizon for the North American Electric Utility Sector," *Special Comment* (Aug. 2007); "U.S. Electric Utility Sector," *Industry Outlook* (Jan. 2008).
[42] Moody's Investors Service, "U.S. Electric Utilities Face Challenges Beyond Near-Term," *Industry Outlook* (Jan. 2010).
[43] Standard & Poor's Corporation, "Ratings Roundup: U.S. Electric Utility Sector Maintained Strong Credit Quality In A Gloomy 2009," *RatingsDirect* (Jan. 26, 2010).

Utility Group, but it falls short of the average for the Gas Utility Group at year-end 2010, and below the 59.6% average equity ratio based on Value Line's expectations for LDCs over the near-term.

While industry averages provide one benchmark for comparison, each firm must select its capitalization based on the risks and prospects it faces, as well its specific needs to access the capital markets. A public utility with an obligation to serve must maintain ready access to capital so that it can meet the service requirements of its customers. Atmos's proposed capital structure is consistent with industry benchmarks and reflects the Company's ongoing efforts to maintain its credit standing and support access to capital on reasonable terms. The reasonableness of the Company's requested capital structure is reinforced by the ongoing uncertainties associated with the utility industry, and the importance of supporting continued investment in system improvements, even during times of adverse industry or market conditions.

D. Return on Equity Recommendation

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR ANALYSES.

A. Reflecting the fact that investors' required return on equity is unobservable and no single method should be viewed in isolation, I used the DCF, CAPM, and risk premium methods, and referenced expected earned rates of return for utilities. In order to reflect the risks and prospects associated with Atmos's utility operations, my analyses focused on proxy groups of natural gas utilities and utilities with both gas and electric utility operations. Consistent with the fact that utilities must

compete for capital with firms outside their own industry, I also referenced a proxy group of low-risk companies in the non-utility sectors of the economy.

As noted earlier, I concluded that the cost of common equity indicated by my analyses is in the 10.0% to 11.4% range, or 10.2% to 11.6% after incorporating an adjustment for flotation costs.

Q. WHAT THEN IS YOUR CONCLUSION AS TO A FAIR ROE FOR ATMOS?

A. Considering capital market expectations, the potential exposures faced by Atmos, and the economic requirements necessary to maintain financial integrity and support additional capital investment even under adverse circumstances, it is my opinion that the midpoint of this range, or 10.9%, represents a fair and reasonable ROE for the Company.

Apart from the results of the quantitative methods summarized above, it is crucial to recognize the importance of supporting the Company's financial position so that Atmos remains prepared to respond to unforeseen events that may materialize in the future. Recent challenges in the economic and financial market environment highlight the imperative of maintaining the Company's financial strength in attracting the capital needed to secure reliable service at a lower cost for customers. The reasonableness of my recommended ROE is reinforced by Atmos's lower credit ratings relative to the average for the Gas Utility Group, and the fact that current cost of capital estimates are likely to understate investors' requirements at the time the outcome of this proceeding becomes effective and beyond.

Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?

A. Yes, it does.

VERIFICATION

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

William A. Avera, being duly sworn upon his oath, deposes and states that he is the President of FINCAP, Inc.; that he has read and is familiar with the foregoing Direct Testimony filed herewith; and that the statements made therein are true to the best of his knowledge, information and belief.

William A. Avera

Subscribed and sworn before me this 13th day of January, 2012.

Notary Public

My appointment expires: 1/10/2015

ADRIEN MCKENZIE
Notary Public
STATE OF TEXAS
My Comm. Exp. Jan. 10, 2015

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Summary of Qualifications

Ph.D. in economics and finance; Chartered Financial Analyst (CFA ®) designation; extensive expert witness testimony before courts, alternative dispute resolution panels, regulatory agencies and legislative committees; lectured in executive education programs around the world on ethics, investment analysis, and regulation; undergraduate and graduate teaching in business and economics; appointed to leadership positions in government, industry, academia, and the military.

Employment

Principal, FINCAP, Inc. (Sep. 1979 to present)	Financial, economic and policy consulting to business and government. Perform business and public policy research, cost/benefit analyses and financial modeling, valuation of businesses (almost 200 entities valued), estimation of damages, statistical and industry studies. Provide strategy advice and educational services in public and private sectors, and serve as expert witness before regulatory agencies, legislative committees, arbitration panels, and courts.
Director, Economic Research Division, Public Utility Commission of Texas (Dec. 1977 to Aug. 1979)	Responsible for research and testimony preparation on rate of return, rate structure, and econometric analysis dealing with energy, telecommunications, water and sewer utilities. Testified in major rate cases and appeared before legislative committees and served as Chief Economist for agency. Administered state and federal grant funds. Communicated frequently with political leaders and representatives from consumer groups, media, and investment community.
Manager, Financial Education, International Paper Company New York City (Feb. 1977 to Nov. 1977)	Directed corporate education programs in accounting, finance, and economics. Developed course materials, recruited and trained instructors, liaison within the company and with academic institutions. Prepared operating budget and designed financial controls for corporate professional development program.

Lecturer in Finance, The University of Texas at Austin (Sep. 1979 to May 1981) Assistant Professor of Finance, (Sep. 1975 to May 1977)	Taught graduate and undergraduate courses in financial management and investment theory. Conducted research in business and public policy. Named Outstanding Graduate Business Professor and received various administrative appointments.
Assistant Professor of Business, University of North Carolina at Chapel Hill (Sep. 1972 to Jul. 1975)	Taught in BBA, MBA, and Ph.D. programs. Created project course in finance, Financial Management for Women, and participated in developing Small Business Management sequence. Organized the North Carolina Institute for Investment Research, a group of financial institutions that supported academic research. Faculty advisor to the Media Board, which funds student publications and broadcast stations.

Education

Ph.D., Economics and Finance, University of North Carolina at Chapel Hill (Jan. 1969 to Aug. 1972)	Elective courses included financial management, public finance, monetary theory, and econometrics. Awarded the Stonier Fellowship by the American Bankers' Association and University Teaching Fellowship. Taught statistics, macroeconomics, and microeconomics. Dissertation: *The Geometric Mean Strategy as a Theory of Multiperiod Portfolio Choice*
B.A., Economics, Emory University, Atlanta, Georgia (Sep. 1961 to Jun. 1965)	Active in extracurricular activities, president of the Barkley Forum (debate team), Emory Religious Association, and Delta Tau Delta chapter. Individual awards and team championships at national collegiate debate tournaments.

Professional Associations

Received Chartered Financial Analyst (CFA) designation in 1977; Vice President for Membership, Financial Management Association; President, Austin Chapter of Planning Executives Institute; Board of Directors, North Carolina Society of Financial Analysts; Candidate Curriculum Committee, Association for Investment Management and Research; Executive Committee of Southern Finance Association; Vice Chair, Staff Subcommittee on Economics and National Association of Regulatory Utility Commissioners (NARUC); Appointed to NARUC Technical Subcommittee on the National Energy Act.

Teaching in Executive Education Programs

University-Sponsored Programs: Central Michigan University, Duke University, Louisiana State University, National Defense University, National University of Singapore, Texas A&M University, University of Kansas, University of North Carolina, University of Texas.

Business and Government-Sponsored Programs: Advanced Seminar on Earnings Regulation, American Public Welfare Association, Association for Investment Management and Research, Congressional Fellows Program, Cost of Capital Workshop, Electricity Consumers Resource Council, Financial Analysts Association of Indonesia, Financial Analysts Review, Financial Analysts Seminar at Northwestern University, Governor's Executive Development Program of Texas, Louisiana Association of Business and Industry, National Association of Purchasing Management, National Association of Tire Dealers, Planning Executives Institute, School of Banking of the South, State of Wisconsin Investment Board, Stock Exchange of Thailand, Texas Association of State Sponsored Computer Centers, Texas Bankers' Association, Texas Bar Association, Texas Savings and Loan League, Texas Society of CPAs, Tokyo Association of Foreign Banks, Union Bank of Switzerland, U.S. Department of State, U.S. Navy, U.S. Veterans Administration, in addition to Texas state agencies and major corporations.

Presented papers for Mills B. Lane Lecture Series at the University of Georgia and Heubner Lectures at the University of Pennsylvania. Taught graduate courses in finance and economics for evening program at St. Edward's University in Austin from January 1979 through 1998.

Expert Witness Testimony

Testified in over 300 cases before regulatory agencies addressing cost of capital, regulatory policy, rate design, and other economic and financial issues.

Federal Agencies: Federal Communications Commission, Federal Energy Regulatory Commission, Surface Transportation Board, Interstate Commerce Commission, and the Canadian Radio-Television and Telecommunications Commission.

State Regulatory Agencies: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nevada, New Mexico, Montana, Nebraska, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Testified in 42 cases before federal and state courts, arbitration panels, and alternative dispute tribunals (89 depositions given) regarding damages, valuation, antitrust liability, fiduciary duties, and other economic and financial issues.

Board Positions and Other Professional Activities

Audit Committee and Outside Director, Georgia System Operations Corporation (electric system operator for member-owned electric cooperatives in Georgia); Chairman, Board of Print Depot, Inc. and FINCAP, Inc.; Co-chair, Synchronous Interconnection Committee, appointed by Public Utility Commission of Texas and approved by governor; Appointed by Hays County Commission to Citizens Advisory Committee of Habitat Conservation Plan, Operator of AAA Ranch, a certified organic producer of agricultural products; Appointed to Organic Livestock Advisory Committee by Texas Agricultural Commissioner Susan Combs; Appointed by Texas Railroad Commissioners to study group for *The UP/SP Merger: An Assessment of the Impacts on the State of Texas; A*ppointed by Hawaii Public Utilities Commission to team reviewing affiliate relationships of Hawaiian Electric Industries; Chairman, Energy Task Force, Greater Austin-San Antonio Corridor Council; Consultant to Public Utility Commission of Texas on cogeneration policy and other matters; Consultant to

Public Service Commission of New Mexico on cogeneration policy; Evaluator of Energy Research Grant Proposals for Texas Higher Education Coordinating Board.

Community Activities

Board of Directors, Sustainable Food Center; Chair, Board of Deacons, Finance Committee, and Elder, Central Presbyterian Church of Austin; Founding Member, Orange-Chatham County (N.C.) Legal Aid Screening Committee.

Military

Captain, U.S. Naval Reserve (retired after 28 years service); Commanding Officer, Naval Special Warfare Engineering (SEAL) Support Unit; Officer-in-Charge of SWIFT patrol boat in Vietnam; Enlisted service as weather analyst (advanced to second class petty officer).

