BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of Black Hills/Kansas Gas Utility Company, LLC, d/b/a Black Hills Energy, for Approval of the Commission to Make Certain Changes in its Rate for natural Gas Service	**Docket No.** **14-BHCG-502-RTS**

DIRECT TESTIMONY OF

ADRIEN MCKENZIE

FOR BLACK HILLS KANSAS GAS UTILITY COMPANY, LLC

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I. INTRODUCTION

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. My name is Adrien M. McKenzie. My business address is 3907 Red River, Austin, Texas.

Q2. IN WHAT CAPACITY ARE YOU EMPLOYED?

A2. I am a Vice President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government.

Q3. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A3. A description of my background and qualifications, including a resume containing the details of my experience, is attached as Exhibit AMM-1.

A. Overview

Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A4. The purpose of my testimony is to present to the Kansas Corporation Commission ("KCC" or "Commission")) my independent assessment of the fair rate of return on equity ("ROE") for the jurisdictional gas utility operations of Black Hills/Kansas Gas Utility Company, LLC d/b/a Black Hills Energy (hereinafter "Black Hills Kansas" or "Company"). In addition, I also examined the reasonableness of Black Hills Kansas's requested

capital structure, considering both the specific risks faced by the Company and other industry guidelines.

Q5. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU RELIED ON TO SUPPORT THE OPINIONS AND CONCLUSIONS CONTAINED IN YOUR TESTIMONY.

A5. To prepare my testimony, I used information from a variety of sources that would normally be relied upon by a person in my capacity. In connection with the present filing, I considered and relied upon corporate disclosures, publicly available financial reports and filings, and other published information relating to Black Hills Corporation ("BHC") and Black Hills Kansas. I also reviewed information relating generally to capital market conditions and specifically to investor perceptions, requirements, and expectations for utilities. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of the issues relevant to investors' required return for Black Hills Kansas, and they form the basis of my analyses and conclusions.

Q6. HOW IS YOUR TESTIMONY ORGANIZED?

A6. After first summarizing my conclusions and recommendations, I reviewed current conditions in the capital markets and their implications in evaluating a fair ROE for Black Hills Kansas. With this as a background, I conducted well-accepted quantitative analyses to estimate the current cost of equity for reference groups of utilities. These included the discounted cash flow ("DCF") model, the empirical form of Capital Asset Pricing Model ("ECAPM"), and an equity risk premium approach based on allowed ROEs for natural gas distribution utilities, which are all methods that are commonly relied on in regulatory proceedings. Based on the cost of equity estimates indicated by my analyses, a fair ROE for Black Hills

Kansas's natural gas utility operations was evaluated taking into account the Company's specific risks and requirements for financial strength that provides benefits to customers, as well as flotation costs, which are properly considered in setting a fair rate of return on equity.

Finally, I tested my recommended ROE for Black Hills Kansas based on the results of alternative ROE benchmarks, including reference to applications of the traditional Capital Asset Pricing Model ("CAPM") and expected rates of return for gas utilities. Further, I corroborated my utility quantitative analyses by applying the DCF model to a group of extremely low risk non-utility firms.

Q7. WHAT IS THE ROLE OF THE ROE IN SETTING UTILITY RATES?

A7. The ROE compensates common equity investors for the use of their capital to finance the plant and equipment necessary to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. To be consistent with sound regulatory economics and the standards set forth by the United States Supreme Court in the Bluefield[1] and Hope[2] cases, a utility's allowed ROE should be sufficient to: (1) fairly compensate investors for capital invested in the utility, (2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and (3) maintain the utility's financial integrity.

Q8. BRIEFLY DESCRIBE BLACK HILLS KANSAS.

A8. A wholly owned subsidiary of Black Hills Utility Holdings, Inc. ("Utility Holdings"), which in turn is wholly owned by BHC, the Company is primarily

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

engaged in the procurement, transmission, and distribution of natural gas to over 111,000 customers. During 2013, the Company's gas deliveries totaled approximately 28.0 million dekatherms ("Dth"). The Company's revenue mix was comprised of 63% residential, 20% commercial, and 17% industrial and other sales revenue. The Company's transportation and distribution system comprises approximately 4,270 miles of mains and as of December 31, 2013, Black Hills Kansas's jurisdictional rate base totaled approximately $131.2 million.

Q9. WHERE DOES BLACK HILLS KANSAS OBTAIN THE CAPITAL USED TO FINANCE ITS INVESTMENT IN UTILITY PLANT?

A9. As a wholly-owned subsidiary of BHC, the Company obtains common equity capital solely from its parent, whose common stock is publicly traded on the New York Stock Exchange. In addition to common equity, long-term debt capital is allocated to Black Hills Kansas from BHC through Utility Holdings.

Q10. WHAT CREDIT RATINGS HAVE BEEN ASSIGNED TO BHC?

A10. BHC has been assigned a corporate credit rating of "BBB" by Standard & Poor's Corporation ("S&P"), an issuer credit rating of "Baa1" by Moody's Investor Services, Inc. ("Moody's"), and an issuer default rating of "BBB" by Fitch Ratings Ltd. ("Fitch").

II. RETURN ON EQUITY FOR BLACK HILLS KANSAS

Q11. WHAT IS THE PURPOSE OF THIS SECTION?

A11. This section presents my conclusions regarding the fair ROE applicable to Black Hills Kansas's gas utility operations. This section also discusses the

relationship between ROE and preservation of a utility's financial integrity and the ability to attract capital.

Q12. WHAT ROLE DOES THE KCC PLAY IN SAVING CUSTOMERS MONEY THROUGH SUPPORTING INVESTOR CONFIDENCE?

A12. Regulatory signals are a major driver of investors' risk assessment for utilities. Security analysts study commission orders and regulatory policy statements to advise investors where to put their money. If the Commission's actions instill confidence that the regulatory environment is supportive, investors make capital available to Kansas utilities on more reasonable terms. When investors are confident that a utility has reasonable and balanced regulation, they will make funds available even in times of turmoil in the financial markets. When Black Hills Kansas can negotiate from a position of financial strength it will get a better deal for its customers.

A. Recommended ROE

Q13. WHAT ARE YOUR FINDINGS REGARDING THE FAIR ROE FOR BLACK HILLS KANSAS?

A13. Based on my evaluation of the adjusted cost of equity ranges and estimates presented on page 1 of Exhibit AMM-2, I recommend an ROE for Black Hills Kansas of 10.6%

Q14. PLEASE SUMMARIZE THE RESULTS OF THE QUANTITATIVE ANALYSES ON WHICH YOUR CONCLUSIONS WERE BASED.

A14. The cost of common equity estimates produced by the DCF, ECAPM, and risk premium analyses described subsequently are presented on page 1 of Exhibit AMM-2, and summarized below:

- In order to reflect the risks and prospects associated with Black Hills Kansas's jurisdictional utility operations, my analyses focused on a proxy group of 10 natural gas utilities, as well as a group of 15 combination utilities with comparable investment risks;
- Based on my evaluation of the strengths and weaknesses of the DCF, ECAPM, and risk premium methods, I concluded that these analyses suggest an overall cost of equity range of 9.8% to 11.2%:
    - Considering the relative merits of the alternative growth rates, I determined that the DCF results implied an ROE range on the order of 9.3% to 10.3%, with a midpoint of 9.8%;
    - The forward-looking ECAPM estimates suggested an ROE in the range of 11.1% to 12.9%;
    - The gas utility risk premium approach implies an ROE estimate on the order of 10.5% to 11.0% for Black Hills Kansas;
    - Taken together, I concluded that these analyses suggested a cost of equity range of 9.8% to 11.2%, with a midpoint of 10.5%;
- Adding a minimal flotation cost adjustment of 13 basis points results in an adjusted cost of equity of 10.63%, which I have rounded to 10.6%.
- The reasonableness of a 10.6% ROE for Black Hills Kansas is further supported by the fact that the Company's investment risks exceed those for the proxy group of gas utilities.
- Widespread expectations for higher interest rates emphasize the implication of considering the impact of projected bond yields in evaluating the results of the ECAPM and risk premium methods;
- Apart from the expected upward trend in capital costs, a cost of equity of 10.6% is consistent with the need to support financial

integrity and fund capital investment even under adverse circumstances.

Q15. DOES AN ROE OF 10.6% REPRESENT A REASONABLE COST FOR BLACK HILLS KANSAS'S CUSTOMERS TO PAY?

A15. Yes. Investors have many options vying for their money. They make investment capital available to Black Hills Kansas only if the expected returns justify the risk. Customers will enjoy reliable and efficient service so long as investors are willing to make the capital investments necessary to maintain and improve Black Hills Kansas's utility system. Providing an adequate return to investors is a necessary cost to ensure that capital is available to Black Hills Kansas now and in the future. If regulatory decisions increase risk or limit returns to levels that are insufficient to justify the risk, investors will look elsewhere to invest capital.

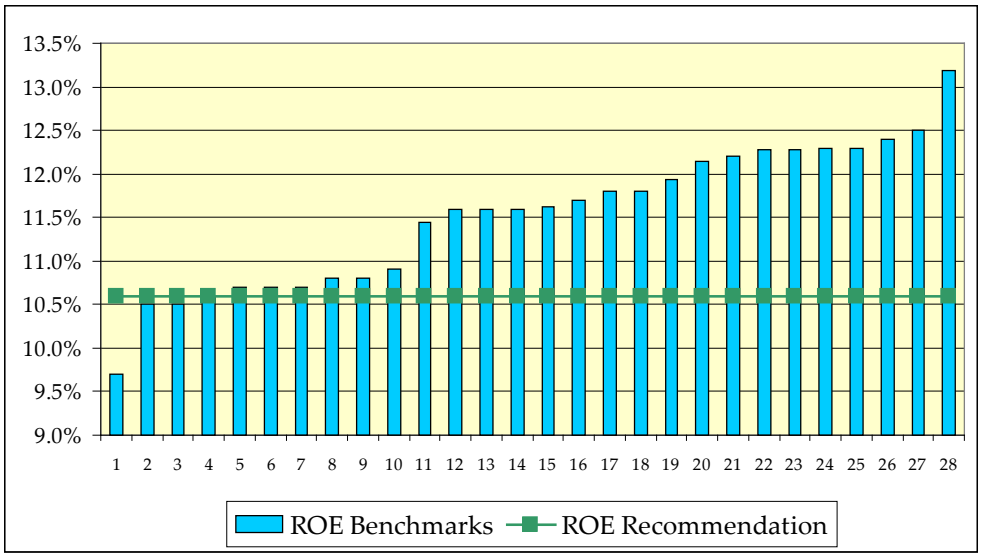
Apart from the results of the quantitative methods described above, it is crucial to recognize the importance of maintaining a strong financial position so that Black Hills Kansas remains prepared to respond to unforeseen events that may materialize in the future. While this imperative is reinforced by current capital market conditions, it extends well beyond the financial markets and includes the Company's ability to absorb potential shocks associated with natural disasters and unexpected events. Recent challenges in the capital markets and ongoing economic uncertainties highlight the benefits of supporting the Company's financial standing to ensure that the Black Hills Kansas can attract the capital needed to secure reliable service at a lower cost for customers. Changing course from the path of financial strength would be extremely shortsighted, especially considering that a combination of events could adversely impact Black Hills Kansas's ability to serve customers if its

current financial strength were not maintained.

Q16. WHAT DID THE RESULTS OF ALTERNATIVE ROE BENCHMARKS INDICATE WITH RESPECT TO YOUR RECOMMENDATION?

A16. The results of the traditional CAPM analyses, a review of expected earned rates of return, as well as DCF results for a low risk group of non-utility firms,[3] confirm my conclusion that a 10.6% ROE is reasonable for Black Hills Kansas. Figure AMM-1, below, compares the alternative benchmark results presented on page 2 of Exhibit AMM-2 with my 10.6% ROE recommendation:

FIGURE AMM-1
ALTERNATIVE ROE BENCHMARKS VS. RECOMMENDATION



As illustrated in Figure AMM-1, the tests of reasonableness presented in my testimony confirm that a 10.6% ROE falls in the reasonable range to maintain Black Hills Kansas's financial integrity,

[3] As discussed subsequently, the average risk measures for group of non-utility firms indicate less investment risk that investors would associate with Black Hills Kansas or the proxy groups of utilities.

provide a return commensurate with investments of comparable risk, and support the Company's ability to attract capital.

III. OUTLOOK FOR CAPITAL COSTS

Q17. DO CURRENT CAPITAL MARKET CONDITIONS PROVIDE A REPRESENTATIVE BASIS ON WHICH TO EVALUATE A FAIR ROE?

A17. No. Current capital market conditions reflect the legacy of the Great Recession, and are not representative of what investors expect in the future. Investors have had to contend with a level of economic uncertainty and capital market volatility that has been unprecedented in recent history. The ongoing potential for renewed turmoil in the capital markets has been seen repeatedly, with common stock prices exhibiting the dramatic volatility that is indicative of heightened sensitivity to risk. In response to heightened uncertainties in recent years, investors have repeatedly sought a safe haven in U.S. government bonds. As a result of this "flight to safety," Treasury bond yields have been pushed significantly lower in the face of political, economic, and capital market risks. In addition, the Federal Reserve has implemented measures designed to push interest rates to historically low levels in an effort to stimulate the economy and bolster employment.

Q18. HOW DO CURRENT YIELDS ON PUBLIC UTILITY BONDS COMPARE WITH WHAT INVESTORS HAVE EXPERIENCED IN THE PAST?

A18. Despite recent increases, the yields on utility bonds remain near their lowest levels in modern history. Figure AMM-2, below, compares the March 2014 average yield on long-term, triple-B rated utility bonds with those prevailing since 1968:

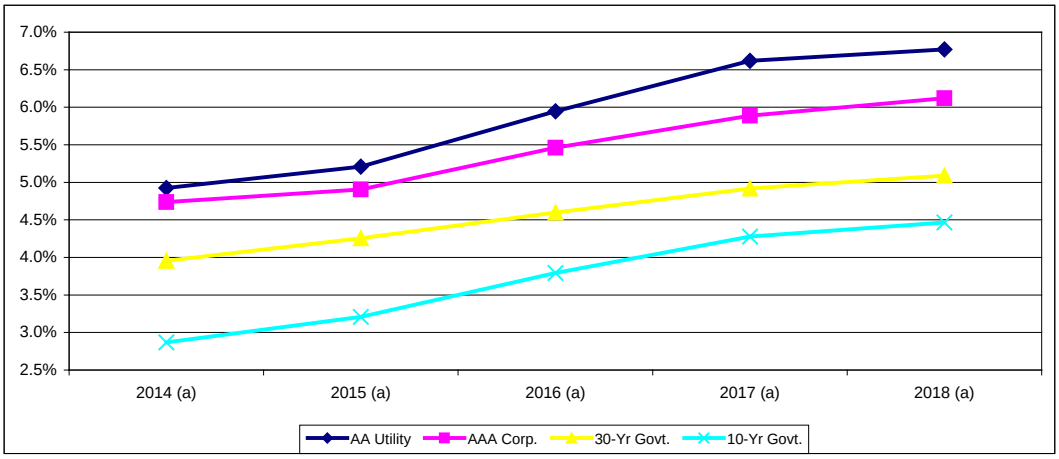
FIGURE AMM-2
BBB UTILITY BOND YIELDS – CURRENT VS. HISTORICAL

As illustrated above, prevailing capital market conditions, as reflected in the yields on triple-B utility bonds, are an anomaly when compared with historical experience.

Q19. ARE THESE VERY LOW INTEREST RATES EXPECTED TO CONTINUE?

A19. No. Investors do not anticipate that these low interest rates will continue into the future. It is widely anticipated that as the economy continues to stabilize and resumes a more robust pattern of growth, long-term capital costs will increase significantly from present levels. Figure AMM-3 below compares current interest rates on 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds with near-term projections from the Value Line Investment Survey ("Value Line"), IHS Global Insight, Blue Chip Financial Forecasts ("Blue Chip"), and the Energy Information Administration ("EIA"):

FIGURE AMM-3
INTEREST RATE TRENDS



(a) Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014)
IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013)
Energy Information Administration, Annual Energy Outlook 2014, Early Release (Dec. 16, 2013)
Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013)

These forecasting services are highly regarded and widely referenced, with the Federal Energy Regulatory Commission ("FERC") incorporating forecasts from IHS Global Insight and the EIA in its preferred DCF model for natural gas pipelines. As evidenced above, there is a clear consensus in the investment community that the cost of long-term capital will be significantly higher over the 2014-2018 period than it is currently.

