BULKLEY, A. E.

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	**)**	**16-ATMG-____-RTS**

DIRECT TESTIMONY OF

ANN E. BULKLEY

FOR ATMOS ENERGY CORPORATION

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ANN E. BULKLEY

FOR ATMOS ENERGY CORPORATION

Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.

A. My name is Ann E. Bulkley. I am employed by Concentric Energy Advisors, Inc. ("Concentric") as a Vice President. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

I. EXECUTIVE SUMMARY

A reasonable Cost of Equity, that is both competitive and compensatory, is important to attract and retain investors. It is also necessary to provide the utility with an opportunity to earn its required rate of return in the future by attracting adequate capital on reasonable terms. There is not one simple or correct way to estimate the Cost of Equity. Rather, the Cost of Equity is estimated using multiple analytical techniques that rely on market-based data, both quantitative and qualitative, to quantify investor expectations regarding required equity returns, adjusted for certain incremental costs and risks. It is important for the methods to reasonably reflect

investors' view of the financial markets. Ultimately, it is the analytical result, not the methodology employed, which is controlling in arriving at just and reasonable rates.

My testimony describes the various financial models used in the analyses, including the Constant Growth Discounted Cash Flow model, the Multi-Stage Discounted Cash Flow model, the Capital Asset Pricing Model, and the Bond Yield Plus Risk Premium analysis, as well as the inputs and outputs for each model. My testimony also discusses the strengths and weaknesses of the various models, and harnesses the strengths of the models, while minimizing their respective weaknesses. Further, I consider the effect of capital market conditions on the inputs and assumptions used in the Return on Equity estimation models, and the effect of those capital market conditions on the estimation models and on the determination of where, within the range of results, the Return on Equity falls for Atmos Energy.

My testimony selects a proxy group of gas distribution companies that possess a set of operating and risk characteristics that make them substantially comparable to Atmos Energy. This proxy group provides a reasonable basis to derive and estimate the appropriate Return on Equity for Atmos Energy. I use market data pertaining to the proxy group companies as inputs to the various Return on Equity estimation models, while also taking into consideration academic literature and capital market conditions to inform my analyses.

Furthermore, my testimony discusses additional factors that contribute to investors' view of the risk associated with investing in Atmos Energy relative to the proxy group companies, including the effects of the small size of the company, its

elevated capital expenditure requirements, the proposed annual rate mechanism, and flotation costs.

My analyses provide a range of the appropriate estimate of the Company's Cost of Equity, and support a recommended Return on Equity of 10.50 percent. I also present evidence in support of the reasonableness of the Company's proposed capital structure consisting of 56.12 percent common equity and 43.88 percent long-term debt, and the Company's proposed cost of long-term debt of 5.90 percent.

II. INTRODUCTION

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS DIRECT TESTIMONY?

A. I am submitting this Direct Testimony on behalf of Atmos Energy Colorado-Kansas Division, a division of Atmos Energy Corporation. In my Direct Testimony, I use the terms "Atmos Energy" and the "Company" to refer to Atmos Energy Colorado-Kansas Division.

Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with approximately 20 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking

purposes. I have included my resume and a summary of testimony that I have filed in other proceedings as Attachment A.

Q. PLEASE DESCRIBE CONCENTRIC'S ACTIVITIES IN ENERGY AND UTILITY ENGAGEMENTS.

A. Concentric provides financial and economic advisory services to many and various energy and utility clients across North America. Our regulatory, economic, and market analysis services include utility ratemaking and regulatory advisory services; energy market assessments; market entry and exit analysis; corporate and business unit strategy development; demand forecasting; resource planning; and energy contract negotiations. Our financial advisory activities include buy and sell-side merger, acquisition and divestiture assignments; due diligence and valuation assignments; project and corporate finance services; and transaction support services. In addition, we provide litigation support services on a wide range of financial and economic issues on behalf of clients throughout North America.

III. PURPOSE AND OVERVIEW

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the Company's return on equity ("ROE") and to provide an assessment of the Company's proposed capital structure and cost of long-term debt to be used for ratemaking purposes. My analyses and recommendations are supported by the data presented in Attachment AEB-1 through Attachment AEB-13, which were prepared by me or under my supervision.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE APPROPRIATE COST OF EQUITY FOR THE COMPANY?

A. I base my recommendation on the results of several quantitative methodologies and qualitative analyses discussed throughout my Direct Testimony. Considering the results of those analyses, I believe that a reasonable ROE for Atmos Energy is within the range of 10.00 percent and 10.75 percent. From within that range, and taking into consideration the specific business and financial risks of Atmos Energy relative to the proxy group companies, my ROE recommendation for the Company is 10.50 percent.

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT LED TO YOUR ROE RECOMMENDATION.

A. As discussed in more detail in Section VIII, in developing my ROE recommendation, I applied the Constant Growth and Multi-Stage forms of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), and the Risk Premium approach. In addition, my recommendation also takes into consideration flotation costs associated with equity issuances, as well as the following risks as compared to the proxy group: (1) the Company's capital expenditure requirements; (2) the Company's small size; and (3) the effect of the proposed formula rate plan on the Company's risk profile and authorized return on equity. I also considered the Company's proposed capital structure compared to the capital structures of the proxy companies. While I did not make any specific adjustments to my ROE estimates for each individual factor, I did take them into consideration in aggregate when determining where the Company's ROE falls within the range of analytical results.

Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?

A. The remainder of my Direct Testimony is organized as follows: Section IV provides a summary of my analyses and conclusions; Section V reviews the regulatory guidelines and financial considerations pertinent to the development of the cost of capital; Section VI discusses current capital market conditions and the implications of those conditions on the various ROE estimation techniques as well as the Company's Cost of Equity; Section VII explains my selection of a proxy group of comparable companies; Section VIII describes my analyses and the analytical basis for the recommendation of the appropriate ROE for Atmos Energy; Section IX discusses specific business risks that have a direct bearing on the ROE to be authorized for the Company in this case; Section X assesses the Company's proposed capital structure and cost of long-term debt; and Section XI presents my conclusions and recommendation for the market Cost of Equity.

IV. SUMMARY OF ANALYSIS AND CONCLUSIONS

Q. PLEASE SUMMARIZE THE KEY FACTORS CONSIDERED IN YOUR ANALYSES AND UPON WHICH YOU BASE YOUR RECOMMENDED ROE.

A. My analyses and recommendations considered the following:

- The *Bluefield* and *Hope* decisions[1] that established the standards for determining a fair and reasonable allowed ROE, including consistency of the

[1] *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923); *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

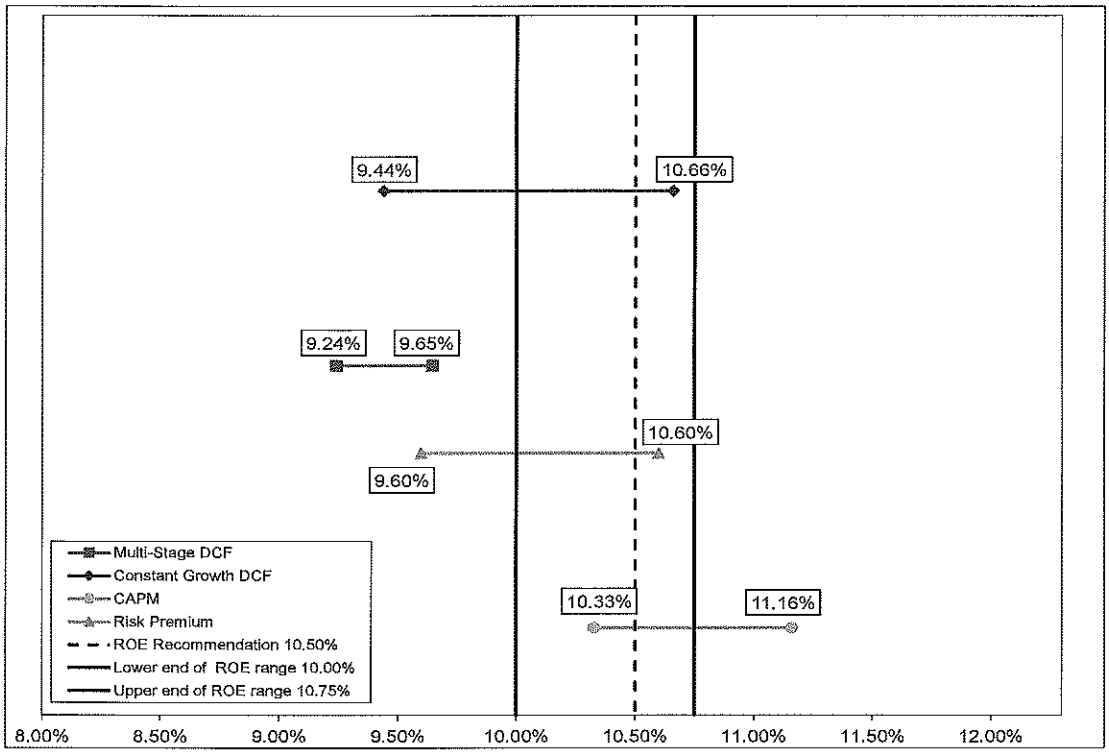
allowed return with other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and that the end result must lead to just and reasonable rates.

- The Company's business and financial risks relative to the proxy group of comparable companies and the implications of those risks in arriving at the appropriate ROE.
- The effect of current capital market conditions on investors' return requirements.

Q. PLEASE SUMMARIZE THE ROE ESTIMATION MODELS THAT YOU CONSIDERED TO ESTABLISH THE RANGE OF ROES FOR ATMOS ENERGY.

A. I considered the results of two forms of the DCF model: the Constant Growth and the Multi-Stage forms of the model. In addition, I considered two risk premium approaches: the CAPM and a Bond Yield Plus Risk Premium methodology. Finally, I considered the level of business and financial risk faced by the Company relative to the proxy group. The results of my analyses are summarized in Chart 1.

Chart 1: Summary of Analytical Results[2]



As shown on Chart 1, the range of the DCF results is very wide, particularly in relation to the results of the other Cost of Equity models. While it is common to consider multiple approaches in estimating the Cost of Equity, it is especially important to consider the results of different methodologies when the range of results is wide. As discussed in Section VI, the DCF models currently are influenced by market conditions that are not expected to be sustained in the short term. The Federal Reserve has held interest rates artificially low throughout the great recession and during the recovery period in order to stimulate economic growth. One effect of this accommodative monetary policy has been an increase in the valuation of dividend-

[2] The range for the Constant Growth DCF and Multi-Stage DCF provides the range using the mean and high earnings growth rate scenarios.

paying stocks, including utility stocks, which are perceived by investors as alternatives to bonds from a risk profile perspective. Industry analysts have cautioned investors that utility stocks are currently trading at share prices within or above the three to five year target price levels.[3]

High valuations of utility stocks and low interest rates have affected the DCF and CAPM models that are traditionally used to estimate the Cost of Equity. High valuation of utility stocks depresses the dividend yield in the DCF model, thereby decreasing the estimated ROE using this methodology. Since Treasury bonds are used as a measure of the risk-free rate in the CAPM, artificially low yields on Treasury bonds understate the estimated ROE using this methodology. To the extent that the relatively high utility stock valuations and artificially low bond yields are not sustainable, there is a downward bias in the results of the ROE estimation models. Furthermore, while the models have a tendency to underestimate the ROE for the reasons discussed previously, the market's expectation that interest rates will begin increasing in 2015 supports selection of a return toward the upper end of a reasonable range of equity cost rate estimates.

As shown in Attachment AEB-1, the DCF models produce individual company results as low as 4.91 percent, which is 99 basis points lower than the Company's embedded cost of long-term debt of 5.90 percent.[4] Furthermore, the mean low Constant Growth DCF results are below an acceptable range of returns for a gas distribution company and below any authorized ROE for a gas distributor for at

[3] Value Line Investment Survey, Electric Utility (West) Industry, January 31, 2015.
[4] *See* Atmos Energy Corporation Capital Structure and Cost of Capital, Schedule 9.

least the last 25 years.[5] Therefore, I believe the returns at the low end of the DCF range do not provide a sufficient risk premium to compensate equity investors for the residual risks of ownership, including the risk that they have the lowest claim on the assets and income of the Company.

Notwithstanding my concerns about the results of the various ROE estimation models, my ROE recommendation is based on the range of results produced by the DCF model and a forward-looking CAPM analysis, taking into consideration the company-specific risk factors relative to the proxy group. The Bond Yield Plus Risk Premium analysis, while not relied on specifically for my ROE recommendation, corroborates the range established for my recommendation.

Q. WHAT IS YOUR RECOMMENDED ROE FOR ATMOS ENERGY?

A. Based on the range of analytical results shown in Chart 1, the effect of capital market conditions on the ROE estimation models, and considering the business and financial risks faced by Atmos Energy relative to the proxy group companies, I believe an ROE of 10.50 percent is reasonable and appropriate.

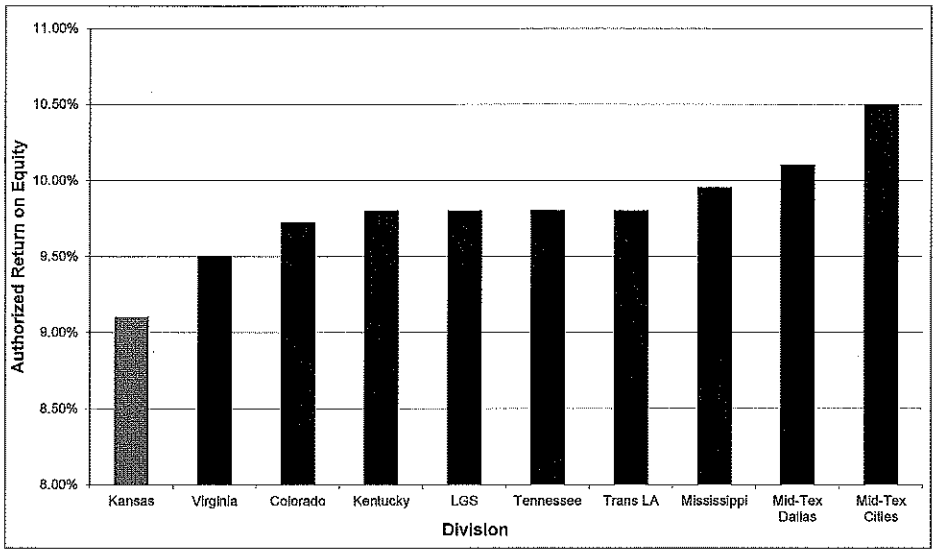
Q. HOW DOES ATMOS ENERGY'S CURRENT AUTHORIZED ROE IN KANSAS COMPARE TO THE COMPANY'S AUTHORIZED ROES IN THE OTHER JURISDICTIONS IN WHICH IT PROVIDES NATURAL GAS DISTRIBUTION SERVICE?

A. As shown on Chart 2, Atmos Energy's current authorized ROE of 9.10 percent in Kansas is well below the returns on equity that the Company has been authorized to

[5] Source: Regulatory Research Associates.

earn on its natural gas distribution service in the other jurisdictions in which the Company operates.

Chart 2: Atmos Energy Corporation – Authorized Returns on Equity[6]



Q. WHY SHOULD THIS BE A CONSIDERATION FOR THE COMMISSION?

A. As Atmos Energy makes decisions on how and where to invest capital to finance the operations of its natural gas distribution system, it is reasonable for the Company to consider the authorized returns that are available in the jurisdictions in which the Company provides service and to allocate more capital to those jurisdictions that offer more compensatory returns. While Atmos Energy is committed to making the necessary investments in Kansas to maintain the reliability and safety of its gas distribution system, the Company has less incentive to make incremental, non-essential capital investments in Kansas because the current authorized ROE of 9.10

6 Atmos Energy's West Texas Division was excluded from the chart since the return on equity was not included in the commission's final decision.

percent is well below the allowed returns on equity across Atmos Energy's other jurisdictions.

V. REGULATORY GUIDELINES AND FINANCIAL CONSIDERATIONS

Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES TO BE USED IN ESTABLISHING THE COST OF CAPITAL FOR A REGULATED UTILITY.

A. The United States Supreme Court's precedent-setting *Bluefield* and *Hope* cases established the minimum standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) that the end result, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[7]

Q. HAS THE KANSAS CORPORATION COMMISSION (THE "COMMISSION") PROVIDED SIMILAR GUIDANCE IN ESTABLISHING THE APPROPRIATE RETURN ON COMMON EQUITY?

A. Yes. In its September 2014 order in Atmos Energy's rate case, the Commission noted:

> In determining the appropriate ROE, the Commission is guided by Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944) and Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) which finds returns granted to regulated public utilities should be: (1) commensurate with returns on investments of similar risk; (2)

[7] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

> sufficient to ensure the utility's financial integrity under proper management; and (3) adjusted to reflect changes in the money market and business conditions. [CITE OMITTED] Hope and Bluefield have been adopted by the Kansas Supreme Court [CITE OMITTED] and recognized by the Commission in numerous dockets. While the Commission has substantial discretion in setting a fair return, it must not be so unreasonably high or low as to be unlawful [CITE OMITTED].[8]

Q. WHY IS IT IMPORTANT FOR A UTILITY TO BE ALLOWED THE OPPORTUNITY TO EARN AN ROE THAT IS ADEQUATE TO ATTRACT CAPITAL AT REASONABLE TERMS?

A. An ROE that is adequate to attract capital at reasonable terms enables the Company to continue to provide safe, reliable natural gas distribution service while maintaining its financial integrity. In that regard, the allowed ROE should enable the Company to finance capital expenditures at reasonable rates and maintain its financial flexibility over the period during which rates are expected to remain in effect. To the extent the Company has the opportunity to earn its market-based cost of capital, neither customers nor shareholders are disadvantaged.

Q. IS IT APPROPRIATE TO BENCHMARK THE ROE THAT IS ESTABLISHED FOR ATMOS ENERGY'S GAS DISTRIBUTION OPERATIONS AGAINST THE AUTHORIZED ROES FOR ELECTRIC UTILITIES?

A. No. Consistent with the guiding principles established in *Hope* and *Bluefield*, the ROE that is authorized for Atmos Energy should be commensurate with returns on equity investments in comparable risk enterprises, estimated in this case using the

[8] The State Corporation Commission of the State of Kansas, Docket No. 14-ATMG-320-RTS, Decision issued September 4, 2014, at paragraph 47.

proxy group. The Commission has traditionally established that the appropriate benchmark or proxy group for natural gas utilities is comprised of publicly traded natural gas distribution companies. Furthermore, there is no evidence of a consistent historical differential between the authorized returns for electric utilities and natural gas distribution utilities, such that it would be appropriate to benchmark the returns for one utility segment against the other. Rather, on a quarterly basis, the differential in the authorized returns for electric and gas utilities has been very irregular. Since 1992, the mean differential between authorized ROEs for electric and natural gas utilities has been 16 basis points, but the range around that mean is very wide, with electric utility ROE awards ranging from 188 basis points higher to 73 basis points lower than natural gas distribution utility ROE awards in an individual quarter. In fact, ROE awards for gas distribution companies have been higher than ROE awards for electric utilities in 31 of 93 quarters since 1992, or approximately 33 percent of the observations over this period.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY GUIDELINES AND CAPITAL MARKET EXPECTATIONS?

A. It is important for the ROE authorized in this proceeding to take into consideration the capital market conditions with which the Company must contend, as well as investors' expectations and requirements for both risks and returns. Further, in light of the Company's capital investment requirements, it is important that Atmos Energy be afforded the opportunity to maintain a financial profile that enables it to access capital markets at reasonable rates.

VI. CAPITAL MARKET CONDITIONS

Q. WHAT FACTORS ARE AFFECTING THE COST OF EQUITY FOR REGULATED UTILITIES IN THE CURRENT AND PROJECTED CAPITAL MARKETS?

A. The Cost of Equity for regulated utility companies is being affected by several factors in the current and projected capital markets, including: (1) the market's expectation for substantially higher interest rates; (2) current low yields on utility stocks; (3) current high valuations on utility shares relative to historical levels and relative to the broader market; and (4) wider credit spreads between utility bonds and Treasury bonds. In this section, I will discuss each of these factors and how it affects the Cost of Equity for regulated utilities.

Q. PLEASE DISCUSS THE CURRENT INTEREST RATE ENVIRONMENT.

A. In October 2014, the Federal Open Market Committee ("FOMC") ended its Quantitative Easing program, which provided extraordinary monetary stimulus for the U.S. economy over the last few years through asset purchases of mortgage-backed securities and Treasury bonds. In December 2014, the FOMC's policy statement indicated that future changes in short-term interest rates would depend on maintaining a reasonable balance between the level of unemployment and inflation. The U.S. unemployment rate stands at 5.5 percent as of April 2015[9], as job gains increased during the second half of 2014 and the first quarter of 2015. U.S. real GDP growth increased at an annual rate of 2.2 percent in the fourth quarter of 2014 after increasing

[9] Source: U.S. Bureau of Labor Statistics

at an annual rate of 5.0 percent in the third quarter of that year.[10] Consumer price inflation remains in check.

Q. WHAT EVIDENCE IS THERE THAT LONG-TERM INTEREST RATES ARE EXPECTED TO INCREASE?

A. While the FOMC has not yet increased interest rates in 2015, the Chair noted in a February speech that the Committee is reasonably confident that inflation will increase over the medium term.[11] In addition to the stated expectations of the FOMC, market analysts are expecting increases in interest rates in the short and medium term. The 30-day average yield on the 30-year U.S. Treasury bond as of April 30, 2015 was 2.57 percent. By contrast, the Blue Chip consensus estimate projects that the average yield on the 30-year U.S. Treasury bond will increase to 4.90 percent for the period from 2016 through 2020.[12] Thus, the consensus estimate from leading economists is for an increase of 233 basis points in U.S. Treasury bond yields over the next several years.

Q. WHAT IS THE FINANCIAL MARKET'S EXPECTATION REGARDING THE FEDERAL RESERVE'S PLANS TO START RAISING SHORT-TERM INTEREST RATES?

A. The May 2015 issue of Blue Chip Financial Forecasts surveyed market participants concerning their views regarding the timing of possible future rate increases by the Federal Reserve. Blue Chip reports that 100 percent of the 48 market participants surveyed expect that the Federal Reserve will start raising the target for short-term

10 Blue Chip Economic Indicators, Volume 40, No. 4, April 10, 2015, at 5.

11 Statement by Janet L. Yellen Chair , Board of Governors of the Federal Reserve System before the Committee on Banking, Housing and Urban Affairs, U.S. Senate, February 24, 2015.

12 Blue Chip Financial Forecasts, Vol. 33, No. 12, December 1, 2014, at 14.

interest rates at some point during 2015, with 87 percent of those responding expecting the increase to occur at the September 2015 FOMC meeting.[13]

Q. WHAT EFFECT DOES THE MARKET'S EXPECTATION FOR HIGHER INTEREST RATES HAVE ON THE COST OF EQUITY?

A. The market's expectation for higher interest rates indicates that the calculated Cost of Equity for the proxy companies using current market data is likely to be a conservative estimate of investors' required return during the period that Atmos Energy's rates will be in effect. Consequently, the likelihood of higher interest rates supports selection of a return toward the upper end of a reasonable range of equity cost rate estimates.

Q. HAVE YOU EXAMINED HOW THE EQUITY MARKET HAS REACTED TO THE PROSPECTS FOR HIGHER INTEREST RATES?

A. Yes, I have. Chart 3 below compares the performance of the S&P 500 Index and the S&P Utilities Index against the level of 30-year Treasury yields from January 1, 2015 through April 30, 2015.

[13] Blue Chip Financial Forecasts, Volume 34, No. 5, May 1, 2015, at 14.

Chart 3: Comparison of Returns for S&P 500 and S&P 500 Utilities Index to 30-Year Treasury Yields

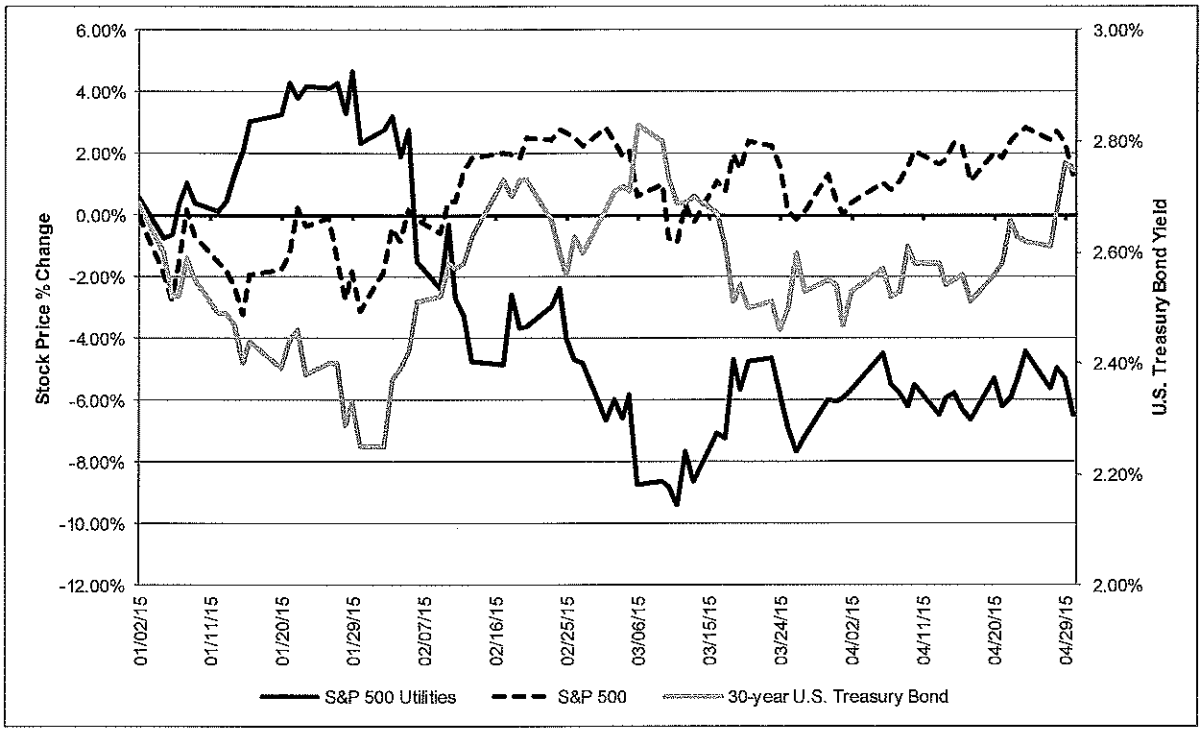


Chart 3 demonstrates the inverse relationship between the yield on 30-year Treasury bonds and returns on the S&P Utilities Index. During January 2015, the S&P Utilities Index was quite strong as Treasury bond yields were declining. Since February 2015, Treasury bond yields have increased from 2.25 percent to 2.75 percent, while the S&P Utilities Index has sustained a loss for the year of approximately 6.50 percent. By contrast, the S&P 500 Index started the year rather weak, but has since rallied into positive territory for the year in spite of higher Treasury bond yields. This demonstrates the divergence that has occurred between utility stocks and the broader market as Treasury bond yields have been rising.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF HIGHER INTEREST RATES ON THE COST OF EQUITY FOR NATURAL GAS DISTRIBUTION COMPANIES SUCH AS ATMOS ENERGY?