Bibliography

Monographs

Ethics and the Investment Professional (video, workbook, and instructor's guide) and *Ethics Challenge Today* (video), Association for Investment Management and Research (1995)

"Definition of Industry Ethics and Development of a Code" and "Applying Ethics in the Real World," in *Good Ethics: The Essential Element of a Firm's Success*, Association for Investment Management and Research (1994)

"On the Use of Security Analysts' Growth Projections in the DCF Model," with Bruce H. Fairchild in *Earnings Regulation Under Inflation*, J. R. Foster and S. R. Holmberg, eds. Institute for Study of Regulation (1982)

An Examination of the Concept of Using Relative Customer Class Risk to Set Target Rates of Return in Electric Cost-of-Service Studies, with Bruce H. Fairchild, Electricity Consumers Resource Council (ELCON) (1981); portions reprinted in *Public Utilities Fortnightly* (Nov. 11, 1982)

"Usefulness of Current Values to Investors and Creditors," *Research Study on Current-Value Accounting Measurements and Utility*, George M. Scott, ed., Touche Ross Foundation (1978)

"The Geometric Mean Strategy and Common Stock Investment Management," with Henry A. Latané in *Life Insurance Investment Policies*, David Cummins, ed. (1977)

Investment Companies: Analysis of Current Operations and Future Prospects, with J. Finley Lee and Glenn L. Wood, American College of Life Underwriters (1975)

Articles

"Should Analysts Own the Stocks they Cover?" *The Financial Journalist*, (March 2002)

"Liquidity, Exchange Listing, and Common Stock Performance," with John C. Groth and Kerry Cooper, *Journal of Economics and Business* (Spring 1985); reprinted by National Association of Security Dealers

"The Energy Crisis and the Homeowner: The Grief Process," *Texas Business Review* (Jan.–Feb. 1980); reprinted in *The Energy Picture: Problems and Prospects*, J. E. Pluta, ed., Bureau of Business Research (1980)

"Use of IFPS at the Public Utility Commission of Texas," *Proceedings of the IFPS Users Group Annual Meeting* (1979)

"Production Capacity Allocation: Conversion, CWIP, and One-Armed Economics," *Proceedings of the NARUC Biennial Regulatory Information Conference* (1978)

"Some Thoughts on the Rate of Return to Public Utility Companies," with Bruce H. Fairchild in *Proceedings of the NARUC Biennial Regulatory Information Conference* (1978)

"A New Capital Budgeting Measure: The Integration of Time, Liquidity, and Uncertainty," with David Cordell in *Proceedings of the Southwestern Finance Association* (1977)

"Usefulness of Current Values to Investors and Creditors," in *Inflation Accounting/Indexing and Stock Behavior* (1977)

"Consumer Expectations and the Economy," *Texas Business Review* (Nov. 1976)

"Portfolio Performance Evaluation and Long-run Capital Growth," with Henry A. Latané in *Proceedings of the Eastern Finance Association* (1973)

Book reviews in *Journal of Finance* and *Financial Review*. Abstracts for *CFA Digest*. Articles in *Carolina Financial Times*.

Selected Papers and Presentations

"Economic Perspective on Water Marketing in Texas," 2009 Water Law Institute, The University of Texas School of Law, Austin, TX (Dec. 2009).

"Estimating Utility Cost of Equity in Financial Turmoil," SNL EXNET 15th Annual FERC Briefing, Washington, D.C. (Mar. 2009)

"The Who, What, When, How, and Why of Ethics," San Antonio Financial Analysts Society (Jan. 16, 2002). Similar presentation given to the Austin Society of Financial Analysts (Jan. 17, 2002)

"Ethics for Financial Analysts," Sponsored by Canadian Council of Financial Analysts: delivered in Calgary, Edmonton, Regina, and Winnipeg, June 1997. Similar presentations given to Austin Society of Financial Analysts (Mar. 1994), San Antonio Society of Financial Analysts (Nov. 1985), and St. Louis Society of Financial Analysts (Feb. 1986)

"Cost of Capital for Multi-Divisional Corporations," Financial Management Association, New Orleans, Louisiana (Oct. 1996)

"Ethics and the Treasury Function," Government Treasurers Organization of Texas, Corpus Christi, Texas (Jun. 1996)

"A Cooperative Future," Iowa Association of Electric Cooperatives, Des Moines (December 1995). Similar presentations given to National G & T Conference, Irving, Texas (June 1995), Kentucky Association of Electric Cooperatives Annual Meeting, Louisville (Nov. 1994), Virginia, Maryland, and Delaware Association of Electric Cooperatives Annual Meeting, Richmond (July 1994), and Carolina Electric Cooperatives Annual Meeting, Raleigh (Mar. 1994)

"Information Superhighway Warnings: Speed Bumps on Wall Street and Detours from the Economy," Texas Society of Certified Public Accountants Natural Gas, Telecommunications and Electric Industries Conference, Austin (Apr. 1995)

"Economic/Wall Street Outlook," Carolinas Council of the Institute of Management Accountants, Myrtle Beach, South Carolina (May 1994). Similar presentation given to Bell Operating Company Accounting Witness Conference, Santa Fe, New Mexico (Apr. 1993)

"Regulatory Developments in Telecommunications," Regional Holding Company Financial and Accounting Conference, San Antonio (Sep. 1993)

"Estimating the Cost of Capital During the 1990s: Issues and Directions," The National Society of Rate of Return Analysts, Washington, D.C. (May 1992)

"Making Utility Regulation Work at the Public Utility Commission of Texas," Center for Legal and Regulatory Studies, University of Texas, Austin (June 1991)

"Can Regulation Compete for the Hearts and Minds of Industrial Customers," Emerging Issues of Competition in the Electric Utility Industry Conference, Austin (May 1988)

"The Role of Utilities in Fostering New Energy Technologies," Emerging Energy Technologies in Texas Conference, Austin (Mar. 1988)

"The Regulators' Perspective," Bellcore Economic Analysis Conference, San Antonio (Nov. 1987)

"Public Utility Commissions and the Nuclear Plant Contractor," Construction Litigation Superconference, Laguna Beach, California (Dec. 1986)

"Development of Cogeneration Policies in Texas," University of Georgia Fifth Annual Public Utilities Conference, Atlanta (Sep. 1985)

"Wheeling for Power Sales," Energy Bureau Cogeneration Conference, Houston (Nov. 1985).

"Asymmetric Discounting of Information and Relative Liquidity: Some Empirical Evidence for Common Stocks" (with John Groth and Kerry Cooper), Southern Finance Association, New Orleans (Nov. 1982)

"Used and Useful Planning Models," Planning Executive Institute, 27th Corporate Planning Conference, Los Angeles (Nov. 1979)

"Staff Input to Commission Rate of Return Decisions," The National Society of Rate of Return Analysts, New York (Oct. 1979)

""Discounted Cash Life: A New Measure of the Time Dimension in Capital Budgeting," with David Cordell, Southern Finance Association, New Orleans (Nov. 1978)

"The Relative Value of Statistics of Ex Post Common Stock Distributions to Explain Variance," with Charles G. Martin, Southern Finance Association, Atlanta (Nov. 1977)

"An ANOVA Representation of Common Stock Returns as a Framework for the Allocation of Portfolio Management Effort," with Charles G. Martin, Financial Management Association, Montreal (Oct. 1976)

"A Growth-Optimal Portfolio Selection Model with Finite Horizon," with Henry A. Latané, American Finance Association, San Francisco (Dec. 1974)

"An Optimal Approach to the Finance Decision," with Henry A. Latané, Southern Finance Association, Atlanta (Nov. 1974)

"A Pragmatic Approach to the Capital Structure Decision Based on Long-Run Growth," with Henry A. Latané, Financial Management Association, San Diego (Oct. 1974)

"Growth Rates, Expected Returns, and Variance in Portfolio Selection and Performance Evaluation," with Henry A. Latané, Econometric Society, Oslo, Norway (Aug. 1973)

DIVIDEND YIELD

	Company	(a) Price	(b) Dividends	Yield
1	Atmos Energy Corp.	$ 34.06	$ 1.38	4.1%
2	Laclede Group	$ 40.03	$ 1.65	4.1%
3	New Jersey Resources	$ 46.54	$ 1.52	3.3%
4	NiSource Inc.	$ 22.14	$ 0.92	4.2%
5	Northwest Natural Gas	$ 46.13	$ 1.74	3.8%
6	Piedmont Natural Gas	$ 31.37	$ 1.15	3.7%
7	South Jersey Industries	$ 54.60	$ 1.50	2.7%
8	Southwest Gas	$ 38.89	$ 1.06	2.7%
9	UGI Corp.	$ 28.42	$ 1.06	3.7%
10	WGL Holdings, Inc.	$ 41.97	$ 1.59	3.8%
	Average			**3.6%**

(a) Average of closing prices for 30 trading days ended Nov. 18, 2011.
(b) www.valueline.com (retrieved Dec. 12, 2011).

GROWTH RATES

	Company	(a) Dividend Growth	(a) Earnings Growth V Line	(b) Earnings Growth IBES	(c) Earnings Growth Zacks	(d) br+sv Growth
1	Atmos Energy Corp.	2.0%	5.0%	2.0%	4.3%	4.8%
2	Laclede Group	2.5%	2.5%	3.5%	3.0%	5.8%
3	New Jersey Resources	5.0%	5.0%	3.0%	4.5%	6.7%
4	NiSource Inc.	0.0%	9.0%	8.4%	NA	4.6%
5	Northwest Natural Gas	3.5%	4.5%	3.6%	4.3%	4.6%
6	Piedmont Natural Gas	3.5%	2.5%	5.2%	4.7%	1.9%
7	South Jersey Industries	9.5%	9.0%	8.7%	6.0%	11.0%
8	Southwest Gas	4.5%	9.0%	2.2%	5.3%	6.7%
9	UGI Corp.	7.5%	4.5%	0.2%	3.2%	8.9%
10	WGL Holdings, Inc.	2.5%	2.0%	4.6%	5.2%	4.1%

(a) The Value Line Investment Survey (Dec. 9, 2011).
(b) www.finance.yahoo.com (Retrieved Dec. 11, 2011).
(c) www.zacks.com (retrieved Dec. 11, 2011).
(d) See Exhibit WEA-3.