Q20. DO RECENT ACTIONS OF THE FEDERAL RESERVE SUPPORT THE CONTENTION THAT CURRENT LOW INTEREST RATES WILL CONTINUE INDEFINITELY?

A20. No. While the Federal Reserve continues to express support for maintaining highly accommodative monetary policy and an exceptionally low target range for the federal funds rate, it has also acted to pare back its $85 billion-a-month bond-buying program.[4] The Federal Reserve's

[4] *Press Release,* Board of Governors of the Federal Reserve System (Dec. 18, 2013, Jan. 29, 2014, Mar. 19, 2014).

decision to begin tapering its asset purchases was based on improving conditions for employment and the economy. Reductions in the Federal Reserve's bond buying program should ease downward pressure on long-term interest rates, with The Wall Street Journal observing that:

> The Fed's decision to begin trimming its $85 billion monthly bond-buying program is widely expected to result in higher medium-term and long-term market interest rates. That means many borrowers, from home buyers to businesses, will be paying higher rates in the near future.[5]

While the Federal Reserve's tapering announcements have moderated uncertainties over just when, and to what degree, the stimulus program would be altered, investors continue to face ongoing uncertainties over future moves. The International Monetary Fund noted that, "A lack of Fed clarity could cause a major spike in borrowing costs that could cause severe damage to the U.S. recovery and send destructive shockwaves around the global economy," adding that, "A smooth and gradual upward shift in the yield curve might be difficult to engineer, and there could be periods of higher volatility when longer yields jump sharply—as recent events suggest."[6] Similarly, the Wall Street Journal noted investors' "hypersensitivity to Fed interest rate decisions," and expectations that higher interest rates "may come a bit sooner and be a touch more aggressive than expected."[7]

These developments highlight concerns for investors and support expectations for higher interest rates as the economy and labor markets

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[5] Hilsenrath, Jon, "Fed Dials Back Bond Buying, Keeps a Wary Eye on Growth," *The Wall Street Journal* at A1 (Dec. 19, 2013).
[6] Talley, Ian, "IMF Urges 'Improved' U.S. Fed Policy Transparency as It Mulls Easy Money Exit," *The Wall Street Journal* (July 26, 2013).
[7] Jon Hilsenrath and Victoria McGrane, "Yellen Debut Rattles Markets," Wall Street Journal (Mar. 19, 2014).

continue to recover. With the Federal Reserve continuing to evaluate additional tapering of its bond-buying program, ongoing concerns over political stalemate in Washington, and continued economic weakness in the Eurozone, and political and economic unrest in Ukraine and emerging markets, the potential for significant volatility and higher capital costs is clearly evident to investors.

Q21. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR BLACK HILLS KANSAS MORE GENERALLY?

A21. Current capital market conditions continue to reflect the impact of unprecedented policy measures taken in response to recent dislocations in the economy and financial markets. As a result, current capital costs are not representative of what is likely to prevail over the near-term future. This conclusion is supported by comparisons of current conditions to the historical record and independent forecasts. As demonstrated earlier, recognized economic forecasting services project that long-term capital costs will increase from present levels. To address the reality of current capital markets, the KCC should consider near-term forecasts for public utility bond yields in assessing the reasonableness of individual cost of equity estimates and in evaluating a fair ROE for Black Hills Kansas from within the range of reasonableness. As discussed below, this result is supported by economic studies that show that equity risk premiums are higher when interest rates are at very low levels.

IV. COMPARABLE RISK PROXY GROUPS

Q22. HOW DID YOU IMPLEMENT QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR BLACK HILLS KANSAS?

A22. Application of quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data only produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply quantitative methods such as the DCF and ECAPM to a proxy group of publicly traded companies that investors regard as risk-comparable.

Q23. WHAT SPECIFIC PROXY GROUP OF UTILITIES DID YOU RELY ON FOR YOUR ANALYSIS?

A23. In order to reflect the risks and prospects associated with Black Hills Kansas's jurisdictional gas utility operations, my analyses focused on a reference group of ten publicly traded firms included by Value Line in their Natural Gas Utility industry group.[8] I refer to this group as the "Gas Group".

Q24. WHAT OTHER PROXY GROUP OF UTILITIES DID YOU CONSIDER IN YOUR ANALYSES?

A24. I also considered quantitative estimates of investors' required rate of return for those utilities included in Value Line's electric utility industry groups with:

[8] I excluded one firm – UGI Corporation – that was included in Value Line's Natural Gas Utility Industry because it is primarily engaged in propane sales and marketing.

1. Both gas and electric utility operations
2. Corporate credit ratings from Standard & Poor's Corporation ("S&P") of "BBB-", "BBB", or "BBB+";
3. Value Line Safety Rank of "2" or "3",
4. No involvement in a major merger or acquisition; and,
5. No recent cuts in dividend payments.

These criteria resulted in a proxy group composed of 15 companies, which I refer to as the "Combination Group."

Q25. HOW DID YOU EVALUATE THE RISKS OF THE GAS AND COMBINATION GROUPS RELATIVE TO BLACK HILLS KANSAS?

A25. My evaluation of relative risk considered four objective, published benchmarks that are widely relied on in the investment community. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (*e.g.*, "+" or "-") are used to show relative standing within a category. Because the rating agencies' evaluation includes virtually all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad, objective measure of overall investment risk that is readily available to investors. Widely cited in the investment community and referenced by investors, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, other quality rankings published by investment advisory services also provide relative assessments of risks that are considered by investors in forming their expectations for common stocks. Value Line's primary risk indicator is its Safety Rank, which ranges from

"1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock, and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. These objective, published indicators incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to firm-specific factors.

Finally, beta measures a utility's stock price volatility relative to the market as a whole, and reflects the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. Beta is the only relevant measure of investment risk under modern capital market theory, and is widely cited in academics and in the investment industry as a guide to investors' risk perceptions. Moreover, in my experience Value Line is the most widely referenced source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. … Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are

adjusted for the regression tendency of betas to converge to 1.00.[9]

Q26. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUPS COMPARE TO BLACK HILLS KANSAS?

A26. Table AMM-1 compares the Gas and Combination Groups with Black Hills Kansas across the four key indicia of investment risk discussed above. Because Black Hills Kansas has no publicly traded common stock and does not issue debt securities in its own name, the risk measures shown below reflect those published for its parent, BHC:

TABLE AMM-1
COMPARISON OF RISK INDICATORS

	S&P	Value Line		
	Credit Rating	Safety Rank	Financial Strength	Beta
Gas Group	A-	2	B++	0.77
Combination Group	BBB	2	B++	0.76
Black Hills Kansas	BBB	3	B+	0.90

Q27. WHAT DOES THIS COMPARISON INDICATE REGARDING INVESTORS' ASSESSMENT OF THE RELATIVE RISKS ASSOCIATED WITH YOUR COMBINATION GROUP?

A27. As shown above, the average risk measures for the Gas Group indicate less risk than for Black Hills Kansas. Similarly, while the credit rating corresponding to the Company is identical to the average corporate credit rating for the Combination Group, the average Value Line Safety Rank, Financial Strength Rating, and beta associated with Black Hills Kansas all suggest more risk than for the Combination Group. Considered together, this comparison of objective measures, which incorporate a broad

[9] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).

spectrum of risks, including financial and business position, relative size, and exposure to company specific factors, indicates that investors would likely conclude that the overall investment risks for Black Hills Kansas are greater than those of the firms in the Gas and Combination Groups.

Q28. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A28. Yes. Other things equal, a higher debt ratio, or lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive his contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow, if any, that will remain.

Q29. WHAT COMMON EQUITY RATIO IS USED IN BLACK HILLS KANSAS'S CAPITAL STRUCTURE?

A29. As summarized in the testimony of Mr. Brian Iverson, Black Hills Kansas is proposing a common equity ratio of 50.34%.

Q30. HOW DOES THIS COMPARE TO THE AVERAGE CAPITALIZATION MAINTAINED BY THE GAS AND COMBINATION GROUPS?

A30. As shown on Exhibit AMM-3, for the firms in the Gas Group, common equity ratios at December 31, 2013 averaged 52.4% of long-term capital, with Value Line expecting an average common equity ratio of 55.6% for its three-to-five year forecast horizon. Meanwhile, for the firms in the Combination Group, common equity ratios ranged from 31.3% to 70.2% in 2013, and averaged 49.4%. Value Line is projecting an average equity

ratio of 48.3% for its forecast horizon (page 2 of Exhibit AMM-3), with the individual values ranging from 37.5% to 56.5%. Thus, the Company's common equity ratio is within the range maintained by the Combination Group, while indicating somewhat greater financial risk than investors would associate with the Gas Group.

Q31. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A31. Based on my evaluation, I concluded that Black Hills Kansas's requested capital structure represents a reasonable mix of capital sources from which to calculate the Company's overall rate of return. Black Hills Kansas's proposed capital structure is consistent with the range of industry benchmarks and reflects the Company's ongoing efforts to strengthen its credit standing and support access to capital on reasonable terms. The reasonableness of Black Hills Kansas's requested capital structure is reinforced by the ongoing uncertainties associated with the utility industry, the need to accommodate the additional risks associated the Company's relatively small size, and the importance of supporting continued investment in system improvements, even during times of adverse industry or market conditions.

V. CAPITAL MARKET ESTIMATES

Q32. WHAT IS THE PURPOSE OF THIS SECTION?

A32. This section presents capital market estimates of the cost of equity. First, I address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe DCF, ECAPM, and risk premium analyses conducted to estimate the cost of common equity for the proxy group of comparable risk firms and

evaluate expected earned rates of return for utilities. Finally, I examine flotation costs, which are properly considered in evaluating a fair ROE.

A. Economic Standards

Q33. WHAT ROLE DOES THE ROE PLAY IN A UTILITY'S RATES?

A33. The return on common equity is the cost of inducing and retaining investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Competition for investor funds is intense and investors are free to invest their funds wherever they choose. Investors will commit money to a particular investment only if they expect it to produce a return commensurate with those from other investments with comparable risks.

Q34. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A34. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete with each other for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

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

$$k_i = R_f + RP_i$$

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

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

Q35. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?

A35. Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. Comparing the observed yields on government securities, which are considered free of default risk, to the yields on bonds of various rating categories demonstrates that the risk-return tradeoff does, in fact, exist.

Q36. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?

A36. It is widely accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets – including common stock – required rates of return cannot be directly observed. Yet there is every reason to believe that investors exhibit risk aversion in deciding whether or not to hold

common stocks and other assets, just as when choosing among fixed-income securities.

Q37. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES BETWEEN FIRMS?

A37. No. The risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. Long-term debt is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. The last investors in line are common shareholders. They receive only the net revenues, if any, remaining after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt.

Q38. DOES THE FACT THAT BLACK HILLS KANSAS IS A SUBSIDIARY OF BHC IN ANY WAY ALTER THESE FUNDAMENTAL STANDARDS UNDERLYING A FAIR ROE?

A38. No. While Black Hills Kansas has no publicly traded common stock and BHC (through Utility Holdings) is its only shareholder, this does not change the standards governing the determination of a fair ROE for the Company. Ultimately, the common equity that is required to support Black Hills Kansas's utility operations must be raised in the capital markets, where investors consider the Company's ability to offer a rate of return that is competitive with other risk-comparable alternatives. As noted above, Black Hills Kansas must compete with other investment opportunities and unless there is a reasonable expectation that the Company can earn a

return that is commensurate with its underlying risks, capital will be allocated elsewhere, Black Hills Kansas's financial integrity will be weakened, and investors will demand an even higher rate of return. The Company's ability to offer a reasonable return on investment is a necessary ingredient in ensuring that customers continue to enjoy reasonable rates and reliable service.

Q39. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?

A39. Although the cost of common equity cannot be observed directly, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed. Because it is not readily observable, the cost of common equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data.

B. Discounted Cash Flow Analyses

Q40. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A40. DCF models attempt to replicate the market valuation process that sets the price investors are willing to pay for a share of a company's stock. The model rests on the assumption that investors evaluate the risks and expected rates of return from all securities in the capital markets. Given these expectations, the price of each stock is adjusted by the market until

investors are adequately compensated for the risks they bear. Therefore, we can look to the market to determine what investors believe a share of common stock is worth. By estimating the cash flows investors expect to receive from the stock in the way of future dividends and capital gains, we can calculate their required rate of return. In other words, the cash flows that investors expect from a stock are estimated, and given its current market price, we can "back-into" the discount rate, or cost of common equity, that investors implicitly used in bidding the stock to that price. The formula for the general form of the DCF model is as follows:

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

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

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

Q41. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?

A41. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[10]

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

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

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

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

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

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and, 2) growth (*g*). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through the capital gains associated with price appreciation over the investors' holding period.

Q42. WHAT FORM OF THE DCF MODEL DID YOU USE?

A42. I applied the constant growth DCF model to estimate the cost of common equity for Black Hills Kansas, which is the form of the model most commonly relied on to establish the cost of common equity for traditional regulated utilities and the method most often referenced by regulators.

Q43. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?

A43. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in

the coming year divided by the current price of the stock. The second step is to estimate investors' long-term growth expectations (*g*) for the firm. The final step is to sum the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q44. HOW WAS THE DIVIDEND YIELD FOR THE GAS GROUP DETERMINED?

A44. For D_1, I used estimates of dividends to be paid by each of these utilities over the next 12 months, obtained from Value Line. This annual dividend was then divided by a 30-day average stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the Gas Group are presented on Exhibit AMM-4. As shown on page 1, dividend yields for the firms in the Gas Group ranged from 2.7% to 4.6%.

Q45. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?

A45. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q46. ARE HISTORICAL GROWTH RATES LIKELY TO BE REPRESENTATIVE OF INVESTORS' EXPECTATIONS FOR UTILITIES?

A46. No. If past trends in earnings, dividends, and book value are to be representative of investors' expectations for the future, then the historical conditions giving rise to these growth rates should be expected to continue. That is clearly not the case for utilities, where structural and industry changes have led to declining dividends, earnings pressure, and, in many cases, significant write-offs. While these conditions serve to distort historical growth measures, they are neither representative of long-term growth for the utility industry nor the expectations that investors have incorporated into current market prices. As a result, historical growth measures for utilities do not currently meet the requirements of the DCF model.

Q47. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A47. Implementation of the DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. This is because utilities have significantly altered their dividend policies in response to more accentuated business risks in the industry, with the payout ratio for utilities falling significantly. As a result of this trend towards a more conservative payout ratio, dividend growth in the utility industry has remained largely stagnant as utilities conserve financial resources to provide a hedge against heightened uncertainties.

As payout ratios for firms in the utility industry trended downward,

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

Q48. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS CONSIDER HISTORICAL TRENDS?

A48. Yes. Professional security analysts study historical trends extensively in developing their projections of future earnings. Hence, to the extent there is any useful information in historical patterns, that information is incorporated into analysts' growth forecasts.

Q49. DID PROFESSOR MYRON J. GORDON, WHO ORIGINATED THE DCF APPROACH, RECOGNIZE THE PIVOTAL ROLE THAT EARNINGS PLAY IN FORMING INVESTORS' EXPECTATIONS?

A49. Yes. Dr. Gordon specifically recognized that "it is the growth that investors expect that should be used" in applying the DCF model and he concluded:

> A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth."[11]

Q50. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE GAS GROUP?

A50. The earnings growth projections for each of the firms in the Gas Group reported by Value Line, Thomson Reuters ("IBES"), Zacks Investment Research ("Zacks"), and Reuters are displayed on page 2 of Exhibit AMM-4.[12]

Q51. SOME ARGUE THAT ANALYSTS' ASSESSMENTS OF GROWTH RATES ARE BIASED. DO YOU BELIEVE THESE PROJECTIONS ARE APPROPRIATE FOR ESTIMATING INVESTORS' REQUIRED RETURN USING THE DCF MODEL?

A51. Yes. In applying the DCF model to estimate the cost of common equity, the only relevant growth rate is the forward-looking expectations of investors that are captured in current stock prices. Investors, just like securities analysts and others in the investment community, do not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term growth for a particular stock, and securities prices are constantly adjusting to reflect their assessment of available information.