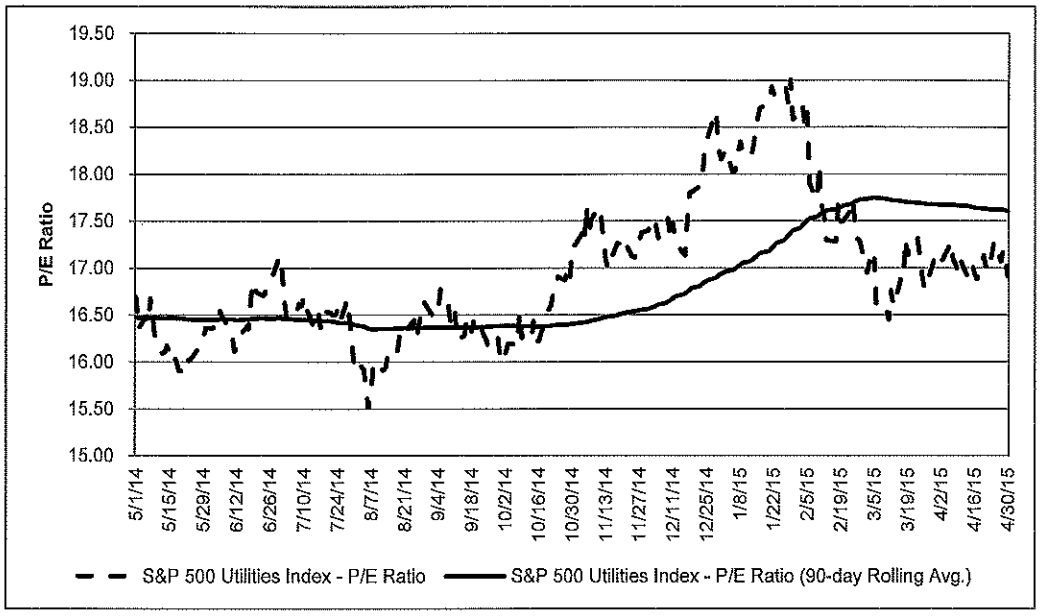
A. The potential for rising interest rates suggests that the calculated Cost of Equity for the proxy companies using any Cost of Equity estimation technique that relies on discounted cash flows is likely to lag investors' required return during the period that Atmos Energy's rates will be in effect. Since many income-oriented investors hold utility stocks for their dividend yields, during periods in which interest rates are expected to increase, the dividend yields of utility stocks become less attractive for income-oriented investors relative to bond yields, placing pressure on utility share prices relative to the broader market, as measured by the S&P 500 Index. Consequently, a consensus expectation of rising interest rates supports selection of a return for Atmos Energy based not only on the DCF models, but also a forward-looking CAPM analysis.

Q. HOW HAS THE PERIOD OF ABNORMALLY LOW INTEREST RATES AFFECTED THE VALUATIONS AND DIVIDEND YIELDS OF UTILITIES?

A. The Federal Reserve's Quantitative Easing program resulted in higher asset prices for many common stocks, including shares of public utility companies, as investors sought higher returns and more attractive yields than were being offered by bonds. Consequently, the current share price of many utility stocks has increased to levels that are likely unsustainable, while the dividend yield of those same utility stocks has declined to unusually low levels. As shown in Chart 4, the average price-to-earnings ("P/E") ratio for the S&P Utility Index during the fourth quarter of 2014 and the first

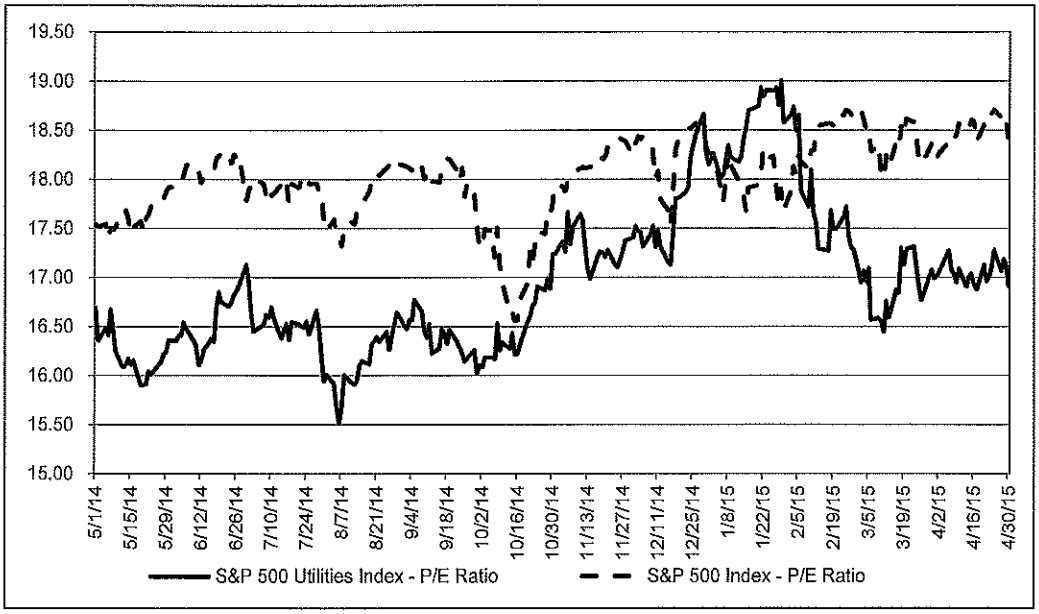
four weeks of 2015 was well above the long-term average, reflecting the surge in utility share prices that occurred in late 2014. Higher current P/E ratios also suggest that future returns for this sector will be muted, because current share prices already reflect investors' expectations for future earnings growth.

Chart 4: S&P Utilities Index P/E Ratio



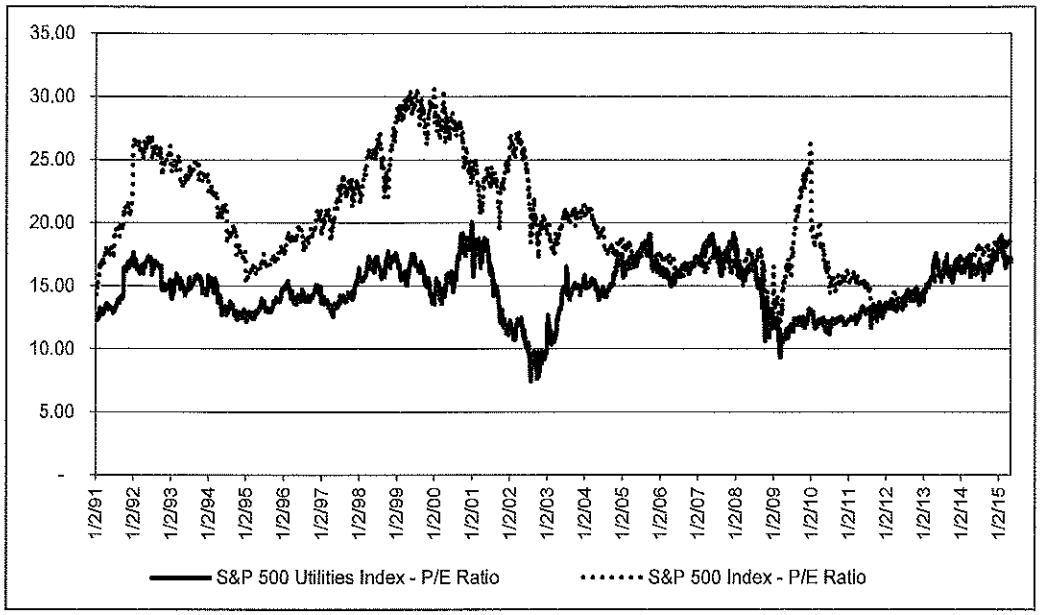
As shown in Chart 5, the average P/E ratio for the S&P Utility Index in early 2015 was actually higher than the P/E ratio for the broader market (as measured by the S&P 500). It is reasonable to expect that valuations for utility stocks will decline as economic growth accelerates and investors rotate out of the utility sector into more economically-sensitive and growth oriented sectors. In fact, since mid-February the P/E ratio for the S&P Utility Index has fallen below the P/E ratio for the broader market as investors start to factor in the likelihood of interest rate increases from the Federal Reserve later in 2015.

Chart 5: S&P Utilities Index P/E Ratio vs. S&P 500 Index P/E Ratio



Looking at the same relationship over a longer period, as shown in Chart 6, utility stocks have historically traded at a discount to the broader market except during the financial market dislocation of 2008-2009. This is further evidence that current utility share valuations are high relative to the broader market.

Chart 6: S&P Utilities Index and S&P 500 Index P/E Ratio – 1991-2015



Finally, as discussed in more detail in Section VIII, analysts project the valuations of the proxy group companies' stocks to decline in the near term as evidenced by Value Line's projected P/E ratios for that group.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSIS OF CAPITAL MARKET CONDITIONS?

A. My primary conclusion is that it is important to consider the effect of capital market conditions on the inputs and assumptions used in the ROE estimation models and to consider whether current market conditions are sustainable over the period that the recommended ROE would be in effect. Because the utility sector currently is trading at a P/E multiple that is considerably higher than historical levels, and, in recent periods, higher than the broader market index, it is important to consider whether those valuation multiples and relationships will remain constant over time, as is assumed in the DCF model. Furthermore, since interest rates are projected to

increase, it is important to reflect that expectation in the specification of the CAPM and other risk premium models.

VII. PROXY GROUP SELECTION

Q. WHY HAVE YOU USED A GROUP OF PROXY COMPANIES TO ESTIMATE THE COST OF EQUITY FOR ATMOS ENERGY?

A. In this proceeding, we are focused on estimating the Cost of Equity for Atmos Energy's natural gas distribution operations in Kansas. Since the ROE is a market-based concept, and given that Atmos Energy's Kansas operations do not make up the entirety of the publicly-traded entity, it is necessary to establish a group of companies that are both publicly-traded and comparable to Atmos Energy in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process.

Even if the Company's assets did constitute the entirety of Atmos Energy's operations, it is possible that transitory events could bias its market value in one way or another over a given period of time. A significant benefit of using a proxy group is that it moderates the effects of unusual events that may be associated with any one company. The proxy companies used in my analyses all possess a set of operating and risk characteristics that are substantially comparable to the Company, and thus provide a reasonable basis to derive and estimate the appropriate ROE for Atmos Energy.

Q. PLEASE PROVIDE A BRIEF PROFILE OF ATMOS ENERGY.

A. The Company provides natural gas distribution service to approximately 131,426 Kansas customers.[14] Atmos Energy's rate base in Kansas is approximately $206 million.[15] Atmos Energy Corporation's current senior unsecured credit rating from Standard and Poor's ("S&P") is A-, from Moody's Investors Service ("Moody's") is A2, and from Fitch Ratings ("Fitch") is A-. Atmos Energy Corporation's natural gas distribution segment represented approximately 63 percent of the Company's consolidated net income in 2014.[16]

Q. HOW DID YOU SELECT THE COMPANIES INCLUDED IN YOUR PROXY GROUP?

A. I began with the group of 11 companies that Value Line classifies as natural gas utilities, and I simultaneously applied the following screening criteria to exclude companies that:

- Do not pay consistent quarterly cash dividends because such companies cannot be analyzed using the Constant Growth DCF model;
- Do not have positive long-term earnings growth forecasts from at least two equity analysts;
- Do not have investment grade long-term issuer ratings from both S&P and Moody's;
- Derive less than 60 percent of their total operating income from regulated operations;

[14] Atmos Energy Corporation, 2014 SEC Form 10-K, at 5.
[15] Source: Company provided data.
[16] Atmos Energy Corporation, 2014 SEC Form 10-K, at 5.

- Derive less than 50 percent of their total regulated operating income from regulated natural gas operations; and
- Were party to a merger or transformative transaction.

Q. DID YOU INCLUDE ATMOS ENERGY CORPORATION IN YOUR PROXY GROUP?

A. No, I did not. It is my practice to exclude the subject company, and its parent holding company, due to the circular logic that would otherwise result.

Q. DID YOU CONSIDER OTHER FACTORS IN DEVELOPING THE PROXY GROUP?

A. Yes. I also considered the fact that NiSource Inc. recently announced that it had spun off its natural gas pipeline operations into a separate publicly-traded entity, which began trading on February 6, 2015. NiSource has previously been excluded from my natural gas distribution proxy group because it did not derive a sufficient percentage of its operating income from gas distribution operations. Excluding the pipeline business from those percentages, NiSource would have derived approximately 63 percent of its operating income from gas distribution operations in 2014. For that reason, I have determined that it is appropriate to include NiSource in the gas distribution proxy group. I also note that the Staff included NiSource in its proxy group in the 2014 rate case filed by Atmos Energy.

Q. WHAT IS THE COMPOSITION OF YOUR PROXY GROUP?

A. My proxy group consists of the nine companies shown in Table 1.

Table 1: Proxy Group

Company	Ticker
AGL Resources Inc.	GAS
The Laclede Group, Inc.	LG
New Jersey Resources Corporation	NJR
NiSource Inc.	NI
Northwest Natural Gas Company	NWN
Piedmont Natural Gas Company, Inc.	PNY
South Jersey Industries, Inc.	SJI
Southwest Gas Corporation	SWX
WGL Holdings, Inc.	WGL

VIII. COST OF EQUITY ESTIMATION

Q. PLEASE BRIEFLY DISCUSS THE ROE IN THE CONTEXT OF THE REGULATED RATE OF RETURN.

A. The overall rate of return for a regulated utility is based on its weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the Cost of Equity is market-based and, therefore, must be estimated based on observable market data.

Q. HOW IS THE REQUIRED ROE DETERMINED?

A. The required ROE is estimated using one or more analytical techniques that rely on market-based data to quantify investor expectations regarding required equity returns, adjusted for certain incremental costs and risks. By their very nature, quantitative models produce a range of results from which the market required ROE must be selected. As discussed throughout my Direct Testimony, that selection must be based

on a review of relevant data and information, and does not necessarily lend itself to a strict mathematical solution. The key consideration in determining the Cost of Equity is to ensure that the methodologies employed reasonably reflect investors' view of the financial markets in general, and the subject company (in the context of the proxy group) in particular.

Q. WHAT METHODS DID YOU USE TO DETERMINE THE COMPANY'S ROE?

A. I considered the results of the DCF models and the CAPM, corroborated by the Bond Yield Plus Risk Premium methodology. In addition, I considered the company's business and financial risk relative to the proxy group.

Q. WHY IS IT IMPORTANT TO USE MORE THAN ONE ANALYTICAL APPROACH?

A. It is important to use more than one approach because the Cost of Equity is not directly observable, and therefore must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the Cost of Equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. A number of models have been developed to estimate the Cost of Equity. Analysts and academics understand that ROE models are tools to be used in the ROE estimation process and that strict adherence to any single approach, or the specific results of any single approach, can lead to flawed conclusions. Consistent with the *Hope* finding, it is the analytical result, not the methodology employed, which is controlling in arriving at just and reasonable rates. A reasonable ROE estimate, therefore, considers alternative methodologies,

observable market data, and the reasonableness of their individual and collective results.

A. Constant Growth DCF Model

Q. ARE DCF MODELS WIDELY USED TO DETERMINE THE ROE FOR REGULATED UTILITIES?

A. Yes. DCF models are widely used in regulatory proceedings and have sound theoretical bases, although neither the DCF model nor any other model can be applied without considerable judgment in the selection of data and the interpretation of results. As discussed below, the currently high P/E ratios for utility companies, and the expectation that the P/E ratios of the proxy companies will decline in the near term makes the use of the DCF approach as the sole indicator of the cost of equity concerning at this time.

Q. PLEASE DESCRIBE THE DCF APPROACH.

A. The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its most general form, the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \ldots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

Where P_0 represents the current stock price, $D_1 \ldots D_\infty$ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

$$k = \frac{D_0(1+g)}{P_0} + g \qquad [2]$$

Equation [2] is often referred to as the Constant Growth DCF model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

Q. WHAT ASSUMPTIONS ARE REQUIRED FOR THE CONSTANT GROWTH DCF MODEL?

A. The Constant Growth DCF model requires the following assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions is violated, considered judgment and/or specific adjustments should be applied to the results.

Q. WHAT MARKET DATA DID YOU USE TO CALCULATE THE DIVIDEND YIELD IN YOUR CONSTANT GROWTH DCF MODEL?

A. The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended April 30, 2015.

Q. WHY DID YOU USE THREE AVERAGING PERIODS?

A. It is important to use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the calculated ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. At the same time, it is important to reflect recent financial market conditions.

In my view, the use of the 30-, 90-, and 180-day averaging periods reasonably balances those considerations.

Q. DID YOU MAKE ANY ADJUSTMENTS TO THE DIVIDEND YIELD TO ACCOUNT FOR PERIODIC GROWTH IN DIVIDENDS?

A. Yes. Since utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption, I applied one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected first year dividend yield is, on average, representative of the coming twelve-month period, and does not overstate the aggregated dividends to be paid during that time.

Q. WHY IS IT IMPORTANT TO SELECT APPROPRIATE MEASURES OF LONG-TERM GROWTH IN APPLYING THE DCF MODEL?

A. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth estimate in perpetuity. In order to reduce the long-term growth rate to a single measure, one must assume a constant payout ratio, and that earnings per share, dividends per share, and book value per share all grow at the same constant rate. Over the long run, however, dividend growth can only be sustained by earnings growth. It, therefore, is important to incorporate a variety of sources of long-term earnings growth rates into the Constant Growth DCF model.

Q. WHICH SOURCES OF LONG-TERM EARNINGS GROWTH RATES DID YOU USE?

A. My Constant Growth DCF model incorporates three sources of long-term earnings growth: (1) Zacks Investment Research; (2) Thomson First Call (provided by Yahoo! Finance); and (3) Value Line Investment Survey.

B. Multi-Stage DCF Model

Q. WHAT OTHER FORMS OF THE DCF MODEL DID YOU CONSIDER?

A. In order to address some of the limiting assumptions underlying the Constant Growth form of the DCF model, I also considered the results of a Multi-Stage DCF model. As with the Constant Growth form, the Multi-Stage form defines the Cost of Equity as the discount rate that sets the current price equal to the discounted value of future cash flows.

Q. WHAT ARE THE BENEFITS OF A MULTI-STAGE MODEL?

A. The Multi-Stage model, which is an extension of the Constant Growth form, enables the analyst to specify growth rates over multiple stages. Further, the Multi-Stage model allows for a gradual transition from the first stage growth rate to the long-term growth rate, thereby avoiding the often unrealistic assumption that growth will change abruptly between the first and final stages.

Q. PLEASE GENERALLY DESCRIBE THE STRUCTURE OF YOUR MULTI-STAGE DCF MODEL.

A. The Multi-Stage DCF model sets the subject company's current stock price equal to the present value of future cash flows received over three "stages". In all three stages, cash flows are equal to the annual dividend payments that stockholders

receive. Stage one is a short-term growth period that consists of the first five years; stage two is a transition period from the short-term growth rate to the long-term growth rate which occurs over five years (*i.e.*, years six through 10); and stage three is a long-term growth period that begins in year 11 and continues in perpetuity (*i.e.*, year 200). The ROE is then calculated as the rate of return that results from the initial stock investment and the dividend payments over the analytical period.

Q. PLEASE SUMMARIZE THE GROWTH RATES USED IN YOUR MULTI-STAGE DCF MODEL.

A. I began with the current annualized dividend as of April 30, 2015 for each proxy group company. In the first stage of the model, the current annualized dividend is escalated based on the average of the three- to five-year earnings growth estimates reported by First Call, Zacks, and Value Line. For the third stage of the model, I relied on long-term projected growth in Gross Domestic Product ("GDP"). The second stage growth rate is a transition from the first stage growth rate to the long-term growth rate on a geometric average basis.

Q. HOW DID YOU CALCULATE THE LONG-TERM GDP GROWTH RATE?

A. As shown in Attachment AEB-3, the long-term growth rate of 5.41 percent is based on the real GDP growth rate of 3.26 percent from 1929 through 2014,[17] and a projected inflation rate of 2.09 percent. The rate of inflation of 2.09 percent is based on three measures: (1) the average long-term projected growth rate in the Consumer Price Index ("CPI") of 2.30 percent;[18] (2) the compound annual growth rate of the

[17] U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Tables, Table 1.1.1, April 29, 2015.

[18] Blue Chip Financial Forecasts, Vol. 33, No. 12, December 1, 2014, at 14.

CPI for all urban consumers for 2025-2040 of 2.11 percent as projected by the Energy Information Administration ("EIA"); and (3) the compound annual growth rate of the GDP chain-type price index for 2025-2040 of 1.85 percent, also reported by the EIA.[19]

Q. WHY DID YOU USE A HISTORICAL GDP GROWTH RATE RATHER THAN A CURRENT ESTIMATE OF GDP GROWTH?

A. Based on current and recent market conditions, the use of a historical growth rate is more appropriate than using a current estimate of real GDP growth. Economists have reviewed historical growth patterns related to severe financial crises and have concluded that estimates of GDP growth have generally been understated in the decade following severe financial crises. Specifically, the financial crisis and recession that began in 2007 were qualitatively different from most other U.S. economic downturns, which were followed by a rapid return to pre-recession overall output growth levels. In that regard, the current U.S. economic growth situation is similar to that following the two most severe economic events in U.S. history (*i.e.*, the 1929 stock market crash and the 1973 oil shock). Economists that have examined the repercussions of those two historical crises (and similar severe financial crises in other countries) have found that GDP growth rates tended to be lower during the decade following such events.[20] Therefore, it would not be appropriate to assume that

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19 U.S. Energy Information Administration, Annual Energy Outlook 2015, Table 20, Macroeconomic Indicators.

20 *See,* Reinhart, Carmen M. and Vincent R. Reinhart, "After the Fall," NBER Working Paper 16334, September 2010, in Federal Reserve Bank of Kansas City Economic Policy Symposium Volume, *Macroeconomic Challenges: The Decade Ahead* at Jackson Hole, Wyoming, on August 26-28, 2010, at 2.

current projections of GDP growth are representative of long-term GDP growth starting in 2026 and continuing for the next 200 years.

Q. HAVE YOU PERFORMED AN ANALYSIS TO DETERMINE WHETHER REAL GDP GROWTH IS SLOWER IN THE DECADE IMMEDIATELY AFTER A SEVERE FINANCIAL CRISIS THAN IN SUBSEQUENT DECADES?

A. Yes. I compared the average real GDP growth in the first ten years immediately following the two historical economic crises most comparable to the recent financial crisis (*i.e.*, the 1929 stock market crash and the 1973 oil shock) to the average real GDP growth in the next two decades following each crisis (*i.e.*, eleven to 30 years after the events). I did the same for each of the 20th-century U.S. recessions for which sufficient data are available. My findings are presented in Table 2.

Table 2: Real GDP Growth Rates Following U.S. Economic Downturns[21]

Event	Compound Average Real GDP Growth Rate		
	Decade Following Crisis	Next Two Decades	Difference (Basis Points)
Major Economic Crises			
1929 Stock Market Crash	2.06%	4.72%	266
1973 Oil Shock	2.55%	3.39%	83
Other Recessions			
1937	6.68%	4.15%	-253
1945	3.77%	3.59%	-18
1948	3.79%	3.95%	16
1953	3.60%	3.23%	-37
1957	4.84%	3.13%	-170
1960	4.41%	3.28%	-112
1969	3.57%	3.01%	-56
1980	3.32%	2.45%	-88
1981	3.52%	2.62%	-90

Table 2 shows that real GDP growth in the first ten years following the 1929 stock market crash and the 1973 oil shock was substantially lower than real GDP growth in the next two decades following each event. In contrast, eight out of the nine other 20th-century U.S. economic downturns analyzed showed the opposite pattern. In light of the academic research cited above and the findings presented in Table 2, it is reasonable to believe that current projections of real GDP growth are under-stated. For that reason, the most reasonable means to forecast long-term GDP growth is to assume a return to long-term historical rates of real GDP growth and to estimate long-

[21] Real GDP data are from the U.S. Bureau of Economic Analysis. The years in which each recession started are from the National Bureau of Economic Research ("NBER"), "US Business Cycle Expansions and Contractions," available at http://www.nber.org/cycles.html. Note that this table excludes the three most recent recessions, which started in 1990, 2001, and 2007 owing to a lack of sufficient data for GDP growth in the following years to calculate comparable long-term GDP growth rates.

term nominal GDP growth based largely on market-based, long-term inflation estimates.

Q. HOW DOES YOUR LONG-TERM GDP GROWTH RATE COMPARE TO COMMISSION STAFF'S VIEW OF HOW LONG-TERM GDP GROWTH SHOULD BE DERIVED?

A. Commission Staff has previously relied on projections of nominal GDP growth from the Social Security Administration ("SSA") and EIA.[22] However, as discussed above, projections of GDP growth have tended to be under-stated in the decade following a severe financial crisis. Further, the SSA projection of GDP growth is used as an input to actuarial assumptions for this government pension fund, and is therefore likely to be conservative. For these reasons, I do not believe it is appropriate to rely on projected GDP growth rates, such as those produced by EIA and SSA. By contrast, my nominal GDP growth estimate is derived from historical real GDP growth and projected inflation rates, which is the most reasonable method to estimate long-term economic growth.