DCF COST OF EQUITY ESTIMATES

	Company	(a) Dividend Growth	(a) Earnings Growth V Line	(a) Earnings Growth IBES	(a) Earnings Growth Zacks	(a) br+sv Growth
1	Atmos Energy Corp.	6.1%	9.1%	6.1%	8.4%	8.9%
2	Laclede Group	6.6%	6.6%	7.6%	7.1%	9.9%
3	New Jersey Resources	8.3%	8.3%	6.3%	7.8%	9.9%
4	NiSource Inc.	4.2%	13.2%	12.5%	NA	8.8%
5	Northwest Natural Gas	7.3%	8.3%	7.4%	8.1%	8.4%
6	Piedmont Natural Gas	7.2%	6.2%	8.9%	8.4%	5.5%
7	South Jersey Industries	12.2%	11.7%	11.4%	8.7%	13.7%
8	Southwest Gas	7.2%	11.7%	4.9%	8.0%	9.4%
9	UGI Corp.	11.2%	8.2%	3.9%	6.9%	12.7%
10	WGL Holdings, Inc.	6.3%	5.8%	8.4%	9.0%	7.9%
	Average (b)	**8.9%**	**10.1%**	**9.4%**	**8.2%**	**10.0%**

(a) Sum of dividend yield (page 1) and respective growth rate (page 2).
(b) Excludes highlighted figures.

DCF MODEL - GAS UTILITY GROUP

BR+SV GROWTH RATE

		(a)	(a) 2015	(a)			(b) Adjustment	(c)		(d)	(e) "sv" Factor		
	Company	EPS	DPS	BVPS	b	r	Factor	Adjusted r	br	s	v	sv	br + sv
1	Atmos Energy Corp.	$2.70	$1.45	$30.10	46.3%	9.0%	1.0373	9.3%	4.3%	0.0360	0.1400	0.50%	**4.8%**
2	Laclede Group	$3.05	$1.80	$31.15	41.0%	9.8%	1.0414	10.2%	4.2%	0.0477	0.3442	1.64%	**5.8%**
3	New Jersey Resources	$3.35	$1.64	$24.25	51.0%	13.8%	1.0291	14.2%	7.3%	(0.0129)	0.4611	-0.59%	**6.7%**
4	NiSource Inc.	$1.85	$0.92	$20.90	50.3%	8.9%	1.0199	9.0%	4.5%	0.0048	0.1640	0.08%	**4.6%**
5	Northwest Natural Gas	$3.40	$1.90	$34.40	44.1%	9.9%	1.0289	10.2%	4.5%	0.0035	0.4017	0.14%	**4.6%**
6	Piedmont Natural Gas	$1.80	$1.31	$14.75	27.2%	12.2%	1.0037	12.2%	3.3%	(0.0267)	0.5462	-1.46%	**1.9%**
7	South Jersey Industries	$4.10	$2.10	$26.45	48.8%	15.5%	1.0456	16.2%	7.9%	0.0570	0.5400	3.08%	**11.0%**
8	Southwest Gas	$3.10	$1.25	$32.00	59.7%	9.7%	1.0319	10.0%	6.0%	0.0261	0.2889	0.76%	**6.7%**
9	UGI Corp.	$2.90	$1.25	$22.90	56.9%	12.7%	1.0450	13.2%	7.5%	0.0408	0.3457	1.41%	**8.9%**
10	WGL Holdings, Inc.	$2.75	$1.71	$27.65	37.8%	9.9%	1.0221	10.2%	3.8%	0.0083	0.3088	0.26%	**4.1%**

BR+SV GROWTH RATE

		(a)	(a)	(f)	(a)	(a)	(f)	(g)	(a)	(a)		(h)	(a)	(a)	(g)
		2010			2015			Chg	2015 Price				Common Shares		
	Company	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity	High	Low	Avg.	M/B	2010	2015	Growth
1	Atmos Energy Corp.	54.6%	$3,988	$2,177	51.0%	$6,200	$3,162	7.7%	$40.00	$30.00	$35.00	1.163	90.16	105.00	3.09%
2	Laclede Group	59.5%	$900	$535	60.0%	$1,350	$810	8.6%	$55.00	$40.00	$47.50	1.525	22.29	26.00	3.13%
3	New Jersey Resources	62.8%	$1,154	$725	66.0%	$1,470	$970	6.0%	$50.00	$40.00	$45.00	1.856	41.42	40.00	-0.70%
4	NiSource Inc.	45.3%	$10,859	$4,919	48.0%	$12,505	$6,002	4.1%	$30.00	$20.00	$25.00	1.196	279.30	285.00	0.40%
5	Northwest Natural Gas	53.5%	$1,295	$693	64.0%	$1,445	$925	5.9%	$65.00	$50.00	$57.50	1.672	26.67	26.95	0.21%
6	Piedmont Natural Gas	59.0%	$1,637	$966	50.0%	$2,005	$1,003	0.7%	$35.00	$30.00	$32.50	2.203	72.28	68.00	-1.21%
7	South Jersey Industries	62.6%	$910	$570	62.0%	$1,450	$899	9.6%	$65.00	$50.00	$57.50	2.174	29.87	34.00	2.62%
8	Southwest Gas	50.9%	$2,292	$1,167	53.5%	$3,000	$1,605	6.6%	$55.00	$35.00	$45.00	1.406	45.60	50.00	1.86%
9	UGI Corp.	56.0%	$3,257	$1,824	55.0%	$5,200	$2,860	9.4%	$40.00	$30.00	$35.00	1.528	109.59	125.00	2.67%
10	WGL Holdings, Inc.	65.0%	$1,774	$1,153	70.0%	$2,055	$1,439	4.5%	$45.00	$35.00	$40.00	1.447	50.54	52.00	0.57%

(a) The Value Line Investment Survey (Dec. 9, 2011).
(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(c) Product of average year-end "r" for 2015 and Adjustment Factor.
(d) Product of change in common shares outstanding and M/B Ratio.
(e) Computed as 1 - B/M Ratio.
(f) Product of total capital and equity ratio.
(g) Five-year rate of change.
(h) Average of High and Low expected market prices divided by 2015 BVPS.

DIVIDEND YIELD

	Company	(a) Price	(b) Dividends	Yield
1	Alliant Energy	$ 40.94	$ 1.70	4.2%
2	ALLETE	$ 38.66	$ 1.78	4.6%
3	Ameren Corp.	$ 31.63	$ 1.54	4.9%
4	Avista Corp.	$ 24.83	$ 1.10	4.4%
5	Black Hills Corp.	$ 32.83	$ 1.46	4.4%
6	CenterPoint Energy	$ 20.29	$ 0.79	3.9%
7	CMS Energy	$ 20.65	$ 0.84	4.1%
8	DTE Energy Co.	$ 51.38	$ 2.32	4.5%
9	Entergy Corp.	$ 68.25	$ 3.32	4.9%
10	Integrys Energy Group	$ 51.39	$ 2.72	5.3%
11	Pepco Holdings	$ 19.45	$ 1.08	5.6%
12	PG&E Corp.	$ 41.51	$ 1.82	4.4%
13	PPL Corp.	$ 29.28	$ 1.40	4.8%
14	Pub Sv Enterprise Grp	$ 33.47	$ 1.37	4.1%
15	SCANA Corp.	$ 42.03	$ 1.94	4.6%
16	Sempra Energy	$ 53.17	$ 1.92	3.6%
17	TECO Energy	$ 18.27	$ 0.85	4.7%
18	UIL Holdings	$ 33.58	$ 1.73	5.2%
	Average			**4.6%**

(a) Average of closing prices for 30 trading days ended Nov. 18, 2011.
(b) www.valueline.com (retrieved Nov. 17, 2011).

GROWTH RATES

	Company	(a) Dividend Growth	(a) Earnings Growth V Line	(b) Earnings Growth IBES	(c) Earnings Growth Zacks	(d) br+sv Growth
1	Alliant Energy	6.0%	7.0%	4.9%	6.0%	5.6%
2	ALLETE	2.0%	4.5%	6.0%	5.0%	3.3%
3	Ameren Corp.	-3.0%	-2.0%	-2.1%	4.0%	2.5%
4	Avista Corp.	9.0%	4.5%	4.7%	4.7%	3.1%
5	Black Hills Corp.	1.5%	8.5%	4.0%	5.0%	2.5%
6	CenterPoint Energy	3.0%	3.0%	6.2%	5.9%	4.1%
7	CMS Energy	14.0%	7.0%	5.9%	5.5%	4.8%
8	DTE Energy Co.	4.0%	4.5%	3.4%	4.2%	3.5%
9	Entergy Corp.	2.5%	1.5%	-3.2%	-0.6%	5.1%
10	Integrys Energy Group	0.0%	9.0%	9.4%	4.5%	3.1%
11	Pepco Holdings	1.0%	2.5%	7.5%	4.0%	2.6%
12	PG&E Corp.	4.5%	6.0%	1.7%	4.0%	6.0%
13	PPL Corp.	3.5%	7.0%	3.7%	12.2%	8.5%
14	Pub Sv Enterprise Grp	1.5%	1.0%	1.4%	2.0%	7.1%
15	SCANA Corp.	2.0%	3.0%	4.5%	4.2%	5.0%
16	Sempra Energy	9.0%	3.5%	7.3%	7.0%	6.1%
17	TECO Energy	4.5%	10.5%	5.4%	4.7%	5.7%
18	UIL Holdings	0.0%	3.0%	4.0%	4.0%	2.3%

(a) The Value Line Investment Survey (Sep. 23, Nov. 4, & Nov. 25, 2011).
(b) www.finance.yahoo.com (Retrieved Nov. 18, 2011).
(c) www.zacks.com (retrieved Nov. 18, 2011).
(d) See Exhibit WEA-5.