Any claims that analysts' estimates are not relied upon by investors are illogical given the reality of a competitive market for investment advice. If financial analysts' forecasts do not add value to investors' decision

[11] Gordon, Myron J., "The Cost of Capital to a Public Utility," *MSU Public Utilities Studies* at 89 (1974).

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

making, then it is irrational for investors to pay for these estimates. Similarly, those financial analysts who fail to provide reliable forecasts will lose out in competitive markets relative to those analysts whose forecasts investors find more credible. The reality that analyst estimates are routinely referenced in the financial media and in investment advisory publications (*e.g.*, Value Line) implies that investors use them as a basis for their expectations.

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

> Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of *g* [growth]. <u>The accuracy of these forecasts in the</u>

> sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations.[13]

Q52. HAVE OTHER REGULATORS ALSO RECOGNIZED THAT ANALYSTS' GROWTH RATE ESTIMATES ARE AN IMPORTANT AND MEANINGFUL GUIDE TO INVESTORS' EXPECTATIONS?

A52. Yes. FERC has expressed a clear preference for projected EPS growth rates from IBES in applying the DCF model to estimate the cost of equity for both electric and natural gas pipeline utilities, and has expressly rejected reliance on other sources.[14] As FERC concluded:

> Opinion No. 414-A held that the IBES five-year growth forecasts for each company in the proxy group are the best available evidence of the short-term growth rates expected by the investment community. It cited evidence that (1) those forecasts are provided to IBES by professional security analysts, (2) IBES reports the forecast for each firm as a service to investors, and (3) the IBES reports are well known in the investment community and used by investors. The Commission has also rejected the suggestion that the IBES analysts are biased and stated that "in fact the analysts have a significant incentive to make their analyses as accurate as possible to meet the needs of their clients since those investors will not utilize brokerage firms whose analysts repeatedly overstate the growth potential of companies."[15]

Similarly, the Kentucky Public Service Commission has also indicated its preference for relying on analysts' projections in establishing investors' expectations:

> KU's argument concerning the appropriateness of using investors' expectations in performing a DCF analysis is more persuasive than the AG's argument that analysts' projections should be rejected in favor of historical results. The

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[13] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006) (emphasis added).
[14] *See, e.g., Midwest Independent Transmission System Operator, Inc.*, 99 FERC ¶ 63,011 at P 53 (2002); *Golden Spread Elec. Coop. Inc.*, 123 FERC ¶ 61,047 (2008).
[15] *Kern River Gas Transmission Co.*, 126 FERC ¶ 61,034at P 121 (2009) ((footnote omitted).

> Commission agrees that analysts' projections of growth will be relatively more compelling in forming investors' forward-looking expectations than relying on historical performance, especially given the current state of the economy. [16]

More recently, the Public Utility Regulatory Authority of Connecticut noted that:

> The Authority used growth in earnings exclusively based on the record of this docket showing that financial literature supports security analysts' EPS growth rate projections as superior for use in a DCF analysis. Response to Interrogatory FI-106. The Authority takes note that long-term, there is not growth in DPS without growth in EPS. Market prices are more highly influenced by security analyst's earnings expectations then expectations in dividends. The Authority agrees with Ms. Ahern that "the use of earnings growth rates in a DCF analysis provides a better matching between investors' market price appreciation expectations and the growth rate component of the DCF."[17]

Q53. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

A53. In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return and the payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Despite the fact that these conditions are never met in practice, this "sustainable growth" approach may provide a rough guide for evaluating a firm's growth prospects and is frequently proposed in regulatory proceedings.

The sustainable growth rate is calculated by the formula, g = br+sv,

[16] *Order*, Case No. 2009-00548 at 30-31 (Jul. 30, 2010).
[17] *Decision*, Docket No. 13-02-20 (Sep. 24, 2013).

where “b” is the expected retention ratio, “r” is the expected earned return on equity, “s” is the percent of common equity expected to be issued annually as new common stock, and “v” is the equity accretion rate.

Q54. WHAT IS THE PURPOSE OF THE “SV” TERM?

A54. Under DCF theory, the “sv” factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. When a company’s stock price is greater than its book value per share, the per-share contribution in excess of book value associated with new stock issues will accrue to the current shareholders. This increase to the book value of existing shareholders leads to higher expected earnings and dividends, with the “sv” factor incorporating this additional growth component.

Q55. WHAT GROWTH RATE DOES THE EARNINGS RETENTION METHOD SUGGEST FOR THE GAS GROUP?

A55. The sustainable, “br+sv” growth rates for each firm in the Gas Group are summarized on page 2 of Exhibit AMM-4, with the underlying details being presented on Exhibit AMM-5. For each firm, the expected retention ratio (b) was calculated based on Value Line’s projected dividends and earnings per share. Likewise, each firm’s expected earned rate of return (r) was computed by dividing projected earnings per share by projected net book value. Because Value Line reports end-of-year book values, an adjustment factor was incorporated to compute an average rate of return over the year, consistent with the theory underlying this approach to estimating investors’ growth expectations. Meanwhile, the percent of common equity expected to be issued annually as new common stock (s) was equal to the product of the projected market-to-book ratio and growth

in common shares outstanding, while the equity accretion rate (v) was computed as 1 minus the inverse of the projected market-to-book ratio.

Q56. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH THE "BR+SV" GROWTH RATE?

A56. Yes. First, in order to calculate the sustainable growth rate, it is necessary to develop estimates of investors' expectations for four separate variables; namely, "b", "r", "s", and "v." Given the inherent difficulty in forecasting each parameter and the difficulty of estimating the expectations of investors, the potential for measurement error is significantly increased when using four variables, as opposed to referencing a direct projection for EPS growth. Second, empirical research in the finance literature indicates that sustainable growth rates are not as significantly correlated to measures of value, such as share prices, as are analysts' EPS growth forecasts.[18]

The "sustainable growth" approach was included for completeness, but evidence indicates that analysts' forecasts provide a superior and more direct guide to investors' growth expectations. Accordingly, I give less weight to cost of equity estimates based on br+sv growth rates in evaluating the results of the DCF model.

Q57. WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED FOR THE GAS GROUP USING THE DCF MODEL?

A57. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on page 3 of Exhibit AMM-4.

[18] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.*, at 307 (2006).

Q58. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE EXTREME LOW OR HIGH OUTLIERS?

A58. Yes. In applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

I based my evaluation of DCF estimates at the low end of the range on the fundamental risk-return tradeoff, which holds that investors will only take on more risk if they expect to earn a higher rate of return to compensate them for the greater uncertainly. Because common stocks lack the protections associated with an investment in long-term bonds, a utility's common stock imposes far greater risks on investors. As a result, the rate of return that investors require from a utility's common stock is considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, DCF results that are not sufficiently higher than the yield available on less risky utility bonds must be eliminated.

Q59. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?

A59. Yes. FERC has noted that adjustments are justified where applications of the DCF approach produce illogical results. FERC evaluates DCF results against observable yields on long-term public utility debt and has recognized that it is appropriate to eliminate estimates that do not sufficiently exceed this threshold. The practice of eliminating low-end outliers has been affirmed in numerous FERC proceedings,[19] and in its

[19] *See, e.g., Virginia Electric Power Co.*, 123 FERC ¶ 61,098 at P 64 (2008).

April 15, 2010 decision in *SoCal Edison*, FERC affirmed that, "it is reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more."[20]

Q60. WHAT INTEREST RATE BENCHMARK DID YOU CONSIDER IN EVALUATING THE DCF RESULTS FOR BLACK HILLS KANSAS?

A60. As noted earlier, S&P has assigned a corporate credit rating of "BBB" to Black Hills Kansas. Companies rated "BBB-", "BBB", and "BBB+" are all considered part of the triple-B rating category, with Moody's monthly yields on triple-B bonds averaging approximately 5.0% in March 2014.[21] Based on my professional experience and the risk-return principle that is fundamental to finance, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock.

Q61. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF ESTIMATES AT THE LOW END OF THE RANGE?

A61. As indicated earlier, while corporate bond yields have declined substantially as the worst of the financial crisis has abated, it is generally expected that long-term interest rates will rise as the economy returns to a more normal pattern of growth. As shown in Table AMM-2 below, forecasts of IHS Global Insight and the EIA imply an average triple-B bond yield of approximately 6.5% over the period 2014-2018:

[20] *Southern California Edison Co.,* 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").
[21] Moody's Investors Service, http://credittrends.moodys.com/chartroom.asp?c=3.

TABLE AMM-2
IMPLIED BBB BOND YIELD

	2014-18
Projected AA Utility Yield	
IHS Global Insight (a)	6.04%
EIA (b)	5.75%
Average	5.89%
Current BBB - AA Yield Spread (c)	0.65%
Implied Triple-B Utility Yield	**6.54%**

(a) IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013)
(b) Energy Information Administration, Annual Energy Outlook 2014, Early Release (Dec. 16, 2013)
(c) Based on monthly average bond yields from Moody's Investors Service for the six-month period Oct. 2013 - Mar. 2014

The increase in debt yields anticipated by IHS Global Insight and EIA is also supported by the widely referenced Blue Chip Financial Forecasts, which projects that yields on corporate bonds will climb on the order of 165 basis points through 2018.[22]

Q62. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE DCF RESULTS FOR THE GAS GROUP?

A62. As highlighted on page 3 of Exhibit AMM-4, low-end DCF estimates ranged from 5.3% to 7.4%. In light of the risk-return tradeoff principle and the test of economic logic applied by FERC it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. As a result, consistent with the upward trend expected for utility bond yields, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

[22] *Blue Chip Financial Forecasts*, Vol. 32, No. 12 (Dec. 1, 2013).

Q63. IS THERE A BASIS TO EXCLUDE DCF ESTIMATES AT THE HIGH END OF THE RANGE?

A63. A. No. The upper end of the DCF range for the Gas Group was set by a cost of equity estimate of 14.9%. While this cost of equity estimate may exceed the majority of the remaining values, remaining low-end estimates in the 7.7% range are assuredly far below investors' required rate of return. Taken together and considered along with the balance of the DCF estimates, these values provide a reasonable basis on which to evaluate investors' required rate of return.

Q64. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE GAS GROUP?

A64. As shown on page 3 of Exhibit AMM-4 and summarized in Table AMM-3, below, after eliminating illogical values, application of the constant growth DCF model resulted in the following cost of equity estimates:

TABLE AMM-3
DCF RESULTS – GAS GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	10.3%	10.6%
IBES	9.6%	9.8%
Zacks	9.0%	9.2%
Reuters	9.4%	9.8%
br + sv	10.0%	11.2%

Q65. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE COMBINATION GROUP?

A65. I applied the DCF model to the Combination Group in exactly the same manner described earlier for the Gas Group. The results of my DCF analysis for the Combination Group are presented in Exhibit AMM-6, with the sustainable, "br+sv" growth rates being developed on Exhibit AMM-7.

As shown on page 3 of Exhibit AMM-6 and summarized in Table AMM-4, below, after eliminating illogical values, application of the constant growth DCF model to the Combination Group resulted in the following cost of equity estimates:

TABLE AMM-4
DCF RESULTS – COMBINATION GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	10.1%	11.9%
IBES	9.7%	10.0%
Zacks	9.8%	9.9%
Reuters	9.8%	10.2%
br + sv	8.4%	8.7%

C. Empirical Capital Asset Pricing Model

Q66. PLEASE DESCRIBE THE ECAPM.

A66. The ECAPM is a variant of the traditional CAPM, which is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. The CAPM is mathematically expressed as:

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

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

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

Q67. WHY IS THE ECAPM APPROACH AN APPROPRIATE COMPONENT OF EVALUATING THE COST OF EQUITY FOR BLACK HILLS KANSAS?

A67. The CAPM approach, which forms the foundation of the ECAPM, generally is considered to be the most widely referenced method for estimating the cost of equity among academicians and professional practitioners, with the pioneering researchers of this method receiving the Nobel Prize in 1990. Because this is the dominant model for estimating the cost of equity outside the regulatory sphere,[23] the ECAPM provides important insight into investors' required rate of return for utility stocks, including Black Hills Kansas.

Q68. HOW DOES THE ECAPM APPROACH DIFFER FROM TRADITIONAL APPLICATIONS OF THE CAPM?

A68. Myriad empirical tests of the CAPM have shown that low-beta securities earn returns somewhat higher than the CAPM would predict, and high-

[23] *See*, *e.g.*, Bruner, R.F., Eades, K.M., Harris, R.S., and Higgins, R.C., "Best Practices in Estimating Cost of Capital: Survey and Synthesis," *Financial Practice and Education* (1998).

beta securities earn less than predicted. In other words, the CAPM tends to overstate the actual sensitivity of the cost of capital to beta, with low-beta stocks tending to have higher returns and high-beta stocks tending to have lower risk returns than predicted by the CAPM. This empirical finding is widely reported in the finance literature, as summarized in *New Regulatory Finance*:

> As discussed in the previous section, several finance scholars have developed refined and expanded versions of the standard CAPM by relaxing the constraints imposed on the CAPM, such as dividend yield, size, and skewness effects. These enhanced CAPMs typically produce a risk-return relationship that is flatter than the CAPM prediction in keeping with the actual observed risk-return relationship. The ECAPM makes use of these empirical relationships.[24]

As discussed in *New Regulatory Finance*, based on a review of the empirical evidence, the expected return on a security is related to its risk by the ECAPM, which is represented by the following formula:

$$R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

This ECAPM equation, and the associated weighting factors, recognize the observed relationship between standard CAPM estimates and the cost of capital documented in the financial research, and correct for the understated returns that would otherwise be produced for low beta stocks.

Q69. HOW DID YOU APPLY THE ECAPM TO ESTIMATE THE COST OF COMMON EQUITY?

A69. Application of the ECAPM to the Gas Group based on a forward-looking estimate for investors' required rate of return from common stocks is

[24] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 189 (2006).

presented on Exhibit AMM-8. In order to capture the expectations of today's investors in current capital markets, the expected market rate of return was estimated by conducting a DCF analysis on the 421 dividend paying firms in the S&P 500.

The dividend yield for each firm was obtained from Value Line, and the growth rate was equal to the average of the EPS growth projections for each firm published by IBES, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. Based on the weighted average of the projections for the 421 individual firms, current estimates imply an average growth rate over the next five years of 10.4%. Combining this average growth rate with a year-ahead dividend yield of 2.3% results in a current cost of common equity estimate for the market as a whole (R_m) of approximately 12.7%. Subtracting a 4.0% risk-free rate based on the average yield on 30-year Treasury bonds for 2014 produced a market equity risk premium of 8.7%.

Q70. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE ECAPM?

A70. As indicated earlier, I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings.

Q71. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE ECAPM?

A71. As explained by *Morningstar*:

> One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most

> evident among smaller companies, which have higher returns on average than larger ones.[25]

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

According to the ECAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, Morningstar has developed size premiums that need to be added to the theoretical ECAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the ECAPM cost of equity.[26] These premiums correspond to the size deciles of publicly traded common stocks, and range from a premium of 6.0% for a company in the first decile (market capitalization less than $339.5 million), to a reduction of 33 basis points for firms in the tenth decile (market capitalization greater than $21.8 billion). Accordingly, my ECAPM analyses also incorporated an adjustment to recognize the impact of size distinctions, as measured by the average market capitalization for the Gas Group.

Q72. WHAT IS THE IMPLIED ROE FOR THE GAS GROUP USING THE ECAPM APPROACH?

A72. As shown on page 1 of Exhibit AMM-8, a forward-looking application of the ECAPM approach resulted in an average unadjusted ROE estimate of

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[25] *Morningstar*, "Ibbotson SBBI 2013 Valuation Yearbook," at p. 85.
[26] *Id.* at Table C-1.

11.2%.[27] After adjusting for the impact of firm size, the ECAPM approach implied an average cost of equity of 12.7% for the Gas Group, with a midpoint cost of equity estimate of 12.8%.

Q73. DID YOU ALSO APPLY THE ECAPM USING FORECASTED BOND YIELDS?

A73. Yes. As discussed earlier, there is widespread consensus that interest rates will increase materially as the economy continues to strengthen. Accordingly, in addition to the use of current bond yields, I also applied the CAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Value Line, IHS Global Insight and Blue Chip. As shown on page 2 of Exhibit AMM-8, incorporating a forecasted Treasury bond yield for 2014-2018 implied a cost of equity of approximately 11.3% for the Gas Group, or 12.8% after adjusting for the impact of relative size. The midpoints of the unadjusted and size adjusted cost of equity ranges were 11.3% and 12.9%, respectively.