C. Flotation Costs

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These costs include out-of-pocket expenditures for preparation, filing, underwriting, and other issuance costs.

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[22] See, for example, Direct Testimony of Adam H. Gatewood, Docket No. 14-ATMG-320-RTS, at 43.

Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED ROE?

A. In order to attract and retain investors, a regulated utility must have the opportunity to earn an ROE that is both competitive and compensatory. To the extent that a company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby impeding its ability to attract adequate capital on reasonable terms.

Q. ARE FLOTATION COSTS PART OF THE UTILITY'S INVESTED COSTS OR PART OF THE UTILITY'S EXPENSES?

A. Flotation costs are part of the invested costs of the utility, which are properly reflected on the balance sheet under "paid in capital." They are not current expenses, and therefore are not reflected on the income statement. Rather, like investments in rate base or the issuance costs of long-term debt, flotation costs are incurred over time. As a result, the great majority of a utility's flotation cost is incurred prior to the test year, but remains part of the cost structure that exists during the test year and beyond, and as such, should be recognized for ratemaking purposes.

Q. HAS THE COMMISSION PREVIOUSLY RECOGNIZED THE NEED TO INCLUDE FLOTATION COSTS?

A. Yes. The need to reimburse investors for equity issuance costs has been recognized by the Commission in previous decisions. For example, in the decision approving the

partial settlement in Atmos Energy's 2014 rate case in Kansas, the Commission awarded flotation costs of 10 basis points.[23]

Q. HOW DID YOU CALCULATE FLOTATION COSTS FOR ATMOS ENERGY?

A. My flotation cost calculation was based on the costs of issuing equity that were incurred by Atmos Energy Corporation and the proxy group companies in their two most recent common equity issuances. Based on the issuance costs provided in Attachment AEB-4, flotation costs for Atmos Energy are approximately 0.13 percent (*i.e.*, 13 basis points).

Q. ARE YOU PROPOSING TO ADJUST YOUR RECOMMENDED ROE BY 13 BASIS POINTS TO REFLECT THE EFFECT OF FLOTATION COSTS ON ATMOS ENERGY'S ROE?

A. Yes. I have added flotation costs of 13 basis points to the Constant Growth and Multi-Stage DCF results, consistent with the Commission's previous decision to award flotation costs to Atmos Energy.[24]

D. Discounted Cash Flow Model Results

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR DCF ANALYSES.

A. Table 3 (*see* also Attachment AEB-1 and Attachment AEB-2) presents the results of the Constant Growth and Multi-Stage DCF models. The Constant Growth DCF model produces a range of results (including flotation costs) from 8.27 percent to

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23 The State Corporation Commission of the State of Kansas, Docket No. 14-ATMG-320-RTS, Decision issued September 4, 2014, at paragraph 50.

24 Ibid.

10.66 percent. The Multi-Stage DCF analysis produces a range of results (including flotation costs) from 8.98 percent to 9.65 percent.

Table 3: Discounted Cash Flow Analyses Results [including flotation costs]

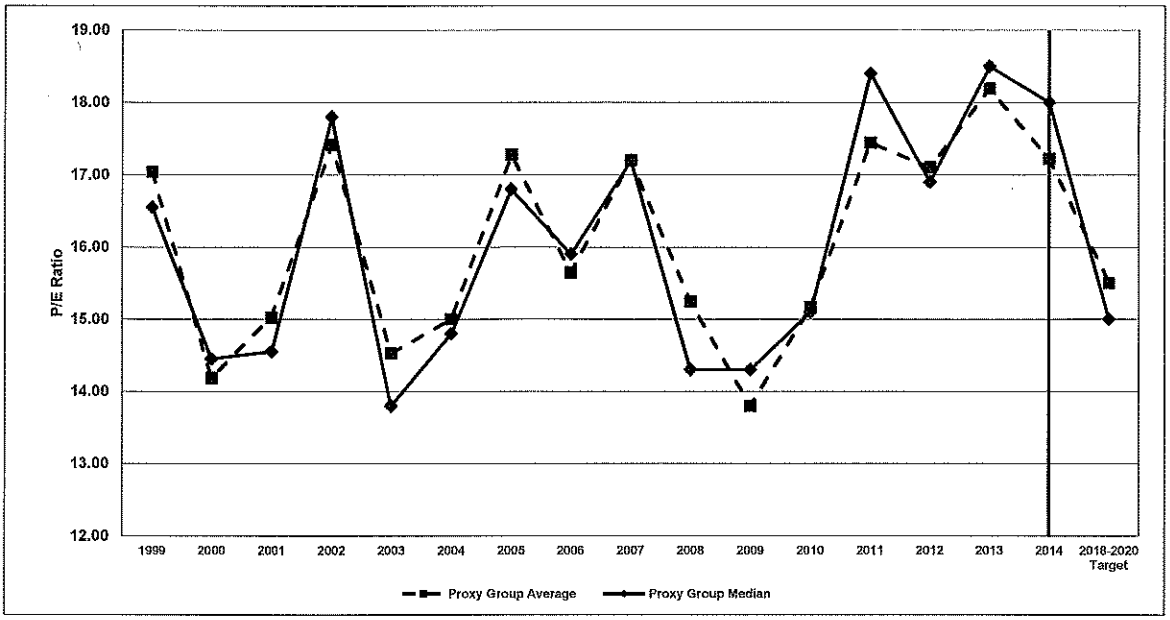
Average Price	Mean Low	Mean	Mean High
Constant Growth DCF			
30-Day	8.32%	9.49%	10.60%
90-Day	8.27%	9.44%	10.55%
180-Day	8.38%	9.55%	10.66%
Multi-Stage DCF			
	Low	**Mean**	**High**
30-Day	9.04%	9.30%	9.57%
90-Day	8.98%	9.24%	9.52%
180-Day	9.10%	9.36%	9.65%

Q. HOW DO YOU EXPLAIN THE LOW RESULTS FROM THE DCF MODELS?

A. In its commentary on the electric utility industry, Value Line observes that many of the companies are currently trading at prices near their three-to-five year price targets.[25] Value Line cautions investors that current valuations already reflect the projected earnings growth for these companies, and that investors should look elsewhere for better return potential. These high valuations help explain why the results of the Constant Growth DCF analysis are currently so low. As shown in Chart 7, the same concern about high valuations applies to the gas distribution companies. The average P/E ratio for the proxy companies was higher at the end of 2014 than the average projected P/E ratio for the group for the period from 2018-2020. The expectation for lower P/E ratios for the proxy companies suggests that the current results from the DCF model should be considered with caution.

[25] Value Line Investment Survey, Electric Utility (West) Industry, January 31, 2015.

Chart 7: Average Historical P/E Ratios for Proxy Companies



Q. DOES THE MULTI-STAGE DCF MODEL DISCUSSED ABOVE ADDRESS YOUR CONCERN ABOUT UTILITY VALUATIONS?

A. No, it does not. While the Multi-Stage DCF model provides for changes in growth over time, it does not address the very high current P/E ratios for utility stocks and the effects of those high valuations on the dividend yield in the DCF model.

Q. WHAT ARE YOUR CONCLUSIONS ABOUT THE RESULTS OF THE DCF MODELS?

A. The results of the DCF models are currently influenced by the high valuations on utility stocks that result from current market conditions. As discussed previously, one primary assumption of the DCF models is the dividend yield. That assumption is heavily influenced by the market price of utility stocks. To the extent that these stock prices are inflated, as is suggested by the high P/E ratios and the expectation by analysts that those P/E ratios are not sustainable in the short term, it is important to

consider the results of the DCF models with caution. Therefore, while I have considered the range of results established using the DCF methodologies, my recommendation also gives some weight to the results of other ROE estimation models.

Q. HAVE YOU QUANTIFIED THE EFFECT THAT THE MARKET'S EXPECTATION FOR HIGHER INTEREST RATES HAS ON THE DIVIDEND YIELD COMPONENT OF THE DCF MODEL?

A. Yes, I have. Using Value Line projections for dividends and share prices for the period from 2018-2020, I have calculated the projected dividend yields for the companies in my proxy group. As shown in Attachments AEB-5 and AEB-6, my analysis demonstrates that the return on equity using the projected dividend yield for the proxy group companies is 22 basis points higher (i.e., 9.72 percent vs. 9.49 percent) than the return on equity for the 30-day Constant Growth DCF analysis, and 25 basis points higher for the mean Multi-Stage DCF analysis.

Q. ARE YOU AWARE OF ANY DECISIONS WHEREIN A REGULATORY AGENCY THAT DETERMINES THE COST OF EQUITY HAS CONSIDERED THE EFFECTIVENESS OF THE TRADITIONAL ROE ESTIMATION MODELS?

A. Yes, I am. The Surface Transportation Board ("STB"), which regulates the U.S. railroad industry, began evaluating the effectiveness of the Constant Growth DCF model in September 2006. The STB instituted a broad rulemaking to obtain public comment on the most appropriate methodology to use for estimating the ROE for railroads. In January 2008, the STB replaced the Constant Growth DCF model with

the CAPM, with the expectation that the CAPM would produce more accurate estimates of the industry's cost of capital. In January 2009, as a result of its exploration of the various forms of ROE estimation models and the review of public comments on the merits and shortcomings of each of the models, the STB issued a decision modifying its sole reliance on the CAPM method to include an equal weighting of the CAPM and the Multi-Stage DCF results. In reaching this decision, the STB concluded that:

> Indeed, if our exploration of this issue has revealed nothing else, it has shown that there is no single simple or correct way to estimate the cost of equity for the railroad industry, and countless reasonable options are available. Both the CAPM and the multi-stage DCF models we propose to use have strengths and weaknesses, and both take different paths to estimate the same illusory figure. By using an average of the results produced by both models, we harness the strengths of both models while minimizing their respective weaknesses.[26]

This decision supports my view that it is appropriate to consider the results of various financial models to estimate the Cost of Equity within the context of capital market conditions, and that the appropriate method(s) can evolve over time as market conditions change.

Q. IS IT RELEVANT THAT THE STB DOES NOT REGULATE THE ENERGY INDUSTRY?

A. No. The STB decision is an ROE decision, and therefore it is relevant regardless of the industry. That decision describes the rigorous analysis and the methodologies that a regulatory body used to review financial models and to select the most appropriate

[26] Surface Transportation Board, Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital, Decision STB Ex Parte No. 664 (Sub-No. 1), released January 28, 2009, at 15.

models in the context of capital market conditions in order to estimate the Cost of Equity. In summary, as the STB decision points out, the models used to estimate the ROE are used by the investment community for all types of investments, and therefore it is not important that the STB does not regulate energy companies. Rather, what is important is that the methodologies used reflect what investors consider in establishing their return requirements.

E. CAPM Analysis

Q. PLEASE BRIEFLY DESCRIBE THE CAPITAL ASSET PRICING MODEL.

A. The CAPM is a risk premium approach that estimates the Cost of Equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security. This second component is the product of the market risk premium and the Beta coefficient, which measures the relative riskiness of the security being evaluated.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

K_e = the required market ROE;

β = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market as a whole.

In this specification, the term $(r_m - r_f)$ represents the market risk premium. According to the theory underlying the CAPM, since unsystematic risk can be diversified away,

investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by Beta, which is defined as:

$$\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [4]$$

The variance of the market return (*i.e.*, *Variance* (r_m)) is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the general market (*i.e.*, *Covariance* (r_e, r_m)) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, Beta represents the risk of the security relative to the general market.

Q. WHAT RISK-FREE RATE DID YOU USE IN YOUR CAPM ANALYSIS?

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds (*i.e.*, 2.57 percent);[27] (2) the projected 30-year U.S. Treasury bond yield for 2015 through 2016 of 3.23 percent;[28] and (3) the projected 30-year U.S. Treasury bond yield for 2016 through 2020 of 4.90 percent.[29]

Q. WHAT BETA COEFFICIENTS DID YOU USE IN YOUR CAPM ANALYSIS?

A. As shown on Attachment AEB-7, I used the average Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. Bloomberg calculates Beta coefficients based on two years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

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27 Bloomberg Professional, as of April 30, 2015.
28 Blue Chip Financial Forecasts, Vol. 34, No. 4, April 1, 2015, at 2.
29 Blue Chip Financial Forecasts, Vol. 33, No. 12, December 1, 2014, at 14.

Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM IN THE CAPM?

A. I estimated the market risk premium based on the expected return on the S&P 500 Index less the 30-year U.S. Treasury bond yield. The expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index for which dividend yields and long-term earnings projections are available. Based on an estimated market capitalization-weighted dividend yield of 2.06 percent and a weighted long-term growth rate of 10.72 percent, the estimated required market return for the S&P 500 Index is 12.89 percent. The implied market risk premium over the current 30-day average of the 30-year U.S. Treasury bond yield, and the short- and near-term projected yields on the 30-year U.S. Treasury bond, ranges from 7.99 percent to 10.32 percent.

Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSES?

A. As shown in Table 4 (*see* also Attachment AEB-8), my CAPM analyses produce a range of returns from 10.33 percent to 11.16 percent. The mean returns using Bloomberg's average Beta coefficient and three measures of the risk-free rate is 10.58 percent. Using the average Value Line Beta coefficient and three measures of the risk-free rate, the mean result is 10.87 percent.

Table 4: Forward-Looking CAPM Results

	Current Risk-Free Rate (2.57%)	2015-2016 Projected Risk-Free Rate (3.23%)	2016-2020 Projected Risk-Free Rate (4.90%)	Mean Result
Bloomberg Beta Coefficient	10.33%	10.49%	10.91%	10.58%
Value Line Beta Coefficient	10.65%	10.80%	11.16%	10.87%

F. Bond Yield Plus Risk Premium Analysis

Q. PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH YOU EMPLOYED.

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with ownership and therefore require a premium over the return they would have earned as a bondholder. That is, since returns to equity holders are more risky than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the Cost of Equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I used actual authorized returns for natural gas distribution companies as the historical measure of the Cost of Equity to determine the risk premium.

Q. ARE THERE OTHER CONSIDERATIONS THAT SHOULD BE ADDRESSED IN CONDUCTING THIS ANALYSIS?

A. Yes. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase (decrease), the equity

risk premium decreases (increases). Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) is based on more recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. If we let authorized ROEs for natural gas distribution companies serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply is the difference between those two points.[30]

Q. WHAT DID YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS REVEAL?

A. As shown on Chart 8, from 1992 through April 2015, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(T) \quad [5]$$

Where:

RP = Risk Premium (difference between allowed ROEs and the yield on 30-year U.S. Treasury bonds)

a = intercept term

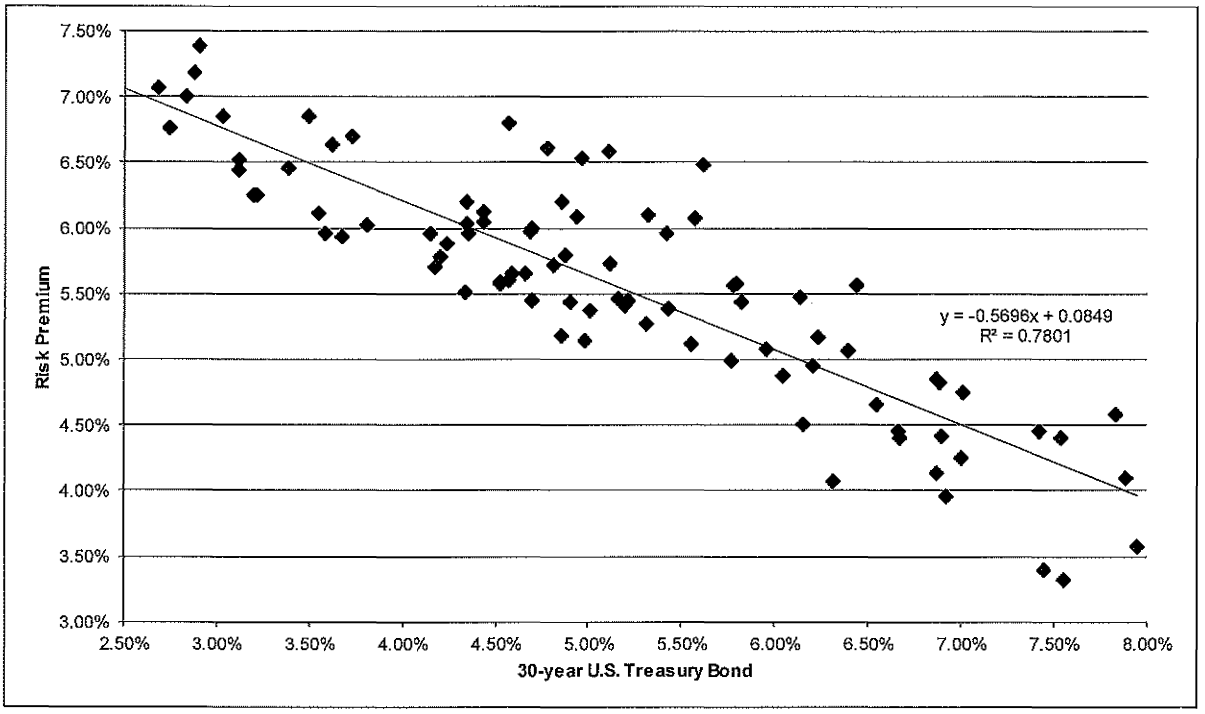
b = slope term

T = 30-year U.S. Treasury bond yield

[30] *See e.g.*, S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. *See also* Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return*, Financial Management, Spring 1986, at 66.

Data regarding allowed ROEs were derived from 511 rate cases from 1992 through April 2015 as reported by Regulatory Research Associates. This equation's coefficients were statistically significant at the 99.00 percent level.

Chart 8: Risk Premium Results



As shown on Attachment AEB-9, based on the current 30-day average of the 30-year U.S. Treasury bond yield (*i.e.*, 2.57 percent), the risk premium would be 7.03 percent, resulting in an estimated ROE of 9.60 percent. Based on the near-term (2015-2016) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 3.23 percent), the risk premium would be 6.65 percent, resulting in an estimated ROE of 9.88 percent. Based on longer-term (2016-2020) projections of the 30-year U.S. Treasury bond yield (*i.e.*, 4.90 percent), the risk premium would be 5.70 percent, resulting in an estimated ROE of 10.60 percent.

IX. BUSINESS RISKS

Q. DO THE MEAN DCF, CAPM, AND RISK PREMIUM RESULTS FOR THE PROXY GROUP PROVIDE AN APPROPRIATE ESTIMATE OF THE COST OF EQUITY FOR ATMOS ENERGY?

A. No. These results provide only a range of the appropriate estimate of the Company's Cost of Equity. There are several additional factors that must be taken into consideration when determining where the Company's Cost of Equity falls within the range of results. These risk factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile relative to the proxy group companies.

A. Capital Expenditure Requirements

Q. PLEASE SUMMARIZE THE COMPANY'S CAPITAL EXPENDITURE REQUIREMENTS.

A. The Company's current projections include approximately $110.51 million of Kansas-specific capital expenditures for the period from 2016 through 2020.[31] These investments are primarily related to maintaining the safety of the Company's distribution system. Importantly, these capital investments are not related to customer growth and will not produce additional revenue for Atmos Energy in Kansas.

[31] Company provided data. These projected capital investment estimates for 2016-2020 do not include any amounts attributable to accelerated pipe replacement activities under the Company's proposed SIP mechanism.

Q. HOW IS THE COMPANY'S RISK PROFILE AFFECTED BY THE LEVEL OF ITS CAPITAL EXPENDITURE REQUIREMENTS?

A. As with any utility faced with substantial capital expenditure requirements, Atmos Energy's risk profile is adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under recovery, or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on the Company's credit metrics.

Q. HAS TIMELY CAPITAL RECOVERY BEEN IDENTIFIED AS A RISK FACTOR FOR NATURAL GAS UTILITIES?

A. Yes. The American Gas Association ("AGA") has identified the key factors that increase the risk associated with the recovery of capital investment; traditional cost of service ratemaking produces significant lag in the recovery of infrastructure investment, and investment that is made to replace aging infrastructure does not produce incremental revenue. The AGA report concludes:

> Timely cost recovery of prudently incurred safety and reliability investments is of utmost importance to the financial stability of natural gas utilities. Because traditional ratemaking allows recovery of infrastructure investments only following approval in a rate case, there is often a multi-year delay before the recovery of such investments begins. Investments that are recovered long after they are incurred cause the utility to bear carrying costs without the opportunity to recover these prudent expenditures. Credit agencies criticize companies with lag in the recovery of their costs and assign a lower credit rating to such utilities that ultimately translates into higher rates for customers. The only alternative is to file a rate case each year, which is a costly activity that also leads to higher rates for customers.[32]

[32] American Gas Association, *Infrastructure Cost Recovery Update*, June 2012, at 2.

Therefore, to the extent that Atmos Energy's rates do not permit it to recover its full cost of doing business, the Company will face increased recovery risk and thus increased pressure on its credit metrics.

Q. HAS S&P RECOGNIZED THE IMPACT OF ATMOS ENERGY'S CAPITAL SPENDING PROGRAM?

A. Yes. In its November 2014 report on the Company, S&P assessed the financial risk profile of Atmos Energy as being in the "Significant" category. However, S&P does accord the Company an "Excellent" business risk profile based on the generally constructive regulatory frameworks in the jurisdictions in which Atmos Energy provides service.[33]

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF THE COMPANY'S CAPITAL SPENDING REQUIREMENTS ON ITS RISK PROFILE AND COST OF EQUITY?

A. Credit and equity analysts consider the risks associated with higher capital spending. The risk posed by elevated capital expenditure requirements in Kansas contributes to the overall risk profile of the company and together with other risk factors demonstrate that the Company should be provided the opportunity to earn an ROE toward the high end of the reasonable range of ROEs.

B. Small Size Risk

Q. PLEASE EXPLAIN THE RISK ASSOCIATED WITH SMALL SIZE.

A. Both the financial and academic communities have long accepted the proposition that the Cost of Equity for small firms is subject to a "size effect". While empirical

[33] Standard and Poor's Ratings Direct, Atmos Energy Corp., November 10, 2014, at 2.

evidence of the size effect often is based on studies of industries other than regulated utilities, utility analysts also have noted the risk associated with small market capitalizations. Specifically, an analyst for Ibbotson Associates noted in an article published by Public Utilities Fornightly:

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[34]

Q. HOW DOES THE SMALLER SIZE OF A UTILITY AFFECT ITS BUSINESS RISK RELATIVE TO THE PROXY GROUP?

A. In general, smaller companies are less able to withstand adverse events that affect their revenues and expenses. The impact of weather variability, the loss of large customers to bypass opportunities, or the destruction of demand as a result of general macroeconomic conditions or fuel price volatility will have a proportionately greater impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue producing investments, such as system maintenance and replacements, will put proportionately greater pressure on customer costs, potentially leading to customer attrition or demand reduction. Taken together, these risks affect the return required by investors for smaller companies.

[34] Michael Annin, *Equity and the Small-Stock Effect*, Public Utilities Fortnightly, October 15, 1995.

Q. HOW DO ATMOS ENERGY'S NATURAL GAS DISTRIBUTION OPERATIONS IN KANSAS COMPARE IN SIZE TO THE PROXY COMPANIES?

A. Atmos Energy's natural gas distribution operations in Kansas are substantially smaller than the median for the proxy group companies in terms of market capitalization. Attachment AEB-10 provides the actual market capitalization for the proxy group companies and estimates the implied market capitalization for Atmos Energy's Kansas natural gas distribution business (*i.e.*, the implied market capitalization if Atmos Energy's Kansas natural gas distribution operations were a stand-alone publicly-traded entity). To estimate the size of the Company's market capitalization relative to the proxy group, I used the Company's proposed capital structure equity component of $115.6 million. I then applied the median market-to-book ratio for the proxy group of 1.92 to Atmos Energy's implied common equity balance and arrived at an implied market capitalization of approximately $222.0 million, or approximately 8.25 percent of the median market capitalization for the proxy group.

Q. HOW DID YOU ESTIMATE THE SIZE PREMIUM FOR ATMOS ENERGY?

A. Given this relative size information, it is possible to estimate the impact of size on the ROE for Atmos Energy's Kansas gas distribution operations using Morningstar data that estimates the stock risk premia based on a company's market capitalization.[35] As shown in Attachment AEB-10, the median market capitalization of the proxy group of approximately $2.69 billion corresponds to the fifth decile of the Morningstar

[35] Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook, at Table 7-6.

market capitalization data.[36] Based on Morningstar's analysis, that decile corresponds to a size premium of 1.60 percent (*i.e.*, 160 basis points). Atmos Energy's implied market capitalization of approximately $222.0 million falls within the tenth decile, which comprises market capitalization levels up to $300.7 million and corresponds to a size premium of 5.78 percent (*i.e.*, 578 basis points). The difference between those size premia is 418 basis points (*i.e.*, 5.78 percent minus 1.60 percent).

Q. HOW HAVE YOU CONSIDERED THE SMALLER SIZE OF ATMOS ENERGY IN YOUR RECOMMENDED ROE?

A. While I have estimated the effect of Atmos Energy's small size on the ROE for its Kansas gas distribution operations, I am not proposing a specific adjustment for this risk factor. Rather, I believe it is important to consider the small size of Atmos Energy's Kansas natural gas distribution operations in the determination of where, within the range of analytical results, the Company's required ROE falls.

C. Formula Rate Mechanism

Q. WHAT IS YOUR UNDERSTANDING OF THE COMPANY'S PROPOSED FORMULA RATE MECHANISM?

A. As described in the Direct Testimony of Company witness Gary Smith, the Company is proposing a formula rate mechanism that would allow Atmos Energy to refresh the Company's cost of service annually for all items using the ROE authorized in the Company's most recent rate case decision. The proposed formula rate mechanism would be similar to what Atmos Energy currently has in effect in Texas, Mississippi

[36] Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook, at Table 7-5.

and Louisiana, and what was recently approved in Tennessee. The primary difference is that in Kansas the formula rate mechanism would operate on a lagged basis, consistent with the rules in Kansas. The goal in proposing a formula rate mechanism is to reduce the cost of rate case expenses and to enhance regulatory efficiency in Kansas.