DCF COST OF EQUITY ESTIMATES

	Company	(a) Dividend Growth	(a) Earnings Growth V Line	(a) Earnings Growth IBES	(a) Earnings Growth Zacks	(a) br+sv Growth
1	Alliant Energy	10.2%	11.2%	9.1%	10.2%	9.7%
2	ALLETE	6.6%	9.1%	10.6%	9.6%	8.0%
3	Ameren Corp.	1.9%	2.9%	2.7%	8.9%	7.4%
4	Avista Corp.	13.4%	8.9%	9.1%	9.1%	7.5%
5	Black Hills Corp.	5.9%	12.9%	8.4%	9.4%	7.0%
6	CenterPoint Energy	6.9%	6.9%	10.1%	9.8%	8.0%
7	CMS Energy	18.1%	11.1%	10.0%	9.6%	8.9%
8	DTE Energy Co.	8.5%	9.0%	8.0%	8.7%	8.0%
9	Entergy Corp.	7.4%	6.4%	1.7%	4.3%	10.0%
10	Integrys Energy Group	5.3%	14.3%	14.7%	9.8%	8.4%
11	Pepco Holdings	6.6%	8.1%	13.1%	9.6%	8.2%
12	PG&E Corp.	8.9%	10.4%	6.1%	8.4%	10.3%
13	PPL Corp.	8.3%	11.8%	8.5%	17.0%	13.3%
14	Pub Sv Enterprise Grp	5.6%	5.1%	5.5%	6.1%	11.2%
15	SCANA Corp.	6.6%	7.6%	9.1%	8.8%	9.7%
16	Sempra Energy	12.6%	7.1%	10.9%	10.6%	9.7%
17	TECO Energy	9.2%	15.2%	10.1%	9.4%	10.4%
18	UIL Holdings	5.2%	8.2%	9.2%	9.2%	7.4%
	Average (b)	**9.8%**	**10.3%**	**10.1%**	**9.4%**	**9.1%**

(a) Sum of dividend yield (page 1) and respective growth rate (page 2).
(b) Excludes highlighted figures.

DCF MODEL - COMBINATION UTILITY GROUP

BR+SV GROWTH RATE

		(a)	(a)	(a)			(b)	(c)		(d)	(e)		
			2015				Adjustment			"sv" Factor			
	Company	EPS	DPS	BVPS	b	r	Factor	Adjusted r	br	s	v	sv	br + sv
1	Alliant Energy	$3.60	$2.10	$30.15	41.7%	11.9%	1.0192	12.2%	5.1%	0.0143	0.3653	0.52%	**5.6%**
2	ALLETE	$3.25	$1.95	$40.00	40.0%	8.1%	1.0300	8.4%	3.3%	0.0224	-	0.00%	**3.3%**
3	Ameren Corp.	$2.50	$1.54	$36.00	38.4%	6.9%	1.0174	7.1%	2.7%	0.0105	(0.2000)	-0.21%	**2.5%**
4	Avista Corp.	$2.00	$1.40	$22.75	30.0%	8.8%	1.0206	9.0%	2.7%	0.0152	0.2417	0.37%	**3.1%**
5	Black Hills Corp.	$2.25	$1.55	$30.50	31.1%	7.4%	1.0223	7.5%	2.3%	0.0294	0.0615	0.18%	**2.5%**
6	CenterPoint Energy	$1.35	$0.90	$12.00	33.3%	11.3%	1.0468	11.8%	3.9%	0.0041	0.4000	0.17%	**4.1%**
7	CMS Energy	$1.75	$1.10	$15.00	37.1%	11.7%	1.0334	12.1%	4.5%	0.0118	0.3023	0.36%	**4.8%**
8	DTE Energy Co.	$4.25	$2.70	$46.50	36.5%	9.1%	1.0187	9.3%	3.4%	0.0066	0.1913	0.13%	**3.5%**
9	Entergy Corp.	$7.00	$3.60	$65.00	48.6%	10.8%	1.0275	11.1%	5.4%	(0.0103)	0.2571	-0.27%	**5.1%**
10	Integrys Energy Group	$4.00	$2.72	$41.75	32.0%	9.6%	1.0122	9.7%	3.1%	0.0028	0.1211	0.03%	**3.1%**
11	Pepco Holdings	$1.65	$1.16	$21.20	29.7%	7.8%	1.0226	8.0%	2.4%	0.0240	0.1167	0.28%	**2.6%**
12	PG&E Corp.	$4.25	$2.20	$38.00	48.2%	11.2%	1.0360	11.6%	5.6%	0.0183	0.2000	0.37%	**6.0%**
13	PPL Corp.	$3.00	$1.70	$26.00	43.3%	11.5%	1.0774	12.4%	5.4%	0.1019	0.3067	3.12%	**8.5%**
14	Pub Sv Enterprise Grp	$3.25	$1.45	$26.00	55.4%	12.5%	1.0315	12.9%	7.1%	(0.0000)	0.3500	0.00%	**7.1%**
15	SCANA Corp.	$3.50	$2.10	$37.25	40.0%	9.4%	1.0444	9.8%	3.9%	0.0518	0.2158	1.12%	**5.0%**
16	Sempra Energy	$5.50	$2.50	$52.25	54.5%	10.5%	1.0354	10.9%	5.9%	0.0061	0.2536	0.16%	**6.1%**
17	TECO Energy	$1.75	$1.05	$13.25	40.0%	13.2%	1.0293	13.6%	5.4%	0.0076	0.3837	0.29%	**5.7%**
18	UIL Holdings	$2.35	$1.73	$27.00	26.4%	8.7%	1.0225	8.9%	2.3%	(0.0028)	0.2800	-0.08%	**2.3%**

BR+SV GROWTH RATE

		(a)	(a)	(f)	(a)	(a)	(f)	(g)	(a)	(a)		(h)	(a)	(a)	(g)
		2010			2015			Chg	2015 Price				Common Shares		
	Company	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity	High	Low	Avg.	M/B	2010	2015	Growth
1	Alliant Energy	49.5%	$5,841	$2,891	51.5%	$6,805	$3,505	3.9%	$55.00	$40.00	$47.50	1.575	110.89	116.00	0.91%
2	ALLETE	55.8%	$1,748	$975	58.5%	$2,250	$1,316	6.2%	$45.00	$35.00	$40.00	1.000	35.80	40.00	2.24%
3	Ameren Corp.	50.9%	$15,185	$7,729	53.5%	$17,200	$9,202	3.5%	$35.00	$25.00	$30.00	0.833	240.40	256.00	1.27%
4	Avista Corp.	48.4%	$2,325	$1,125	48.5%	$2,850	$1,382	4.2%	$35.00	$25.00	$30.00	1.319	57.12	60.50	1.16%
5	Black Hills Corp.	48.1%	$2,286	$1,100	50.0%	$2,750	$1,375	4.6%	$40.00	$25.00	$32.50	1.066	39.27	45.00	2.76%
6	CenterPoint Energy	26.2%	$12,199	$3,196	31.5%	$16,200	$5,103	9.8%	$25.00	$15.00	$20.00	1.667	424.70	430.00	0.25%
7	CMS Energy	29.5%	$9,473	$2,795	35.5%	$11,000	$3,905	6.9%	$25.00	$18.00	$21.50	1.433	249.60	260.00	0.82%
8	DTE Energy Co.	48.7%	$13,811	$6,726	48.0%	$16,900	$8,112	3.8%	$70.00	$45.00	$57.50	1.237	169.43	174.00	0.53%
9	Entergy Corp.	42.1%	$20,166	$8,490	42.5%	$26,300	$11,178	5.7%	$100.00	$75.00	$87.50	1.346	178.75	172.00	-0.77%
10	Integrys Energy Group	56.8%	$5,119	$2,907	54.5%	$6,025	$3,284	2.5%	$55.00	$40.00	$47.50	1.138	77.35	78.30	0.24%
11	Pepco Holdings	51.0%	$8,292	$4,229	52.0%	$10,200	$5,304	4.6%	$30.00	$18.00	$24.00	1.132	225.08	250.00	2.12%
12	PG&E Corp.	49.3%	$22,863	$11,271	53.5%	$30,200	$16,157	7.5%	$55.00	$40.00	$47.50	1.250	395.23	425.00	1.46%
13	PPL Corp.	39.8%	$20,621	$8,207	49.5%	$36,000	$17,820	16.8%	$45.00	$30.00	$37.50	1.442	483.39	680.00	7.06%
14	Pub Sv Enterprise Grp	55.2%	$17,452	$9,634	55.0%	$24,000	$13,200	6.5%	$45.00	$35.00	$40.00	1.538	505.97	505.90	0.00%
15	SCANA Corp.	47.1%	$7,854	$3,699	49.5%	$11,650	$5,767	9.3%	$55.00	$40.00	$47.50	1.275	127.00	155.00	4.07%
16	Sempra Energy	49.6%	$18,186	$9,020	51.0%	$25,200	$12,852	7.3%	$80.00	$60.00	$70.00	1.340	240.45	246.00	0.46%
17	TECO Energy	40.8%	$5,318	$2,170	47.5%	$6,125	$2,909	6.0%	$25.00	$18.00	$21.50	1.623	214.90	220.00	0.47%
18	UIL Holdings	41.6%	$2,588	$1,077	41.5%	$3,250	$1,349	4.6%	$45.00	$30.00	$37.50	1.389	50.51	50.00	-0.20%

(a) The Value Line Investment Survey (Sep. 23, Nov. 4, & Nov. 25, 2011).
(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(c) Product of average year-end "r" for 2015 and Adjustment Factor.
(d) Product of change in common shares outstanding and M/B Ratio.
(e) Computed as 1 - B/M Ratio.
(f) Product of total capital and equity ratio.
(g) Five-year rate of change.
(h) Average of High and Low expected market prices divided by 2015 BVPS.