Q74. WHAT IMPLIED ROES WERE INDICATED FOR THE COMBINATION GROUP USING THE ECAPM APPROACH?

A74. An identical application of the ECAPM to the firms in the Combination Group is presented on Exhibit AMM-9. As shown on page 1, the forward-looking ECAPM analysis resulted in an average unadjusted ROE estimate of 11.1% for the Combination group, or 12.1% after adjusting for the impact of firm size.[28] Incorporating a projected Treasury bond yield for 2014-2017 (Exhibit AMM-9, p. 2) implied a cost of equity of approximately

[27] The midpoint of the unadjusted ECAPM range was also 11.2%.

[28] The midpoints of the unadjusted and size adjusted cost of equity ranges were also 11.1% and 12.1%, respectively.

11.3% for the Combination Group, or 12.2% after adjusting for the impact of relative size.[29]

D. Utility Risk Premium

Q75. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.

A75. The risk premium method extends the risk-return tradeoff observed with bonds to estimate investors' required rate of return on common stocks. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. Like the DCF model, the risk premium method is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields.

Q76. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?

A76. Estimates of equity risk premiums for utilities were based on surveys of previously authorized ROEs. Authorized ROEs presumably reflect regulatory commissions' best estimates of the cost of equity, however determined, at the time they issued their final order. Such ROEs should represent a balanced and impartial outcome that considers the need to maintain a utility's financial integrity and ability to attract capital. Moreover, allowed returns are an important consideration for investors and have the potential to influence other observable investment parameters, including credit ratings and borrowing costs. Thus, these data provide a logical and

[29] The midpoint of the unadjusted ECAPM range was 11.2%, or 12.2% after adjusting for relative size.

frequently referenced basis for estimating equity risk premiums for regulated utilities.

Q77. IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON AUTHORIZED RETURNS IN ASSESSING A FAIR ROE FOR BLACK HILLS KANSAS?

A77. No. In establishing authorized ROEs, regulators typically consider the results of alternative market-based approaches, including the DCF model. Because allowed risk premiums consider objective market data (*e.g.*, stock prices dividends, beta, and interest rates), and are not based strictly on past actions of other regulators, this mitigates concerns over any potential for circularity.

Q78. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD USING SURVEYS OF ALLOWED ROES?

A78. Surveys of previously authorized ROEs are frequently referenced as the basis for estimating equity risk premiums. The ROEs authorized for gas utilities by regulatory commissions across the U.S. are compiled by Regulatory Research Associates and published in its *Regulatory Focus* report. In Exhibit AMM-10, the average yield on public utility bonds is subtracted from the average allowed ROE for gas utilities to calculate equity risk premiums for each quarter between 1980 and 2013.[30] As shown on page 3 of Exhibit AMM-10, over this period, these equity risk premiums for gas utilities averaged 3.26%, and the yield on public utility bonds averaged 8.66%.

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

Q79. IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM METHOD?

A79. Yes. There is considerable evidence that the magnitude of equity risk premiums is not constant and that equity risk premiums tend to move inversely with interest rates.[31] In other words, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for a 1% increase or decrease in interest rates, the cost of equity may only rise or fall, say, 50 basis points. Therefore, when implementing the risk premium method, adjustments may be required to incorporate this inverse relationship if current interest rate levels have diverged from the average interest rate level represented in the data set.

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

[31] *See, e.g.,* Brigham, E.F., Shome, D.K., and Vinson, S.R., "The Risk Premium Approach to Measuring a Utility's Cost of Equity," *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management* (Summer 1992).

Q80. WHAT COST OF EQUITY IS IMPLIED BY THE RISK PREMIUM METHOD USING SURVEYS OF ALLOWED ROES?

A80. Based on the regression output between the interest rates and equity risk premiums displayed on page 4 of Exhibit AMM-10, the equity risk premium for gas utilities increased approximately 46 basis points for each percentage point drop in the yield on average public utility bonds. As illustrated on page 1 of Exhibit AMM-10, with an average yield on public utility bonds for 2014 of 5.20%, this implied a current equity risk premium of 4.89% for gas utilities. Adding this equity risk premium to the average yield on triple-B utility bonds for 2014 of 5.58% implies a current cost of equity for Black Hills Kansas of approximately 10.5%.

Q81. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE WAS PRODUCED FOR THE COMPANY'S GAS UTILITY OPERATIONS AFTER INCORPORATING FORECASTED BOND YIELDS?

A81. As shown on page 2 of Exhibit AMM-10, incorporating a forecasted yield for 2014-2018 and adjusting for changes in interest rates since the study period implied an equity risk premium of 4.45% for gas utilities. Adding this equity risk premium to the implied average yield on triple-B public utility bonds for 2014-2018 of 6.54% resulted in an implied cost of equity of approximately 11.0%.

E. Flotation Costs

Q82. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE RETURN ON EQUITY FOR A UTILITY?

A82. The common equity used to finance the investment in utility assets is provided from either the sale of stock in the capital markets or from retained earnings not paid out as dividends. When equity is raised

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

Q83. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO RECOGNIZE EQUITY ISSUANCE COSTS?

A83. No. While debt flotation costs are recorded on the books of the utility, amortized over the life of the issue, and thus increase the effective cost of debt capital, there is no similar accounting treatment to ensure that equity flotation costs are recorded and ultimately recognized. No rate of return is authorized on flotation costs necessarily incurred to obtain a portion of the equity capital used to finance plant. In other words, equity flotation costs are not included in a utility's rate base because neither that portion of the gross proceeds from the sale of common stock used to pay flotation costs is available to invest in plant and equipment, nor are flotation costs capitalized as an intangible asset. Unless some provision is made to recognize these issuance costs, a utility's revenue requirements will not fully reflect all of the costs incurred for the use of investors' funds. Because there is no accounting convention to accumulate the flotation costs associated with equity issues, they must be accounted for indirectly, with an upward adjustment to the cost of equity being the most appropriate mechanism.

Q84. IS THERE A THEORETICAL AND PRACTICAL BASIS TO INCLUDE A FLOTATION COST ADJUSTMENT IN THIS CASE?

A84. Yes. First, an adjustment for flotation costs associated with past equity issues is appropriate, even when the utility is not contemplating any new sales of common stock. The need for a flotation cost adjustment to compensate for past equity issues been recognized in the financial literature. In a *Public Utilities Fortnightly* article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if no further stock issues are contemplated, a flotation cost adjustment in all future years is required to keep shareholders whole, and that the flotation cost adjustment must consider total equity, including retained earnings.[32] Similarly, *New Regulatory Finance* contains the following discussion:

> Another controversy is whether the flotation cost allowance should still be applied when the utility is not contemplating an imminent common stock issue. Some argue that flotation costs are real and should be recognized in calculating the fair rate of return on equity, but only at the time when the expenses are incurred. In other words, the flotation cost allowance should not continue indefinitely, but should be made in the year in which the sale of securities occurs, with no need for continuing compensation in future years. This argument implies that the company has already been compensated for these costs and/or the initial contributed capital was obtained freely, devoid of any flotation costs, which is an unlikely assumption, and certainly not applicable to most utilities. … The flotation cost adjustment cannot be strictly forward-looking unless all past flotation costs associated with past issues have been recovered.[33]

[32] Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., "Common Equity Flotation Costs and Rate Making," *Public Utilities Fortnightly,* May, 2, 1985.
[33] Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 335.

Q85. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE "BARE BONES" COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?

A85. There are a number of ways in which a flotation cost adjustment can be calculated, but the most common methods used to account for flotation costs in regulatory proceedings is to apply an average flotation-cost percentage to a utility's dividend yield. Based on a review of the finance literature, *Regulatory Finance: Utilities' Cost of Capital* concluded:

> The flotation cost allowance requires an estimated adjustment to the return on equity of approximately 5% to 10%, depending on the size and risk of the issue.[34]

Alternatively, a study of data from Morgan Stanley regarding issuance costs associated with utility common stock issuances suggests an average flotation cost percentage of 3.6%.[35] Multiplying this 3.6% expense percentage for by a representative dividend yield of 3.7% produces a flotation cost adjustment on the order of 13 basis points.

VI. OTHER ROE BENCHMARKS

Q86. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A86. This section presents alternative tests to demonstrate that the end-results of the ROE analyses discussed earlier are reasonable and do not exceed a fair ROE given the facts and circumstances of Black Hills Kansas. The first test is based on applications of the traditional CAPM analysis using current and projected interest rates. The second test is based on

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[34] Roger A. Morin, "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc. at 166* (1994).

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

expected earned returns for utilities. Finally, I present a DCF analysis for an extremely low risk group of non-utility firms, with which Black Hills Kansas must compete for investors' money.

A. Capital Asset Pricing Model

Q87. WHAT COST OF EQUITY ESTIMATES WERE INDICATED BY THE TRADITIONAL CAPM?

A87. My applications of the traditional CAPM were based on the same forward-looking market rate of return, risk-free rates, and beta values discussed earlier in connections with the ECAPM. As shown on page 1 of Exhibit AMM-11, applying the forward-looking CAPM approach to the firms in the Gas Group results in an average theoretical cost of equity estimate of 10.7%, or 12.2% after incorporating the size adjustment corresponding to the market capitalization of the individual utilities. As shown on page 1 of Exhibit AMM-12, adjusting the 10.6% theoretical CAPM result for the Combination Group to incorporate the size adjustment results in an average indicated cost of common equity of 11.6%.

As shown on page 2 of Exhibit AMM-11, incorporating a forecasted Treasury bond yield for 2014-2018 implied a cost of equity of approximately 10.8% for the Gas Group, or 12.3 % after adjusting for the impact of relative size. For the Combination Group (Exhibit AMM-12, p. 2), projected bond yields implied a theoretical CAPM estimate of 10.8%, or 11.7% after incorporating the size adjustment.

B. Expected Earnings Approach

Q88. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE COST OF COMMON EQUITY?

A88. As noted earlier, I also evaluated the cost of common equity using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a fair rate of return established by the U.S. Supreme Court in *Bluefield* and *Hope*. Moreover, it avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q89. WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED EARNINGS APPROACH?

A89. The simple, but powerful concept underlying the expected earnings approach is that investors compare each investment alternative with the next best opportunity. If the utility is unable to offer a return similar to that available from other opportunities of comparable risk, investors will become unwilling to supply the capital on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their opportunity cost of capital. In this situation the government is effectively taking the value of investors' capital without adequate compensation. The expected earnings approach is consistent with the economic rationale underpinning established regulatory standards, which specifies a methodology to

determine an ROE benchmark based on earned rates of return for a peer group of other regional utilities.

Q90. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY IMPLEMENTED?

A90. The traditional comparable earnings test identifies a group of companies that are believed to be comparable in risk to the utility. The actual earnings of those companies on the book value of their investment are then compared to the allowed return of the utility. While the traditional comparable earnings test is implemented using historical data taken from the accounting records, it is also common to use projections of returns on book investment, such as those published by recognized investment advisory publications (*e.g.*, Value Line). Because these returns on book value equity are analogous to the allowed return on a utility's rate base, this measure of opportunity costs results in a direct, "apples to apples" comparison.

Moreover, regulators do not set the returns that investors earn in the capital markets, which are a function of dividend payments and fluctuations in common stock prices- both of which are outside their control. Regulators can only establish the allowed ROE, which is applied to the book value of a utility's investment in rate base, as determined from its accounting records. This is directly analogous to the expected earnings approach, which measures the return that investors expect the utility to earn on book value. As a result, the expected earnings approach provides a meaningful guide to ensure that the allowed ROE is similar to what other utilities of comparable risk will earn on invested capital. This expected earnings test does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As

long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.

Q91. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?

A91. For the firms in the Gas and Combination Groups, the year-end returns on common equity projected by Value Line over its forecast horizon are shown on Exhibit AMM-13. Consistent with the rationale underlying the development of the br+sv growth rates, these year-end values were converted to average returns using the same adjustment factor discussed earlier and developed on Exhibits AMM-5 and AMM-7. As shown on page 1 of Exhibit AMM-13, Value Line's projections for the Gas Group suggest an average ROE of approximately 11.8%. For the firms in the Combination Group, (page 2 of Exhibit AMM-13), Value Line's projections suggested an average ROE of 9.7%, with a midpoint of 10.5%

C. Low Risk Non-Utility DCF

Q92. WHAT OTHER PROXY GROUP DID YOU CONSIDER IN EVALUATING A FAIR ROE FOR BLACK HILLS KANSAS?

A92. Consistent with underlying economic and regulatory standards, I also applied the DCF model to a reference group of low-risk risk companies in the non-utility sectors of the economy. I refer to this group as the "Non-Utility Group".

Q93. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR CAPITAL?

A93. Yes. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. Clearly, the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment, and there are a plethora of other enterprises available to investors beyond those in the utility industry. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. Indeed, modern portfolio theory is built on the assumption that rational investors will hold a diverse portfolio of stocks, not just companies in a single industry.

Q94. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO CONSIDER INVESTORS' REQUIRED ROE FOR NON-UTILITY COMPANIES?

A94. Yes. The cost of equity capital in the competitive sector of the economy form the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The U.S. Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to "business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Similarly, the *Hope* case states:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[36]

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

In the early applications of the comparable earnings approach, utilities were explicitly eliminated due to a concern about circularity. In other words, soon after the *Hope* decision regulatory commissions did not want to get involved in circular logic by looking to the returns of utilities that were established by the same or similar regulatory commissions in the same geographic region. To avoid circularity, regulators looked only to the returns of non-utility companies.

Q95. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY GROUP MAKE THE ESTIMATION OF THE COST OF EQUITY USING THE DCF MODEL MORE RELIABLE?

A95. Yes. The estimates of growth from the DCF model depend on analysts' forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry, or by the industry falling into favor or disfavor by analysts. The result of such distortions would be to bias the DCF estimates for utilities. Because the Non-Utility Group includes low risk companies from many industries, it diversifies away any distortion that may be caused by the ebb and flow of enthusiasm for a particular sector.

Q96. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY GROUP?

A96. The comparable risk proxy group was composed of those United States companies followed by Value Line that:

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

1) pay common dividends;

2) have a Safety Rank of “1”;

3) have a Financial Strength Rating of “B++” or greater;

4) have a beta of 0.70 or less; and

5) have investment grade credit ratings from S&P[37].

Q97. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP COMPARE WITH THE PROXY GROUPS AND THE COMPANY?

A97. Table AMM-5 compares the Non-Utility Group with the Gas and Combination Groups, and Black Hills Kansas, across the four key risk measures discussed earlier:

TABLE AMM-5
COMPARISON OF RISK INDICATORS

	S&P	Value Line		
	Credit Rating	Safety Rank	Financial Strength	Beta
Non-Utility Group	A	1	A+	0.65
Gas Group	A-	2	B++	0.77
Combination Group	BBB	2	B++	0.76
Black Hills Kansas	BBB	3	B+	0.90

As shown above, the average credit rating, Safety Rank, Financial Strength Rating, and beta for the Non-Utility Group suggest less risk than for Black Hills Kansas and the proxy groups of gas and combination utilities. When considered together, a comparison of these objective measures, which consider a broad spectrum of risks, including financial and business position, relative size, and exposure to company-specific factors, indicates that investors would likely conclude that the overall

[37] Credit rating firms, such as S&P, use designations consisting of upper- and lower-case letters 'A' and 'B' to identify a bond's credit quality rating. 'AAA', 'AA', 'A', and 'BBB' ratings are considered investment grade. Credit ratings for bonds below these designations ('BB', 'B', 'CCC', etc.) are considered speculative grade, and are commonly referred to as "junk bonds". The term “investment grade” refers to bonds with ratings in the ‘BBB’ category and above.

investment risks for the Gas and Combination Groups and Black Hills Kansas are greater than those of the firms in the Non-Utility Group.

The eighteen companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include household names such as Coca-Cola, McDonalds, Proctor & Gamble, and Wal-Mart, have long corporate histories, well-established track records, and exceedingly conservative risk profiles. Many of these companies pay dividends on a par with utilities, with the average dividend yield for the group approaching 3%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

Q98. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY GROUP?