Q. HAVE YOU EVALUATED THE EFFECT OF THE FORMULA RATE MECHANISM ON THE COMPANY'S AUTHORIZED ROE?

A. Yes, I have. Since the ROE recommendation is established for a company based on its risk relative to the proxy group, it is necessary to consider how the implementation of the proposed formula rate mechanism would affect the Company's risk profile relative to the proxy companies. As shown on Attachment AEB-11, approximately 67 percent of the jurisdictions where the proxy companies operate have approved some form of mechanism (i.e., formula rate plan, revenue decoupling mechanism, straight fixed-variable rate design) that provides for the recovery of prudently incurred costs between rate cases.[37]

Q. WHAT IS YOUR CONCLUSION REGARDING THE EFFECT OF THE COMPANY'S PROPOSED FORMULA RATE MECHANISM ON THE COST OF EQUITY FOR ATMOS ENERGY IN KANSAS?

A. Based on the analysis discussed above, my conclusion is that Atmos Energy's natural gas distribution operations in Kansas have greater risk related to cost recovery than the proxy companies without the proposed formula rate mechanism. Approval of the

[37] Separate and apart from Formula Rate Plans, as shown on Attachment AEB-11, nearly all of the proxy companies have implemented some form of Infrastructure Recovery Mechanism to address ongoing capital replacement programs.

proposed formula rate mechanism would make Atmos Energy's risk profile in Kansas more comparable to the proxy companies. Since many of the proxy companies have implemented various cost recovery mechanisms, these companies currently have somewhat less cost-recovery risk than Atmos Energy does without the formula rate mechanism. While the formula rate mechanism could provide the Company some periodic recovery of capital investment, it does not decrease the Company's risk relative to the proxy group. Therefore, it is not necessary to adjust the authorized ROE if the Commission were to approve this mechanism. My analysis and conclusions regarding the effect of the formula rate plan on the cost of equity are consistent with the Staff's view in Atmos Energy's last proceeding.[38] Without the formula rate mechanism, Atmos Energy's business risk is higher than the proxy group companies, which would support an authorized ROE at the upper end of the range of results.

X. CAPITAL STRUCTURE AND COST OF DEBT

Q. HOW IS ATMOS ENERGY ORGANIZED?

A. Atmos Energy conducts utility operations in eight states through unincorporated divisions. The relevant division here is commonly referred to as the Colorado/Kansas Division.

38 Direct Testimony of Adam H. Gatewood, Docket No. 14-ATMG-320-RTS, at 33-34.

Q. DO THE COMPANY'S UNINCORPORATED DIVISIONS ISSUE THEIR OWN DEBT OR EQUITY?

A. No. These divisions, including the Colorado/Kansas Division, are not separate legal entities. Instead, these unincorporated divisions are part of the legal entity that is Atmos Energy Corporation. Therefore, all debt or equity funding of the operations performed by the utility divisions must be (and is) issued by Atmos Energy as a whole, on a consolidated basis.

Q. WHAT CAPITAL STRUCTURE SHOULD BE USED IN THIS PROCEEDING?

A. Although this proceeding only affects the rates that may be charged by the Company in its service area in Kansas, the appropriate capital structure for each of the Atmos Energy utility operating divisions, including the Colorado/Kansas Division, is the consolidated capital structure for Atmos Energy as a whole. The use of the Atmos Energy consolidated capital structure is appropriate for use in setting rates for the Company's Kansas customers because Atmos Energy provides the debt and equity capital that supports the assets serving those customers.

Q. HAS THE COMPANY RELIED ON THE CONSOLIDATED CAPITAL STRUCTURE OF ATMOS ENERGY IN THIS PROCEEDING?

A. Yes. As detailed in Section 7 of the Company's filing schedules, the Company utilized a capital structure for Atmos Energy based on the end of the test period, March 31, 2015. Short-term debt is excluded from this calculation because the Company's use of short-term debt is seasonal in nature and is not intended to be used to finance utility plant.

Q. WHAT IS ATMOS ENERGY'S PROPOSED CAPITAL STRUCTURE?

A. The Company is proposing a capital structure consisting of 56.12 percent common equity and 43.88 percent long-term debt, based on the historical test period ending March 31, 2015.

Q. HAVE YOU PERFORMED AN ANALYSIS OF THE CAPITAL STRUCTURES OF THE PROXY GROUP COMPANIES?

A. Yes. My analysis of the proxy group companies' actual capital structures is provided in Attachment AEB-12. As shown in that Attachment, I calculated the mean and median proportions of common equity and long-term debt over the most recent eight quarters[39] for each of the proxy group companies. The Company's proposed common equity ratio of 56.12 percent is slightly higher than the mean common equity ratio of 53.02 percent for the proxy group companies, but well within the range established by the proxy group companies of 42.47 percent to 64.48 percent.

Q. WHAT IS YOUR CONCLUSION REGARDING AN APPROPRIATE CAPITAL STRUCTURE FOR ATMOS ENERGY IN KANSAS?

A. Considering the actual capital structures of the proxy group companies, I believe that Atmos Energy's proposed common equity ratio of 56.12 percent is reasonable relative to the proxy group companies.

[39] The source data for this analysis is the operating company data provided in SEC Form 10-Q filings. Due to the timing of those filings, my average capital structure analysis uses the quarterly capital structures reported for the proxy group companies for the period from the second quarter of 2013 through the first quarter of 2015.

Q. WHAT RATE DO YOU PROPOSE FOR THE EMBEDDED COST OF DEBT CAPITAL IN SETTING RATES IN THIS CASE?

A. As shown in the calculation on Attachment AEB-13, I recommend a 5.90 percent weighted average cost of long-term debt. This is the Company's weighted average cost of long-term debt as of March 31, 2015. The weighted average cost of long-term debt reflects the refinancing of $500 million of long-term debt that occurred in October 2014. The refinancing has lowered the revenue requirement in this case by $282,000 as compared to the weighted average cost of long-term debt in the last proceeding. The long-term debt market is lower, as compared to when the re-financed debt was issued; however, the rate that was achieved would not have been possible if the Company did not achieve the rating agency upgrades that it has received over the past two years.

Q. HAVE YOU CONDUCTED AN ANALYSIS TO DETERMINE THE REASONABLENESS OF ATMOS ENERGY'S WEIGHTED AVERAGE COST OF LONG-TERM DEBT?

A. Yes. I compared Atmos Energy's cost of debt to the Moody's Baa- and A-rated utility bond indexes. As of April 30, 2015, the 30-day average of the Moody's Baa utility bond index was 4.50 percent and the Moody's A-rated utility bond index was 3.73 percent, which is generally consistent with Atmos Energy's weighted average cost of long-term debt. Therefore, I believe Atmos Energy's cost of debt is reasonable in setting rates in this case.

XI. CONCLUSIONS AND RECOMMENDATION

Q. WHAT IS YOUR CONCLUSION REGARDING A FAIR ROE FOR ATMOS ENERGY IN KANSAS?

A. Based on the various quantitative and qualitative analyses presented in my Direct Testimony and in light of the business and financial risks of Atmos Energy compared to the proxy group, it is my view that an ROE of 10.50 percent is fair and reasonable and would balance the interests of customers and shareholders. Specifically, my ROE recommendation would enable the Company to maintain its financial integrity and therefore its ability to attract capital at reasonable rates under a variety of economic and financial market conditions, while continuing to provide safe, reliable and affordable natural gas distribution service to customers in Kansas.

Table 6: Summary of Analytical Results

	Mean Low	Mean	Mean High
Constant Growth DCF (including flotation costs)			
30-Day Average Price	8.32%	9.49%	10.60%
90-Day Average Price	8.27%	9.44%	10.55%
180-Day Average Price	8.38%	9.55%	10.66%
Multi-Stage DCF (including flotation costs)			
	Low	Mean	High
30-Day Average Price	9.04%	9.30%	9.57%
90-Day Average Price	8.98%	9.24%	9.52%
180-Day Average Price	9.10%	9.36%	9.65%
Capital Asset Pricing Model			
	Current Risk-Free Rate (2.57%)	**2015-2016 Projected Risk-Free Rate (3.23%)**	**2016-2020 Projected Risk-Free Rate (4.90%)**
Bloomberg Beta	10.33%	10.49%	10.91%
Value Line Beta	10.65%	10.80%	11.16%
Bond Yield Plus Risk Premium			
Risk Premium	9.60%	9.88%	10.60%
Additional Considerations			
Small Size Premium	4.18%		

Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO ATMOS ENERGY'S PROPOSED CAPITAL STRUCTURE AND COST OF DEBT?

A. My conclusion is that the Company's proposed capital structure consisting of 56.12 percent common equity and 43.88 percent long-term debt is reasonable, compared to the mean capital structures for the proxy group companies. Finally, the Company's 5.90 percent cost of debt is reasonable.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

VERIFICATION

STATE OF MASSACHUSETTS)
)
COUNTY OF MIDDLESEX)

Ann E. Bulkley, being duly sworn upon his oath, deposes and states that she is a Vice President at Concentric Energy Advisors, Inc.; that she has read and is familiar with the foregoing Direct Testimony filed herewith; and that the statements made therein are true to the best of her knowledge, information and belief.

Ann E. Bulkley

Subscribed and sworn before me this 22 day of July, 2015.

Notary Public

My appointment expires: _____

WENDY L. PRESTON
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
April 22, 2022

Ann E. Bulkley
Vice President

Ms. Bulkley has nearly two decades of management and economic consulting experience in the energy industry. Ms. Bulkley has extensive state and federal regulatory experience on both electric and natural gas issues including rate of return, cost of equity and capital structure issues. Ms. Bulkley has advised clients seeking to acquire utility assets, providing valuation services including an understanding of regulation, market expected returns, and the assessment of utility risk factors. Ms. Bulkley has assisted clients with valuations of public utility and industrial properties for ratemaking, purchase and sale considerations, ad valorem tax assessments, and accounting and financial purposes. In addition, Ms. Bulkley has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring and regulatory and litigation support.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis and Ratemaking

Ms. Bulkley has provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking. Specific services have included: cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies; development of merchant function exit strategies; analysis and program development to address residual energy supply and/or provider of last resort obligations; stranded costs assessment and recovery; performance-based ratemaking analysis and design; and many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation).

Cost of Capital

Ms. Bulkley has provided expert testimony on the cost of capital testimony before several state regulatory commissions. In addition, Ms. Bulkley has prepared and provided supporting analysis for at least forty Federal and State regulatory proceedings over the past seven years. Ms. Bulkley's expert testimony experience includes:

- Northern States Power Company: Before the North Dakota Public Service Commission, provided expert testimony on the cost of capital for the company's North Dakota electric utility operations.
- WE Energies: Before the Michigan Public Service Commission, provided expert testimony in support of the company's cost of capital for its electric utility operations.
- Atmos Energy: Provided expert testimony in support of the company's return on equity and capital structure before the Public Utilities Commission for the State of Colorado.
- UNS Electric: Provided expert testimony in support of the company's return on equity and capital structure before the Arizona Corporation Commission.
- Portland Natural Gas Transmission: Provided testimony strategy as well as analytical support for cost of capital testimony before the Federal Energy Regulatory Commission.
- In addition to the specific cases listed above, Ms. Bulkley has provided testimony strategy as well as analytical support on cost of capital in several cases in the following states: Arizona, Colorado, Connecticut, Massachusetts, Minnesota, New Mexico, New York, North Carolina, South Carolina, South Dakota, Virginia, and Utah.

Valuation

Ms. Bulkley has provided valuation services to utility clients, unregulated generators and private equity clients for a variety of purposes including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. Ms. Bulkley's appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal practice. In addition, Ms. Bulkley has relied on other simulation based valuation methodologies.

Representative projects/clients have included:

- Northern Indiana Fuel and Light: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Kokomo Gas: Provided expert testimony regarding the fair value of the company's natural gas distribution system assets. Valuation relied on cost approach.
- Prepared fair value rate base analyses for Northern Indiana Public Service Company for several electric rate proceedings. Valuation approaches used in this project included income, cost and comparable sales approaches.
- Confidential Utility Client: Prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract. .
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support for and prepared appraisal reports of generation assets to be used in ad valorem tax disputes.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

Ratemaking

Ms. Bulkley has assisted several clients with analysis to support investor-owned and municipal utility clients in the preparation of rate cases. Sample engagements include:

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.

- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Analyzed and evaluated rate application. Attended hearings and conducted investigation of rate application for regulatory staff. Prepared, supported and defended recommendations for revenue requirements and rates for the company. Developed rates for gas utility for transportation program and ancillary services.

Strategic and Financial Advisory Services

Ms. Bulkley has assisted several clients across North America with analytically based strategic planning, due diligence and financial advisory services.

Representative projects include:

- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed, and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.
- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)
Vice President
Assistant Vice President
Project Manager

Navigant Consulting, Inc. (1995 – 2002)
Project Manager

Cahners Publishing Company (1995)
Economist

EDUCATION

M.A., Economics, Boston University, 1995
B.A., Economics and Finance, Simmons College, 1991
Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of Michigan

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SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
Arkansas Public Service Commission				
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
Colorado Public Utilities Commission				
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-____G	Return on Equity
Indiana Utility Regulatory Commission				
Kokomo Gas And Fuel Company	09/10	Kokomo Gas And Fuel Company	Docket No. 43942	Fair Value
Northern Indiana Fuel And Light Company, Inc.	09/10	Northern Indiana Fuel And Light Company, Inc.	Docket No. 43943	Fair Value
Massachusetts Department of Public Utilities				
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
Covert Township	7/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
New York State Department of Public Service				
New York State Electric and Gas Company	5/15	New York State Electric and Gas Company	Case No. 15-G-0284	Return on Equity
North Dakota Public Service Commission				
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity
Oklahoma Corporation Commission				
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Public Utility Commission of Texas				
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
South Dakota Public Utilities Commission				
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity

30-DAY CONSTANT GROWTH DCF

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
AGL Resources Inc.	GAS	$2.04	$50.12	4.07%	4.20%	6.50%	N/A	6.00%	6.25%	10.19%	10.45%	10.70%
Laclede Group, Inc. (The)	LG	$1.84	$51.71	3.56%	3.67%	10.00%	4.67%	4.90%	6.52%	8.31%	10.20%	13.74%
New Jersey Resources Corporation	NJR	$0.90	$31.17	2.89%	2.96%	2.00%	6.00%	6.00%	4.67%	4.92%	7.62%	8.97%
NiSource Inc.	NI	$1.04	$43.82	2.37%	2.49%	9.00%	10.40%	N/A	9.70%	11.48%	12.19%	12.90%
Northwest Natural Gas Company	NWN	$1.86	$47.99	3.88%	3.96%	5.50%	4.00%	4.00%	4.50%	7.95%	8.46%	9.48%
Piedmont Natural Gas Company, Inc.	PNY	$1.32	$37.22	3.55%	3.62%	3.00%	5.00%	5.00%	4.33%	6.60%	7.96%	8.64%
South Jersey Industries, Inc.	SJI	$2.01	$53.93	3.73%	3.85%	7.50%	6.00%	N/A	6.75%	9.84%	10.60%	11.37%
Southwest Gas Corporation	SWX	$1.46	$57.66	2.53%	2.60%	6.00%	4.00%	5.50%	5.17%	6.58%	7.76%	8.61%
WGL Holdings, Inc.	WGL	$1.85	$56.15	3.30%	3.39%	4.50%	6.50%	6.00%	5.67%	7.87%	9.06%	9.90%
Mean				3.32%	3.42%	6.00%	5.82%	5.34%	5.95%	8.19%	9.37%	10.48%
Flotation Cost										0.13%	0.13%	0.13%
Flotation Cost Adjusted DCF Result										8.32%	9.49%	10.60%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of April 30, 2015
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

90-DAY CONSTANT GROWTH DCF

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
AGL Resources Inc.	GAS	$2.04	$51.77	3.94%	4.06%	6.50%	N/A	6.00%	6.25%	10.06%	10.31%	10.57%
Laclede Group, Inc. (The)	LG	$1.84	$52.40	3.51%	3.63%	10.00%	4.67%	4.90%	6.52%	8.26%	10.15%	13.69%
New Jersey Resources Corporation	NJR	$0.90	$31.26	2.88%	2.95%	2.00%	6.00%	6.00%	4.67%	4.91%	7.61%	8.97%
NiSource Inc.	NI	$1.04	$43.30	2.40%	2.52%	9.00%	10.40%	N/A	9.70%	11.51%	12.22%	12.93%
Northwest Natural Gas Company	NWN	$1.86	$48.52	3.83%	3.92%	5.50%	4.00%	4.00%	4.50%	7.91%	8.42%	9.44%
Piedmont Natural Gas Company, Inc.	PNY	$1.32	$38.10	3.46%	3.54%	3.00%	5.00%	5.00%	4.33%	6.52%	7.87%	8.55%
South Jersey Industries, Inc.	SJI	$2.01	$56.39	3.56%	3.69%	7.50%	6.00%	N/A	6.75%	9.67%	10.44%	11.20%
Southwest Gas Corporation	SWX	$1.46	$58.93	2.48%	2.54%	6.00%	4.00%	5.50%	5.17%	6.53%	7.71%	8.55%
WGL Holdings, Inc.	WGL	$1.85	$55.23	3.35%	3.44%	4.50%	6.50%	6.00%	5.67%	7.92%	9.11%	9.96%
Mean				3.27%	3.37%	6.00%	5.82%	5.34%	5.95%	8.14%	9.32%	10.43%
Flotation Cost										0.13%	0.13%	0.13%
Flotation Cost Adjusted DCF Result										8.27%	9.44%	10.55%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-day average as of April 30, 2015
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

180-DAY CONSTANT GROWTH DCF

Company		[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
AGL Resources Inc.	GAS	$2.04	$52.15	3.91%	4.03%	6.50%	N/A	6.00%	6.25%	10.03%	10.28%	10.54%
Laclede Group, Inc. (The)	LG	$1.84	$50.83	3.62%	3.74%	10.00%	4.67%	4.90%	6.52%	8.37%	10.26%	13.80%
New Jersey Resources Corporation	NJR	$0.90	$29.25	3.08%	3.15%	2.00%	6.00%	6.00%	4.67%	5.11%	7.82%	9.17%
NiSource Inc.	NI	$1.04	$41.90	2.48%	2.60%	9.00%	10.40%	N/A	9.70%	11.59%	12.30%	13.01%
Northwest Natural Gas Company	NWN	$1.86	$46.93	3.96%	4.05%	5.50%	4.00%	4.00%	4.50%	8.04%	8.55%	9.57%
Piedmont Natural Gas Company, Inc.	PNY	$1.32	$37.33	3.54%	3.61%	3.00%	5.00%	5.00%	4.33%	6.59%	7.95%	8.62%
South Jersey Industries, Inc.	SJI	$2.01	$56.49	3.56%	3.68%	7.50%	6.00%	N/A	6.75%	9.67%	10.43%	11.19%
Southwest Gas Corporation	SWX	$1.46	$56.60	2.58%	2.65%	6.00%	4.00%	5.50%	5.17%	6.63%	7.81%	8.66%
WGL Holdings, Inc.	WGL	$1.85	$50.55	3.66%	3.76%	4.50%	6.50%	6.00%	5.67%	8.24%	9.43%	10.28%
Mean				3.38%	3.48%	6.00%	5.82%	5.34%	5.95%	8.25%	9.43%	10.54%
Flotation Cost										0.13%	0.13%	0.13%
Flotation Cost Adjusted DCF Result										8.38%	9.55%	10.66%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-day average as of April 30, 2015
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

30-DAY MULTI-STAGE DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$50.12	$2.04	6.25%	6.11%	5.97%	5.83%	5.69%	5.55%	5.41%	10.14%
Laclede Group, Inc. (The)	LG	$51.71	$1.84	6.52%	6.34%	6.15%	5.97%	5.78%	5.60%	5.41%	9.61%
New Jersey Resources Corporation	NJR	$31.17	$0.90	4.67%	4.79%	4.91%	5.04%	5.16%	5.29%	5.41%	8.41%
NiSource Inc.	NI	$43.82	$1.04	9.70%	8.99%	8.27%	7.56%	6.84%	6.13%	5.41%	8.82%
Northwest Natural Gas Company	NWN	$47.99	$1.86	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	9.44%
Piedmont Natural Gas Company, Inc.	PNY	$37.22	$1.32	4.33%	4.51%	4.69%	4.87%	5.05%	5.23%	5.41%	9.04%
South Jersey Industries, Inc.	SJI	$53.93	$2.01	6.75%	6.53%	6.30%	6.08%	5.86%	5.63%	5.41%	9.87%
Southwest Gas Corporation	SWX	$57.66	$1.46	5.17%	5.21%	5.25%	5.29%	5.33%	5.37%	5.41%	8.12%
WGL Holdings, Inc.	WGL	$56.15	$1.85	5.67%	5.62%	5.58%	5.54%	5.50%	5.45%	5.41%	9.09%
Mean											9.17%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.30%

Notes:
[1] Source: Bloomberg Professional, equals 30-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Average Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

90-DAY MULTI-STAGE DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$51.77	$2.04	6.25%	6.11%	5.97%	5.83%	5.69%	5.55%	5.41%	9.99%
Laclede Group, Inc. (The)	LG	$52.40	$1.84	6.52%	6.34%	6.15%	5.97%	5.78%	5.60%	5.41%	9.55%
New Jersey Resources Corporation	NJR	$31.26	$0.90	4.67%	4.79%	4.91%	5.04%	5.16%	5.29%	5.41%	8.40%
NiSource Inc.	NI	$43.30	$1.04	9.70%	8.99%	8.27%	7.56%	6.84%	6.13%	5.41%	8.86%
Northwest Natural Gas Company	NWN	$48.52	$1.86	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	9.39%
Piedmont Natural Gas Company, Inc.	PNY	$38.10	$1.32	4.33%	4.51%	4.69%	4.87%	5.05%	5.23%	5.41%	8.96%
South Jersey Industries, Inc.	SJI	$56.39	$2.01	6.75%	6.53%	6.30%	6.08%	5.86%	5.63%	5.41%	9.68%
Southwest Gas Corporation	SWX	$58.93	$1.46	5.17%	5.21%	5.25%	5.29%	5.33%	5.37%	5.41%	8.06%
WGL Holdings, Inc.	WGL	$55.23	$1.85	5.67%	5.62%	5.58%	5.54%	5.50%	5.45%	5.41%	9.15%
Mean											9.12%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.24%

Notes:

[1] Source: Bloomberg Professional, equals 90-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Average Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

180-DAY MULTI-STAGE DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$52.15	$2.04	6.25%	6.11%	5.97%	5.83%	5.69%	5.55%	5.41%	9.95%
Laclede Group, Inc. (The)	LG	$50.83	$1.84	6.52%	6.34%	6.15%	5.97%	5.78%	5.60%	5.41%	9.68%
New Jersey Resources Corporation	NJR	$29.25	$0.90	4.67%	4.79%	4.91%	5.04%	5.16%	5.29%	5.41%	8.62%
NiSource Inc.	NI	$41.90	$1.04	9.70%	8.99%	8.27%	7.56%	6.84%	6.13%	5.41%	8.98%
Northwest Natural Gas Company	NWN	$46.93	$1.86	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	9.53%
Piedmont Natural Gas Company, Inc.	PNY	$37.33	$1.32	4.33%	4.51%	4.69%	4.87%	5.05%	5.23%	5.41%	9.03%
South Jersey Industries, Inc.	SJI	$56.49	$2.01	6.75%	6.53%	6.30%	6.08%	5.86%	5.63%	5.41%	9.67%
Southwest Gas Corporation	SWX	$56.60	$1.46	5.17%	5.21%	5.25%	5.29%	5.33%	5.37%	5.41%	8.17%
WGL Holdings, Inc.	WGL	$50.55	$1.85	5.67%	5.62%	5.58%	5.54%	5.50%	5.45%	5.41%	9.50%
Mean											9.24%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.36%

Notes:

[1] Source: Bloomberg Professional, equals 180-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Average Growth Rate
[4] Equals [3] + ([9] − [3]) / 6
[5] Equals [4] + ([9] − [3]) / 6
[6] Equals [5] + ([9] − [3]) / 6
[7] Equals [6] + ([9] − [3]) / 6
[8] Equals [7] + ([9] − [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

30-DAY MULTI-STAGE DCF -- LOW GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$50.12	$2.04	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	10.07%
Laclede Group, Inc. (The)	LG	$51.71	$1.84	4.67%	4.79%	4.92%	5.04%	5.16%	5.29%	5.41%	9.14%
New Jersey Resources Corporation	NJR	$31.17	$0.90	2.00%	2.57%	3.14%	3.71%	4.27%	4.84%	5.41%	7.90%
NiSource Inc.	NI	$43.82	$1.04	9.00%	8.40%	7.80%	7.21%	6.61%	6.01%	5.41%	8.67%
Northwest Natural Gas Company	NWN	$47.99	$1.86	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	9.31%
Piedmont Natural Gas Company, Inc.	PNY	$37.22	$1.32	3.00%	3.40%	3.80%	4.21%	4.61%	5.01%	5.41%	8.73%
South Jersey Industries, Inc.	SJI	$53.93	$2.01	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.67%
Southwest Gas Corporation	SWX	$57.66	$1.46	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	7.91%
WGL Holdings, Inc.	WGL	$56.15	$1.85	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	8.82%
Mean											8.91%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.04%

Notes:
[1] Source: Bloomberg Professional, equals 30-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Minimum Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

90-DAY MULTI-STAGE DCF -- LOW GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$51.77	$2.04	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.92%
Laclede Group, Inc. (The)	LG	$52.40	$1.84	4.67%	4.79%	4.92%	5.04%	5.16%	5.29%	5.41%	9.09%
New Jersey Resources Corporation	NJR	$31.26	$0.90	2.00%	2.57%	3.14%	3.71%	4.27%	4.84%	5.41%	7.90%
NiSource Inc.	NI	$43.30	$1.04	9.00%	8.40%	7.80%	7.21%	6.61%	6.01%	5.41%	8.71%
Northwest Natural Gas Company	NWN	$48.52	$1.86	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	9.26%
Piedmont Natural Gas Company, Inc.	PNY	$38.10	$1.32	3.00%	3.40%	3.80%	4.21%	4.61%	5.01%	5.41%	8.65%
South Jersey Industries, Inc.	SJI	$56.39	$2.01	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.48%
Southwest Gas Corporation	SWX	$58.93	$1.46	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	7.85%
WGL Holdings, Inc.	WGL	$55.23	$1.85	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	8.87%
Mean											8.86%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											8.98%