NON-UTILITY GROUP

		(a)	(a)	(a)	(b)	(c)	(d)	(e)	(e)	(e)	(e)	(e)
		Dividend		EPS					EPS			
	Company	Yield	DPS	V Line	IBES	Zacks	br+sv	DPS	V Line	IBES	Zacks	br+sv
1	Abbott Labs.	3.55%	5.5%	8.5%	9.3%	8.0%	18.2%	9.1%	12.1%	12.8%	11.6%	21.8%
2	Amgen	1.93%	0.0%	7.5%	7.6%	8.8%	11.0%	1.9%	9.4%	9.5%	10.7%	12.9%
3	AT&T Inc.	5.94%	3.5%	7.5%	4.1%	6.2%	4.8%	9.4%	13.4%	10.1%	12.1%	10.8%
4	Automatic Data Proc.	2.73%	6.5%	7.5%	11.1%	10.3%	10.5%	9.2%	10.2%	13.9%	13.0%	13.2%
5	Bard (C.R.)	0.88%	5.5%	8.5%	10.5%	10.9%	20.3%	6.4%	9.4%	11.4%	11.8%	21.1%
6	Baxter Int'l Inc.	2.27%	7.0%	9.5%	9.5%	9.3%	16.3%	9.3%	11.8%	11.8%	11.6%	18.5%
7	Becton, Dickinson	2.09%	10.5%	9.0%	9.0%	9.2%	9.2%	12.6%	11.1%	11.0%	11.3%	11.3%
8	Bristol-Myers Squibb	4.00%	3.5%	8.0%	0.3%	1.5%	8.3%	7.5%	12.0%	4.3%	5.5%	12.3%
9	Brown-Forman 'B'	1.72%	5.0%	8.5%	9.8%	13.0%	11.7%	6.7%	10.2%	11.5%	14.7%	13.4%
10	Church & Dwight	1.53%	20.5%	10.5%	11.4%	11.8%	12.5%	22.0%	12.0%	12.9%	13.3%	14.0%
11	Coca-Cola	2.74%	9.5%	10.0%	8.0%	8.0%	10.3%	12.2%	12.7%	10.7%	10.7%	13.1%
12	Colgate-Palmolive	2.67%	10.5%	10.5%	9.0%	8.8%	6.3%	13.2%	13.2%	11.6%	11.5%	9.0%
13	ConAgra Foods	3.79%	6.0%	7.5%	7.1%	8.0%	6.7%	9.8%	11.3%	10.9%	11.8%	10.5%
14	Costco Wholesale	1.13%	8.0%	9.0%	13.3%	13.5%	8.6%	9.1%	10.1%	14.5%	14.6%	9.7%
15	Everest Re Group Ltd.	2.11%	0.5%	5.5%	10.0%	15.0%	7.4%	2.6%	7.6%	12.1%	17.1%	9.5%
16	Gen'l Mills	3.18%	10.5%	8.5%	7.9%	8.0%	9.0%	13.7%	11.7%	11.1%	11.2%	12.2%
17	Heinz (H.J.)	3.54%	5.0%	8.5%	8.0%	8.0%	14.3%	8.5%	12.0%	11.5%	11.5%	17.9%
18	Hormel Foods	1.94%	12.5%	10.0%	9.5%	9.3%	10.0%	14.4%	11.9%	11.4%	11.2%	11.9%
19	Johnson & Johnson	3.48%	7.0%	5.0%	5.9%	6.0%	8.7%	10.5%	8.5%	9.4%	9.5%	12.2%
20	Kellogg	3.12%	7.0%	8.5%	8.8%	9.0%	14.4%	10.1%	11.6%	12.0%	12.1%	17.5%
21	Kimberly-Clark	3.94%	3.5%	7.0%	5.8%	6.7%	12.4%	7.4%	10.9%	9.7%	10.6%	16.3%
22	Kraft Foods	3.27%	6.0%	8.5%	10.5%	8.0%	5.7%	9.3%	11.8%	13.8%	11.3%	8.9%
23	McCormick & Co.	2.26%	7.0%	14.5%	8.4%	9.0%	20.5%	9.3%	16.8%	10.6%	11.3%	22.8%
24	McDonald's Corp.	2.99%	9.5%	9.0%	10.0%	9.6%	9.4%	12.5%	12.0%	13.0%	12.6%	12.4%
25	McKesson Corp.	0.94%	13.5%	9.5%	14.0%	12.2%	12.6%	14.4%	10.4%	15.0%	13.1%	13.5%
26	PepsiCo, Inc.	3.32%	5.0%	9.5%	8.9%	8.0%	11.3%	8.3%	12.8%	12.2%	11.3%	14.7%
27	Pfizer, Inc.	4.03%	3.0%	10.5%	3.2%	5.0%	8.7%	7.0%	14.5%	7.2%	9.0%	12.7%
28	Procter & Gamble	3.22%	10.5%	10.0%	8.8%	9.0%	5.9%	13.7%	13.2%	12.0%	12.2%	9.1%
29	Raytheon Co.	4.16%	11.5%	5.5%	9.0%	9.0%	7.4%	15.7%	9.7%	13.2%	13.2%	11.5%
30	Sherwin-Williams	1.78%	7.5%	11.0%	10.5%	10.9%	14.5%	9.3%	12.8%	12.3%	12.7%	16.3%
31	Smucker (J.M.)	2.50%	8.0%	9.5%	6.8%	8.0%	7.3%	10.5%	12.0%	9.3%	10.5%	9.8%
32	Sysco Corp.	3.91%	4.0%	8.5%	6.9%	9.0%	13.2%	7.9%	12.4%	10.8%	12.9%	17.1%
33	Verizon Communic.	5.18%	2.0%	6.0%	10.1%	5.8%	6.8%	7.2%	11.2%	15.3%	11.0%	12.0%
34	Walgreen Co.	2.64%	20.5%	11.5%	9.4%	11.0%	5.3%	23.1%	14.1%	12.0%	13.6%	7.9%
35	Wal-Mart Stores	2.53%	13.0%	8.5%	9.0%	12.6%	7.4%	15.5%	11.0%	11.5%	15.1%	9.9%
	Average (f)							**10.6%**	**11.7%**	**11.7%**	**12.0%**	**11.8%**

(a) www.valueline.com (retrieved Nov. 2, 2011).
(b) www.finance.yahoo.com (retrieved Nov. 3, 2011).
(c) www.zacks.com (retrieved Nov. 7, 2011).
(d) See Exhibit WEA-7.
(e) Sum of dividend yield and respective growth rate.
(f) Excludes highlighted figures.

BR+SV GROWTH RATE

NON-UTILITY GROUP

		(a)	(a) 2015	(a)			(b) Adjust.	(c)		(d)	(e) "sv" Factor		
	Company	EPS	DPS	BVPS	b	r	Factor	Adj. r	br	s	v	sv	br + sv
1	Abbott Labs.	$6.00	$2.20	$20.50	63.3%	29.3%	1.0341	30.3%	19.2%	(0.0120)	0.7842	-0.94%	**18.2%**
2	Amgen	$7.10	$1.20	$45.45	83.1%	15.6%	1.0478	16.4%	13.6%	(0.0442)	0.5868	-2.59%	**11.0%**
3	AT&T Inc.	$3.35	$2.00	$25.80	40.3%	13.0%	1.0273	13.3%	5.4%	(0.0126)	0.4267	-0.54%	**4.8%**
4	Automatic Data Proc.	$3.60	$1.68	$20.20	53.3%	17.8%	1.0601	18.9%	10.1%	0.0050	0.7552	0.38%	**10.5%**
5	Bard (C.R.)	$8.25	$0.90	$38.85	89.1%	21.2%	1.0703	22.7%	20.2%	0.0003	0.7410	0.02%	**20.3%**
6	Baxter Int'l Inc.	$6.35	$1.60	$19.80	74.8%	32.1%	1.0420	33.4%	25.0%	(0.1148)	0.7600	-8.73%	**16.3%**
7	Becton, Dickinson	$8.00	$2.50	$37.70	68.8%	21.2%	1.0342	21.9%	15.1%	(0.0829)	0.7043	-5.84%	**9.2%**
8	Bristol-Myers Squibb	$2.65	$1.54	$11.65	41.9%	22.7%	1.0207	23.2%	9.7%	(0.0202)	0.7088	-1.43%	**8.3%**
9	Brown-Forman 'B'	$5.15	$1.60	$24.05	68.9%	21.4%	1.0456	22.4%	15.4%	(0.0516)	0.7251	-3.74%	**11.7%**
10	Church & Dwight	$3.10	$0.72	$19.70	76.8%	15.7%	1.0403	16.4%	12.6%	(0.0015)	0.6248	-0.09%	**12.5%**
11	Coca-Cola	$5.60	$2.80	$20.45	50.0%	27.4%	1.0372	28.4%	14.2%	(0.0469)	0.8260	-3.87%	**10.3%**
12	Colgate-Palmolive	$7.50	$3.20	$11.20	57.3%	67.0%	1.0588	70.9%	40.7%	(0.3710)	0.9253	-34.33%	**6.3%**
13	ConAgra Foods	$2.40	$1.10	$15.45	54.2%	15.5%	1.0239	15.9%	8.6%	(0.0367)	0.5246	-1.93%	**6.7%**
14	Costco Wholesale	$4.70	$1.10	$33.80	76.6%	13.9%	1.0246	14.2%	10.9%	(0.0344)	0.6781	-2.34%	**8.6%**
15	Everest Re Group Ltd.	$14.00	$2.00	$180.00	85.7%	7.8%	1.0359	8.1%	6.9%	(0.0119)	(0.4118)	0.49%	**7.4%**
16	Gen'l Mills	$3.40	$1.60	$14.30	52.9%	23.8%	1.0481	24.9%	13.2%	(0.0561)	0.7400	-4.15%	**9.0%**
17	Heinz (H.J.)	$4.80	$2.30	$20.65	52.1%	23.2%	1.0758	25.0%	13.0%	0.0179	0.7335	1.31%	**14.3%**
18	Hormel Foods	$2.25	$0.80	$15.10	64.4%	14.9%	1.0508	15.7%	10.1%	(0.0019)	0.6225	-0.12%	**10.0%**
19	Johnson & Johnson	$6.20	$2.91	$35.95	53.1%	17.2%	1.0524	18.1%	9.6%	(0.0148)	0.6114	-0.91%	**8.7%**
20	Kellogg	$5.20	$2.15	$9.90	58.7%	52.5%	1.0400	54.6%	32.0%	(0.1998)	0.8835	-17.65%	**14.4%**
21	Kimberly-Clark	$6.60	$3.00	$20.00	54.5%	33.0%	1.0236	33.8%	18.4%	(0.0769)	0.7895	-6.07%	**12.4%**
22	Kraft Foods	$3.25	$1.60	$32.40	50.8%	10.0%	1.0478	10.5%	5.3%	0.0081	0.4109	0.33%	**5.7%**
23	McCormick & Co.	$5.30	$1.44	$23.20	72.8%	22.8%	1.0783	24.6%	17.9%	0.0328	0.7790	2.56%	**20.5%**
24	McDonald's Corp.	$6.80	$3.25	$18.40	52.2%	37.0%	1.0179	37.6%	19.6%	(0.1225)	0.8327	-10.20%	**9.4%**
25	McKesson Corp.	$8.05	$1.20	$50.75	85.1%	15.9%	1.0501	16.7%	14.2%	(0.0301)	0.5386	-1.62%	**12.6%**
26	PepsiCo, Inc.	$6.20	$2.34	$26.75	62.3%	23.2%	1.0621	24.6%	15.3%	(0.0509)	0.7816	-3.98%	**11.3%**
27	Pfizer, Inc.	$2.10	$1.12	$11.25	46.7%	18.7%	1.0025	18.7%	8.7%	(0.0007)	0.5909	-0.04%	**8.7%**
28	Procter & Gamble	$5.95	$3.00	$32.85	49.6%	18.1%	1.0334	18.7%	9.3%	(0.0507)	0.6715	-3.40%	**5.9%**
29	Raytheon Co.	$6.25	$2.50	$41.40	60.0%	15.1%	1.0306	15.6%	9.3%	(0.0426)	0.4658	-1.98%	**7.4%**
30	Sherwin-Williams	$7.50	$2.20	$31.50	70.7%	23.8%	1.0671	25.4%	18.0%	(0.0481)	0.7200	-3.47%	**14.5%**
31	Smucker (J.M.)	$7.50	$2.32	$64.70	69.1%	11.6%	1.0268	11.9%	8.2%	(0.0224)	0.4249	-0.95%	**7.3%**
32	Sysco Corp.	$2.90	$1.20	$12.35	58.6%	23.5%	1.0617	24.9%	14.6%	(0.0186)	0.7530	-1.40%	**13.2%**
33	Verizon Communic.	$3.40	$2.12	$19.00	37.6%	17.9%	1.0328	18.5%	7.0%	(0.0018)	0.6833	-0.12%	**6.8%**
34	Walgreen Co.	$4.10	$1.50	$20.30	63.4%	20.2%	1.0121	20.4%	13.0%	(0.1085)	0.7100	-7.70%	**5.3%**
35	Wal-Mart Stores	$6.00	$2.20	$24.20	63.3%	24.8%	1.0025	24.9%	15.7%	(0.1210)	0.6877	-8.32%	**7.4%**