A98. I applied the DCF model to the Non-Utility Group using the same analysts EPS growth projections described earlier for the Gas and Combination Groups, with the results being presented in Exhibit AMM-14. As summarized in Table AMM-6, below, application of the constant growth DCF model resulted in the following cost of equity estimates:

TABLE AMM-6
DCF RESULTS – NON-UTILITY GROUP

	Cost of Equity	
Growth Rate	**Average**	**Midpoint**
Value Line	11.9%	13.2%
IBES	11.6%	12.3%
Zacks	11.5%	12.1%
Reuters	11.6%	12.3%

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

Q99. HOW CAN YOU RECONCILE THESE DCF RESULTS FOR THE NON-UTILITY GROUP AGAINST THE SIGNIFICANTLY LOWER ESTIMATES PRODUCED FOR YOUR GROUPS OF UTILITIES?

A99. First, it is important to be clear that the higher DCF results for the Non-Utility Group cannot be attributed to risk differences. As documented earlier, the risks that investors associate with the group of non-utility firms - as measured by S&P's credit ratings, Value Line's Safety Rank, Financial Strength, and beta – are lower than the risks investors associate with the Gas and Combination Groups, and Black Hills Kansas. The objective evidence provided by these observable risk measures rules out a conclusion that the higher non-utility DCF estimates are associated with higher investment risk.

Rather, the divergence between the DCF results for these groups of utility and non-utility firms can be attributed to the fact that DCF estimates invariably depart from the returns that investors actually require because their expectations may not be captured by the inputs to the model, particularly the assumed growth rate. Because the actual cost of equity is unobservable, and DCF results inherently incorporate a degree of error, the cost of equity estimates for the Non-Utility Group provide an important benchmark in evaluating a fair ROE for Black Hills Kansas. There is no basis to conclude that DCF results for a group of utilities would be inherently more reliable than those for firms in the competitive sector, and the divergence between the DCF estimates for the group of utilities

and the Non-Utility Group suggests that both should be considered to ensure a balanced end-result. The DCF results for the Non-Utility Group suggest that a 10.6% ROE for Black Hills Kansas's gas utility operations is a conservative estimate of a fair return.

Q100. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A100. Yes.

VERIFICATION

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

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

Adrien M. McKenzie

Subscribed and sworn before me this 17 day of April, 2014.

Notary Public

My appointment expires: 10/3/2017

BRYAN ANDERSON
NOTARY PUBLIC
STATE OF TEXAS
EXPIRES
10/03/2017

EXHIBIT AMM-1

QUALIFICATIONS OF
ADRIEN M. MCKENZIE

Q. WHAT IS THE PURPOSE OF THIS EXHIBIT?

A. This exhibit describes my background and experience and contains the details of my qualifications.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received B.A. and M.B.A. degrees with a major in finance from The University of Texas at Austin, and hold the Chartered Financial Analyst (CFA®) designation. I am currently a Vice President of FINCAP, Inc. Since joining the firm in 1984, I have participated in consulting assignments involving a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation. I have extensive experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. I have previously prepared prefiled direct and rebuttal testimony in over 250 regulatory proceedings before FERC, the Canadian Radio-Television and Telecommunications Commission, and regulatory agencies in over 30 states. This testimony was sponsored jointly with, or by Dr. William Avera, who is President of FINCAP, Inc.

ADRIEN M. McKENZIE

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Summary of Qualifications

Adrien McKenzie has an MBA in finance from the University of Texas at Austin and holds the Chartered Financial Analyst (CFA) designation. He has over 25 years experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. Assignments have included a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation.

Employment

Consultant, FINCAP, Inc. (June 1984 to June 1987) (April 1988 to present)	Economic consulting firm specializing in regulated industries and valuation of closely-held businesses. Assignments have involved electric, gas, telecommunication, and water/sewer utilities, with clients including utilities, consumer groups, municipalities, regulatory agencies, and cogenerators. Areas of participation have included rate of return, revenue requirements, rate design, tariff analysis, avoided cost, forecasting, and negotiations. Develop cost of capital analyses using alternative market models for electric, gas, and telephone utilities. Prepare pre-filed direct and rebuttal testimony, participate in settlement negotiations, respond to interrogatories, evaluate opposition testimony, and assist in the areas of cross-examination and the preparations of legal briefs. Other assignments have involved preparation of technical reports, valuations, estimation of damages, industry studies, and various economic analyses in support of litigation.
Manager, McKenzie Energy Company (Jan. 1981 to May. 1984)	Responsible for operations and accounting for firm engaged in the management of working interests in oil and gas properties.

Education

M.B.A., Finance, University of Texas at Austin (Sep. 1982 to May. 1984)	Program included coursework in corporate finance, accounting, financial modeling, and statistics. Received Dean's Award for Academic Excellence and Good Neighbor Scholarship. Professional Report: *The Impact of Construction Expenditures on Investor-Owned Electric Utilities*
B.B.A., Finance, University of Texas at Austin (Jan. 1981 to May 1982)	Electives included capital market theory, portfolio management, and international economics and finance. Elected to Beta Gamma Sigma business honor society. Dean's List 1981-1982.
Simon Fraser University, Vancouver, Canada and University of Hawaii at Manoa, Honolulu, Hawaii (Jan. 1979 to Dec 1980)	Coursework in accounting, finance, economics, and liberal arts.

Professional Associations

Received Chartered Financial Analyst (CFA) designation in 1990.

Member – CFA Institute.

Bibliography

"A Profile of State Regulatory Commissions," A Special Report by the Electricity Consumers Resource Council (ELCON), Summer 1991.

"The Impact of Regulatory Climate on Utility Capital Costs: An Alternative Test," with Bruce H. Fairchild, *Public Utilities Fortnightly* (May 25, 1989).

Presentations

"ROE at FERC: Issues and Methods," *Expert Briefing on Parallels in ROE Issues between AER, ERA, and FERC*, Jones Day (Sydney, Melbourne, and Perth, Australia) (April 15, 2014)

Cost of Capital Working Group eforum, Edison Electric Institute (April 24, 2012)

"Cost-of-Service Studies and Rate Design," General Management of Electric Utilities (A Training Program for Electric Utility Managers from Developing Countries), Austin, Texas (October 1989 and November 1990 and 1991).

Representative Assignments

Mr. McKenzie has prepared and supported prefiled testimony submitted in over 250 regulatory proceedings. This testimony was sponsored jointly with, or by Dr. William Avera, who is President of FINCAP, Inc. In addition to filings before regulators in 33 states, Mr. McKenzie has considerable expertise in preparing expert analyses and testimony before the Federal Energy Regulatory Commission ("FERC") on the issue of rate of return on equity ("ROE"). Many of these proceedings have been influential in addressing key aspects of FERC's policies with respect to ROE determinations. Broad experience in applying and evaluating the results of quantitative methods to estimate a fair ROE, including discounted cash flow approaches, the Capital Asset Pricing Model, risk premium methods, and other quantitative benchmarks. Other representative assignments have included the application of econometric models to analyze the impact of anti-competitive behavior and estimate lost profits in the commercial explosives and chemical industries; development of explanatory models in connection with prudency issues surrounding nuclear generating facilities; and the analysis of avoided cost pricing for cogenerated power.

SUMMARY OF RESULTS

	Gas Group		Combination Group	
DCF	**Average**	**Midpoint**	**Average**	**Midpoint**
Value Line	10.3%	10.6%	10.1%	11.9%
IBES	9.6%	9.8%	9.7%	10.0%
Zacks	9.0%	9.2%	9.8%	9.9%
Reuters	9.4%	9.8%	9.8%	10.2%
Internal br + sv	10.0%	11.2%	8.4%	8.7%
Empirical CAPM - 2014 Yield				
Unadjusted	11.2%	11.2%	11.1%	11.1%
Size Adjusted	12.7%	12.8%	12.1%	12.1%
Empirical CAPM - Projected Yield				
Unadjusted	11.3%	11.3%	11.3%	11.2%
Size Adjusted	12.8%	12.9%	12.2%	12.2%
Utility Risk Premium				
Current Bond Yields	10.5%			
Projected Bond Yields	11.0%			
Cost of Equity Recommendation				
Cost of Equity Range		9.8% --	11.2%	
Recommended Point Estimate		10.50%		
Flotation Cost Adjustment				
Dividend Yield		3.70%		
Flotation Cost Percentage		3.60%		
Adjustment		0.13%		
ROE Recommendation		**10.63%**		

CHECKS OF REASONABLENESS

	Gas Group		Combination Group	
	Average	**Midpoint**	**Average**	**Midpoint**
CAPM - 2014 Bond Yield				
Unadjusted	10.7%	10.7%	10.6%	10.5%
Size Adjusted	12.2%	12.3%	11.6%	11.6%
CAPM - Projected Bond Yield				
Unadjusted	10.8%	10.9%	10.8%	10.7%
Size Adjusted	12.3%	12.4%	11.7%	11.8%
Expected Earnings				
Proxy Group	11.8%	12.5%	9.7%	10.5%

Non-Utility DCF	**Average**	**Midpoint**
Value Line	11.9%	13.2%
IBES	11.6%	12.3%
Zacks	11.5%	12.1%
Reuters	11.6%	12.3%

GAS GROUP

		At Fiscal Year-End 2013 (a)			Value Line Projected (b)		
	Company	**Debt**	**Preferred**	**Common Equity**	**Debt**	**Other**	**Common Equity**
1	AGL Resources	50.9%	0.0%	49.1%	49.0%	0.0%	51.0%
2	Atmos Energy Corp.	48.8%	0.0%	51.2%	45.0%	0.0%	55.0%
3	Laclede Group	46.6%	0.0%	53.4%	46.5%	0.0%	53.5%
4	New Jersey Resources	39.6%	0.0%	60.4%	30.0%	0.0%	70.0%
5	NiSource, Inc.	58.0%	0.0%	42.0%	60.0%	0.0%	40.0%
6	Northwest Natural Gas	49.7%	0.0%	50.3%	48.0%	0.0%	52.0%
7	Piedmont Natural Gas	51.8%	0.0%	48.2%	46.0%	0.0%	54.0%
8	South Jersey Industries	45.9%	0.0%	54.1%	43.0%	0.0%	57.0%
9	Southwest Gas Corp.	49.6%	0.0%	50.4%	48.0%	0.0%	52.0%
10	WGL Holdings, Inc.	31.2%	1.5%	67.3%	27.5%	1.5%	71.0%
	Average	**47.2%**	**0.1%**	**52.6%**	**44.3%**	**0.2%**	**55.6%**

(a) Company Form 10-K and Annual Reports.
(b) The Value Line Investment Survey (Mar. 7, 2014).

COMBINATION GROUP

		At Fiscal Year-End 2013 (a)			Value Line Projected (b)		
	Company	**Debt**	**Preferred**	**Common Equity**	**Debt**	**Other**	**Common Equity**
1	Ameren Corp.	47.5%	0.0%	52.5%	45.0%	1.0%	54.0%
2	Avista Corp.	49.0%	0.0%	51.0%	48.5%	0.0%	51.5%
3	Black Hills Corp.	51.6%	0.0%	48.4%	57.5%	0.0%	42.5%
4	CMS Energy Corp.	68.7%	0.0%	31.3%	62.0%	0.5%	37.5%
5	DTE Energy Co.	50.2%	0.0%	49.8%	49.5%	0.0%	50.5%
6	Duke Energy Corp.	49.3%	0.0%	50.7%	51.5%	0.0%	48.5%
7	Empire District Elec	49.8%	0.0%	50.2%	48.5%	0.0%	51.5%
8	Entergy Corp.	54.1%	1.4%	44.5%	56.0%	1.0%	43.0%
9	Exelon Corp.	44.8%	2.0%	53.2%	43.5%	0.0%	56.5%
10	NorthWestern Corp.	29.8%	0.0%	70.2%	48.0%	0.0%	52.0%
11	Pepco Holdings	51.0%	0.0%	49.0%	49.5%	0.0%	50.5%
12	PG&E Corp.	48.2%	0.9%	50.9%	50.5%	1.0%	48.5%
13	SCANA Corp.	53.9%	0.0%	46.1%	53.0%	0.0%	47.0%
14	Sempra Energy	51.1%	0.1%	48.8%	55.0%	0.0%	45.0%
15	UIL Holdings	56.2%	0.0%	43.8%	54.5%	0.0%	45.5%
	Average	**50.4%**	**0.3%**	**49.4%**	**51.5%**	**0.2%**	**48.3%**

(a) Company Form 10-K and Annual Reports.
(b) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).

DIVIDEND YIELD

	Company	(a) Price	(b) Dividends	Yield
1	AGL Resources	$ 46.74	$ 1.96	4.2%
2	Atmos Energy Corp.	$ 46.19	$ 1.50	3.2%
3	Laclede Group	$ 45.16	$ 1.76	3.9%
4	New Jersey Resources	$ 44.99	$ 1.68	3.7%
5	NiSource, Inc.	$ 34.57	$ 1.00	2.9%
6	Northwest Natural Gas	$ 41.66	$ 1.84	4.4%
7	Piedmont Natural Gas	$ 33.19	$ 1.24	3.7%
8	South Jersey Industries	$ 54.60	$ 1.95	3.6%
9	Southwest Gas Corp.	$ 53.41	$ 1.46	2.7%
10	WGL Holdings, Inc.	$ 38.01	$ 1.76	4.6%
	Average			**3.7%**

(a) Average of closing prices for 30 trading days ended Mar. 7, 2014.
(b) The Value Line Investment Survey, *Summary & Index* (Mar. 7, 2014).

GROWTH RATES

		(a)	(b)	(c)	(d)	(e)
		Earnings Growth				br+sv
	Company	**V Line**	**IBES**	**Zacks**	**Reuters**	**Growth**
1	AGL Resources	9.0%	NA	2.0%	4.0%	4.6%
2	Atmos Energy Corp.	7.5%	6.9%	6.6%	6.9%	6.0%
3	Laclede Group	8.0%	5.0%	4.3%	5.0%	6.0%
4	New Jersey Resources	5.5%	3.5%	4.0%	3.5%	6.5%
5	NiSource, Inc.	10.5%	8.7%	7.8%	8.7%	6.9%
6	Northwest Natural Gas	4.0%	3.5%	3.7%	3.5%	6.3%
7	Piedmont Natural Gas	4.0%	3.7%	4.0%	3.7%	3.8%
8	South Jersey Industries	6.5%	6.0%	6.0%	NA	11.3%
9	Southwest Gas Corp.	7.0%	2.6%	3.8%	2.6%	7.0%
10	WGL Holdings, Inc.	3.5%	5.0%	5.5%	5.0%	4.7%

(a) The Value Line Investment Survey (Mar. 7, 2014).
(b) www.finance.yahoo.com (retrieved Apr. 5, 2014).
(c) www.zacks.com (retrieved Apr. 5, 2014).
(d) www.reuters.com (retrieved Apr. 5, 2014).
(e) See Exhibit AMM-5.

DCF COST OF EQUITY ESTIMATES

		(a)	(a)	(a)	(a)	(a)
			Earnings Growth			**br+sv**
	Company	**V Line**	**IBES**	**Zacks**	**Reuters**	**Growth**
1	AGL Resources	13.2%	NA	6.2%	8.2%	8.8%
2	Atmos Energy Corp.	10.7%	10.1%	9.8%	10.1%	9.2%
3	Laclede Group	11.9%	8.9%	8.2%	8.9%	9.9%
4	New Jersey Resources	9.2%	7.2%	7.7%	7.2%	10.2%
5	NiSource, Inc.	13.4%	11.6%	10.7%	11.6%	9.8%
6	Northwest Natural Gas	8.4%	7.9%	8.1%	7.9%	10.7%
7	Piedmont Natural Gas	7.7%	7.4%	7.7%	7.4%	7.6%
8	South Jersey Industries	10.1%	9.6%	9.6%	NA	14.9%
9	Southwest Gas Corp.	9.7%	5.3%	6.5%	5.3%	9.8%
10	WGL Holdings, Inc.	8.1%	9.6%	10.1%	9.6%	9.3%
	Average (b)	**10.3%**	**9.6%**	**9.0%**	**9.4%**	**10.0%**
	Midpoint (c)	**10.6%**	**9.8%**	**9.2%**	**9.8%**	**11.2%**

(a) Sum of dividend yield (Exhibit AMM-4, p. 1) and respective growth rate (Exhibit AMM-4, p. 2).
(b) Excludes highlighted figures.
(c) Average of low and high values.