Notes:
[1] Source: Bloomberg Professional, equals 90-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Minimum Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

180-DAY MULTI-STAGE DCF -- LOW GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$52.15	$2.04	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.88%
Laclede Group, Inc. (The)	LG	$50.83	$1.84	4.67%	4.79%	4.92%	5.04%	5.16%	5.29%	5.41%	9.20%
New Jersey Resources Corporation	NJR	$29.25	$0.90	2.00%	2.57%	3.14%	3.71%	4.27%	4.84%	5.41%	8.08%
NiSource Inc.	NI	$41.90	$1.04	9.00%	8.40%	7.80%	7.21%	6.61%	6.01%	5.41%	8.82%
Northwest Natural Gas Company	NWN	$46.93	$1.86	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	9.40%
Piedmont Natural Gas Company, Inc.	PNY	$37.33	$1.32	3.00%	3.40%	3.80%	4.21%	4.61%	5.01%	5.41%	8.72%
South Jersey Industries, Inc.	SJI	$56.49	$2.01	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.47%
Southwest Gas Corporation	SWX	$56.60	$1.46	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	7.96%
WGL Holdings, Inc.	WGL	$50.55	$1.85	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	9.21%
Mean											8.97%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.10%

Notes:
[1] Source: Bloomberg Professional, equals 180-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Minimum Growth Rate
[4] Equals [3] + ([9] − [3]) / 6
[5] Equals [4] + ([9] − [3]) / 6
[6] Equals [5] + ([9] − [3]) / 6
[7] Equals [6] + ([9] − [3]) / 6
[8] Equals [7] + ([9] − [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

30-DAY MULTI-STAGE DCF -- HIGH GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$50.12	$2.04	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	10.22%
Laclede Group, Inc. (The)	LG	$51.71	$1.84	10.00%	9.24%	8.47%	7.71%	6.94%	6.18%	5.41%	10.60%
New Jersey Resources Corporation	NJR	$31.17	$0.90	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	8.69%
NiSource Inc.	NI	$43.82	$1.04	10.40%	9.57%	8.74%	7.91%	7.07%	6.24%	5.41%	8.97%
Northwest Natural Gas Company	NWN	$47.99	$1.86	5.50%	5.49%	5.47%	5.46%	5.44%	5.43%	5.41%	9.70%
Piedmont Natural Gas Company, Inc.	PNY	$37.22	$1.32	5.00%	5.07%	5.14%	5.21%	5.27%	5.34%	5.41%	9.21%
South Jersey Industries, Inc.	SJI	$53.93	$2.01	7.50%	7.15%	6.80%	6.46%	6.11%	5.76%	5.41%	10.09%
Southwest Gas Corporation	SWX	$57.66	$1.46	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	8.28%
WGL Holdings, Inc.	WGL	$56.15	$1.85	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	9.29%
Mean											9.45%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.57%

Notes:
[1] Source: Bloomberg Professional, equals 30-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Maximum Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

90-DAY MULTI-STAGE DCF -- HIGH GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$51.77	$2.04	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	10.06%
Laclede Group, Inc. (The)	LG	$52.40	$1.84	10.00%	9.24%	8.47%	7.71%	6.94%	6.18%	5.41%	10.54%
New Jersey Resources Corporation	NJR	$31.26	$0.90	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	8.68%
NiSource Inc.	NI	$43.30	$1.04	10.40%	9.57%	8.74%	7.91%	7.07%	6.24%	5.41%	9.02%
Northwest Natural Gas Company	NWN	$48.52	$1.86	5.50%	5.49%	5.47%	5.46%	5.44%	5.43%	5.41%	9.66%
Piedmont Natural Gas Company, Inc.	PNY	$38.10	$1.32	5.00%	5.07%	5.14%	5.21%	5.27%	5.34%	5.41%	9.12%
South Jersey Industries, Inc.	SJI	$56.39	$2.01	7.50%	7.15%	6.80%	6.46%	6.11%	5.76%	5.41%	9.88%
Southwest Gas Corporation	SWX	$58.93	$1.46	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	8.21%
WGL Holdings, Inc.	WGL	$55.23	$1.85	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	9.35%
Mean											9.39%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.52%

Notes:
[1] Source: Bloomberg Professional, equals 90-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Maximum Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

180-DAY MULTI-STAGE DCF – HIGH GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
					Second Stage Growth						
Company	Ticker	Stock Price	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$52.15	$2.04	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	10.03%
Laclede Group, Inc. (The)	LG	$50.83	$1.84	10.00%	9.24%	8.47%	7.71%	6.94%	6.18%	5.41%	10.69%
New Jersey Resources Corporation	NJR	$29.25	$0.90	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	8.91%
NiSource Inc.	NI	$41.90	$1.04	10.40%	9.57%	8.74%	7.91%	7.07%	6.24%	5.41%	9.14%
Northwest Natural Gas Company	NWN	$46.93	$1.86	5.50%	5.49%	5.47%	5.46%	5.44%	5.43%	5.41%	9.80%
Piedmont Natural Gas Company, Inc.	PNY	$37.33	$1.32	5.00%	5.07%	5.14%	5.21%	5.27%	5.34%	5.41%	9.19%
South Jersey Industries, Inc.	SJI	$56.49	$2.01	7.50%	7.15%	6.80%	6.46%	6.11%	5.76%	5.41%	9.87%
Southwest Gas Corporation	SWX	$56.60	$1.46	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	8.33%
WGL Holdings, Inc.	WGL	$50.55	$1.85	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	9.73%
Mean											9.52%
Flotation Cost											0.13%
Flotation Cost Adjusted DCF Result											9.65%

Notes:
[1] Source: Bloomberg Professional, equals 180-day average as of April 30, 2015.
[2] Source: Bloomberg Professional
[3] Source: Exhibit AEB-1, Maximum Growth Rate
[4] Equals [3] + ([9] – [3]) / 6
[5] Equals [4] + ([9] – [3]) / 6
[6] Equals [5] + ([9] – [3]) / 6
[7] Equals [6] + ([9] – [3]) / 6
[8] Equals [7] + ([9] – [3]) / 6
[9] Source: Exhibit AEB-3
[10] Equals internal rate of return of cash flows for Year 0 through Year 200

CALCULATION OF LONG-TERM GDP GROWTH RATE

Real GDP ($ Billions) [1]	
1929	$ 1,056.6
2014	$ 16,085.6
Compound Annual Growth Rate	**3.26%**
Consumer Price Index (YoY % Change) [2]	
2021-2025	2.30%
Average	2.30%
Consumer Price Index (All-Urban) [3]	
2025	2.89
2040	3.95
Compound Annual Growth Rate	2.11%
GDP Chain-type Price Index (2009=1.000) [3]	
2025	1.31
2040	1.73
Compound Annual Growth Rate	1.85%
Average Inflation Forecast	**2.09%**
Long-Term GDP Growth Rate	**5.41%**

Notes:

[1] Bureau of Economic Analysis, April 29, 2015

[2] Blue Chip Financial Forecasts, Vol. 33, No.12, December 1, 2014, at 14

[3] Energy Information Administration, Annual Energy Outlook 2015, Table 20

FLOTATION COST ADJUSTMENT

Two most recent common stock issuances per company, if available

Company	Date	Shares Issued (000)	Offering Price	Under-writing Discount	Offering Expense ($000)	Net Proceeds Per Share	Total Flotation Costs ($000)	Gross Equity Issue Before Costs ($000)	Net Proceeds ($000)	Flotation Cost Percentage
AGL Resources Inc.	11/19/2004	11,040	$31.01	$0.930	$400.0	$30.04	$10,670.5	$342,350.4	$331,679.9	3.117%
AGL Resources Inc.	2/11/2003	6,440	$22.00	$0.770	$250.0	$21.19	$5,208.8	$141,680.0	$136,471.2	3.676%
Atmos Energy Corporation	2/11/2014	9,200	$44.00	$1.540	$350.0	$42.42	$14,518.0	$404,800.0	$390,282.0	3.586%
Atmos Energy Corporation	12/7/2006	6,325	$31.50	$1.103	$400.0	$30.33	$7,373.3	$199,237.5	$191,864.2	3.701%
Laclede Group, Inc. (The)	6/5/2014	10,350	$46.25	$1.711	$1,000	$44.44	$18,712.0	$478,687.5	$459,975.5	3.909%
Laclede Group, Inc. (The)	5/22/2013	10,005	$44.50	$1.724	$1,000	$42.68	$18,252.6	$445,222.5	$426,969.9	4.100%
NiSource Inc.	9/8/2010	24,265	$16.50	$0.536	$400	$15.95	$13,410.9	$400,372.5	$386,961.6	3.350%
NiSource Inc.	11/6/2002	41,400	$18.30	$0.549	$300.0	$17.74	$23,028.6	$757,620.0	$734,591.4	3.040%
Northwest Natural G $k=\frac{D\times(1+0.5g)}{P\times(1-F)}+g$	3/30/2004	1,290	$31.00	$1.010	$175.0	$29.85	$1,477.9	$39,990.0	$38,512.1	3.696%
Northwest Natural Gas Company	4/7/1998	1,725	$26.81	$0.885	$170.0	$25.83	$1,696.6	$46,251.6	$44,554.9	3.668%
Piedmont Natural Gas Company, Inc.	1/29/2013	4,600	$32.00	$1.120	$350.0	$30.80	$5,502.0	$147,200.0	$141,698.0	3.738%
Piedmont Natural Gas Company, Inc.	1/20/2004	4,250	$42.50	$1.490	$350.0	$40.93	$6,682.5	$180,625.0	$173,942.5	3.700%
Southwest Gas Corporation	8/5/1998	2,875	$23.25	$0.780	$200.0	$22.40	$2,442.5	$66,843.8	$64,401.3	3.654%
WGL Holdings, Inc.	6/20/2001	2,039	$26.73	$0.895	$56.2	$25.81	$1,880.7	$54,489.1	$52,608.4	3.451%
							$130,856.9	$3,705,369.8	$3,574,512.9	3.532%

The flotation cost adjustment is derived by dividing the dividend yield by 1 – F (where F = flotation costs expressed in percentage terms), or by 0.9647, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Expected Dividend Yield Adjusted for Flotation Costs	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Earnings Growth	ROE	ROE Adjusted for Flotation Costs	
AGL Resources Inc.	GAS	$2.04	$50.12	4.07%	4.20%	4.35%	6.50%	N/A	6.00%	6.25%	10.45%	10.60%	
Laclede Group, Inc. (The)	LG	$1.84	$51.71	3.56%	3.67%	3.81%	10.00%	4.67%	4.90%	6.52%	10.20%	10.33%	
New Jersey Resources Corporation	NJR	$0.90	$31.17	2.89%	2.96%	3.06%	2.00%	6.00%	6.00%	4.67%	7.62%	7.73%	
NiSource Inc.	NI	$1.04	$43.82	2.37%	2.49%	2.58%	9.00%	10.40%	N/A	9.70%	12.19%	12.28%	
Northwest Natural Gas Company	NWN	$1.86	$47.99	3.88%	3.96%	4.11%	5.50%	4.00%	4.00%	4.50%	8.46%	8.61%	
Piedmont Natural Gas Company, Inc.	PNY	$1.32	$37.22	3.55%	3.62%	3.76%	3.00%	5.00%	5.00%	4.33%	7.96%	8.09%	
South Jersey Industries, Inc.	SJI	$2.01	$53.93	3.73%	3.85%	3.99%	7.50%	6.00%	N/A	6.75%	10.60%	10.74%	
Southwest Gas Corporation	SWX	$1.46	$57.66	2.53%	2.60%	2.69%	6.00%	4.00%	5.50%	5.17%	7.76%	7.86%	
WGL Holdings, Inc.	WGL	$1.85	$56.15	3.30%	3.39%	3.51%	4.50%	6.50%	6.00%	5.67%	9.06%	9.18%	
Mean											9.37%	9.49%	
Flotation Cost Adjustment												0.13%	[12]

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of April 30, 2015
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [9])
[5] Equals [4] / (1 – Flotation Cost)
[6] Source: Value Line
[7] Source: Yahoo! Finance
[8] Source: Zacks
[9] Equals Average ([6], [7], [8])
[10] Equals [4] + [9]
[11] Equals [5] + [9]
[12] Equals Average ([11]) – Average ([10])

PROJECTED CONSTANT GROWTH DCF

Company		[1] Annualized Dividend (2018 - 2020)	[2] Stock Price (2018 - 2020) High	[3] Low	[4] Mean	[5] Dividend Yield	[6] Expected Dividend Yield	[7] Value Line Earnings Growth	[8] Yahoo! Finance Earnings Growth	[9] Zacks Earnings Growth	[10] Average Growth Rate	[11] Low ROE	[12] Mean ROE	[13] High ROE
AGL Resources Inc.	GAS	$2.40	$75.00	$65.00	$70.00	3.43%	3.54%	6.50%	N/A	6.00%	6.25%	9.53%	9.79%	10.04%
Laclede Group, Inc. (The)	LG	$2.20	$75.00	$55.00	$65.00	3.38%	3.50%	10.00%	4.67%	4.90%	6.52%	8.13%	10.02%	13.55%
New Jersey Resources Corporation	NJR	$0.98	$30.00	$25.00	$27.50	3.56%	3.65%	2.00%	6.00%	6.00%	4.67%	5.60%	8.31%	9.67%
NiSource Inc.	NI	$1.20	$50.00	$35.00	$42.50	2.82%	2.96%	9.00%	10.40%	N/A	9.70%	11.95%	12.66%	13.37%
Northwest Natural Gas Company	NWN	$2.10	$60.00	$50.00	$55.00	3.82%	3.90%	5.50%	4.00%	4.00%	4.50%	7.89%	8.40%	9.42%
Piedmont Natural Gas Company, Inc.	PNY	$1.47	$45.00	$30.00	$37.50	3.92%	4.00%	3.00%	5.00%	5.00%	4.33%	6.98%	8.34%	9.02%
South Jersey Industries, Inc.	SJI	$2.65	$80.00	$60.00	$70.00	3.79%	3.91%	7.50%	6.00%	N/A	6.75%	9.90%	10.66%	11.43%
Southwest Gas Corporation	SWX	$2.10	$75.00	$50.00	$62.50	3.36%	3.45%	6.00%	4.00%	5.50%	5.17%	7.43%	8.61%	9.46%
WGL Holdings, Inc.	WGL	$1.87	$55.00	$45.00	$50.00	3.74%	3.85%	4.50%	6.50%	6.00%	5.67%	8.32%	9.51%	10.36%
Mean						3.54%	3.64%	6.00%	5.82%	5.34%	5.95%	8.42%	9.59%	10.70%
Flotation Cost												0.13%	0.13%	0.13%
Flotation Cost Adjusted DCF Result												8.54%	9.72%	10.83%

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Source: Value Line
[4] Equals Average ([2], [3])
[5] Equals [1] / [4]
[6] Equals [5] x (1 + 0.50 x [10])
[7] Source: Value Line
[8] Source: Yahoo! Finance
[9] Source: Zacks
[10] Equals Average ([7], [8], [9])
[11] Equals [5] x (1 + 0.50 x Minimum ([7], [8], [9]) + Minimum ([7], [8], [9])
[12] Equals [6] + [10]
[13] Equals [5] x (1 + 0.50 x Maximum ([7], [8], [9]) + Maximum ([7], [8], [9])

PROJECTED MULTI-STAGE DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
		Stock Price (2018 - 2020)					Second Stage Growth						
Company	Ticker	High	Low	Mean	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$75.00	$65.00	$70.00	$2.40	6.25%	6.11%	5.97%	5.83%	5.69%	5.55%	5.41%	9.38%
Laclede Group, Inc. (The)	LG	$75.00	$55.00	$65.00	$2.20	6.52%	6.34%	6.15%	5.97%	5.78%	5.60%	5.41%	9.40%
New Jersey Resources Corporation	NJR	$30.00	$25.00	$27.50	$0.98	4.67%	4.79%	4.91%	5.04%	5.16%	5.29%	5.41%	9.14%
NiSource Inc.	NI	$50.00	$35.00	$42.50	$1.20	9.70%	8.99%	8.27%	7.56%	6.84%	6.13%	5.41%	9.47%
Northwest Natural Gas Company	NWN	$60.00	$50.00	$55.00	$2.10	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	9.37%
Piedmont Natural Gas Company, Inc.	PNY	$45.00	$30.00	$37.50	$1.47	4.33%	4.51%	4.69%	4.87%	5.05%	5.23%	5.41%	9.44%
South Jersey Industries, Inc.	SJI	$80.00	$60.00	$70.00	$2.65	6.75%	6.53%	6.30%	6.08%	5.86%	5.63%	5.41%	9.95%
Southwest Gas Corporation	SWX	$75.00	$50.00	$62.50	$2.10	5.17%	5.21%	5.25%	5.29%	5.33%	5.37%	5.41%	9.04%
WGL Holdings, Inc.	WGL	$55.00	$45.00	$50.00	$1.87	5.67%	5.62%	5.58%	5.54%	5.50%	5.45%	5.41%	9.59%
Mean													9.42%
Flotation Cost													0.13%
Flotation Cost Adjusted DCF Result													9.55%

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Equals Average ([1], [2])
[4] Source: Value Line
[5] Source: Exhibit AEB-5, Average Growth Rate
[6] Equals [5] + ([11] – [5]) / 6
[7] Equals [6] + ([11] – [5]) / 6
[8] Equals [7] + ([11] – [5]) / 6
[9] Equals [8] + ([11] – [5]) / 6
[10] Equals [9] + ([11] – [5]) / 6
[11] Source: Exhibit AEB-3
[12] Equals internal rate of return of cash flows for Year 0 through Year 200

PROJECTED MULTI-STAGE DCF -- LOW GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
		Stock Price (2018 - 2020)					Second Stage Growth						
Company	Ticker	High	Low	Mean	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$75.00	$65.00	$70.00	$2.40	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.32%
Laclede Group, Inc. (The)	LG	$75.00	$55.00	$65.00	$2.20	4.67%	4.79%	4.92%	5.04%	5.16%	5.29%	5.41%	8.95%
New Jersey Resources Corporation	NJR	$30.00	$25.00	$27.50	$0.98	2.00%	2.57%	3.14%	3.71%	4.27%	4.84%	5.41%	8.53%
NiSource Inc.	NI	$50.00	$35.00	$42.50	$1.20	9.00%	8.40%	7.80%	7.21%	6.61%	6.01%	5.41%	9.30%
Northwest Natural Gas Company	NWN	$60.00	$50.00	$55.00	$2.10	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	9.25%
Piedmont Natural Gas Company, Inc.	PNY	$45.00	$30.00	$37.50	$1.47	3.00%	3.40%	3.80%	4.21%	4.61%	5.01%	5.41%	9.10%
South Jersey Industries, Inc.	SJI	$80.00	$60.00	$70.00	$2.65	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.74%
Southwest Gas Corporation	SWX	$75.00	$50.00	$62.50	$2.10	4.00%	4.24%	4.47%	4.71%	4.94%	5.18%	5.41%	8.77%
WGL Holdings, Inc.	WGL	$55.00	$45.00	$50.00	$1.87	4.50%	4.65%	4.80%	4.96%	5.11%	5.26%	5.41%	9.29%
Mean													9.14%
Flotation Cost													0.13%
Flotation Cost Adjusted DCF Result													9.26%

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Equals Average ([1], [2])
[4] Source: Value Line
[5] Source: Exhibit AEB-5, Minimum Growth Rate
[6] Equals [5] + ([11] – [5]) / 6
[7] Equals [6] + ([11] – [5]) / 6
[8] Equals [7] + ([11] – [5]) / 6
[9] Equals [8] + ([11] – [5]) / 6
[10] Equals [9] + ([11] – [5]) / 6
[11] Source: Exhibit AEB-3
[12] Equals internal rate of return of cash flows for Year 0 through Year 200

PROJECTED MULTI-STAGE DCF -- HIGH GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
		Stock Price (2018 - 2020)					Second Stage Growth						
Company	Ticker	High	Low	Mean	Annualized Dividend	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
AGL Resources Inc.	GAS	$75.00	$65.00	$70.00	$2.40	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	9.45%
Laclede Group, Inc. (The)	LG	$75.00	$55.00	$65.00	$2.20	10.00%	9.24%	8.47%	7.71%	6.94%	6.18%	5.41%	10.35%
New Jersey Resources Corporation	NJR	$30.00	$25.00	$27.50	$0.98	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.48%
NiSource Inc.	NI	$50.00	$35.00	$42.50	$1.20	10.40%	9.57%	8.74%	7.91%	7.07%	6.24%	5.41%	9.64%
Northwest Natural Gas Company	NWN	$60.00	$50.00	$55.00	$2.10	5.50%	5.49%	5.47%	5.46%	5.44%	5.43%	5.41%	9.64%
Piedmont Natural Gas Company, Inc.	PNY	$45.00	$30.00	$37.50	$1.47	5.00%	5.07%	5.14%	5.21%	5.27%	5.34%	5.41%	9.62%
South Jersey Industries, Inc.	SJI	$80.00	$60.00	$70.00	$2.65	7.50%	7.15%	6.80%	6.46%	6.11%	5.76%	5.41%	10.16%
Southwest Gas Corporation	SWX	$75.00	$50.00	$62.50	$2.10	6.00%	5.90%	5.80%	5.71%	5.61%	5.51%	5.41%	9.24%
WGL Holdings, Inc.	WGL	$55.00	$45.00	$50.00	$1.87	6.50%	6.32%	6.14%	5.96%	5.77%	5.59%	5.41%	9.82%
Mean													9.71%
Flotation Cost													0.13%
Flotation Cost Adjusted DCF Result													9.84%

Notes:
[1] Source: Value Line
[2] Source: Value Line
[3] Equals Average ([1], [2])
[4] Source: Value Line
[5] Source: Exhibit AEB-5, Maximum Growth Rate
[6] Equals [5] + ([11] – [5]) / 6
[7] Equals [6] + ([11] – [5]) / 6
[8] Equals [7] + ([11] – [5]) / 6
[9] Equals [8] + ([11] – [5]) / 6
[10] Equals [9] + ([11] – [5]) / 6
[11] Source: Exhibit AEB-3
[12] Equals internal rate of return of cash flows for Year 0 through Year 200

BETA
AS OF APRIL 30, 2015

		[1]	[2]
		Bloomberg	Value Line
AGL Resources Inc.	GAS	0.71	0.80
Laclede Group, Inc. (The)	LG	0.66	0.70
New Jersey Resources Corporation	NJR	0.80	0.80
NiSource Inc.	NI	0.94	0.85
Northwest Natural Gas Company	NWN	0.74	0.70
Piedmont Natural Gas Company, Inc.	PNY	0.74	0.80
South Jersey Industries, Inc.	SJI	0.74	0.80
Southwest Gas Corporation	SWX	0.77	0.85
WGL Holdings, Inc.	WGL	0.66	0.75
Mean		0.752	0.783

Notes:
[1] Source: Bloomberg Professional
[2] Source: Value Line; dated March 6, 2015

CAPITAL ASSET PRICING MODEL

$$K = Rf + \beta\,(Rm - Rf)$$

	[4]	[5]	[6]	[7]	[8]
	Risk-Free Rate *(Rf)*	Beta *(β)*	Market Return *(Rm)*	Market Risk Premium *(Rm − Rf)*	ROE *(K)*
Proxy Group Average Bloomberg Beta					
Current 30-day average of 30-year U.S. Treasury bond yield [1]	2.57%	0.752	12.89%	10.32%	10.33%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2015 - Q3 2016) [2]	3.23%	0.752	12.89%	9.66%	10.49%
Projected 30-year U.S. Treasury bond yield (2016 - 2020) [3]	4.90%	0.752	12.89%	7.99%	10.91%
				Mean:	**10.58%**
				Median:	**10.49%**
Proxy Group Average Value Line Beta					
Current 30-day average of 30-year U.S. Treasury bond yield [1]	2.57%	0.783	12.89%	10.32%	10.65%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2015 - Q3 2016) [2]	3.23%	0.783	12.89%	9.66%	10.80%
Projected 30-year U.S. Treasury bond yield (2016 - 2020) [3]	4.90%	0.783	12.89%	7.99%	11.16%
				Mean:	**10.87%**
				Median:	**10.80%**

Notes:
[1] Source: Bloomberg Professional
[2] Source: Blue Chip Financial Forecasts, Vol. 34, No. 4, April 1, 2015, at 2
[3] Source: Blue Chip Financial Forecasts, Vol. 33, No. 12, December 1, 2014, at 14
[4] See Notes [1], [2], and [3]
[5] Source: Bloomberg Professional and Value Line
[6] Source: Bloomberg Professional
[7] Equals [6] − [4]
[8] Equals [4] + [5] x [7]