NON-UTILITY GROUP

		(a)	(a)	(f)	(a)	(a)		(g)	(a)	(a)	(f)
		---- Common Equity ----			---------- 2015 Price ----------				----- Common Shares -----		
	Company	2010	2015	Chg.	High	Low	Avg.	M/B	2010	2015	Growth
1	Abbott Labs.	$22,388	$31,500	7.1%	$100.00	$90.00	$95.00	4.634	1,555.00	1,535.00	-0.26%
2	Amgen	$23,944	$38,625	10.0%	$120.00	$100.00	$110.00	2.420	932.00	850.00	-1.83%
3	AT&T Inc.	$111,956	$147,060	5.6%	$50.00	$40.00	$45.00	1.744	5,911.10	5,700.00	-0.72%
4	Automatic Data Proc.	$5,479	$10,000	12.8%	$90.00	$75.00	$82.50	4.084	492.00	495.00	0.12%
5	Bard (C.R.)	$1,632	$3,300	15.1%	$165.00	$135.00	$150.00	3.861	84.97	85.00	0.01%
6	Baxter Int'l Inc.	$6,567	$10,000	8.8%	$90.00	$75.00	$82.50	4.167	580.73	505.00	-2.76%
7	Becton, Dickinson	$5,435	$7,655	7.1%	$140.00	$115.00	$127.50	3.382	229.82	203.00	-2.45%
8	Bristol-Myers Squibb	$15,638	$19,230	4.2%	$45.00	$35.00	$40.00	3.433	1,699.30	1,650.00	-0.59%
9	Brown-Forman 'B'	$2,060	$3,250	9.5%	$95.00	$80.00	$87.50	3.638	144.99	135.00	-1.42%
10	Church & Dwight	$1,871	$2,800	8.4%	$60.00	$45.00	$52.50	2.665	142.40	142.00	-0.06%
11	Coca-Cola	$31,003	$45,000	7.7%	$130.00	$105.00	$117.50	5.746	2,292.00	2,200.00	-0.82%
12	Colgate-Palmolive	$2,675	$4,820	12.5%	$165.00	$135.00	$150.00	13.393	494.85	430.00	-2.77%
13	ConAgra Foods	$4,924	$6,255	4.9%	$35.00	$30.00	$32.50	2.104	442.27	405.00	-1.75%
14	Costco Wholesale	$10,829	$13,855	5.1%	$115.00	$95.00	$105.00	3.107	433.51	410.00	-1.11%
15	Everest Re Group Ltd.	$6,284	$9,000	7.5%	$140.00	$115.00	$127.50	0.708	54.43	50.00	-1.68%
16	Gen'l Mills	$5,403	$8,740	10.1%	$60.00	$50.00	$55.00	3.846	656.50	610.00	-1.46%
17	Heinz (H.J.)	$3,183	$6,800	16.4%	$85.00	$70.00	$77.50	3.753	321.28	329.00	0.48%
18	Hormel Foods	$2,407	$4,000	10.7%	$45.00	$35.00	$40.00	2.649	265.96	265.00	-0.07%
19	Johnson & Johnson	$56,579	$95,600	11.1%	$100.00	$85.00	$92.50	2.573	2,738.10	2,660.00	-0.58%
20	Kellogg	$2,158	$3,220	8.3%	$95.00	$75.00	$85.00	8.586	365.60	325.00	-2.33%
21	Kimberly-Clark	$5,917	$7,490	4.8%	$105.00	$85.00	$95.00	4.750	406.90	375.00	-1.62%
22	Kraft Foods	$35,942	$58,000	10.0%	$60.00	$50.00	$55.00	1.698	1,748.10	1,790.00	0.47%
23	McCormick & Co.	$1,463	$3,205	17.0%	$115.00	$95.00	$105.00	4.526	133.10	138.00	0.73%
24	McDonald's Corp.	$14,634	$17,500	3.6%	$120.00	$100.00	$110.00	5.978	1,053.60	950.00	-2.05%
25	McKesson Corp.	$7,220	$11,925	10.6%	$120.00	$100.00	$110.00	2.167	252.00	235.00	-1.39%
26	PepsiCo, Inc.	$21,476	$40,000	13.2%	$135.00	$110.00	$122.50	4.579	1,581.00	1,495.00	-1.11%
27	Pfizer, Inc.	$87,813	$90,000	0.5%	$30.00	$25.00	$27.50	2.444	8,012.00	8,000.00	-0.03%
28	Procter & Gamble	$61,439	$85,775	6.9%	$110.00	$90.00	$100.00	3.044	2,838.50	2,610.00	-1.66%
29	Raytheon Co.	$9,754	$13,250	6.3%	$85.00	$70.00	$77.50	1.872	359.00	320.00	-2.27%
30	Sherwin-Williams	$1,609	$3,150	14.4%	$125.00	$100.00	$112.50	3.571	107.02	100.00	-1.35%
31	Smucker (J.M.)	$5,292	$6,920	5.5%	$125.00	$100.00	$112.50	1.739	114.17	107.00	-1.29%
32	Sysco Corp.	$3,828	$7,100	13.2%	$55.00	$45.00	$50.00	4.049	588.38	575.00	-0.46%
33	Verizon Communic.	$38,575	$53,580	6.8%	$65.00	$55.00	$60.00	3.158	2,828.10	2,820.00	-0.06%
34	Walgreen Co.	$14,400	$16,250	2.4%	$75.00	$65.00	$70.00	3.448	938.61	800.00	-3.15%
35	Wal-Mart Stores	$68,542	$70,245	0.5%	$85.00	$70.00	$77.50	3.202	3,516.00	2,900.00	-3.78%

(a) www.valueline.com (retrieved Nov. 2, 2011).
(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(c) Product of year-end "r" for 2015 and Adjustment Factor.
(d) Product of change in common shares outstanding and M/B Ratio.
(e) Computed as 1 - B/M Ratio.
(f) Five-year rate of change.
(g) Average of High and Low expected market prices divided by 2015 BVPS.

CAPM - CURRENT BOND YIELD

GAS UTILITY GROUP

Market Rate of Return		
Dividend Yield (a)	2.5%	
Growth Rate (b)	11.0%	
Market Return (c)		13.5%
Less: Risk-Free Rate (d)		
Long-term Treasury Bond Yield		3.0%
Market Risk Premium (e)		10.5%
Utility Proxy Group Beta (f)		0.69
Risk Premium (g)		7.2%
Plus: Risk-free Rate (d)		
Long-term Treasury Bond Yield		3.0%
Unadjusted CAPM (h)		10.2%
Size Adjustment (i)		1.81%
Implied Cost of Equity (j)		**12.0%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Nov. 2, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Nov. 15, 2011).
(c) (a) + (b)
(d) Average yield on 30-year Treasury bonds for November 2011 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data/Monthly/H15_TCMNOM_Y20.txt.
(e) (c) - (d).
(f) www.valueline.com (retrieved Nov. 17, 2011).
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at Table 7-5 (2011).
(j) (h) + (i).

COMBINATION UTILITY GROUP

Market Rate of Return		
Dividend Yield (a)	2.5%	
Growth Rate (b)	11.0%	
Market Return (c)		13.5%
Less: Risk-Free Rate (d)		
Long-term Treasury Bond Yield		3.0%
Market Risk Premium (e)		10.5%
Utility Proxy Group Beta (f)		0.74
Risk Premium (g)		7.8%
Plus: Risk-free Rate (d)		
Long-term Treasury Bond Yield		3.0%
Unadjusted CAPM (h)		10.8%
Size Adjustment (i)		0.81%
Implied Cost of Equity (j)		**11.6%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Nov. 2, 2011).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Nov. 15, 2011).
(c) (a) + (b)
(d) Average yield on 30-year Treasury bonds for November 2011 from the Federal Reserve Board at http://www.federalreserve.gov/releases/h15/data/Monthly/H15_TCMNOM_Y20.txt.
(e) (c) - (d).
(f) www.valueline.com (retrieved Nov. 17, 2011).
(g) (e) x (f).
(h) (d) + (g).
(i) *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at Table 7-5 (2011).
(j) (h) + (i).

CAPM - PROJECTED BOND YIELD **Exhibit WEA-9**

GAS UTILITY GROUP

Market Rate of Return		
Dividend Yield (a)	2.5%	
Growth Rate (b)	11.0%	
Market Return (c)		13.6%
Less: Risk-Free Rate (d)		
Projected Long-term Treasury Bond Yield		4.3%
Market Risk Premium (e)		9.2%
Utility Proxy Group Beta (f)		0.69
Risk Premium (g)		6.3%
Plus: Risk-free Rate (d)		
Projected Long-term Treasury Bond Yield		4.3%
Unadjusted CAPM (h)		10.7%
Size Adjustment (i)		1.81%
Implied Cost of Equity (j)		**12.5%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Nov. 2, 2011).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Nov. 15, 2011).

(c) (a) + (b)

(d) Average projected 30-year Treasury bond yield for 2012-2015 based on data from the Value Line Investment Survey, *Forecast for the U.S. Economy* (Nov. 25, 2011), IHS Global Insight, *U.S. Economic Outlook* at 25 (Dec. 2011), Blue Chip Financial Forecasts, Vol. 30, No. 12 (Dec. 1, 2011).