DCF MODEL - GAS GROUP

Exhibit AMM-5

BR+SV GROWTH RATE

		(a)	(a)	(a)			(b)	(c)		(d)	(e)		
		----------	2018	----------			Adjustment			--------- "sv" Factor --------			
	Company	EPS	DPS	BVPS	b	r	Factor	Adjusted r	br	s	v	sv	br + sv
1	AGL Resources	$3.95	$2.40	$38.95	39.2%	10.1%	1.0292	10.4%	4.1%	0.0155	0.3508	0.54%	**4.6%**
2	Atmos Energy Corp.	$3.50	$1.70	$38.90	51.4%	9.0%	1.0470	9.4%	4.8%	0.0429	0.2590	1.11%	**6.0%**
3	Laclede Group	$4.05	$2.10	$38.60	48.1%	10.5%	1.0252	10.8%	5.2%	0.0222	0.3824	0.85%	**6.0%**
4	New Jersey Resources	$3.75	$1.74	$28.85	53.6%	13.0%	1.0266	13.3%	7.2%	(0.0147)	0.4505	-0.66%	**6.5%**
5	NiSource, Inc.	$2.40	$1.20	$19.30	50.0%	12.4%	1.0081	12.5%	6.3%	0.0138	0.4853	0.67%	**6.9%**
6	Northwest Natural Gas	$3.25	$2.10	$32.90	35.4%	9.9%	1.0195	10.1%	3.6%	0.0674	0.4018	2.71%	**6.3%**
7	Piedmont Natural Gas	$2.10	$1.43	$19.30	31.9%	10.9%	1.0210	11.1%	3.5%	0.0058	0.4853	0.28%	**3.8%**
8	South Jersey Industries	$4.80	$2.60	$29.35	45.8%	16.4%	1.0344	16.9%	7.8%	0.0643	0.5485	3.53%	**11.3%**
9	Southwest Gas Corp.	$4.00	$1.80	$37.00	55.0%	10.8%	1.0274	11.1%	6.1%	0.0237	0.3833	0.91%	**7.0%**
10	WGL Holdings, Inc.	$3.00	$1.87	$29.45	37.7%	10.2%	1.2118	12.3%	4.6%	0.0018	0.3456	0.06%	**4.7%**

BR+SV GROWTH RATE

		(a)	(a)	(f)	(a)	(a)	(f)	(g)	(a)	(a)		(h)	(a)	(a)	(g)
		---------- 2013 ----------			---------- 2018 ----------			Chg	-------- 2018 Price --------				---- Common Shares ----		
	Company	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity	High	Low	Avg.	M/B	2013	2018	Growth
1	AGL Resources	48.8%	$7,444	$3,633	51.0%	$9,535	$4,863	6.0%	$65.00	$55.00	$60.00	1.540	118.89	125.00	1.01%
2	Atmos Energy Corp.	51.2%	$5,036	$2,578	55.0%	$7,500	$4,125	9.9%	$60.00	$45.00	$52.50	1.350	90.64	106.00	3.18%
3	Laclede Group	53.4%	$1,959	$1,046	53.5%	$2,515	$1,346	5.2%	$70.00	$55.00	$62.50	1.619	32.70	35.00	1.37%
4	New Jersey Resources	63.4%	$1,400	$888	70.0%	$1,655	$1,159	5.5%	$60.00	$45.00	$52.50	1.820	41.66	40.00	-0.81%
5	NiSource, Inc.	43.7%	$13,480	$5,891	40.0%	$15,965	$6,386	1.6%	$45.00	$30.00	$37.50	1.943	313.68	325.00	0.71%
6	Northwest Natural Gas	51.5%	$1,470	$757	52.0%	$1,770	$920	4.0%	$60.00	$50.00	$55.00	1.672	27.00	32.90	4.03%
7	Piedmont Natural Gas	50.3%	$2,364	$1,189	54.0%	$2,715	$1,466	4.3%	$45.00	$30.00	$37.50	1.943	74.88	76.00	0.30%
8	South Jersey Industries	57.0%	$1,365	$778	57.0%	$1,925	$1,097	7.1%	$75.00	$55.00	$65.00	2.215	32.50	37.50	2.90%
9	Southwest Gas Corp.	52.0%	$2,700	$1,404	52.0%	$3,550	$1,846	5.6%	$70.00	$50.00	$60.00	1.622	46.50	50.00	1.46%
10	WGL Holdings, Inc.	9.8%	$1,827	$179	71.0%	$2,165	$1,537	53.7%	$50.00	$40.00	$45.00	1.528	51.70	52.00	0.12%

(a) The Value Line Investment Survey (Mar. 7, 2014).
(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(c) Product of average year-end "r" for 2018 and Adjustment Factor.
(d) Product of change in common shares outstanding and M/B Ratio.
(e) Computed as 1 - B/M Ratio.
(f) Product of total capital and equity ratio.
(g) Five-year rate of change.
(h) Average of High and Low expected market prices divided by 2018 BVPS.

DIVIDEND YIELD

	Company	(a) Price	(b) Dividends	Yield
1	Ameren Corp.	$ 39.81	$ 1.61	4.0%
2	Avista Corp.	$ 29.55	$ 1.27	4.3%
3	Black Hills Corp.	$ 56.37	$ 1.56	2.8%
4	CMS Energy Corp.	$ 28.29	$ 1.10	3.9%
5	DTE Energy Co.	$ 70.90	$ 2.76	3.9%
6	Duke Energy Corp.	$ 70.53	$ 3.15	4.5%
7	Empire District Elec	$ 23.63	$ 1.03	4.4%
8	Entergy Corp.	$ 63.93	$ 3.32	5.2%
9	Exelon Corp.	$ 30.24	$ 1.24	4.1%
10	NorthWestern Corp.	$ 45.83	$ 1.60	3.5%
11	Pepco Holdings	$ 20.19	$ 1.08	5.3%
12	PG&E Corp.	$ 43.55	$ 1.82	4.2%
13	SCANA Corp.	$ 49.05	$ 2.10	4.3%
14	Sempra Energy	$ 94.02	$ 2.64	2.8%
15	UIL Holdings	$ 37.67	$ 1.73	4.6%
	Average			**4.1%**

(a) Average of closing prices for 30 trading days ended Mar. 21, 2014.
(b) The Value Line Investment Survey, Summary & Index (Mar. 21, 2014).

GROWTH RATES

		(a)	(b)	(c)	(d)	(e)
		Earnings Growth				br+sv
	Company	V Line	IBES	Zacks	Reuters	Growth
1	Ameren Corp.	2.5%	5.0%	7.5%	5.0%	4.0%
2	Avista Corp.	6.5%	5.0%	5.0%	NA	3.9%
3	Black Hills Corp.	13.0%	4.0%	4.0%	NA	4.5%
4	CMS Energy Corp.	6.5%	6.2%	6.0%	6.2%	5.9%
5	DTE Energy Co.	5.0%	5.2%	6.2%	5.2%	4.1%
6	Duke Energy Corp.	4.0%	3.9%	3.9%	4.4%	2.8%
7	Empire District Elec	4.0%	3.0%	3.0%	3.0%	3.2%
8	Entergy Corp.	-2.0%	-1.9%	NA	-0.4%	3.8%
9	Exelon Corp.	-5.5%	-4.8%	-4.1%	-2.9%	3.1%
10	NorthWestern Corp.	4.5%	7.0%	6.0%	7.0%	4.1%
11	Pepco Holdings	5.5%	6.2%	5.6%	6.2%	2.7%
12	PG&E Corp.	2.5%	6.7%	2.7%	6.5%	3.3%
13	SCANA Corp.	5.0%	4.6%	4.5%	4.6%	5.2%
14	Sempra Energy	4.5%	6.3%	6.0%	6.3%	5.2%
15	UIL Holdings	6.0%	5.8%	6.6%	5.4%	4.5%

(a) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).
(b) www.finance.yahoo.com (retrieved Feb. 28, 2014).
(c) www.zacks.com (retrieved Feb. 28, 2014).
(d) www.reuters.com/finance/stocks (retrieved Feb. 28, 2014).
(e) See Exhibit AMM-7.

DCF COST OF EQUITY ESTIMATES

		(a)	(a)	(a)	(a)	(a)
		Earnings Growth				br+sv
	Company	**V Line**	**IBES**	**Zacks**	**Reuters**	**Growth**
1	Ameren Corp.	6.5%	9.0%	11.5%	9.0%	8.0%
2	Avista Corp.	10.8%	9.3%	9.3%	NA	8.2%
3	Black Hills Corp.	15.8%	6.8%	6.8%	NA	7.3%
4	CMS Energy Corp.	10.4%	10.1%	9.9%	10.1%	9.8%
5	DTE Energy Co.	8.9%	9.1%	10.1%	9.1%	8.0%
6	Duke Energy Corp.	8.5%	8.4%	8.3%	8.8%	7.3%
7	Empire District Elec	8.4%	7.4%	7.4%	7.4%	7.5%
8	Entergy Corp.	3.2%	3.3%	NA	4.8%	9.0%
9	Exelon Corp.	-1.4%	-0.7%	0.0%	1.2%	7.2%
10	NorthWestern Corp.	8.0%	10.5%	9.5%	10.5%	7.6%
11	Pepco Holdings	10.8%	11.5%	10.9%	11.5%	8.0%
12	PG&E Corp.	6.7%	10.8%	6.8%	10.7%	7.4%
13	SCANA Corp.	9.3%	8.9%	8.8%	8.9%	9.5%
14	Sempra Energy	7.3%	9.1%	8.8%	9.1%	8.0%
15	UIL Holdings	10.6%	10.4%	11.2%	9.9%	9.0%
	Average (b)	**10.1%**	**9.7%**	**9.8%**	**9.8%**	**8.4%**
	Midpoint (c)	**11.9%**	**10.0%**	**9.9%**	**10.2%**	**8.7%**

(a) Sum of dividend yield (Exhibit AMM-6, p. 1) and respective growth rate (Exhibit AMM-6, p. 2).
(b) Excludes highlighted figures.
(c) Average of low and high values.

BR+SV GROWTH RATE

		(a)	(a)	(a)			(b)	(c)		(d)	(e)		
		----------	2018	----------			Adjustment			--------- "sv" Factor --------			
	Company	EPS	DPS	BVPS	b	r	Factor	Adjusted r	br	s	v	sv	br + sv
1	Ameren Corp.	$3.00	$1.80	$32.00	40.0%	9.4%	1.0223	9.6%	3.8%	0.0117	0.1467	0.17%	**4.0%**
2	Avista Corp.	$2.25	$1.40	$24.50	37.8%	9.2%	1.0237	9.4%	3.6%	0.0186	0.1833	0.34%	**3.9%**
3	Black Hills Corp.	$3.25	$1.80	$34.00	44.6%	9.6%	1.0229	9.8%	4.4%	0.0072	0.2000	0.14%	**4.5%**
4	CMS Energy Corp.	$2.25	$1.35	$17.25	40.0%	13.0%	1.0321	13.5%	5.4%	0.0128	0.4250	0.54%	**5.9%**
5	DTE Energy Co.	$5.25	$3.35	$54.50	36.2%	9.6%	1.0269	9.9%	3.6%	0.0195	0.2733	0.53%	**4.1%**
6	Duke Energy Corp.	$5.25	$3.40	$66.50	35.2%	7.9%	1.0140	8.0%	2.8%	0.0014	(0.0231)	0.00%	**2.8%**
7	Empire District Elec	$1.75	$1.15	$20.25	34.3%	8.6%	1.0240	8.8%	3.0%	0.0193	0.0795	0.15%	**3.2%**
8	Entergy Corp.	$5.75	$3.40	$63.25	40.9%	9.1%	1.0160	9.2%	3.8%	0.0002	0.1276	0.00%	**3.8%**
9	Exelon Corp.	$2.25	$1.30	$31.00	42.2%	7.3%	1.0173	7.4%	3.1%	0.0022	(0.0333)	-0.01%	**3.1%**
10	NorthWestern Corp.	$3.00	$1.80	$31.50	40.0%	9.5%	1.0269	9.8%	3.9%	0.0112	0.1600	0.18%	**4.1%**
11	Pepco Holdings	$1.75	$1.20	$21.90	31.4%	8.0%	1.0206	8.2%	2.6%	0.0090	0.1240	0.11%	**2.7%**
12	PG&E Corp.	$3.00	$2.10	$35.00	30.0%	8.6%	1.0246	8.8%	2.6%	0.0282	0.2222	0.63%	**3.3%**
13	SCANA Corp.	$4.25	$2.30	$43.50	45.9%	9.8%	1.0401	10.2%	4.7%	0.0342	0.1714	0.59%	**5.2%**
14	Sempra Energy	$5.50	$3.00	$52.25	45.5%	10.5%	1.0239	10.8%	4.9%	0.0092	0.3258	0.30%	**5.2%**
15	UIL Holdings	$3.00	$1.73	$29.10	42.3%	10.3%	1.0207	10.5%	4.5%	-	0.3874	0.00%	**4.5%**

BR+SV GROWTH RATE

		(a)	(a)	(f)	(a)	(a)	(f)	(g)	(a)	(a)		(h)	(a)	(a)	(g)
		2013			2018			Chg	2018 Price				Common Shares		
	Company	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity	High	Low	Avg.	M/B	2013	2018	Growth
1	Ameren Corp.	53.5%	$12,190	$6,522	54.0%	$15,100	$8,154	4.6%	$45.00	$30.00	$37.50	1.172	242.65	255.00	1.00%
2	Avista Corp.	49.2%	$2,561	$1,260	51.5%	$3,100	$1,597	4.8%	$35.00	$25.00	$30.00	1.224	59.81	64.50	1.52%
3	Black Hills Corp.	56.8%	$2,171	$1,233	42.5%	$3,650	$1,551	4.7%	$50.00	$35.00	$42.50	1.250	44.21	45.50	0.58%
4	CMS Energy Corp.	32.2%	$10,730	$3,455	37.5%	$12,700	$4,763	6.6%	$35.00	$25.00	$30.00	1.739	266.10	276.00	0.73%
5	DTE Energy Co.	52.5%	$15,135	$7,946	50.5%	$20,600	$10,403	5.5%	$85.00	$65.00	$75.00	1.376	177.09	190.00	1.42%
6	Duke Energy Corp.	52.0%	$79,375	$41,275	48.5%	$97,900	$47,482	2.8%	$75.00	$55.00	$65.00	0.977	706.00	711.00	0.14%
7	Empire District Elec	50.2%	$1,494	$750	51.5%	$1,850	$953	4.9%	$25.00	$19.00	$22.00	1.086	43.04	47.00	1.78%
8	Entergy Corp.	43.5%	$22,075	$9,603	43.0%	$26,200	$11,266	3.2%	$85.00	$60.00	$72.50	1.146	178.37	178.50	0.01%
9	Exelon Corp.	55.0%	$41,200	$22,660	56.5%	$47,700	$26,951	3.5%	$35.00	$25.00	$30.00	0.968	857.00	867.00	0.23%
10	NorthWestern Corp.	46.2%	$2,021	$934	52.0%	$2,350	$1,222	5.5%	$45.00	$30.00	$37.50	1.190	37.22	39.00	0.94%
11	Pepco Holdings	54.0%	$8,750	$4,725	50.5%	$11,500	$5,808	4.2%	$30.00	$20.00	$25.00	1.142	250.00	260.00	0.79%
12	PG&E Corp.	50.4%	$25,956	$13,082	48.5%	$34,500	$16,733	5.0%	$55.00	$35.00	$45.00	1.286	430.72	480.00	2.19%
13	SCANA Corp.	46.5%	$9,995	$4,648	47.0%	$14,775	$6,944	8.4%	$60.00	$45.00	$52.50	1.207	140.00	161.00	2.83%
14	Sempra Energy	46.7%	$22,002	$10,275	45.0%	$29,000	$13,050	4.9%	$90.00	$65.00	$77.50	1.483	242.37	250.00	0.62%
15	UIL Holdings	45.0%	$3,000	$1,350	45.5%	$3,650	$1,661	4.2%	$55.00	$40.00	$47.50	1.632	56.00	56.00	0.00%

(a) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).
(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(c) Product of average year-end "r" for 2018 and Adjustment Factor.
(d) Product of change in common shares outstanding and M/B Ratio.
(e) Computed as 1 - B/M Ratio.
(f) Product of total capital and equity ratio.
(g) Five-year rate of change.
(h) Average of High and Low expected market prices divided by 2018 BVPS.