MARKET RISK PREMIUM DERIVED FROM ANALYSTS' LONG-TERM GROWTH ESTIMATES

[9] Estimated Weighted Average Dividend Yield	2.06%
[10] Estimated Weighted Average Long-Term Growth Rate	10.72%
[11] S&P 500 Estimated Required Market Return	12.89%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[12] Weight in Index	[13] Current Dividend Yield	[14] Cap-Weighted Dividend Yield	[15] Long-Term Growth Est.	[16] Cap-Weighted Long-Term Growth Est.
Alcoa Inc	AA	0.09%	0.89%	0.00%	6.67%	0.01%
LyondellBasell Industries NV	LYB	0.26%	2.70%	0.01%	5.67%	0.01%
American Express Co	AXP	0.41%	1.34%	0.01%	9.02%	0.04%
Verizon Communications Inc	VZ	1.08%	4.36%	0.05%	7.60%	0.08%
Avago Technologies Ltd	AVGO	0.16%	1.30%	0.00%	20.69%	0.03%
Boeing Co/The	BA	0.52%	2.54%	0.01%	10.34%	0.05%
Caterpillar Inc	CAT	0.27%	3.22%	0.01%	9.00%	0.02%
JPMorgan Chase & Co	JPM	1.24%	2.53%	0.03%	7.36%	0.09%
Chevron Corp	CVX	1.09%	3.85%	0.04%	-0.29%	0.00%
Coca-Cola Co/The	KO	0.93%	3.25%	0.03%	6.34%	0.06%
AbbVie Inc	ABBV	0.54%	3.16%	0.02%	8.03%	0.04%
Walt Disney Co/The	DIS	0.97%	1.06%	0.01%	11.59%	0.11%
El du Pont de Nemours & Co	DD	0.35%	2.68%	0.01%	5.82%	0.02%
Exxon Mobil Corp	XOM	1.92%	3.34%	0.06%	10.68%	0.20%
Phillips 66	PSX	0.23%	2.52%	0.01%	5.23%	0.01%
General Electric Co	GE	1.43%	3.40%	0.05%	8.44%	0.12%
Hewlett-Packard Co	HPQ	0.31%	2.14%	0.01%	3.43%	0.01%
Home Depot Inc/The	HD	0.73%	2.21%	0.02%	14.24%	0.10%
International Business Machines Corp	IBM	0.88%	3.04%	0.03%	6.88%	0.06%
Johnson & Johnson	JNJ	1.45%	3.02%	0.04%	6.58%	0.10%
McDonald's Corp	MCD	0.49%	3.52%	0.02%	7.98%	0.04%
Merck & Co Inc	MRK	0.88%	3.02%	0.03%	6.22%	0.05%
3M Co	MMM	0.52%	2.62%	0.01%	9.18%	0.05%
Bank of America Corp	BAC	0.88%	1.26%	0.01%	8.83%	0.08%
Pfizer Inc	PFE	1.09%	3.30%	0.04%	3.97%	0.04%
Procter & Gamble Co/The	PG	1.13%	3.33%	0.04%	7.69%	0.09%
AT&T Inc	T	0.94%	5.43%	0.05%	4.56%	0.04%
Travelers Cos Inc/The	TRV	0.17%	2.41%	0.00%	6.74%	0.01%
United Technologies Corp	UTX	0.53%	2.25%	0.01%	8.66%	0.05%
Analog Devices Inc	ADI	0.10%	2.59%	0.00%	10.82%	0.01%
Wal-Mart Stores Inc	WMT	1.32%	2.51%	0.03%	6.31%	0.08%
Cisco Systems Inc	CSCO	0.77%	2.91%	0.02%	7.18%	0.06%
Intel Corp	INTC	0.81%	2.95%	0.02%	7.85%	0.06%
General Motors Co	GM	0.30%	4.11%	0.01%	12.31%	0.04%
Microsoft Corp	MSFT	2.06%	2.55%	0.05%	7.62%	0.16%
Dollar General Corp	DG	0.12%	1.21%	0.00%	12.41%	0.01%
Kinder Morgan Inc/DE	KMI	0.49%	4.47%	0.02%	10.00%	0.05%
Citigroup Inc	C	0.85%	0.38%	0.00%	13.38%	0.11%
Nielsen NV	NLSN	0.09%	2.49%	0.00%	14.00%	0.01%
American International Group Inc	AIG	0.40%	0.89%	0.00%	9.04%	0.04%
Honeywell International Inc	HON	0.41%	2.05%	0.01%	9.39%	0.04%
Altria Group Inc	MO	0.52%	4.16%	0.02%	7.51%	0.04%
HCA Holdings Inc	HCA	0.16%	n/a	n/a	10.95%	0.02%
Under Armour Inc	UA	0.07%	n/a	n/a	23.34%	0.02%
International Paper Co	IP	0.12%	2.98%	0.00%	8.75%	0.01%
Abbott Laboratories	ABT	0.37%	2.07%	0.01%	11.49%	0.04%
Aflac Inc	AFL	0.14%	2.47%	0.00%	9.68%	0.01%
Air Products & Chemicals Inc	APD	0.16%	2.26%	0.00%	10.90%	0.02%
Airgas Inc	ARG	0.04%	2.37%	0.00%	9.82%	0.00%
Royal Caribbean Cruises Ltd	RCL	0.08%	1.76%	0.00%	20.22%	0.02%
American Electric Power Co Inc	AEP	0.15%	3.73%	0.01%	5.45%	0.01%
Hess Corp	HES	0.12%	1.30%	0.00%	-0.36%	0.00%
Anadarko Petroleum Corp	APC	0.25%	1.15%	0.00%	1.66%	0.00%
Aon PLC	AON	0.14%	1.25%	0.00%	12.14%	0.02%
Apache Corp	APA	0.14%	1.46%	0.00%	4.03%	0.01%
Archer-Daniels-Midland Co	ADM	0.16%	2.29%	0.00%	4.86%	0.01%
AGL Resources Inc	GAS	0.03%	4.06%	0.00%	5.83%	0.00%
Automatic Data Processing Inc	ADP	0.21%	2.32%	0.00%	10.29%	0.02%
AutoZone Inc	AZO	0.11%	n/a	n/a	12.60%	0.01%
Avery Dennison Corp	AVY	0.03%	2.66%	0.00%	7.45%	0.00%
Baker Hughes Inc	BHI	0.16%	0.99%	0.00%	5.83%	0.01%
Ball Corp	BLL	0.05%	0.71%	0.00%	10.60%	0.01%
Bank of New York Mellon Corp/The	BK	0.25%	1.61%	0.00%	11.60%	0.03%
CR Bard Inc	BCR	0.06%	0.53%	0.00%	9.60%	0.01%
Baxter International Inc	BAX	0.20%	3.03%	0.01%	8.47%	0.02%
Becton Dickinson and Co	BDX	0.15%	1.70%	0.00%	11.40%	0.02%
Berkshire Hathaway Inc	BRK/B	0.91%	n/a	n/a	5.85%	0.05%
Best Buy Co Inc	BBY	0.06%	2.66%	0.00%	11.43%	0.01%
H&R Block Inc	HRB	0.04%	2.65%	0.00%	11.00%	0.00%
Boston Scientific Corp	BSX	0.13%	n/a	n/a	7.39%	0.01%
Bristol-Myers Squibb Co	BMY	0.56%	2.32%	0.01%	16.42%	0.09%
Brown-Forman Corp	BF/B	0.06%	1.40%	0.00%	6.81%	0.00%
Cabot Oil & Gas Corp	COG	0.07%	0.24%	0.00%	28.68%	0.02%
Campbell Soup Co	CPB	0.07%	2.79%	0.00%	3.70%	0.00%
Kansas City Southern	KSU	0.06%	1.29%	0.00%	11.48%	0.01%
Carnival Corp	CCL	0.14%	2.27%	0.00%	17.10%	0.02%
CenturyLink Inc	CTL	0.11%	6.01%	0.01%	0.89%	0.00%
Chubb Corp/The	CB	0.12%	2.32%	0.00%	9.20%	0.01%
Cigna Corp	CI	0.17%	0.03%	0.00%	11.23%	0.02%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[12] Weight in Index	[13] Current Dividend Yield	[14] Cap-Weighted Dividend Yield	[15] Long-Term Growth Est.	[16] Cap-Weighted Long-Term Growth Est.
Frontier Communications Corp	FTR	0.04%	6.12%	0.00%	37.10%	0.01%
Clorox Co/The	CLX	0.07%	2.79%	0.00%	6.68%	0.00%
CMS Energy Corp	CMS	0.05%	3.42%	0.00%	6.15%	0.00%
Coca-Cola Enterprises Inc	CCE	0.05%	2.52%	0.00%	6.15%	0.00%
Colgate-Palmolive Co	CL	0.32%	2.26%	0.01%	9.36%	0.03%
Comerica Inc	CMA	0.04%	1.77%	0.00%	10.40%	0.00%
CA Inc	CA	0.07%	3.15%	0.00%	-2.20%	0.00%
Computer Sciences Corp	CSC	0.05%	1.43%	0.00%	9.10%	0.00%
ConAgra Foods Inc	CAG	0.08%	2.77%	0.00%	7.50%	0.01%
Consolidated Edison Inc	ED	0.09%	4.22%	0.00%	2.78%	0.00%
SL Green Realty Corp	SLG	0.06%	1.96%	0.00%	5.84%	0.00%
Corning Inc	GLW	0.14%	2.29%	0.00%	5.09%	0.01%
CSX Corp	CSX	0.19%	2.00%	0.00%	10.95%	0.02%
Cummins Inc	CMI	0.13%	2.26%	0.00%	10.47%	0.01%
Danaher Corp	DHR	0.30%	0.66%	0.00%	11.25%	0.03%
Target Corp	TGT	0.26%	2.64%	0.01%	9.35%	0.02%
Deere & Co	DE	0.16%	2.65%	0.00%	5.86%	0.01%
Dominion Resources Inc/VA	D	0.22%	3.61%	0.01%	6.60%	0.01%
Dover Corp	DOV	0.06%	2.11%	0.00%	12.00%	0.01%
Dow Chemical Co/The	DOW	0.31%	3.29%	0.01%	7.60%	0.02%
Duke Energy Corp	DUK	0.29%	4.10%	0.01%	5.99%	0.02%
Eaton Corp PLC	ETN	0.17%	3.20%	0.01%	8.28%	0.01%
Ecolab Inc	ECL	0.17%	1.18%	0.00%	13.17%	0.02%
PerkinElmer Inc	PKI	0.03%	0.55%	0.00%	9.36%	0.00%
EMC Corp/MA	EMC	0.28%	1.71%	0.00%	10.44%	0.03%
Emerson Electric Co	EMR	0.21%	3.20%	0.01%	6.55%	0.01%
EOG Resources Inc	EOG	0.28%	0.68%	0.00%	2.56%	0.01%
Entergy Corp	ETR	0.07%	4.30%	0.00%	0.62%	0.00%
Equifax Inc	EFX	0.06%	1.20%	0.00%	13.75%	0.01%
EQT Corp	EQT	0.07%	0.13%	0.00%	n/a	n/a
XL Group PLC	XL	0.05%	1.73%	0.00%	5.87%	0.00%
Family Dollar Stores Inc	FDO	0.05%	1.59%	0.00%	3.85%	0.00%
FedEx Corp	FDX	0.25%	0.47%	0.00%	14.76%	0.04%
Macy's Inc	M	0.12%	1.93%	0.00%	6.95%	0.01%
FMC Corp	FMC	0.04%	1.11%	0.00%	10.00%	0.00%
Ford Motor Co	F	0.32%	3.80%	0.01%	15.65%	0.05%
NextEra Energy Inc	NEE	0.23%	3.05%	0.01%	5.93%	0.01%
Franklin Resources Inc	BEN	0.17%	1.16%	0.00%	9.63%	0.02%
Freeport-McMoRan Inc	FCX	0.13%	0.86%	0.00%	21.74%	0.03%
Gannett Co Inc	GCI	0.04%	2.33%	0.00%	4.35%	0.00%
Gap Inc/The	GPS	0.09%	2.32%	0.00%	9.60%	0.01%
General Dynamics Corp	GD	0.24%	2.01%	0.00%	8.74%	0.02%
General Mills Inc	GIS	0.17%	3.18%	0.01%	6.98%	0.01%
Genuine Parts Co	GPC	0.07%	2.74%	0.00%	6.92%	0.00%
WW Grainger Inc	GWW	0.09%	1.88%	0.00%	11.85%	0.01%
Halliburton Co	HAL	0.22%	1.47%	0.00%	14.62%	0.03%
Harley-Davidson Inc	HOG	0.06%	2.21%	0.00%	11.13%	0.01%
Harman International Industries Inc	HAR	0.05%	1.01%	0.00%	16.70%	0.01%
Joy Global Inc	JOY	0.02%	1.88%	0.00%	16.05%	0.00%
Harris Corp	HRS	0.04%	2.34%	0.00%	n/a	n/a
HCP Inc	HCP	0.10%	5.61%	0.01%	3.91%	0.00%
Helmerich & Payne Inc	HP	0.04%	3.53%	0.00%	18.57%	0.01%
Hershey Co/The	HSY	0.08%	2.33%	0.00%	9.42%	0.01%
Hormel Foods Corp	HRL	0.08%	1.84%	0.00%	5.85%	0.00%
Starwood Hotels & Resorts Worldwide Inc	HOT	0.08%	1.75%	0.00%	9.16%	0.01%
Mondelez International Inc	MDLZ	0.33%	1.56%	0.01%	9.57%	0.03%
CenterPoint Energy Inc	CNP	0.05%	4.72%	0.00%	5.20%	0.00%
Humana Inc	HUM	0.13%	0.70%	0.00%	11.68%	0.02%
Illinois Tool Works Inc	ITW	0.18%	2.07%	0.00%	8.95%	0.02%
Ingersoll-Rand PLC	IR	0.09%	1.76%	0.00%	10.30%	0.01%
Interpublic Group of Cos Inc/The	IPG	0.05%	2.30%	0.00%	7.53%	0.00%
International Flavors & Fragrances Inc	IFF	0.05%	1.64%	0.00%	9.87%	0.00%
Jacobs Engineering Group Inc	JEC	0.03%	n/a	n/a	7.50%	0.00%
Johnson Controls Inc	JCI	0.17%	2.06%	0.00%	10.50%	0.02%
Hanesbrands Inc	HBI	0.07%	1.29%	0.00%	11.33%	0.01%
Kellogg Co	K	0.12%	3.09%	0.00%	4.12%	0.00%
Perrigo Co PLC	PRGO	0.14%	0.27%	0.00%	13.50%	0.02%
Kimberly-Clark Corp	KMB	0.21%	3.21%	0.01%	7.50%	0.02%
Kimco Realty Corp	KIM	0.05%	3.98%	0.00%	4.44%	0.00%
Kohl's Corp	KSS	0.08%	2.61%	0.00%	8.26%	0.01%
Oracle Corp	ORCL	1.00%	1.38%	0.01%	8.11%	0.08%
Kroger Co/The	KR	0.18%	1.07%	0.00%	11.01%	0.02%
Legg Mason Inc	LM	0.03%	1.22%	0.00%	17.61%	0.01%
Leggett & Platt Inc	LEG	0.03%	2.92%	0.00%	n/a	n/a
Lennar Corp	LEN	0.04%	0.35%	0.00%	8.00%	0.00%
Leucadia National Corp	LUK	0.05%	1.05%	0.00%	n/a	n/a
Eli Lilly & Co	LLY	0.42%	2.78%	0.01%	8.48%	0.04%
L Brands Inc	LB	0.14%	2.24%	0.00%	12.55%	0.02%
Lincoln National Corp	LNC	0.07%	1.42%	0.00%	10.30%	0.01%
Loews Corp	L	0.08%	0.60%	0.00%	n/a	n/a
Lowe's Cos Inc	LOW	0.34%	1.34%	0.00%	16.84%	0.06%
Host Hotels & Resorts Inc	HST	0.08%	3.97%	0.00%	10.45%	0.01%
Marsh & McLennan Cos Inc	MMC	0.16%	1.99%	0.00%	12.48%	0.02%
Masco Corp	MAS	0.05%	1.36%	0.00%	12.68%	0.01%
Mattel Inc	MAT	0.05%	5.40%	0.00%	9.50%	0.00%
McGraw Hill Financial Inc	MHFI	0.15%	1.27%	0.00%	12.50%	0.02%
Medtronic PLC	MDT	0.56%	1.64%	0.01%	6.70%	0.04%
CVS Health Corp	CVS	0.59%	1.41%	0.01%	14.38%	0.08%
Micron Technology Inc	MU	0.16%	n/a	n/a	11.22%	0.02%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[12] Weight in Index	[13] Current Dividend Yield	[14] Cap-Weighted Dividend Yield	[15] Long-Term Growth Est.	[16] Cap-Weighted Long-Term Growth Est.
Motorola Solutions Inc	MSI	0.07%	2.28%	0.00%	9.83%	0.01%
Murphy Oil Corp	MUR	0.04%	2.94%	0.00%	13.00%	0.01%
Mylan NV	MYL	0.19%	n/a	n/a	11.48%	0.02%
Laboratory Corp of America Holdings	LH	0.06%	n/a	n/a	11.42%	0.01%
Tenet Healthcare Corp	THC	0.02%	n/a	n/a	13.99%	0.00%
Newell Rubbermaid Inc	NWL	0.05%	1.99%	0.00%	9.38%	0.01%
Newmont Mining Corp	NEM	0.07%	0.38%	0.00%	1.93%	0.00%
Twenty-First Century Fox Inc	FOXA	0.24%	0.88%	0.00%	14.74%	0.03%
NIKE Inc	NKE	0.35%	1.13%	0.00%	11.71%	0.04%
NiSource Inc	NI	0.07%	2.40%	0.00%	6.00%	0.00%
Noble Energy Inc	NBL	0.10%	1.42%	0.00%	0.12%	0.00%
Norfolk Southern Corp	NSC	0.16%	2.34%	0.00%	9.98%	0.02%
Eversource Energy	ES	0.08%	3.42%	0.00%	6.70%	0.01%
Northrop Grumman Corp	NOC	0.16%	1.82%	0.00%	6.57%	0.01%
Wells Fargo & Co	WFC	1.49%	2.72%	0.04%	10.44%	0.16%
Nucor Corp	NUE	0.08%	3.05%	0.00%	11.10%	0.01%
PVH Corp	PVH	0.04%	0.15%	0.00%	4.36%	0.00%
Occidental Petroleum Corp	OXY	0.32%	3.60%	0.01%	8.00%	0.03%
Omnicom Group Inc	OMC	0.10%	2.64%	0.00%	6.57%	0.01%
ONEOK Inc	OKE	0.05%	5.03%	0.00%	10.85%	0.01%
Owens-Illinois Inc	OI	0.02%	n/a	n/a	4.35%	0.00%
PG&E Corp	PCG	0.13%	3.44%	0.00%	5.93%	0.01%
Parker-Hannifin Corp	PH	0.09%	2.11%	0.00%	8.92%	0.01%
PPL Corp	PPL	0.12%	4.38%	0.01%	1.58%	0.00%
PepsiCo Inc	PEP	0.74%	2.75%	0.02%	6.36%	0.05%
Exelon Corp	EXC	0.15%	3.64%	0.01%	6.76%	0.01%
ConocoPhillips	COP	0.44%	4.30%	0.02%	7.25%	0.03%
PulteGroup Inc	PHM	0.04%	1.66%	0.00%	8.50%	0.00%
Pinnacle West Capital Corp	PNW	0.04%	3.89%	0.00%	5.06%	0.00%
Pitney Bowes Inc	PBI	0.02%	3.35%	0.00%	14.00%	0.00%
Plum Creek Timber Co Inc	PCL	0.04%	4.17%	0.00%	5.27%	0.00%
PNC Financial Services Group Inc/The	PNC	0.25%	2.22%	0.01%	7.01%	0.02%
PPG Industries Inc	PPG	0.16%	1.30%	0.00%	7.28%	0.01%
Praxair Inc	PX	0.18%	2.35%	0.00%	9.28%	0.02%
Precision Castparts Corp	PCP	0.15%	0.06%	0.00%	10.78%	0.02%
Progressive Corp/The	PGR	0.08%	2.57%	0.00%	9.18%	0.01%
Public Service Enterprise Group Inc	PEG	0.11%	3.76%	0.00%	4.81%	0.01%
Raytheon Co	RTN	0.17%	2.58%	0.00%	6.64%	0.01%
Robert Half International Inc	RHI	0.04%	1.44%	0.00%	15.68%	0.01%
Ryder System Inc	R	0.03%	1.55%	0.00%	13.08%	0.00%
SCANA Corp	SCG	0.04%	4.11%	0.00%	5.50%	0.00%
Edison International	EIX	0.10%	2.74%	0.00%	4.50%	0.00%
Schlumberger Ltd	SLB	0.63%	2.11%	0.01%	14.77%	0.09%
Charles Schwab Corp/The	SCHW	0.21%	0.79%	0.00%	22.52%	0.05%
Sherwin-Williams Co/The	SHW	0.14%	0.96%	0.00%	14.50%	0.02%
JM Smucker Co/The	SJM	0.07%	2.21%	0.00%	6.08%	0.00%
Snap-on Inc	SNA	0.05%	1.42%	0.00%	6.95%	0.00%
AMETEK Inc	AME	0.07%	0.69%	0.00%	11.05%	0.01%
Southern Co/The	SO	0.21%	4.90%	0.01%	3.85%	0.01%
BB&T Corp	BBT	0.15%	2.82%	0.00%	10.84%	0.02%
Southwest Airlines Co	LUV	0.14%	0.59%	0.00%	14.91%	0.02%
Southwestern Energy Co	SWN	0.06%	n/a	n/a	4.69%	0.00%
Stanley Black & Decker Inc	SWK	0.08%	2.11%	0.00%	9.80%	0.01%
Public Storage	PSA	0.17%	3.62%	0.01%	5.19%	0.01%
SunTrust Banks Inc	STI	0.11%	2.31%	0.00%	6.10%	0.01%
Sysco Corp	SYY	0.11%	3.24%	0.00%	8.50%	0.01%
TECO Energy Inc	TE	0.02%	4.75%	0.00%	8.45%	0.00%
Tesoro Corp	TSO	0.06%	1.98%	0.00%	17.96%	0.01%
Texas Instruments Inc	TXN	0.30%	2.51%	0.01%	9.40%	0.03%
Textron Inc	TXT	0.06%	0.18%	0.00%	9.26%	0.01%
Thermo Fisher Scientific Inc	TMO	0.26%	0.48%	0.00%	12.30%	0.03%
Tiffany & Co	TIF	0.06%	1.74%	0.00%	11.93%	0.01%
TJX Cos Inc/The	TJX	0.23%	1.30%	0.00%	11.91%	0.03%
Torchmark Corp	TMK	0.04%	0.96%	0.00%	5.12%	0.00%
Total System Services Inc	TSS	0.04%	1.01%	0.00%	11.00%	0.00%
Tyco International Plc	TYC	0.09%	2.08%	0.00%	10.93%	0.01%
Union Pacific Corp	UNP	0.49%	2.07%	0.01%	13.23%	0.06%
UnitedHealth Group Inc	UNH	0.56%	1.35%	0.01%	11.58%	0.06%
Unum Group	UNM	0.04%	1.93%	0.00%	9.00%	0.00%
Marathon Oil Corp	MRO	0.11%	2.70%	0.00%	6.77%	0.01%
Varian Medical Systems Inc	VAR	0.05%	n/a	n/a	10.50%	0.00%
Ventas Inc	VTR	0.12%	3.36%	0.00%	3.68%	0.00%
VF Corp	VFC	0.16%	1.77%	0.00%	12.80%	0.02%
Vornado Realty Trust	VNO	0.10%	2.44%	0.00%	8.58%	0.01%
ADT Corp/The	ADT	0.03%	2.23%	0.00%	6.03%	0.00%
Vulcan Materials Co	VMC	0.06%	0.47%	0.00%	5.50%	0.00%
Weyerhaeuser Co	WY	0.09%	3.68%	0.00%	4.63%	0.00%
Whirlpool Corp	WHR	0.07%	2.05%	0.00%	19.69%	0.01%
Williams Cos Inc/The	WMB	0.20%	4.53%	0.01%	10.50%	0.02%
Integrys Energy Group Inc	TEG	0.03%	3.72%	0.00%	3.20%	0.00%
Wisconsin Energy Corp	WEC	0.06%	3.44%	0.00%	5.50%	0.00%
Xerox Corp	XRX	0.07%	2.43%	0.00%	9.15%	0.01%
Adobe Systems Inc	ADBE	0.20%	n/a	n/a	15.03%	0.03%
AES Corp/VA	AES	0.05%	3.02%	0.00%	5.92%	0.00%
Amgen Inc	AMGN	0.63%	2.00%	0.01%	10.26%	0.06%
Apple Inc	AAPL	3.78%	1.66%	0.06%	15.63%	0.59%
Autodesk Inc	ADSK	0.07%	n/a	n/a	17.42%	0.01%
Cintas Corp	CTAS	0.05%	1.06%	0.00%	11.48%	0.01%
Comcast Corp	CMCSA	0.64%	1.73%	0.01%	12.68%	0.08%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[12] Weight in Index	[13] Current Dividend Yield	[14] Cap-Weighted Dividend Yield	[15] Long-Term Growth Est.	[16] Cap-Weighted Long-Term Growth Est.
Molson Coors Brewing Co	TAP	0.06%	2.23%	0.00%	2.91%	0.00%
KLA-Tencor Corp	KLAC	0.05%	3.40%	0.00%	3.47%	0.00%
Marriott International Inc/MD	MAR	0.12%	1.00%	0.00%	15.49%	0.02%
McCormick & Co Inc/MD	MKC	0.05%	2.12%	0.00%	5.80%	0.00%
Nordstrom Inc	JWN	0.08%	1.96%	0.00%	9.83%	0.01%
PACCAR Inc	PCAR	0.12%	1.35%	0.00%	8.80%	0.01%
Costco Wholesale Corp	COST	0.33%	1.12%	0.00%	10.28%	0.03%
Sigma-Aldrich Corp	SIAL	0.09%	0.66%	0.00%	8.48%	0.01%
St Jude Medical Inc	STJ	0.10%	1.66%	0.00%	10.45%	0.01%
Stryker Corp	SYK	0.18%	1.50%	0.00%	10.78%	0.02%
Tyson Foods Inc	TSN	0.06%	1.01%	0.00%	9.15%	0.01%
Altera Corp	ALTR	0.07%	1.73%	0.00%	11.50%	0.01%
Applied Materials Inc	AMAT	0.13%	2.02%	0.00%	12.68%	0.02%
Time Warner Inc	TWX	0.36%	1.66%	0.01%	11.03%	0.04%
Bed Bath & Beyond Inc	BBBY	0.06%	n/a	n/a	7.88%	0.01%
American Airlines Group Inc	AAL	0.18%	0.83%	0.00%	23.54%	0.04%
Cardinal Health Inc	CAH	0.15%	1.62%	0.00%	11.55%	0.02%
Celgene Corp	CELG	0.45%	n/a	n/a	26.61%	0.12%
Cerner Corp	CERN	0.13%	n/a	n/a	18.47%	0.02%
Cincinnati Financial Corp	CINF	0.04%	3.63%	0.00%	n/a	n/a
Cablevision Systems Corp	CVC	0.02%	3.00%	0.00%	1.02%	0.00%
DR Horton Inc	DHI	0.05%	0.98%	0.00%	11.20%	0.01%
Flowserve Corp	FLS	0.04%	1.23%	0.00%	8.76%	0.00%
Electronic Arts Inc	EA	0.09%	n/a	n/a	15.67%	0.01%
Express Scripts Holding Co	ESRX	0.33%	n/a	n/a	12.91%	0.04%
Expeditors International of Washington Inc	EXPD	0.05%	1.40%	0.00%	11.32%	0.01%
Fastenal Co	FAST	0.07%	2.63%	0.00%	15.75%	0.01%
M&T Bank Corp	MTB	0.08%	2.34%	0.00%	6.83%	0.01%
Fiserv Inc	FISV	0.10%	n/a	n/a	12.96%	0.01%
Fifth Third Bancorp	FITB	0.09%	2.60%	0.00%	9.60%	0.01%
Gilead Sciences Inc	GILD	0.78%	1.71%	0.01%	13.05%	0.10%
Hasbro Inc	HAS	0.05%	2.60%	0.00%	10.40%	0.00%
Huntington Bancshares Inc/OH	HBAN	0.05%	2.21%	0.00%	7.06%	0.00%
Health Care REIT Inc	HCN	0.13%	4.58%	0.01%	5.13%	0.01%
Biogen Inc	BIIB	0.46%	n/a	n/a	17.01%	0.08%
Linear Technology Corp	LLTC	0.06%	2.60%	0.00%	9.35%	0.01%
Range Resources Corp	RRC	0.06%	0.25%	0.00%	17.18%	0.01%
Noble Corp plc	NE	0.02%	8.67%	0.00%	-5.53%	0.00%
Northern Trust Corp	NTRS	0.09%	1.97%	0.00%	12.94%	0.01%
Paychex Inc	PAYX	0.09%	3.14%	0.00%	10.62%	0.01%
People's United Financial Inc	PBCT	0.02%	4.43%	0.00%	n/a	n/a
Patterson Cos Inc	PDCO	0.03%	1.87%	0.00%	9.78%	0.00%
Pall Corp	PLL	0.05%	1.25%	0.00%	10.99%	0.01%
QUALCOMM Inc	QCOM	0.58%	2.82%	0.02%	10.46%	0.06%
Roper Technologies Inc	ROP	0.09%	0.59%	0.00%	13.43%	0.01%
Ross Stores Inc	ROST	0.11%	0.95%	0.00%	13.50%	0.01%
AutoNation Inc	AN	0.04%	n/a	n/a	12.32%	0.00%
Starbucks Corp	SBUX	0.39%	1.29%	0.01%	17.68%	0.07%
KeyCorp	KEY	0.06%	1.80%	0.00%	6.68%	0.00%
Staples Inc	SPLS	0.05%	2.94%	0.00%	0.17%	0.00%
State Street Corp	STT	0.17%	1.56%	0.00%	9.89%	0.02%
US Bancorp/MN	USB	0.40%	2.29%	0.01%	7.70%	0.03%
Symantec Corp	SYMC	0.09%	2.41%	0.00%	8.11%	0.01%
T Rowe Price Group Inc	TROW	0.11%	2.56%	0.00%	11.59%	0.01%
Kraft Foods Group Inc	KRFT	0.26%	2.60%	0.01%	8.16%	0.02%
Waste Management Inc	WM	0.12%	3.11%	0.00%	7.90%	0.01%
CBS Corp	CBS	0.15%	0.97%	0.00%	14.94%	0.02%
Actavis plc	ACT	0.58%	n/a	n/a	15.48%	0.09%
Whole Foods Market Inc	WFM	0.09%	1.09%	0.00%	12.90%	0.01%
Constellation Brands Inc	STZ	0.10%	1.07%	0.00%	10.07%	0.01%
Xilinx Inc	XLNX	0.06%	2.86%	0.00%	9.24%	0.01%
DENTSPLY International Inc	XRAY	0.04%	0.57%	0.00%	9.50%	0.00%
Zions Bancorporation	ZION	0.03%	0.85%	0.00%	8.47%	0.00%
Invesco Ltd	IVZ	0.09%	2.61%	0.00%	12.56%	0.01%
Intuit Inc	INTU	0.15%	1.00%	0.00%	14.67%	0.02%
Morgan Stanley	MS	0.39%	1.61%	0.01%	12.10%	0.05%
Microchip Technology Inc	MCHP	0.05%	3.00%	0.00%	5.10%	0.00%
ACE Ltd	ACE	0.18%	2.43%	0.00%	8.44%	0.02%
Chesapeake Energy Corp	CHK	0.05%	2.22%	0.00%	6.23%	0.00%
O'Reilly Automotive Inc	ORLY	0.12%	n/a	n/a	17.45%	0.02%
Allstate Corp/The	ALL	0.15%	1.72%	0.00%	8.73%	0.01%
FLIR Systems Inc	FLIR	0.02%	1.42%	0.00%	15.00%	0.00%
Equity Residential	EQR	0.14%	2.99%	0.00%	7.35%	0.01%
BorgWarner Inc	BWA	0.07%	0.88%	0.00%	11.66%	0.01%
Newfield Exploration Co	NFX	0.03%	n/a	n/a	11.00%	0.00%
Urban Outfitters Inc	URBN	0.03%	n/a	n/a	16.96%	0.00%
Simon Property Group Inc	SPG	0.30%	3.31%	0.01%	7.39%	0.02%
Eastman Chemical Co	EMN	0.06%	2.10%	0.00%	7.20%	0.00%
AvalonBay Communities Inc	AVB	0.11%	3.04%	0.00%	7.06%	0.01%
Prudential Financial Inc	PRU	0.19%	2.84%	0.01%	11.00%	0.02%
United Parcel Service Inc	UPS	0.37%	2.90%	0.01%	11.57%	0.04%
Apartment Investment & Management Co	AIV	0.03%	3.18%	0.00%	7.72%	0.00%
Walgreens Boots Alliance Inc	WBA	0.47%	1.63%	0.01%	15.65%	0.07%
McKesson Corp	MCK	0.27%	0.43%	0.00%	15.95%	0.04%
Lockheed Martin Corp	LMT	0.31%	3.22%	0.01%	7.97%	0.02%
AmerisourceBergen Corp	ABC	0.13%	1.01%	0.00%	18.58%	0.02%
Cameron International Corp	CAM	0.06%	n/a	n/a	6.20%	0.00%
Capital One Financial Corp	COF	0.23%	1.98%	0.00%	6.85%	0.02%
Waters Corp	WAT	0.05%	n/a	n/a	9.31%	0.01%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[12] Weight in Index	[13] Current Dividend Yield	[14] Cap-Weighted Dividend Yield	[15] Long-Term Growth Est.	[16] Cap-Weighted Long-Term Growth Est.
Dollar Tree Inc	DLTR	0.08%	n/a	n/a	15.12%	0.01%
Darden Restaurants Inc	DRI	0.04%	3.45%	0.00%	12.65%	0.01%
SanDisk Corp	SNDK	0.07%	1.79%	0.00%	10.32%	0.01%
Diamond Offshore Drilling Inc	DO	0.02%	1.49%	0.00%	-4.00%	0.00%
NetApp Inc	NTAP	0.06%	1.82%	0.00%	11.16%	0.01%
Citrix Systems Inc	CTXS	0.06%	n/a	n/a	14.14%	0.01%
Goodyear Tire & Rubber Co/The	GT	0.04%	0.85%	0.00%	n/a	n/a
DaVita HealthCare Partners Inc	DVA	0.09%	n/a	n/a	11.70%	0.01%
Hartford Financial Services Group Inc/The	HIG	0.09%	1.77%	0.00%	9.00%	0.01%
Iron Mountain Inc	IRM	0.04%	5.51%	0.00%	12.33%	0.00%
Estee Lauder Cos Inc/The	EL	0.10%	1.18%	0.00%	10.30%	0.01%
Lorillard Inc	LO	0.13%	3.78%	0.00%	8.64%	0.01%
Yahoo! Inc	YHOO	0.21%	n/a	n/a	10.60%	0.02%
Principal Financial Group Inc	PFG	0.08%	2.97%	0.00%	13.50%	0.01%
Allegheny Technologies Inc	ATI	0.02%	2.12%	0.00%	16.10%	0.00%
Stericycle Inc	SRCL	0.06%	n/a	n/a	15.33%	0.01%
Universal Health Services Inc	UHS	0.06%	0.34%	0.00%	9.03%	0.01%
E*TRADE Financial Corp	ETFC	0.04%	n/a	n/a	18.52%	0.01%
Skyworks Solutions Inc	SWKS	0.09%	0.56%	0.00%	19.48%	0.02%
National Oilwell Varco Inc	NOV	0.11%	3.38%	0.00%	-5.25%	-0.01%
Quest Diagnostics Inc	DGX	0.05%	2.13%	0.00%	10.22%	0.01%
Rockwell Automation Inc	ROK	0.08%	2.19%	0.00%	8.91%	0.01%
American Tower Corp	AMT	0.21%	1.78%	0.00%	15.67%	0.03%
Regeneron Pharmaceuticals Inc	REGN	0.24%	n/a	n/a	19.55%	0.05%
Amazon.com Inc	AMZN	1.03%	n/a	n/a	40.35%	0.42%
Ralph Lauren Corp	RL	0.04%	1.50%	0.00%	10.36%	0.00%
Boston Properties Inc	BXP	0.11%	1.97%	0.00%	7.86%	0.01%
Amphenol Corp	APH	0.09%	0.90%	0.00%	10.73%	0.01%
Pioneer Natural Resources Co	PXD	0.14%	0.05%	0.00%	-3.80%	-0.01%
Valero Energy Corp	VLO	0.15%	2.81%	0.00%	-2.33%	0.00%
L-3 Communications Holdings Inc	LLL	0.05%	2.26%	0.00%	9.22%	0.00%
Western Union Co/The	WU	0.05%	3.06%	0.00%	7.38%	0.00%
CH Robinson Worldwide Inc	CHRW	0.05%	2.36%	0.00%	11.04%	0.01%
Accenture PLC	ACN	0.30%	2.20%	0.01%	10.30%	0.03%
Yum! Brands Inc	YUM	0.19%	1.91%	0.00%	11.31%	0.02%
Prologis Inc	PLD	0.11%	3.58%	0.00%	7.91%	0.01%
FirstEnergy Corp	FE	0.08%	4.01%	0.00%	0.31%	0.00%
VeriSign Inc	VRSN	0.04%	n/a	n/a	10.67%	0.00%
Quanta Services Inc	PWR	0.03%	n/a	n/a	10.58%	0.00%
Ameren Corp	AEE	0.05%	4.01%	0.00%	7.15%	0.00%
Henry Schein Inc	HSIC	0.06%	n/a	n/a	11.10%	0.01%
Broadcom Corp	BRCM	0.13%	1.27%	0.00%	14.50%	0.02%
NVIDIA Corp	NVDA	0.06%	1.53%	0.00%	9.70%	0.01%
Sealed Air Corp	SEE	0.05%	1.14%	0.00%	9.53%	0.00%
Cognizant Technology Solutions Corp	CTSH	0.19%	n/a	n/a	15.97%	0.03%
Intuitive Surgical Inc	ISRG	0.10%	n/a	n/a	11.80%	0.01%
CONSOL Energy Inc	CNX	0.04%	0.77%	0.00%	12.40%	0.00%
Affiliated Managers Group Inc	AMG	0.06%	n/a	n/a	15.15%	0.01%
Aetna Inc	AET	0.20%	0.94%	0.00%	11.90%	0.02%
Republic Services Inc	RSG	0.07%	2.76%	0.00%	5.15%	0.00%
eBay Inc	EBAY	0.37%	n/a	n/a	12.61%	0.05%
Goldman Sachs Group Inc/The	GS	0.45%	1.32%	0.01%	14.90%	0.07%
Sempra Energy	SRE	0.14%	2.64%	0.00%	8.92%	0.01%
Moody's Corp	MCO	0.11%	1.26%	0.00%	13.50%	0.02%
Priceline Group Inc/The	PCLN	0.34%	n/a	n/a	19.03%	0.06%
F5 Networks Inc	FFIV	0.05%	n/a	n/a	15.42%	0.01%
Akamai Technologies Inc	AKAM	0.07%	n/a	n/a	15.80%	0.01%
QEP Resources Inc	QEP	0.02%	0.36%	0.00%	15.00%	0.00%
Reynolds American Inc	RAI	0.20%	3.66%	0.01%	9.70%	0.02%
Devon Energy Corp	DVN	0.15%	1.41%	0.00%	4.32%	0.01%
Google Inc	GOOGL	0.83%	n/a	n/a	16.28%	0.13%
Red Hat Inc	RHT	0.07%	n/a	n/a	17.13%	0.01%
Hudson City Bancorp Inc	HCBK	0.03%	n/a	n/a	-3.00%	0.00%
Allegion PLC	ALLE	0.03%	0.65%	0.00%	13.70%	0.00%
Netflix Inc	NFLX	0.18%	n/a	n/a	36.41%	0.06%
Agilent Technologies Inc	A	0.07%	0.97%	0.00%	5.90%	0.00%
Anthem Inc	ANTM	0.21%	1.66%	0.00%	10.03%	0.02%
CME Group Inc/IL	CME	0.16%	2.20%	0.00%	12.38%	0.02%
Juniper Networks Inc	JNPR	0.06%	1.51%	0.00%	11.40%	0.01%
BlackRock Inc	BLK	0.31%	2.40%	0.01%	15.05%	0.05%
DTE Energy Co	DTE	0.07%	3.47%	0.00%	5.02%	0.00%
NASDAQ OMX Group Inc/The	NDAQ	0.04%	2.06%	0.00%	8.90%	0.00%
Philip Morris International Inc	PM	0.68%	4.79%	0.03%	4.29%	0.03%
Time Warner Cable Inc	TWC	0.23%	1.93%	0.00%	11.75%	0.03%
Salesforce.com Inc	CRM	0.25%	n/a	n/a	26.88%	0.07%
MetLife Inc	MET	0.30%	2.92%	0.01%	7.15%	0.02%
Monsanto Co	MON	0.28%	1.72%	0.00%	8.92%	0.03%
Coach Inc	COH	0.06%	3.53%	0.00%	10.72%	0.01%
Fluor Corp	FLR	0.05%	1.40%	0.00%	5.67%	0.00%
Dun & Bradstreet Corp/The	DNB	0.02%	1.45%	0.00%	10.25%	0.00%
Edwards Lifesciences Corp	EW	0.07%	n/a	n/a	15.20%	0.01%
Ameriprise Financial Inc	AMP	0.12%	2.14%	0.00%	11.65%	0.01%
Xcel Energy Inc	XEL	0.09%	3.77%	0.00%	5.00%	0.00%
Rockwell Collins Inc	COL	0.07%	1.36%	0.00%	10.44%	0.01%
FMC Technologies Inc	FTI	0.05%	n/a	n/a	10.15%	0.01%
Zimmer Holdings Inc	ZMH	0.10%	0.80%	0.00%	10.24%	0.01%
CBRE Group Inc	CBG	0.07%	n/a	n/a	11.80%	0.01%
MasterCard Inc	MA	0.53%	0.71%	0.00%	17.50%	0.09%
GameStop Corp	GME	0.02%	3.74%	0.00%	14.93%	0.00%