(e) (c) - (d).

(f) www.valueline.com (retrieved Nov. 17, 2011).

(g) (e) x (f).

(h) (d) + (g).

(i) *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at Table 7-5 (2011).

(j) (h) + (i).

CAPM - PROJECTED BOND YIELD

COMBINATION UTILITY GROUP

Market Rate of Return		
Dividend Yield (a)	2.5%	
Growth Rate (b)	11.0%	
Market Return (c)		13.6%
Less: Risk-Free Rate (d)		
Projected Long-term Treasury Bond Yield		4.3%
Market Risk Premium (e)		9.2%
Utility Proxy Group Beta (f)		0.74
Risk Premium (g)		6.9%
Plus: Risk-free Rate (d)		
Projected Long-term Treasury Bond Yield		4.3%
Unadjusted CAPM (h)		11.2%
Size Adjustment (i)		0.81%
Implied Cost of Equity (j)		**12.0%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (retrieved Nov. 2, 2011).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 (retrieved Nov. 15, 2011).

(c) (a) + (b)

(d) Average projected 30-year Treasury bond yield for 2012-2015 based on data from the Value Line Investment Survey, *Forecast for the U.S. Economy* (Nov. 25, 2011), IHS Global Insight, *U.S. Economic Outlook* at 25 (Dec. 2011), Blue Chip Financial Forecasts, Vol. 30, No. 12 (Dec. 1, 2011).

(e) (c) - (d).

(f) www.valueline.com (retrieved Nov. 17, 2011).

(g) (e) x (f).

(h) (d) + (g).

(i) *Morningstar*, "Ibbotson SBBI 2011 Valuation Yearbook," at Table 7-5 (2011).

(j) (h) + (i).

GAS UTILITY RISK PREMIUM **Exhibit WEA-10**

CURRENT BOND YIELDS

Current Equity Risk Premium	
(a) Avg. Yield over Study Period	8.95%
(b) Nov. 2011 Single-A Utility Bond Yield	4.25%
Change in Bond Yield	-4.70%
(c) Risk Premium/Interest Rate Relationship	-0.4518
Adjustment to Average Risk Premium	2.12%
(a) Average Risk Premium over Study Period	3.12%
Adjusted Risk Premium	**5.24%**
Implied Cost of Equity	
(b) Nov. 2011 BBB Utility Bond Yield	4.93%
Adjusted Equity Risk Premium	5.24%
Risk Premium Cost of Equity	**10.17%**

(a) Exhibit WEA-10, page 3.
(b) Moody's Investors Service, www.creditrends.com.
(c) Exhibit WEA-10, page 4.

PROJECTED BOND YIELDS

Current Equity Risk Premium		
(a)	Avg. Yield over Study Period	8.95%
(b)	Projected Single-A Utility Bond Yield 2012-15	6.25%
	Change in Bond Yield	-2.69%
(c)	Risk Premium/Interest Rate Relationship	-0.4518
	Adjustment to Average Risk Premium	1.22%
(a)	Average Risk Premium over Study Period	3.12%
	Adjusted Risk Premium	**4.34%**
Implied Cost of Equity		
(b)	Projected Triple-B Utility Bond Yield 2012-15	6.81%
	Adjusted Equity Risk Premium	4.34%
	Risk Premium Cost of Equity	**11.15%**

(a) Exhibit WEA-10, page 3.

(b) Projected yields on utility bonds for 2012-15 based on data from IHS Global Insight, U.S. Economic Outlook at 19 (Oct. 2011), Energy Information Administration, Annual Energy Outlook 2011 (Apr. 26, 2011), and Moody's Investors Service at www.credittrends.com.

(c) Exhibit WEA-10, page 4.

Year	Qtr.		(a) Allowed ROE	(b) Single-A Utility Bond Yield	Risk Premium
1980	1		13.45%	13.49%	-0.04%
	2		14.38%	12.87%	1.51%
	3		13.87%	12.88%	0.99%
	4		14.35%	14.11%	0.24%
1981	1		14.69%	14.77%	-0.08%
	2		14.61%	15.82%	-1.21%
	3		14.86%	16.65%	-1.79%
	4		15.70%	16.57%	-0.87%
1982	1		15.55%	16.72%	-1.17%
	2		15.62%	16.26%	-0.64%
	3		15.72%	15.88%	-0.16%
	4		15.62%	14.56%	1.06%
1983	1		15.41%	14.15%	1.26%
	2		14.84%	13.58%	1.26%
	3		15.24%	13.52%	1.72%
	4		15.41%	13.38%	2.03%
1984	1		15.39%	13.56%	1.83%
	2		15.07%	14.72%	0.35%
	3		15.37%	14.47%	0.90%
	4		15.33%	13.38%	1.95%
1985	1		15.03%	13.31%	1.72%
	2		15.44%	12.95%	2.49%
	3		14.64%	12.11%	2.53%
	4		14.44%	11.49%	2.95%
1986	1		14.05%	10.18%	3.87%
	2		13.28%	9.41%	3.87%
	3		13.09%	9.39%	3.70%
	4		13.62%	9.31%	4.31%
1987	1		12.61%	8.96%	3.65%
	2		13.13%	9.77%	3.36%
	3		12.56%	10.61%	1.95%
	4		12.73%	11.05%	1.68%
1988	1		12.94%	10.32%	2.62%
	2		12.48%	10.71%	1.77%
	3		12.79%	10.94%	1.85%
	4		12.98%	9.98%	3.00%
1989	1		12.99%	10.13%	2.86%
	2		13.25%	9.94%	3.31%
	3		12.56%	9.53%	3.03%
	4		12.94%	9.50%	3.44%
1990	1		12.60%	9.72%	2.88%
	2		12.81%	9.91%	2.90%
	3		12.34%	9.93%	2.41%
	4		12.77%	9.89%	2.88%
1991	1		12.69%	9.58%	3.11%
	2		12.53%	9.50%	3.03%
	3		12.43%	9.33%	3.10%
	4		12.38%	9.02%	3.36%
1992	1		12.42%	8.91%	3.51%
	2		11.98%	8.86%	3.12%
	3		11.87%	8.47%	3.40%
	4		11.94%	8.53%	3.41%
1993	1		11.75%	8.07%	3.68%
	2		11.71%	7.81%	3.90%
	3		11.39%	7.28%	4.11%
	4		11.15%	7.22%	3.93%
1994	1		11.12%	7.55%	3.57%
	2		10.81%	8.29%	2.52%
	3		10.95%	8.51%	2.44%
	4	(c)	11.64%	8.87%	2.77%
1995	2		11.00%	7.93%	3.07%
	3		11.07%	7.72%	3.35%
	4		11.56%	7.37%	4.19%
1996	1		11.45%	7.44%	4.01%
	2		10.88%	7.98%	2.90%
	3		11.25%	7.96%	3.29%
	4		11.32%	7.62%	3.70%
1997	1		11.31%	7.76%	3.55%
	2		11.70%	7.88%	3.82%
	3		12.00%	7.49%	4.51%
	4	(c)	11.01%	7.25%	3.76%
1998	2		11.37%	7.12%	4.25%
	3		11.41%	6.99%	4.42%
	4		11.69%	6.97%	4.72%
1999	1		10.82%	7.11%	3.71%
	2	(c)	10.82%	7.48%	3.34%
	4		10.33%	8.05%	2.28%
2000	1		10.71%	8.29%	2.42%
	2		11.08%	8.45%	2.63%
	3		11.33%	8.25%	3.08%
	4		12.50%	8.03%	4.47%
2001	1		11.16%	7.74%	3.42%
	2	(c)	10.75%	7.93%	2.82%
	4		10.65%	7.68%	2.97%
2002	1		10.67%	7.65%	3.02%
	2		11.64%	7.50%	4.14%
	3		11.50%	7.19%	4.31%
	4		10.78%	7.15%	3.63%
2003	1		11.38%	6.93%	4.45%
	2		11.36%	6.40%	4.96%
	3		10.61%	6.64%	3.97%
	4		10.84%	6.35%	4.49%
2004	1		11.10%	6.09%	5.01%
	2		10.25%	6.48%	3.77%
	3		10.37%	6.13%	4.24%
	4		10.66%	5.94%	4.72%
2005	1		10.65%	5.74%	4.91%
	2		10.52%	5.52%	5.00%
	3		10.47%	5.51%	4.96%
	4		10.40%	5.82%	4.58%
2006	1		10.63%	5.85%	4.78%
	2		10.50%	6.37%	4.13%
	3		10.45%	6.19%	4.26%
	4		10.14%	5.86%	4.28%
2007	1		10.44%	5.90%	4.54%
	2		10.12%	6.09%	4.03%
	3		10.03%	6.22%	3.81%
	4		10.27%	6.08%	4.19%
2008	1		10.38%	6.15%	4.23%
	2		10.17%	6.32%	3.85%
	3		10.49%	6.42%	4.07%
	4		10.34%	7.23%	3.11%
2009	1		10.24%	6.37%	3.87%
	2		10.11%	6.39%	3.72%
	3		9.88%	5.74%	4.14%
	4		10.27%	5.66%	4.61%
2010	1		10.24%	5.83%	4.41%
	2		9.99%	5.61%	4.38%
	3		9.93%	5.09%	4.84%
	4		10.09%	5.34%	4.75%
2011	1		10.10%	5.66%	4.44%
	2		9.85%	5.38%	4.47%
	3		9.65%	4.81%	4.84%
Average			**12.06%**	**8.95%**	**3.12%**

(a) Regulatory Research Associates, Inc., Major Rate Case Decisions, (Oct. 5, 2011, Jan. 24, 2002, Jan. 18, 1995, and Jan. 16, 1990).
(b) Moody's Investors Service.
(c) No decisions reported for following quarter.