GAS GROUP

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(f)	(i)		(j)	(k)	(l)	(m)
		Market Return (R_m)				Market										Size
		Div	Proj.	Cost of	Risk-Free	Risk	Unadjusted RP		Beta Adjusted RP				Unadjusted	Market	Size	Adjusted
	Company	Yield	Growth	Equity	Rate	Premium	Weight	RP^1	Beta	Weight	RP^2	Total RP	K_e	Cap	Adjustment	K_e
1	AGL Resources	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.80	75%	5.2%	7.4%	11.4%	$ 5,861.2	0.93%	12.3%
2	Atmos Energy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.85	75%	5.5%	7.7%	11.7%	$ 4,346.9	1.19%	12.9%
3	Laclede Group	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.65	75%	4.2%	6.4%	10.4%	$ 1,529.1	1.75%	12.2%
4	New Jersey Resources	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$ 2,086.1	1.75%	12.8%
5	NiSource, Inc.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.90	75%	5.9%	8.0%	12.0%	$11,113.5	0.80%	12.8%
6	Northwest Natural Gas	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.70	75%	4.6%	6.7%	10.7%	$ 1,193.5	1.75%	12.5%
7	Piedmont Natural Gas	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$ 2,795.1	1.72%	12.8%
8	South Jersey Industries	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$ 1,783.6	1.75%	12.8%
9	Southwest Gas Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.85	75%	5.5%	7.7%	11.7%	$ 2,487.0	1.72%	13.4%
10	WGL Holdings, Inc.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.70	75%	4.6%	6.7%	10.7%	$ 2,064.8	1.75%	12.5%
	Average												**11.2%**			**12.7%**
	Midpoint (n)												**11.2%**			**12.8%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).

(c) (a) + (b).

(d) Average projected 30-year Treasury bond yield for 2014 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(e) (c) - (d).

(f) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).

(g) (e) x weighting factor.

(h) The Value Line Investment Survey (Mar. 7, 2014).

(i) (e) x (h) x weighting factor.

(j) (d) + (g) + (i).

(k) www.valueline.com (retrieved Apr. 7, 2014).

(l) *Morningstar* , "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(m) (g) + (h).

(n) Average of low and high values

GAS GROUP

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(f)	(i)		(j)	(k)	(l)	(m)
		Market Return (R_m)				Market										Size
		Div	Proj.	Cost of	Risk-Free	Risk	Unadjusted RP		Beta Adjusted RP				Empirical	Market	Size	Adjusted
	Company	Yield	Growth	Equity	Rate	Premium	Weight	RP^1	Beta	Weight	RP^2	Total RP	K_e	Cap	Adjustment	K_e
1	AGL Resources	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.80	75%	4.9%	6.9%	11.5%	$ 5,861.2	0.93%	12.4%
2	Atmos Energy Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.85	75%	5.2%	7.2%	11.8%	$ 4,346.9	1.19%	13.0%
3	Laclede Group	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.65	75%	3.9%	6.0%	10.6%	$ 1,529.1	1.75%	12.3%
4	New Jersey Resources	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.75	75%	4.6%	6.6%	11.2%	$ 2,086.1	1.75%	12.9%
5	NiSource, Inc.	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.90	75%	5.5%	7.5%	12.1%	$11,113.5	0.80%	12.9%
6	Northwest Natural Gas	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.70	75%	4.3%	6.3%	10.9%	$ 1,193.5	1.75%	12.6%
7	Piedmont Natural Gas	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.75	75%	4.6%	6.6%	11.2%	$ 2,795.1	1.72%	12.9%
8	South Jersey Industries	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.75	75%	4.6%	6.6%	11.2%	$ 1,783.6	1.75%	12.9%
9	Southwest Gas Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.85	75%	5.2%	7.2%	11.8%	$ 2,487.0	1.72%	13.5%
10	WGL Holdings, Inc.	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.70	75%	4.3%	6.3%	10.9%	$ 2,064.8	1.75%	12.6%
	Average												**11.3%**			**12.8%**
	Midpoint (n)												**11.3%**			**12.9%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).
(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).
(c) (a) + (b).
(d) Average projected 30-year Treasury bond yield for 2014-2018 based on data from the IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); Energy Information Administration, Annual Energy Outlook 2014, Early Release (Dec. 16, 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).
(e) (c) - (d).
(f) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).
(g) (e) x weighting factor.
(h) The Value Line Investment Survey (Mar. 7, 2014).
(i) (e) x (h) x weighting factor.
(j) (d) + (g) + (i).
(k) www.valueline.com (retrieved Apr. 7, 2014).
(l) Morningstar, "2014 Ibbotson SBBI Market Report," at Table 10 (2014).
(m) (g) + (h).
(n) Average of low and high values

COMBINATION GROUP

		(a)	(b)		(c)		(d)		(e)	(d)				(f)	(g)	
		Market Return (R_m)				Market										Size
		Div	Proj.	Cost of	Risk-Free	Risk	Unadjusted RP		Beta Adjusted RP			Total	Empirical	Market	Size	Adjusted
	Company	Yield	Growth	Equity	Rate	Premium	Weight	RP^1	Beta	Weight	RP^2	RP	K_e	Cap	Adjustment	K_e
1	Ameren Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.85	75%	5.6%	7.8%	11.7%	$ 9,740.4	0.80%	12.5%
2	Avista Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$ 1,766.7	1.75%	12.8%
3	Black Hills Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.90	75%	5.9%	8.1%	12.0%	$ 2,505.8	1.72%	13.8%
4	CMS Energy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.70	75%	4.6%	6.8%	10.7%	$ 7,514.5	0.93%	11.7%
5	DTE Energy Co.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.85	75%	5.6%	7.8%	11.7%	$12,595.0	0.80%	12.5%
6	Duke Energy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.70	75%	4.6%	6.8%	10.7%	$49,723.6	-0.33%	10.4%
7	Empire District Elec	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$ 1,010.4	2.48%	13.5%
8	Entergy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$11,368.7	0.80%	11.9%
9	Exelon Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$25,852.8	-0.33%	10.7%
10	NorthWestern Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.70	75%	4.6%	6.8%	10.7%	$ 1,756.2	1.75%	12.5%
11	Pepco Holdings	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.80	75%	5.2%	7.4%	11.4%	$ 5,101.6	1.19%	12.6%
12	PG&E Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.60	75%	3.9%	6.1%	10.1%	$19,464.3	0.80%	10.9%
13	SCANA Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$ 6,895.0	0.93%	12.0%
14	Sempra Energy	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.75	75%	4.9%	7.1%	11.1%	$22,973.6	-0.33%	10.7%
15	UIL Holdings	2.3%	10.4%	12.7%	4.0%	8.7%	25%	2.2%	0.85	75%	5.6%	7.8%	11.7%	$ 2,011.5	1.75%	13.5%
	Average												**11.1%**			**12.1%**
	Midpoint (h)												**11.1%**			**12.1%**

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(c) Average yield on 30-year Treasury bonds for 2014 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).

(e) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).

(f) www.valueline.com (retrieved Mar. 3, 2014).

(g) Morningstar, "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(h) Average of low and high values.

COMBINATION GROUP

		(a)	(b)		(c)		(d)		(e)	(d)				(f)	(g)	
		Market Return (R_m)				Market										Size
		Div	Proj.	Cost of	Risk-Free	Risk	Unadjusted RP		Beta Adjusted RP			Total	Empirical	Market	Size	Adjusted
	Company	Yield	Growth	Equity	Rate	Premium	Weight	RP^1	Beta	Weight	RP^2	RP	K_e	Cap	Adjustment	K_e
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8	Entergy Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.75	75%	4.6%	6.6%	11.2%	$11,368.7	0.80%	12.0%
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15	UIL Holdings	2.3%	10.4%	12.7%	4.6%	8.1%	25%	2.0%	0.85	75%	5.2%	7.2%	11.8%	$ 2,011.5	1.75%	13.5%
	Average												**11.3%**			**12.2%**
	Midpoint (h)												**11.2%**			**12.2%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).

(c) Average yield on 30-year Treasury bonds for 2014-2018 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).

(e) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).

(f) www.valueline.com (retrieved Mar. 3, 2014).

(g) Morningstar, "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(h) Average of low and high values.

2014 BOND YIELDS

Current Equity Risk Premium		
(a)	Avg. Yield over Study Period	8.66%
(b)	2014 Single-A Utility Bond Yield	5.11%
	Change in Bond Yield	-3.55%
(c)	Risk Premium/Interest Rate Relationship	-0.4585
	Adjustment to Average Risk Premium	1.63%
(a)	Average Risk Premium over Study Period	3.26%
	Adjusted Risk Premium	**4.89%**
Implied Cost of Equity		
(b)	2014 Triple-B Utility Bond Yield	5.58%
	Adjusted Equity Risk Premium	4.89%
	Risk Premium Cost of Equity	**10.47%**

(a) Exhibit AMM-10, page 3.
(b) Based on data from IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); Energy Information Administration, Annual Energy Outlook 2014, Early Release (Dec. 16, 2013); & Moody's Investors Service at www.credittrends.com.
(c) Exhibit AMM-10, page 4.

2014-2018 BOND YIELDS

Current Equity Risk Premium		
(a)	Avg. Yield over Study Period	8.66%
(b)	2014-18 Single-A Utility Bond Yield	6.07%
	Change in Bond Yield	-2.59%
(c)	Risk Premium/Interest Rate Relationship	-0.4585
	Adjustment to Average Risk Premium	1.19%
(a)	Average Risk Premium over Study Period	3.26%
	Adjusted Risk Premium	**4.45%**
Implied Cost of Equity		
(b)	2014-18 Triple-B Utility Bond Yield	6.54%
	Adjusted Equity Risk Premium	4.45%
	Risk Premium Cost of Equity	**10.99%**

(a) Exhibit AMM-10, page 3.

(b) Projected yield for 2014-2018 based on data from IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); Energy Information Administration, Annual Energy Outlook 2014, Early Release (Dec. 16, 2013); & Moody's Investors Service at www.credittrends.com.

(c) Exhibit AMM-10, page 4.

AUTHORIZED RETURNS

Year	Qtr.		(a) Allowed ROE	(b) Single-A Utility Bond Yield	Risk Premium
1980	1		13.45%	13.49%	-0.04%
	2		14.38%	12.87%	1.51%
	3		13.87%	12.88%	0.99%
	4		14.35%	14.11%	0.24%
1981	1		14.69%	14.77%	-0.08%
	2		14.61%	15.82%	-1.21%
	3		14.86%	16.65%	-1.79%
	4		15.70%	16.57%	-0.87%
1982	1		15.55%	16.72%	-1.17%
	2		15.62%	16.26%	-0.64%
	3		15.72%	15.88%	-0.16%
	4		15.62%	14.56%	1.06%
1983	1		15.41%	14.15%	1.26%
	2		14.84%	13.58%	1.26%
	3		15.24%	13.52%	1.72%
	4		15.41%	13.38%	2.03%
1984	1		15.39%	13.56%	1.83%
	2		15.07%	14.72%	0.35%
	3		15.37%	14.47%	0.90%
	4		15.33%	13.38%	1.95%
1985	1		15.03%	13.31%	1.72%
	2		15.44%	12.95%	2.49%
	3		14.64%	12.11%	2.53%
	4		14.44%	11.49%	2.95%
1986	1		14.05%	10.18%	3.87%
	2		13.28%	9.41%	3.87%
	3		13.09%	9.39%	3.70%
	4		13.62%	9.31%	4.31%
1987	1		12.61%	8.96%	3.65%
	2		13.13%	9.77%	3.36%
	3		12.56%	10.61%	1.95%
	4		12.73%	11.05%	1.68%
1988	1		12.94%	10.32%	2.62%
	2		12.48%	10.71%	1.77%
	3		12.79%	10.94%	1.85%
	4		12.98%	9.98%	3.00%
1989	1		12.99%	10.13%	2.86%
	2		13.25%	9.94%	3.31%
	3		12.56%	9.53%	3.03%
	4		12.94%	9.50%	3.44%
1990	1		12.60%	9.72%	2.88%
	2		12.81%	9.91%	2.90%
	3		12.34%	9.93%	2.41%
	4		12.77%	9.89%	2.88%
1991	1		12.69%	9.58%	3.11%
	2		12.53%	9.50%	3.03%
	3		12.43%	9.33%	3.10%
	4		12.38%	9.02%	3.36%
1992	1		12.42%	8.91%	3.51%
	2		11.98%	8.86%	3.12%
	3		11.87%	8.47%	3.40%
	4		11.94%	8.53%	3.41%
1993	1		11.75%	8.07%	3.68%
	2		11.71%	7.81%	3.90%
	3		11.39%	7.28%	4.11%
	4		11.15%	7.22%	3.93%
1994	1		11.12%	7.55%	3.57%
	2		10.81%	8.29%	2.52%
	3		10.95%	8.51%	2.44%
	4	(c)	11.64%	8.87%	2.77%
1995	2		11.00%	7.93%	3.07%
	3		11.07%	7.72%	3.35%
	4		11.56%	7.37%	4.19%
1996	1		11.45%	7.44%	4.01%
	2		10.88%	7.98%	2.90%
	3		11.25%	7.96%	3.29%
	4		11.32%	7.62%	3.70%
1997	1		11.31%	7.76%	3.55%
	2		11.70%	7.88%	3.82%
	3		12.00%	7.49%	4.51%
	4	(c)	11.01%	7.25%	3.76%
1998	2		11.37%	7.12%	4.25%
	3		11.41%	6.99%	4.42%
	4		11.69%	6.97%	4.72%
1999	1		10.82%	7.11%	3.71%
	2	(c)	10.82%	7.48%	3.34%
	4		10.33%	8.05%	2.28%
2000	1		10.71%	8.29%	2.42%
	2		11.08%	8.45%	2.63%
	3		11.33%	8.25%	3.08%
	4		12.50%	8.03%	4.47%
2001	1		11.16%	7.74%	3.42%
	2	(c)	10.75%	7.93%	2.82%
	4		10.65%	7.68%	2.97%
2002	1		10.67%	7.65%	3.02%
	2		11.64%	7.50%	4.14%
	3		11.50%	7.19%	4.31%
	4		10.78%	7.15%	3.63%
2003	1		11.38%	6.93%	4.45%
	2		11.36%	6.40%	4.96%
	3		10.61%	6.64%	3.97%
	4		10.84%	6.35%	4.49%
2004	1		11.10%	6.09%	5.01%
	2		10.25%	6.48%	3.77%
	3		10.37%	6.13%	4.24%
	4		10.66%	5.94%	4.72%
2005	1		10.65%	5.74%	4.91%
	2		10.52%	5.52%	5.00%
	3		10.47%	5.51%	4.96%
	4		10.40%	5.82%	4.58%
2006	1		10.63%	5.85%	4.78%
	2		10.50%	6.37%	4.13%
	3		10.45%	6.19%	4.26%
	4		10.14%	5.86%	4.28%
2007	1		10.44%	5.90%	4.54%
	2		10.12%	6.09%	4.03%
	3		10.03%	6.22%	3.81%
	4		10.27%	6.08%	4.19%
2008	1		10.38%	6.15%	4.23%
	2		10.17%	6.32%	3.85%
	3		10.49%	6.42%	4.07%
	4		10.34%	7.23%	3.11%
2009	1		10.24%	6.37%	3.87%
	2		10.11%	6.39%	3.72%
	3		9.88%	5.74%	4.14%
	4		10.27%	5.66%	4.61%
2010	1		10.24%	5.83%	4.41%
	2		9.99%	5.61%	4.38%
	3		9.93%	5.09%	4.84%
	4		10.09%	5.34%	4.75%
2011	1		10.10%	5.60%	4.50%
	2		9.85%	5.38%	4.47%
	3		9.65%	4.81%	4.84%
	4		9.88%	4.37%	5.51%
2012	1		9.63%	4.39%	5.24%
	2		9.83%	4.23%	5.60%
	3		9.75%	3.98%	5.77%
	4		10.07%	3.93%	6.14%
2013	1		9.57%	4.18%	5.39%
	2		9.47%	4.23%	5.24%
	3		9.60%	4.74%	4.86%
Average			**11.92%**	**8.66%**	**3.26%**

(a) Regulatory Research Associates, Inc., Major Rate Case Decisions, (Jul. 9, 2013, Jan. 24, 2002, Jan. 18, 1995, and Jan. 16, 1990).