STANDARD AND POOR'S 500 INDEX

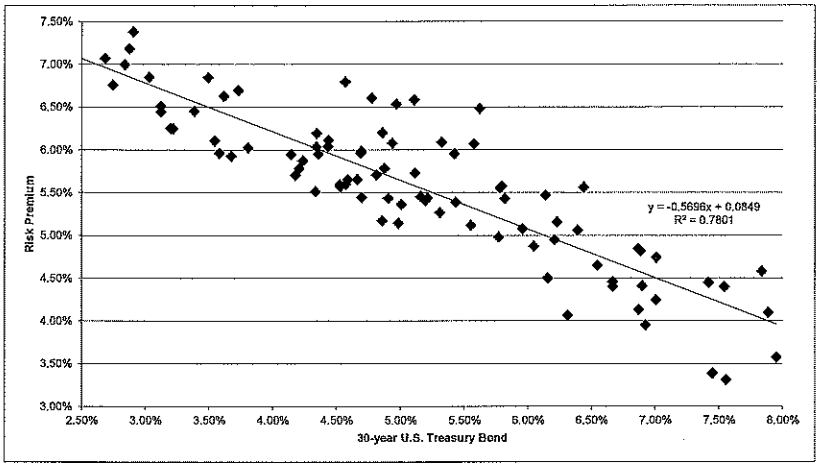
Name	Ticker	[12] Weight in Index	[13] Current Dividend Yield	[14] Cap-Weighted Dividend Yield	[15] Long-Term Growth Est.	[16] Cap-Weighted Long-Term Growth Est.
CarMax Inc	KMX	0.07%	n/a	n/a	15.31%	0.01%
Intercontinental Exchange Inc	ICE	0.13%	1.16%	0.00%	17.61%	0.02%
Fidelity National Information Services Inc	FIS	0.09%	1.66%	0.00%	12.42%	0.01%
Chipotle Mexican Grill Inc	CMG	0.10%	n/a	n/a	20.59%	0.02%
MeadWestvaco Corp	MWV	0.04%	2.05%	0.00%	11.00%	0.00%
Pepco Holdings Inc	POM	0.03%	4.16%	0.00%	5.00%	0.00%
Wynn Resorts Ltd	WYNN	0.06%	1.80%	0.00%	11.00%	0.01%
DIRECTV	DTV	0.24%	n/a	n/a	2.25%	0.01%
Hospira Inc	HSP	0.08%	n/a	n/a	18.30%	0.01%
Assurant Inc	AIZ	0.02%	1.76%	0.00%	7.71%	0.00%
NRG Energy Inc	NRG	0.04%	2.30%	0.00%	31.52%	0.01%
Genworth Financial Inc	GNW	0.02%	n/a	n/a	5.00%	0.00%
Regions Financial Corp	RF	0.07%	2.44%	0.00%	2.77%	0.00%
Teradata Corp	TDC	0.03%	n/a	n/a	10.13%	0.00%
Mosaic Co/The	MOS	0.08%	2.50%	0.00%	9.35%	0.01%
Expedia Inc	EXPE	0.06%	0.76%	0.00%	14.72%	0.01%
Discovery Communications Inc	DISCA	0.03%	n/a	n/a	16.10%	0.00%
CF Industries Holdings Inc	CF	0.07%	2.09%	0.00%	15.80%	0.01%
Viacom Inc	VIAB	0.13%	1.90%	0.00%	10.98%	0.01%
Wyndham Worldwide Corp	WYN	0.05%	1.97%	0.00%	10.00%	0.01%
Google Inc	GOOG	0.96%	n/a	n/a	16.28%	0.16%
Spectra Energy Corp	SE	0.13%	3.97%	0.01%	6.35%	0.01%
First Solar Inc	FSLR	0.03%	n/a	n/a	-3.81%	0.00%
Mead Johnson Nutrition Co	MJN	0.10%	1.72%	0.00%	9.72%	0.01%
Ensco PLC	ESV	0.03%	2.20%	0.00%	-3.50%	0.00%
TE Connectivity Ltd	TEL	0.14%	1.74%	0.00%	10.45%	0.01%
Discover Financial Services	DFS	0.13%	1.93%	0.00%	9.38%	0.01%
TripAdvisor Inc	TRIP	0.06%	n/a	n/a	23.38%	0.01%
Dr Pepper Snapple Group Inc	DPS	0.07%	2.57%	0.00%	6.98%	0.01%
Scripps Networks Interactive Inc	SNI	0.03%	1.32%	0.00%	8.81%	0.00%
Visa Inc	V	0.68%	0.73%	0.00%	17.77%	0.12%
Xylem Inc/NY	XYL	0.04%	1.52%	0.00%	11.45%	0.00%
Marathon Petroleum Corp	MPC	0.14%	2.03%	0.00%	6.57%	0.01%
Level 3 Communications Inc	LVLT	0.10%	n/a	n/a	29.15%	0.03%
Tractor Supply Co	TSCO	0.06%	0.74%	0.00%	15.38%	0.01%
Transocean Ltd	RIG	0.04%	3.19%	0.00%	-14.73%	-0.01%
Essex Property Trust Inc	ESS	0.08%	2.60%	0.00%	7.40%	0.01%
General Growth Properties Inc	GGP	0.13%	2.48%	0.00%	7.72%	0.01%
Realty Income Corp	O	0.06%	4.84%	0.00%	3.42%	0.00%
Seagate Technology PLC	STX	0.10%	3.68%	0.00%	6.80%	0.01%
Western Digital Corp	WDC	0.12%	2.05%	0.00%	5.03%	0.01%
Fossil Group Inc	FOSL	0.02%	n/a	n/a	12.42%	0.00%
Lam Research Corp	LRCX	0.06%	0.95%	0.00%	7.83%	0.00%
Mohawk Industries Inc	MHK	0.07%	n/a	n/a	10.95%	0.01%
Pentair PLC	PNR	0.06%	2.06%	0.00%	15.06%	0.01%
Monster Beverage Corp	MNST	0.12%	n/a	n/a	18.34%	0.02%
Vertex Pharmaceuticals Inc	VRTX	0.16%	n/a	n/a	24.92%	0.04%
Facebook Inc	FB	0.93%	n/a	n/a	28.25%	0.26%
United Rentals Inc	URI	0.05%	n/a	n/a	16.41%	0.01%
Delta Air Lines Inc	DAL	0.19%	0.81%	0.00%	21.91%	0.04%
Navient Corp	NAVI	0.04%	3.28%	0.00%	n/a	n/a
Mallinckrodt PLC	MNK	0.07%	n/a	n/a	26.54%	0.02%
Keurig Green Mountain Inc	GMCR	0.10%	0.99%	0.00%	15.67%	0.02%
Macerich Co/The	MAC	0.07%	3.18%	0.00%	6.16%	0.00%
Martin Marietta Materials Inc	MLM	0.05%	1.12%	0.00%	21.29%	0.01%
Alexion Pharmaceuticals Inc	ALXN	0.18%	n/a	n/a	23.41%	0.04%
Endo International PLC	ENDP	0.08%	n/a	n/a	9.78%	0.01%
News Corp	NWSA	0.03%	n/a	n/a	11.78%	0.00%
Crown Castle International Corp	CCI	0.15%	3.93%	0.01%	21.60%	0.03%
Delphi Automotive PLC	DLPH	0.13%	1.20%	0.00%	13.74%	0.02%
Michael Kors Holdings Ltd	KORS	0.07%	n/a	n/a	20.37%	0.01%
Alliance Data Systems Corp	ADS	0.10%	n/a	n/a	14.02%	0.01%
Garmin Ltd	GRMN	0.05%	4.51%	0.00%	7.20%	0.00%
Cimarex Energy Co	XEC	0.06%	0.51%	0.00%	-7.49%	0.00%
Zoetis Inc	ZTS	0.12%	0.75%	0.00%	11.83%	0.01%
Equinix Inc	EQIX	0.08%	2.64%	0.00%	17.00%	0.01%
Discovery Communications Inc	DISCK	0.04%	n/a	n/a	16.10%	0.01%

Notes:
[9] Equals Sum ([14])
[10] Equals Sum ([16])
[11] Equals ([9] x (1 + (0.5 x [10]))) + [10]
[12] Equals weight in S&P 500 based on market capitalization
[13] Source: Bloomberg Professional
[14] Equals [12] x [13]
[15] Source: Bloomberg Professional
[16] Equals [12] x [15]

BOND YIELD PLUS RISK PREMIUM

	[1] Average Authorized Natural Gas ROE	[2] 30-year U.S. Treasury Bond	[3] Risk Premium
1992.1	12.42%	7.84%	4.58%
1992.2	11.98%	7.88%	4.10%
1992.3	11.87%	7.42%	4.45%
1992.4	11.94%	7.54%	4.40%
1993.1	11.75%	7.01%	4.74%
1993.2	11.71%	6.86%	4.85%
1993.3	11.39%	6.23%	5.16%
1993.4	11.16%	6.21%	4.95%
1994.1	11.12%	6.66%	4.46%
1994.2	10.84%	7.45%	3.39%
1994.3	10.87%	7.55%	3.31%
1994.4	11.53%	7.95%	3.58%
1995.2	11.00%	6.87%	4.13%
1995.3	11.07%	6.66%	4.40%
1995.4	11.61%	6.14%	5.47%
1996.1	11.45%	6.39%	5.06%
1996.2	10.88%	6.92%	3.95%
1996.3	11.25%	7.00%	4.25%
1996.4	11.19%	6.54%	4.65%
1997.1	11.31%	6.90%	4.41%
1997.2	11.70%	6.88%	4.82%
1997.3	12.00%	6.44%	5.56%
1997.4	10.92%	6.04%	4.87%
1998.2	11.37%	5.79%	5.57%
1998.3	11.41%	5.32%	6.09%
1998.4	11.69%	5.11%	6.59%
1999.1	10.82%	5.43%	5.39%
1999.2	11.25%	5.82%	5.43%
1999.4	10.38%	6.31%	4.06%
2000.1	10.66%	6.15%	4.50%
2000.2	11.03%	5.95%	5.08%
2000.3	11.33%	5.78%	5.56%
2000.4	12.10%	5.62%	6.48%
2001.1	11.38%	5.42%	5.96%
2001.2	10.75%	5.77%	4.98%
2001.4	10.65%	5.21%	5.44%
2002.1	10.67%	5.55%	5.12%
2002.2	11.64%	5.57%	6.07%
2002.3	11.50%	4.96%	6.54%
2002.4	11.01%	4.93%	6.08%
2003.1	11.38%	4.78%	6.61%
2003.2	11.36%	4.57%	6.80%
2003.3	10.61%	5.15%	5.46%
2003.4	10.84%	5.11%	5.73%
2004.1	11.06%	4.86%	6.20%
2004.2	10.57%	5.31%	5.27%
2004.3	10.37%	5.01%	5.36%
2004.4	10.66%	4.87%	5.79%
2005.1	10.65%	4.69%	5.96%
2005.2	10.54%	4.34%	6.19%
2005.3	10.47%	4.43%	6.04%
2005.4	10.32%	4.66%	5.66%
2006.1	10.68%	4.69%	5.99%
2006.2	10.60%	5.19%	5.41%
2006.3	10.34%	4.90%	5.44%
2006.4	10.14%	4.70%	5.45%
2007.1	10.52%	4.81%	5.71%
2007.2	10.13%	4.98%	5.14%
2007.3	10.03%	4.85%	5.17%
2007.4	10.12%	4.53%	5.59%
2008.1	10.38%	4.34%	6.04%
2008.2	10.17%	4.57%	5.60%
2008.3	10.55%	4.44%	6.12%
2008.4	10.34%	3.49%	6.85%
2009.1	10.24%	3.62%	6.63%
2009.2	10.11%	4.23%	5.87%
2009.3	9.88%	4.18%	5.70%
2009.4	10.31%	4.35%	5.95%
2010.1	10.24%	4.59%	5.65%
2010.2	9.99%	4.20%	5.78%
2010.3	10.43%	3.73%	6.70%
2010.4	10.09%	4.14%	5.95%
2011.1	10.10%	4.53%	5.57%
2011.2	9.85%	4.33%	5.51%
2011.3	9.65%	3.54%	6.11%
2011.4	9.88%	3.03%	6.85%
2012.1	9.63%	3.12%	6.51%
2012.2	9.83%	2.84%	7.00%
2012.3	9.75%	2.68%	7.07%
2012.4	10.06%	2.87%	7.18%
2013.1	9.57%	3.12%	6.45%
2013.2	9.47%	3.22%	6.25%
2013.3	9.60%	3.67%	5.93%
2013.4	9.83%	3.81%	6.02%
2014.1	9.54%	3.58%	5.96%
2014.2	9.84%	3.38%	6.45%
2014.3	9.45%	3.20%	6.25%
2014.4	10.28%	2.90%	7.38%
2015.1	9.47%	2.45%	7.02%
2015.2	9.50%	2.74%	6.76%
Average	10.69%	5.10%	5.58%
Median	10.65%	4.95%	5.62%