REGRESSION RESULTS

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9291725
R Square	0.8633616
Adjusted R Square	0.8622323
Standard Error	0.0054619
Observations	123

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.02280856	0.022809	764.5487	3.91884E-54
Residual	121	0.003609758	2.98E-05		
Total	122	0.026418317			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0716119	0.001542392	46.42911	5.8E-79	0.068558305	0.07466545	0.068558305	0.074665452
X Variable 1	-0.4518054	0.016339879	-27.6505	3.92E-54	-0.484154529	-0.41945628	-0.484154529	-0.419456277

CURRENT BOND YIELDS

Current Equity Risk Premium		
(a)	Avg. Yield over Study Period	9.01%
(b)	October 2011 Average Utility Bond Yield	4.37%
	Change in Bond Yield	-4.64%
(c)	Risk Premium/Interest Rate Relationship	-0.4095
	Adjustment to Average Risk Premium	1.90%
(a)	Average Risk Premium over Study Period	3.36%
	Adjusted Risk Premium	**5.26%**
Implied Cost of Equity		
(b)	October 2011 BBB Utility Bond Yield	4.93%
	Adjusted Equity Risk Premium	5.26%
	Risk Premium Cost of Equity	**10.19%**

(a) Exhibit WEA-11, page 3.
(b) Moody's Investors Service, www.creditrends.com.
(c) Exhibit WEA-11, page 4.

PROJECTED BOND YIELDS

Current Equity Risk Premium	
(a) Avg. Yield over Study Period	9.01%
(b) Projected Avg. Utility Bond Yield 2012-15	6.35%
Change in Bond Yield	-2.66%
(c) Risk Premium/Interest Rate Relationship	-0.4095
Adjustment to Average Risk Premium	1.09%
(a) Average Risk Premium over Study Period	3.36%
Adjusted Risk Premium	**4.45%**
Implied Cost of Equity	
(b) Projected BBB Utility Bond Yield 2012-15	6.81%
Adjusted Equity Risk Premium	4.45%
Risk Premium Cost of Equity	**11.26%**

(a) Exhibit WEA-11, page 3.

(b) Projected yields on utility bonds for 2012-15 based on data from IHS Global Insight, U.S. Economic Outlook at 19 (Oct. 2011), Energy Information Administration, Annual Energy Outlook 2011 (Apr. 26, 2011), and Moody's Investors Service at www.credittrends.com.

(c) Exhibit WEA-11, page 4.

AUTHORIZED RETURNS

Year	(a) Allowed ROE	(b) Average Utility Bond Yield	Risk Premium
1974	13.10%	9.27%	3.83%
1975	13.20%	9.88%	3.32%
1976	13.10%	9.17%	3.93%
1977	13.30%	8.58%	4.72%
1978	13.20%	9.22%	3.98%
1979	13.50%	10.39%	3.11%
1980	14.23%	13.15%	1.08%
1981	15.22%	15.62%	-0.40%
1982	15.78%	15.33%	0.45%
1983	15.36%	13.31%	2.05%
1984	15.32%	14.03%	1.29%
1985	15.20%	12.29%	2.91%
1986	13.93%	9.46%	4.47%
1987	12.99%	9.98%	3.01%
1988	12.79%	10.45%	2.34%
1989	12.97%	9.66%	3.31%
1990	12.70%	9.76%	2.94%
1991	12.55%	9.21%	3.34%
1992	12.09%	8.57%	3.52%
1993	11.41%	7.56%	3.85%
1994	11.34%	8.30%	3.04%
1995	11.55%	7.91%	3.64%
1996	11.39%	7.74%	3.65%
1997	11.40%	7.63%	3.77%
1998	11.66%	7.00%	4.66%
1999	10.77%	7.55%	3.22%
2000	11.43%	8.09%	3.34%
2001	11.09%	7.72%	3.37%
2002	11.16%	7.53%	3.63%
2003	10.97%	6.61%	4.36%
2004	10.75%	6.20%	4.55%
2005	10.54%	5.67%	4.87%
2006	10.36%	6.08%	4.28%
2007	10.36%	6.11%	4.25%
2008	10.46%	6.65%	3.81%
2009	10.48%	6.28%	4.20%
2010	10.34%	5.56%	4.78%
Average	12.38%	9.01%	3.36%

(a) Major Rate Case Decisions, Regulatory Focus, Regulatory Research Associates; *UtilityScope Regulatory Service*, Argus.

(b) Moody's Investors Service.

REGRESSION RESULTS

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9007749
R Square	0.8113955
Adjusted R Square	0.8060068
Standard Error	0.0052509
Observations	37

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.004151593	0.004152	150.5735	3.1021E-14
Residual	35	0.000965016	2.76E-05		
Total	36	0.005116609			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0705528	0.003129538	22.54415	1.99E-22	0.06419946	0.07690607	0.064199459	0.076906074
X Variable 1	-0.409496	0.033371508	-12.2708	3.1E-14	-0.47724424	-0.34174854	-0.47724424	-0.34174854

EXPECTED EARNINGS APPROACH

GAS UTILITY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	Atmos Energy Corp.	9.0%	1.03729	9.3%
2	Laclede Group	10.0%	1.041371	10.4%
3	New Jersey Resources	14.0%	1.02913	14.4%
4	NiSource Inc.	9.0%	1.0199	9.2%
5	Northwest Natural Gas	10.0%	1.028887	10.3%
6	Piedmont Natural Gas	12.5%	1.003733	12.5%
7	South Jersey Industries	15.0%	1.045582	15.7%
8	Southwest Gas	9.5%	1.03189	9.8%
9	UGI Corp.	12.5%	1.044962	13.1%
10	WGL Holdings, Inc.	10.0%	1.022089	10.2%
	Average (d)			**11.5%**

(a) The Value Line Investment Survey (Dec. 9, 2011).

(b) Adjustment to convert year-end return to an average rate of return from Exhibit WEA-3.

(c) (a) x (b).

(d) Excludes highlighted figures.

COMBINATION UTILITY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	Alliant Energy	12.0%	1.019234	12.2%
2	ALLETE	9.5%	1.029985	9.8%
3	Ameren Corp.	7.0%	1.01744	7.1%
4	Avista Corp.	9.0%	1.02055	9.2%
5	Black Hills Corp.	7.5%	1.022337	7.7%
6	CenterPoint Energy	11.5%	1.046754	12.0%
7	CMS Energy	12.5%	1.033447	12.9%
8	DTE Energy Co.	9.0%	1.018735	9.2%
9	Entergy Corp.	11.5%	1.027496	11.8%
10	Integrys Energy Group	9.5%	1.012171	9.6%
11	Pepco Holdings	7.5%	1.022648	7.7%
12	PG&E Corp.	11.5%	1.035992	11.9%
13	PPL Corp.	12.0%	1.077376	12.9%
14	Pub Sv Enterprise Grp	12.5%	1.031487	12.9%
15	SCANA Corp.	9.0%	1.044369	9.4%
16	Sempra Energy	10.5%	1.035388	10.9%
17	TECO Energy	14.0%	1.029328	14.4%
18	UIL Holdings	9.0%	1.02254	9.2%
	Average (d)			**10.6%**

(a) The Value Line Investment Survey (Sep. 23, Nov. 4, & Nov. 25, 2011).

(b) Adjustment to convert year-end return to an average rate of return from Exhibit WEA-5.

(c) (a) x (b).

(d) Excludes highlighted figures.

CAPITAL STRUCTURE

GAS UTILITY GROUP

		At Fiscal Year-End 2010 (a)			Value Line Projected (b)		
	Company	Debt	Preferred	Common Equity	Debt	Other	Common Equity
1	Atmos Energy Corp.	49.9%	0.0%	50.1%	49.0%	0.0%	51.0%
2	Laclede Group	42.1%	0.0%	57.9%	40.0%	0.0%	60.0%
3	New Jersey Resources	38.8%	0.0%	61.2%	34.5%	0.0%	65.5%
4	NiSource Inc.	54.8%	0.0%	45.2%	50.0%	0.0%	50.0%
5	Northwest Natural Gas	46.5%	0.0%	53.5%	34.0%	0.0%	66.0%
6	Piedmont Natural Gas	43.1%	0.0%	56.9%	40.5%	0.0%	59.5%
7	South Jersey Industries	44.2%	0.0%	55.8%	40.5%	0.0%	59.5%
8	Southwest Gas	50.7%	0.0%	49.3%	46.5%	0.0%	53.5%
9	UGI Corp.	49.3%	0.0%	50.7%	35.0%	0.0%	65.0%
10	WGL Holdings, Inc.	34.5%	1.6%	63.9%	32.5%	1.5%	66.0%
	Average	**45.4%**	**0.2%**	**54.5%**	**40.3%**	**0.2%**	**59.6%**

(a) Company Form 10-K and Annual Reports.
(b) The Value Line Investment Survey (Mar. 11, 2011).

COMBINATION UTILITY GROUP

		At Fiscal Year-End 2010 (a)			Value Line Projected (b)		
	Company	Debt	Preferred	Common Equity	Debt	Other	Common Equity
1	Alliant Energy	46.3%	4.2%	49.5%	45.5%	3.0%	51.5%
2	ALLETE	44.4%	0.0%	55.6%	41.5%	0.0%	58.5%
3	Ameren Corp.	47.1%	0.0%	52.9%	45.5%	1.0%	53.5%
4	Avista Corp.	47.4%	2.2%	50.4%	51.5%	0.0%	48.5%
5	Black Hills Corp.	52.0%	0.0%	48.0%	50.0%	0.0%	50.0%
6	CenterPoint Energy	74.7%	0.0%	25.3%	68.5%	0.0%	31.5%
7	CMS Energy	71.7%	0.0%	28.3%	64.0%	0.5%	35.5%
8	DTE Energy Co.	49.9%	2.1%	48.0%	52.0%	0.0%	48.0%
9	Entergy Corp.	54.8%	1.6%	43.6%	56.5%	1.0%	42.5%
10	Integrys Energy Group	47.6%	0.0%	52.4%	45.0%	0.5%	54.5%
11	Pepco Holdings	46.6%	0.0%	53.4%	48.0%	0.0%	52.0%
12	PG&E Corp.	50.4%	1.1%	48.5%	45.5%	1.0%	53.5%
13	PPL Corp.	59.9%	0.0%	40.1%	50.0%	0.5%	49.5%
14	Pub Sv Enterprise Grp	48.1%	0.0%	51.9%	45.0%	0.0%	55.0%
15	SCANA Corp.	54.8%	0.0%	45.2%	50.5%	0.0%	49.5%
16	Sempra Energy	50.2%	0.5%	49.2%	49.0%	0.0%	51.0%
17	TECO Energy	59.4%	0.0%	40.6%	52.5%	0.0%	47.5%
18	UIL Holdings	60.7%	0.0%	39.2%	58.5%	0.0%	41.5%
	Average	**53.7%**	**0.6%**	**45.7%**	**51.1%**	**0.4%**	**48.5%**

(a) Company Form 10-K and Annual Reports.
(b) The Value Line Investment Survey (Sep. 23, Nov. 4, & Nov. 25, 2011).