BOND YIELD PLUS RISK PREMIUM



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.88322
R Square	0.78008
Adjusted R Square	0.77758
Standard Error	0.00421
Observations	90

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.00553	0.00553	312.13723	0.00000
Residual	88	0.00156	0.00002		
Total	89	0.00709			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0849	0.001704	49.82	0.00000	0.081524	0.088298	0.081524	0.088298
30-year U.S. Treasury Bond	-0.5696	0.032239	-17.67	0.00000	-0.633648	-0.505512	-0.633648	-0.505512

	[7] 30-year U.S. Treasury Bond	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	2.57%	7.03%	9.60%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2015 - Q3 2016) [5]	3.23%	6.65%	9.88%
Projected 30-year U.S. Treasury bond yield (2016 - 2020) [6]	4.90%	5.70%	10.60%
MEAN			10.03%

Notes:
[1] Source: Regulatory Research Associates
[2] Source: Bloomberg Professional, quarterly bond yields are the average of the last trading day of each month in the quarter
[3] Equals [1] – [2]
[4] Source: Bloomberg Professional
[5] Source: Blue Chip Financial Forecasts, Vol. 34, No. 4, April 1, 2015, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 33, No. 12, December 1, 2014, at 14
[7] See Notes [4], [5] and [6]
[8] Equals 0.084911 + (-0.569580 x [7])
[9] Equals [7] + [8]

SIZE PREMIUM CALCULATION

Proxy Group Market Capitalization and Market-to-Book Ratio

Company	Ticker	[1] Market Capitalization ($ billions)	[2] Market-to-Book Ratio
AGL Resources Inc.	GAS	6.01	1.55
Laclede Group, Inc. (The)	LG	2.24	1.41
New Jersey Resources Corporation	NJR	2.66	2.34
NiSource Inc.	NI	13.88	2.16
Northwest Natural Gas Company	NWN	1.31	1.68
Piedmont Natural Gas Company, Inc.	PNY	2.93	2.12
South Jersey Industries, Inc.	SJI	1.85	1.92
Southwest Gas Corporation	SWX	2.69	1.76
WGL Holdings, Inc.	WGL	2.79	2.17
Average		4.04	1.90
Median		2.69	1.92

Atmos Energy Corporation - Kansas	
Common Equity ($ millions) [3]	115.6
Implied Market Capitalization [4]	221.9
As a percent of Proxy Group Median Market Capitalization	8.25%

Ibbotson SBBI 2015 Classic Yearbook -- Size Premium

Breakdown of Deciles 1-10	[5] Market Capitalization of Largest Company ($ millions)	[6] Size Premium
1-Largest	591,015.721	-0.36%
2	24,272.837	0.63%
3	10,105.622	0.91%
4	5,844.592	1.06%
5	3,724.186	1.60%
6	2,542.913	1.74%
7	1,686.860	1.71%
8	1,010.634	2.15%
9	548.839	2.69%
10-Smallest	300.725	5.78%
Atmos Energy Corporation - Kansas - Implied Market Capitalization	221.939	5.78%
Proxy Group Median Market Capitalization	2,689.330	1.60%
Size Premium [7]		4.18%

Notes:
[1] Source: Bloomberg Professional; equals 30-day average as of April 30, 2015.
[2] Source: Bloomberg Professional; equals 30-day average as of April 30, 2015.
[3] Source: Atmos Energy Corporation, Section 7
[4] Equals [3] x proxy group median market-to-book ratio
[5] Source: Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook, at Table 7-5.
[6] Source: Morningstar, Inc., Ibbotson SBBI 2015 Classic Yearbook, at Table 7-6.
[7] Equals 5.78% – 1.60%

NON-VOLUMETRIC RATE DESIGN & CAPITAL TRACKING MECHANISMS

				[1]	[2]	[3]	[4]	[5]	
				Non-Volumetric Rate Design					
Proxy Group Company	Ticker	Utility	State	Formula Rate Plan	Revenue Decoupling Mechanism	Straight Fixed-Variable Rate Design	Non-Volumetric Rate Design	Capital Tracking Mechanism	
AGL Resources Inc.	GAS	Atlanta Gas Light Company	GA	N	N	Y	Y	Y	
		Chattanooga Gas Company	TN	N	Y	N	Y	N	
		Elizabethtown Gas	NJ	N	N	N	N	Y	
		Elkton Gas	MD	N	Y	N	Y	N	[6]
		Florida City Gas	FL	N	N	N	N	N	
		Northern Illinois Gas Company	IL	N	N	N	N	Y	
		Virginia Natural Gas, Inc.	VA	N	Y	N	Y	Y	
Laclede Group, Inc. (The)	LG	Alabama Gas Corporation	AL	Y	N	N	Y	Y	
		Laclede Gas Company	MO	N	N	N	N	Y	
		Missouri Gas Energy	MO	N	N	Y	Y	Y	
New Jersey Resources Corporation	NJR	New Jersey Natural Gas Company	NJ	N	Y	N	Y	Y	
NiSource Inc.	NI	Bay State Gas Company	MA	N	Y	N	Y	Y	
		Columbia Gas of Kentucky, Incorporated	KY	N	N	N	N	Y	
		Columbia Gas of Maryland, Incorporated	MD	N	Y	N	Y	Y	
		Columbia Gas of Ohio, Incorporated	OH	N	N	Y	Y	Y	
		Columbia Gas of Pennsylvania, Inc.	PA	N	N	N	N	Y	
		Columbia Gas of Virginia, Incorporated	VA	N	Y	N	Y	Y	
		Northern Indiana Public Service Co.	IN	N	N	N	N	Y	
Northwest Natural Gas Company	NWN	Northwest Natural Gas Company	OR	N	Y	N	Y	Y	
		Northwest Natural Gas Company	WA	N	N	N	N	Y	
Piedmont Natural Gas Company, Inc.	PNY	Piedmont Natural Gas Company, Inc.	NC	N	Y	N	Y	Y	
		Piedmont Natural Gas Company, Inc.	SC	Y	N	N	Y	Y	
		Piedmont Natural Gas Company, Inc.	TN	N	N	N	N	Y	
South Jersey Industries, Inc.	SJI	South Jersey Gas Company	NJ	N	Y	N	Y	Y	
Southwest Gas Corporation	SWX	Southwest Gas Corporation	AZ	N	Y	N	Y	N	
		Southwest Gas Corporation	CA	N	Y	N	Y	Y	
		Southwest Gas Corporation	NV	N	Y	N	Y	Y	
WGL Holdings, Inc.	WGL	Washington Gas Light Company	DC	N	N	N	N	Y	
		Washington Gas Light Company	MD	N	Y	N	Y	Y	
		Washington Gas Light Company	VA	N	Y	N	Y	Y	
Total Number of Jurisdictions (Y)							20		
Total Number of Jurisdictions							30		
Percent of Jurisdictions							66.7%		

Notes:
[1] Source: American Gas Association, Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List, March 2015.
[2] Source: American Gas Association, Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List, March 2015.
[3] Source: American Gas Association, Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List, March 2015.
[4] Identifies companies with either a formula rate plan, revenue decoupling mechanism or straight fixed-variable rate design.
[5] Source: American Gas Association, Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List, March 2015.
[6] Elkton Gas Company Tariff.

QUARTERLY CAPITAL STRUCTURE

Common Equity Ratio

		2013Q2	2013Q3	2013Q4	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1	Mean	Median
AGL Resources Inc.	GAS	47.72%	47.61%	48.34%	49.95%	50.07%	49.70%	49.88%	52.17%	49.43%	49.79%
Laclede Group, Inc. (The)	LG	69.94%	53.40%	53.88%	57.06%	61.10%	44.90%	45.31%	47.01%	54.08%	53.64%
New Jersey Resources Corporation	NJR	60.42%	60.41%	60.02%	61.52%	61.42%	60.43%	59.92%	61.02%	60.64%	60.42%
NiSource Inc.	NI	42.59%	42.76%	41.98%	42.40%	42.46%	41.65%	42.30%	43.65%	42.47%	42.43%
Northwest Natural Gas Company	NWN	51.97%	49.61%	50.32%	51.24%	51.65%	53.20%	53.64%	54.26%	51.99%	51.81%
Piedmont Natural Gas Company, Inc.	PNY	55.80%	55.41%	48.25%	52.85%	53.68%	53.21%	47.88%	49.29%	52.04%	53.03%
South Jersey Industries, Inc.	SJI	55.16%	55.74%	54.11%	54.19%	49.47%	46.12%	48.02%	49.04%	51.48%	51.79%
Southwest Gas Corporation	SWX	52.09%	51.34%	50.39%	51.62%	51.36%	50.09%	47.33%	50.47%	50.59%	50.91%
WGL Holdings, Inc.	WGL	69.52%	68.32%	66.92%	67.63%	67.15%	64.06%	55.52%	56.70%	64.48%	67.03%
Mean		56.13%	53.85%	52.69%	54.27%	54.26%	51.48%	49.98%	51.51%	53.02%	53.43%
Median		55.16%	53.40%	50.39%	52.85%	51.65%	50.09%	48.02%	50.47%	51.99%	51.81%
Low		42.59%	42.76%	41.98%	42.40%	42.46%	41.65%	42.30%	43.65%	42.47%	42.43%
High		69.94%	68.32%	66.92%	67.63%	67.15%	64.06%	59.92%	61.02%	64.48%	67.03%

Long-Term Debt Ratio

		2013Q2	2013Q3	2013Q4	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1	Mean	Median
AGL Resources Inc.	GAS	52.28%	52.39%	51.66%	50.05%	49.93%	50.30%	50.12%	47.83%	50.57%	50.21%
Laclede Group, Inc. (The)	LG	30.06%	46.60%	46.12%	42.94%	38.90%	55.10%	54.69%	52.99%	45.92%	46.36%
New Jersey Resources Corporation	NJR	39.58%	39.59%	39.98%	38.48%	38.58%	39.57%	40.08%	38.98%	39.36%	39.58%
NiSource Inc.	NI	57.41%	57.24%	58.02%	57.60%	57.54%	58.35%	57.70%	56.35%	57.53%	57.57%
Northwest Natural Gas Company	NWN	48.03%	50.39%	49.68%	48.76%	48.35%	46.80%	46.36%	45.74%	48.01%	48.19%
Piedmont Natural Gas Company, Inc.	PNY	44.20%	44.59%	51.75%	47.15%	46.32%	46.79%	52.12%	50.71%	47.96%	46.97%
South Jersey Industries, Inc.	SJI	44.84%	44.26%	45.89%	45.81%	50.53%	53.88%	51.98%	50.96%	48.52%	48.21%
Southwest Gas Corporation	SWX	47.91%	48.66%	49.61%	48.38%	48.64%	49.91%	52.67%	49.53%	49.41%	49.09%
WGL Holdings, Inc.	WGL	30.48%	31.68%	33.08%	32.37%	32.85%	35.94%	44.48%	43.30%	35.52%	32.97%
Mean		43.87%	46.15%	47.31%	45.73%	45.74%	48.52%	50.02%	48.49%	46.98%	46.57%
Median		44.84%	46.60%	49.61%	47.15%	48.35%	49.91%	51.98%	49.53%	48.01%	48.19%
Low		30.06%	31.68%	33.08%	32.37%	32.85%	35.94%	40.08%	38.98%	35.52%	32.97%
High		57.41%	57.24%	58.02%	57.60%	57.54%	58.35%	57.70%	56.35%	57.53%	57.57%

Source: SNL Financial

Atmos Energy Corporation

Consolidated Long-Term Debt Outstanding w/ calculation of Effective Interest Rates
March 31, 2015

Line	Atmos Energy Corp., Consolidated: Debt Series (a)	Issued (b)	Outstanding 3/31/2014 (c)	Outstanding 4/30/2014 (d)	Outstanding 5/31/2014 (e)	Outstanding 6/30/2014 (f)	Outstanding 7/31/2014 (g)	Outstanding 8/31/2014 (h)	Outstanding 9/30/2014 (i)	Outstanding 10/31/2014 (j)	Outstanding 11/30/2014 (k)	Outstanding 12/31/2014 (l)
1	9.40% First Mortgage Bond J due May 2021/RET 2005	04/01/91	-	-	-	-	-	-	-	-	-	-
2	6.75% Debentures Unsecured due July 2028	07/27/98	150,000,000	150,000,000	150,000,000	150,000,000	150,000,000	150,000,000	150,000,000	150,000,000	150,000,000	150,000,000
3	5.125% Senior Notes due Jan 2013	01/13/03	-	-	-	-	-	-	-	-	-	-
4	10.43% First Mortgage Bond P due 2017 (eff 2012)	11/01/87	-	-	-	-	-	-	-	-	-	-
5	9.75% First Mortgage Bond Q due Apr 2020/RET 2005	04/01/90	-	-	-	-	-	-	-	-	-	-
6	9.32% First Mortgage Bond T due June 2021/RET 2005	06/01/91	-	-	-	-	-	-	-	-	-	-
7	8.77% First Mortgage Bond U due May 2022/RET 2005	05/01/92	-	-	-	-	-	-	-	-	-	-
8	6.67% MTN A1 due Dec 2025	12/15/95	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
9	4.95% Sr Note due 10/15/2014	10/22/04	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	-	-	-
10	5.95% Sr Note due 10/15/2034	10/22/04	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000
11	6.35% Sr Note due 6/15/2017	6/2007	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000
12	Sr Note 5.50% Due 06/15/2041	6/10/2011	400,000,000	400,000,000	400,000,000	400,000,000	400,000,000	400,000,000	400,000,000	400,000,000	400,000,000	400,000,000
13	8.50% Sr Note due 3/15/2019	03/23/09	450,000,000	450,000,000	450,000,000	450,000,000	450,000,000	450,000,000	450,000,000	450,000,000	450,000,000	450,000,000
14	4.15% Sr Note due 1/15/2043	01/15/13	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000
15	4.125% Sr Note due 10/15/2044	10/15/2014	-	-	-	-	-	-	-	500,000,000	500,000,000	500,000,000
16	Debt Issuance Cost - Amort is pending new debt issue	06/2017	-	-	-	-	-	-	-	-	-	-
17	March 2019 - Swap Position	03/2019	-	-	-	-	-	-	-	-	-	-
18	Subtotal -- Utility Long-Term Debt		$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000
19												
20	Atmos Leasing, Inc.											
21	Industrial Develop Revenue Bond 07/13	1991	-	-	-	-	-	-	-	-	-	-
22	**Total Long-Term Debt**		2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000	2,460,000,000
23	Less Unamortized Debt Discount		$ 4,171,372	$ 4,145,168	$ 4,118,964	$ 4,092,760	$ 4,066,556	$ 4,040,351	$ 4,014,147	$ 4,925,624	$ 4,897,100	$ 4,868,576
24	Annualized Amortization of T-Lock Settlement, Debt Exp. & Debt Disct.											
25												
26	Effective Avg Cost of Consol Debt											
27	Consolidated & Utility											

Note: Includes current maturities

Atmos Energy Corporation

Consolidated Long-Term Debt Outstanding w/ calculation of Effe

March 31, 2015

Atmos Energy Corp., Consolidated: Line	Debt Series (a)	Issued (b)	Outstanding 1/31/2015 (m)	Outstanding 2/28/2015 (n)	Outstanding 2/26/2015 (o)	End Int Rate (p)	Annual Int at March 31, 2015 (q)	(r)	Outstanding 13 mth Average (s)	Avg Int Rate (t)	Annual Int 13 mth Average (u)	(v)	Annualized 4270 Amort for T-lock/Swaps (w)	Annualized 4280-81 Amort Debt Exp&Dsct (x)	Unamort Debt Exp 1810 Penalty 1890 Dsct 2260 March 31, 2015 (y)
1	9.40% First Mortgage Bond J due May 2021/RET 2005	04/01/91	-	-	-	9.40%	0		-	9.40%	-		0	560,397	3,409,085
2	6.75% Debentures Unsecured due July 2028	07/27/98	150,000,000	150,000,000	150,000,000	6.75%	10,125,000		150,000,000	6.75%	10,125,000		0	99,938	1,328,822
3	5.125% Senior Notes due Jan 2013	01/13/03	-	-	-	5.13%	0		-	5.13%	-		0	0	0
4	10.43% First Mortgage Bond P due 2017 (eff 2012)	11/01/87	-	-	-	10.43%	0		-	10.43%	-		0	33,637	87,412
5	9.75% First Mortgage Bond Q due Apr 2020/RET 2005	04/01/90	-	-	-	9.75%	0		-	9.75%	-		0	337,581	1,716,035
6	9.32% First Mortgage Bond T due June 2021/RET 2005	06/01/91	-	-	-	9.32%	0		-	9.32%	-		0	362,746	2,236,936
7	8.77% First Mortgage Bond U due May 2022/RET 2005	05/01/92	-	-	-	8.77%	0		-	8.77%	-		0	368,719	2,611,761
8	6.67% MTN A1 due Dec 2025	12/15/95	10,000,000	10,000,000	10,000,000	6.67%	667,000		10,000,000	6.67%	667,000		0	7,790	84,294
9	4.95% Sr Note due 10/15/2014	10/22/04	-	-	-	4.95%	0		269,230,769	4.95%	13,326,923		0	0	(0)
10	5.95% Sr Note due 10/15/2034	10/22/04	200,000,000	200,000,000	200,000,000	5.95%	11,900,000		200,000,000	5.95%	11,900,000		(7,047)	115,724	2,262,876
11	6.35% Sr Note due 6/15/2017	6/2007	250,000,000	250,000,000	250,000,000	6.35%	15,875,000		250,000,000	6.35%	15,875,000		(474,980)	307,042	690,844
12	Sr Note 5.50% Due 06/15/2041	6/10/2011	400,000,000	400,000,000	400,000,000	5.50%	22,000,000		400,000,000	5.50%	22,000,000		(669,302)	186,860	4,889,493
13	8.50% Sr Note due 3/15/2019	03/23/09	450,000,000	450,000,000	450,000,000	8.50%	38,250,000		450,000,000	8.50%	38,250,000		(77,734)	1,161,169	4,644,678
14	4.15% Sr Note due 1/15/2043	01/15/13	500,000,000	500,000,000	500,000,000	4.15%	20,750,000		500,000,000	4.15%	20,750,000		2,220,857	378,080	10,506,173
15	4.125% Sr Note due 10/15/2044	10/15/2014	500,000,000	500,000,000	500,000,000	4.125%	20,625,000		230,769,231	4.125%	9,519,231		(445,478)	215,407	6,362,190
16	Debt Issuance Cost - Amort is pending new debt issue	06/2017	-	-	-		0		-		-		0	0	41,580
17	March 2019 - Swap Position	03/2019	-	-	-		0		-		-		0	0	0
18	Subtotal -- Utility Long-Term Debt		$ 2,460,000,000	$ 2,460,000,000	$ 2,460,000,000		$ 140,192,000		$ 2,460,000,000		$ 142,413,154		$ 546,316	$ 4,135,291	$ 40,872,178
19															
20	Atmos Leasing, Inc.														
21	Industrial Develop Revenue Bond 07/13	1991	-	-	-	7.90%	-		-	7.90%	-		0	0	0
22	**Total Long-Term Debt**		2,460,000,000	2,460,000,000	2,460,000,000		$ 140,192,000		$ 2,460,000,000		$ 142,413,154				
23	Less Unamortized Debt Discount		$ 4,840,053	$ 4,811,529	$ 4,783,006				$ 4,444,247				$ 546,316	$ 4,135,291	$ 40,872,178
24	Annualized Amortization of T-Lock Settlement, Debt Exp. & Debt Disct						$ 4,681,607				$ 4,681,607				
25					$ 2,455,216,994		$ 144,873,607		$ 2,455,555,753		$ 147,094,761		check	check	check
26	Effective Avg Cost of Consol Debt					**5.90%**	end of period			**5.99%**	13 mth avg		546,316.12	4,135,290.84	40,872,178
27	Consolidated & Utility					**5.90%**	end of period			**5.99%**	13 mth avg		-		
	Note: Includes current maturities			ck g/l bal	$ 2,455,216,994										
				diff g/l vs calc	$ -										

Atmos Energy Corporation

Consolidated Long-Term Debt Outstanding w/ calculation of Effe
March 31, 2015

Atmos Energy Corp., Consolidated:

Line	Debt Series	Issued	(z)	(Offset to 2150) 4270.30937 Exp on T-lock/Swaps March 31, 2015 (aa)	(Offset to 1810) 4280 Mthly Debt Exp March 31, 2015 (ab)	(Offset to 2260) 4280 Mthly Dsct Exp March 31, 2015 (ac)	(Offset to 1890) 4281 Mthly Exp March 31, 2015 (ad)	(Offset to 4280) Unamort Debt Exp 1810 Balance March 31, 2015 (ae)	(Offset to 4281) Unamort Loss 1890 Balance March 31, 2015 (af)	(Offset to 4280) Debt Dsct 2260 Balance March 31, 2015 (ag)	(Offset to 4270) App Retained Earnings 2150 Treasury lock/Swaps March 31, 2015 (ah)
	(a)	(b)									
1	9.40% First Mortgage Bond J due May 2021/RET 2005	04/01/91					46,700	-	3,409,085		
2	6.75% Debentures Unsecured due July 2028	07/27/98			4,641	3,688		742,510		586,313	
3	5.125% Senior Notes due Jan 2013	01/13/03			-	-	-	-	-	-	
4	10.43% First Mortgage Bond P due 2017 (eff 2012)	11/01/87					2,820	-	87,412		
5	9.75% First Mortgage Bond Q due Apr 2020/RET 2005	04/01/90					28,132	-	1,716,035		
6	9.32% First Mortgage Bond T due June 2021/RET 2005	06/01/91					30,229	-	2,236,936		
7	8.77% First Mortgage Bond U due May 2022/RET 2005	05/01/92					30,727	-	2,611,761		
8	6.67% MTN A1 due Dec 2025	12/15/95			649			84,294			
9	4.95% Sr Note due 10/15/2014	10/22/04		-	-	-		-		(0)	-
10	5.95% Sr Note due 10/15/2034	10/22/04		(587)	6,266	3,378		1,472,476		790,400	(138,005)
11	6.35% Sr Note due 6/15/2017	6/2007		(39,582)	18,260	5,646	1,681	493,030	45,377	152,438	(1,029,124)
12	Sr Note 5.50% Due 06/15/2041	6/10/2011		(55,775)	11,994	3,578		3,766,071		1,123,422	(17,513,391)
13	8.50% Sr Note due 3/15/2019	03/23/09		(6,478)	30,869	7,013	58,883	1,481,703	2,826,375	336,600	(310,934)
14	4.15% Sr Note due 1/15/2043	01/15/13		185,071	14,907	2,611	13,988	4,971,560	4,665,113	869,500	61,813,848
15	4.125% Sr Note due 10/15/2044	10/15/2014		(37,123)	15,340	2,611		5,437,857		924,333	(13,178,734)
16	Debt Issuance Cost - Amort is pending new debt issue	06/2017						41,580			27,209,996
17	March 2019 - Swap Position	03/2019									105,094,642
18	Subtotal -- Utility Long-Term Debt			45,526	102,925	28,524	213,158	18,491,080	17,598,093	4,783,006	161,948,297
19											
20	Atmos Leasing, Inc.										
21	Industrial Develop Revenue Bond 07/13	1991									
22	**Total Long-Term Debt**										
23	Less Unamortized Debt Discount			45,526	102,925	28,524	213,158	18,491,080	17,598,093	4,783,006	161,948,297
24	Annualized Amortization of T-Lock Settlement, Debt Exp. & Debt Disct			ck	ck	ck	ck	ck	ck	ck	ck
25				45,526	131,449		213,158	18,491,080	17,598,093	4,783,006	161,948,297
26	Effective Avg Cost of Consol Debt		diff g/l vs calc	0	-		-	-	-	-	-
27	Consolidated & Utility										

Note: includes current maturities

Recon of 2150-20102 thru 2150-20111

	Ledger Bal @ 3/31/15	Per Amort Sch Def Tax Bal	Per Amort Sch Lock Bal	Amort Sch vs. G/L Diff
20102	(87,633.27)	50,371.85	(138,005.06)	(0.06)
20103	(653,493.43)	375,630.14	(1,029,123.66)	0.09
20104	(197,443.29)	113,491.01	(310,934.27)	(0.03)
20105	(11,121,003.23)	6,392,387.71	(17,513,390.99)	0.05
20107	39,251,793.23	(22,562,054.42)	61,813,847.65	0.00
20108	(8,368,496.10)	4,810,237.92	(13,178,734.03)	0.01
20109	17,278,347.31	(9,931,648.46)	27,209,995.77	(0.00)
20111	66,735,097.42	(38,359,544.18)	105,094,641.60	0.00
	102,837,168.64	(59,111,128.43)	161,948,297.01	0.07