(b) Moody's Investors Service.

(c) No decisions reported for following quarter.

REGRESSION RESULTS

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9377542
R Square	0.8793829
Adjusted R Square	0.8784479
Standard Error	0.0053564
Observations	131

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.026983742	0.026984	940.4999	4.20861E-61
Residual	129	0.00370112	2.87E-05		
Total	130	0.030684861			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.072338	0.001376586	52.5488	5.72E-89	0.069614344	0.07506156	0.069614344	0.075061561
X Variable 1	-0.4585344	0.014951766	-30.6676	4.21E-61	-0.488116781	-0.42895193	-0.48811678	-0.42895193

2014 BOND YIELD

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
		Market Return (R_m)									Size
	Company	Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted K_e	Market Cap	Size Adjustment	Adjusted K_e
1	AGL Resources	2.3%	10.4%	12.7%	4.0%	8.7%	0.80	11.0%	$ 5,861.2	0.93%	11.9%
2	Atmos Energy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.85	11.4%	$ 4,346.9	1.19%	12.6%
3	Laclede Group	2.3%	10.4%	12.7%	4.0%	8.7%	0.65	9.7%	$ 1,529.1	1.75%	11.4%
4	New Jersey Resources	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 2,086.1	1.75%	12.3%
5	NiSource, Inc.	2.3%	10.4%	12.7%	4.0%	8.7%	0.90	11.8%	$11,113.5	0.80%	12.6%
6	Northwest Natural Gas	2.3%	10.4%	12.7%	4.0%	8.7%	0.70	10.1%	$ 1,193.5	1.75%	11.8%
7	Piedmont Natural Gas	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 2,795.1	1.72%	12.2%
8	South Jersey Industries	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 1,783.6	1.75%	12.3%
9	Southwest Gas Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.85	11.4%	$ 2,487.0	1.72%	13.1%
10	WGL Holdings, Inc.	2.3%	10.4%	12.7%	4.0%	8.7%	0.70	10.1%	$ 2,064.8	1.75%	11.8%
	Average							**10.7%**			**12.2%**
	Midpoint (k)							**10.7%**			**12.3%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).

(c) (a) + (b).

(d) Average projected 30-year Treasury bond yield for 2014 based on data from Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(e) (c) - (d).

(f) The Value Line Investment Survey (Mar. 7, 2014).

(g) (d) + (e) x (f).

(h) www.valueline.com (retrieved Apr. 7, 2014).

(i) *Morningstar* , "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(j) (g) + (h).

(k) Average of low and high values.

2014-2018 BOND YIELD

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
		Market Return (R_m)									
	Company	Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted K_e	Market Cap	Size Adjustment	Size Adjusted K_e
1	AGL Resources	2.3%	10.4%	12.7%	4.6%	8.1%	0.80	11.1%	$ 5,861.2	0.93%	12.0%
2	Atmos Energy Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.85	11.5%	$ 4,346.9	1.19%	12.7%
3	Laclede Group	2.3%	10.4%	12.7%	4.6%	8.1%	0.65	9.9%	$ 1,529.1	1.75%	11.6%
4	New Jersey Resources	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 2,086.1	1.75%	12.4%
5	NiSource, Inc.	2.3%	10.4%	12.7%	4.6%	8.1%	0.90	11.9%	$11,113.5	0.80%	12.7%
6	Northwest Natural Gas	2.3%	10.4%	12.7%	4.6%	8.1%	0.70	10.3%	$ 1,193.5	1.75%	12.0%
7	Piedmont Natural Gas	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 2,795.1	1.72%	12.4%
8	South Jersey Industries	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 1,783.6	1.75%	12.4%
9	Southwest Gas Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.85	11.5%	$ 2,487.0	1.72%	13.2%
10	WGL Holdings, Inc.	2.3%	10.4%	12.7%	4.6%	8.1%	0.70	10.3%	$ 2,064.8	1.75%	12.0%
	Average							**10.8%**			**12.3%**
	Midpoint (k)							**10.9%**			**12.4%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).

(c) (a) + (b).

(d) Average projected 30-year Treasury bond yield for 2014-2018 based on data from Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(e) (c) - (d).

(f) The Value Line Investment Survey (Mar. 7, 2014).

(g) (d) + (e) x (f).

(h) www.valueline.com (retrieved Jun. 27, 2013).

(i) *Morningstar* , "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(j) (g) + (h).

(k) Average of low and high values.

COMBINATION GROUP

		(a)	(b)		(c)		(d)		(e)	(f)	
		Market Return (R_m)									
	Company	Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted K_e	Market Cap	Size Adjustment	Implied Cost of Equity
1	Ameren Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.85	11.4%	$ 9,740.4	0.80%	12.2%
2	Avista Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 1,766.7	1.75%	12.3%
3	Black Hills Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.90	11.8%	$ 2,505.8	1.72%	13.5%
4	CMS Energy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.70	10.1%	$ 7,514.5	0.93%	11.0%
5	DTE Energy Co.	2.3%	10.4%	12.7%	4.0%	8.7%	0.85	11.4%	$ 12,595.0	0.80%	12.2%
6	Duke Energy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.70	10.1%	$ 49,723.6	-0.33%	9.7%
7	Empire District Elec	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 1,010.4	2.48%	13.0%
8	Entergy Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 11,368.7	0.80%	11.3%
9	Exelon Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 25,852.8	-0.33%	10.2%
10	NorthWestern Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.70	10.1%	$ 1,756.2	1.75%	11.8%
11	Pepco Holdings	2.3%	10.4%	12.7%	4.0%	8.7%	0.80	11.0%	$ 5,101.6	1.19%	12.1%
12	PG&E Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.60	9.2%	$ 19,464.3	0.80%	10.0%
13	SCANA Corp.	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 6,895.0	0.93%	11.4%
14	Sempra Energy	2.3%	10.4%	12.7%	4.0%	8.7%	0.75	10.5%	$ 22,973.6	-0.33%	10.2%
15	UIL Holdings	2.3%	10.4%	12.7%	4.0%	8.7%	0.85	11.4%	$ 2,011.5	1.75%	13.1%
	Average							**10.6%**			**11.6%**
	Midpoint (g)							**10.5%**			**11.6%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).

(c) Average yield on 30-year Treasury bonds for 2014 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(d) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).

(e) www.valueline.com (retrieved Mar. 3, 2014).

(f) Morningstar, "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(g) Average of low and high values.

COMBINATION GROUP

		(a)	(b)		(c)		(d)		(e)	(f)	
		Market Return (R_m)									
	Company	Div Yield	Proj. Growth	Cost of Equity	Risk-Free Rate	Risk Premium	Beta	Unadjusted K_e	Market Cap	Size Adjustment	Implied Cost of Equity
1	Ameren Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.85	11.5%	$ 9,740.4	0.80%	12.3%
2	Avista Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 1,766.7	1.75%	12.4%
3	Black Hills Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.90	11.9%	$ 2,505.8	1.72%	13.6%
4	CMS Energy Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.70	10.3%	$ 7,514.5	0.93%	11.2%
5	DTE Energy Co.	2.3%	10.4%	12.7%	4.6%	8.1%	0.85	11.5%	$ 12,595.0	0.80%	12.3%
6	Duke Energy Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.70	10.3%	$ 49,723.6	-0.33%	9.9%
7	Empire District Elec	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 1,010.4	2.48%	13.1%
8	Entergy Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 11,368.7	0.80%	11.5%
9	Exelon Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 25,852.8	-0.33%	10.3%
10	NorthWestern Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.70	10.3%	$ 1,756.2	1.75%	12.0%
11	Pepco Holdings	2.3%	10.4%	12.7%	4.6%	8.1%	0.80	11.1%	$ 5,101.6	1.19%	12.3%
12	PG&E Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.60	9.4%	$ 19,464.3	0.80%	10.2%
13	SCANA Corp.	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 6,895.0	0.93%	11.6%
14	Sempra Energy	2.3%	10.4%	12.7%	4.6%	8.1%	0.75	10.7%	$ 22,973.6	-0.33%	10.3%
15	UIL Holdings	2.3%	10.4%	12.7%	4.6%	8.1%	0.85	11.5%	$ 2,011.5	1.75%	13.2%
	Average							**10.8%**			**11.7%**
	Midpoint (g)							**10.7%**			**11.8%**

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retreived Apr. 7, 2014).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from http://finance.yahoo.com (retrieved Apr. 10, 2014).

(c) Average yield on 30-year Treasury bonds for 2014-2018 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (Feb. 21, 2014); IHS Global Insight, U.S. Economic Outlook at 25 (Nov. 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 12 (Dec. 1, 2013).

(d) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).

(e) www.valueline.com (retrieved Mar. 3, 2014).

(f) Morningstar, "2014 Ibbotson SBBI Market Report," at Table 10 (2014).

(g) Average of low and high values.

EXPECTED EARNINGS APPROACH **Exhibit AMM-13**

GAS GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	AGL Resources	6.0%	1.029157	6.2%
2	Atmos Energy Corp.	8.5%	1.046952	8.9%
3	Laclede Group	13.0%	1.025166	13.3%
4	New Jersey Resources	12.5%	1.026608	12.8%
5	NiSource, Inc.	10.0%	1.008072	10.1%
6	Northwest Natural Gas	10.5%	1.019535	10.7%
7	Piedmont Natural Gas	11.0%	1.02096	11.2%
8	South Jersey Industries	15.5%	1.034364	16.0%
9	Southwest Gas Corp.	10.5%	1.027363	10.8%
10	WGL Holdings, Inc.	10.0%	1.211762	12.1%
	Average (d)			**11.8%**
	Midpoint (e)			**12.5%**

(a) The Value Line Investment Survey (Mar. 7, 2014).

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

(c) (a) x (b).

(d) Excludes highlighted figures.

(e) Average of low and high values.

COMBINATION GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	Ameren Corp.	9.0%	1.022334	9.2%
2	Avista Corp.	9.0%	1.023657	9.2%
3	Black Hills Corp.	10.0%	1.022928	10.2%
4	CMS Energy Corp.	13.0%	1.032082	13.4%
5	DTE Energy Co.	10.0%	1.026938	10.3%
6	Duke Energy Corp.	8.0%	1.014007	8.1%
7	Empire District Elec	9.0%	1.023952	9.2%
8	Entergy Corp.	9.0%	1.015974	9.1%
9	Exelon Corp.	7.5%	1.017338	7.6%
10	NorthWestern Corp.	9.5%	1.026917	9.8%
11	Pepco Holdings	8.0%	1.020625	8.2%
12	PG&E Corp.	8.5%	1.024608	8.7%
13	SCANA Corp.	10.0%	1.040133	10.4%
14	Sempra Energy	11.0%	1.023904	11.3%
15	UIL Holdings	10.5%	1.020714	10.7%
	Average (d)			**9.7%**
	Midpoint (e)			**10.5%**

(a) The Value Line Investment Survey (Jan. 31, Feb. 21 & Mar. 21, 2014).

(b) Adjustment to convert year-end return to an average rate of return from Exhibit AMM-7.

(c) (a) x (b).

(d) Excludes highlighted figures.

(e) Average of low and high values.

DIVIDEND YIELD

	Company	(a) Price	(b) Dividends	Yield
1	Becton, Dickinson	$ 115.57	$ 2.18	1.9%
2	Church & Dwight	$ 68.18	$ 1.24	1.8%
3	Coca-Cola Co.	$ 38.34	$ 1.22	3.2%
4	Colgate-Palmolive	$ 63.40	$ 1.48	2.3%
5	ConAgra Foods, Inc.	$ 29.68	$ 1.05	3.5%
6	Gen'l Mills	$ 50.78	$ 1.64	3.2%
7	Hormel Foods	$ 47.59	$ 0.80	1.7%
8	Kellogg	$ 61.73	$ 1.84	3.0%
9	Kimberly-Clark	$ 109.78	$ 3.36	3.1%
10	McCormick & Co.	$ 68.27	$ 1.51	2.2%
11	McDonald's Corp.	$ 96.52	$ 3.24	3.4%
12	McKesson Corp.	$ 178.55	$ 0.96	0.5%
13	Pepsico, Inc.	$ 81.55	$ 2.62	3.2%
14	Proctor & Gamble Co.	$ 78.98	$ 2.41	3.1%
15	Sherwin-Williams Co.	$ 200.36	$ 2.30	1.1%
16	Smucker (J.M.) Co.	$ 97.46	$ 2.36	2.4%
17	Verizon	$ 47.08	$ 2.12	4.5%
18	Wal-Mart Stores	$ 75.36	$ 2.00	2.7%
	Average			**2.6%**

(a) Average of closing prices for 30 trading days ended Apr. 4, 2014.
(b) The Value Line Investment Survey, Summary & Index (Mar. 28, 2014).

GROWTH RATES

		(a)	(b)	(c)	(d)
		Earnings Growth Rates			
	Company	**V Line**	**IBES**	**Zacks**	**Reuters**
1	Becton, Dickinson	8.5%	8.9%	9.1%	9.0%
2	Church & Dwight	10.5%	10.8%	10.9%	10.8%
3	Coca-Cola Co.	8.0%	6.4%	7.4%	6.4%
4	Colgate-Palmolive	10.5%	8.7%	8.6%	8.7%
5	ConAgra Foods, Inc.	11.0%	8.5%	7.2%	8.5%
6	Gen'l Mills	6.5%	7.3%	7.2%	7.3%
7	Hormel Foods	11.5%	11.0%	8.0%	NA
8	Kellogg	7.5%	6.0%	7.0%	6.0%
9	Kimberly-Clark	8.5%	7.3%	7.5%	7.3%
10	McCormick & Co.	8.5%	8.3%	8.1%	8.3%
11	McDonald's Corp.	7.0%	7.8%	8.8%	8.2%
12	McKesson Corp.	14.0%	19.3%	14.0%	19.3%
13	Pepsico, Inc.	8.5%	7.6%	7.7%	7.6%
14	Proctor & Gamble Co.	8.0%	8.7%	8.5%	8.7%
15	Sherwin-Williams Co.	15.5%	14.4%	13.3%	14.4%
16	Smucker (J.M.) Co.	8.5%	7.5%	7.3%	7.5%
17	Verizon	8.0%	5.8%	10.1%	5.8%
18	Wal-Mart Stores	7.5%	8.3%	8.6%	8.3%

(a) The Value Line Investment Survey (Jan. 24, Jan 31, Feb. 7, Feb. 21, Feb. 28 Mar. 21, & Mar. 28, 2014).

(b) www.finance.yahoo.com (retrieved Apr. 7, 2014).

(c) www.zacks.com (retrieved Apr. 7, 2014).

(d) www.reuters.com/finance/stocks (retrieved Apr. 7, 2014).

DCF COST OF EQUITY ESTIMATES

			(a)	(a)	(a)	(a)
			Cost of Equity Estimates			
	Company	**Industry Group**	**V Line**	**IBES**	**Zacks**	**Reuters**
1	Becton, Dickinson	Medical Supplies	10.4%	10.7%	11.0%	10.9%
2	Church & Dwight	Household Products	12.3%	12.6%	12.7%	12.6%
3	Coca-Cola Co.	Beverage	11.2%	9.6%	10.6%	9.6%
4	Colgate-Palmolive	Household Products	12.8%	11.0%	10.9%	11.0%
5	ConAgra Foods, Inc.	Food Processing	14.5%	12.0%	10.7%	12.0%
6	Gen'l Mills	Food Processing	9.7%	10.5%	10.4%	10.5%
7	Hormel Foods	Food Processing	13.2%	12.7%	9.7%	NA
8	Kellogg	Food Processing	10.5%	9.0%	10.0%	9.0%
9	Kimberly-Clark	Household Products	11.6%	10.3%	10.6%	10.3%
10	McCormick & Co.	Food Processing	10.7%	10.5%	10.3%	10.5%
11	McDonald's Corp.	Restaurant	10.4%	11.1%	12.2%	11.5%
12	McKesson Corp.	Medical Supplies	14.5%	19.8%	14.5%	19.8%
13	Pepsico, Inc.	Beverage	11.7%	10.8%	10.9%	10.8%
14	Proctor & Gamble Co.	Household Products	11.1%	11.8%	11.6%	11.8%
15	Sherwin-Williams Co.	Retail Building Supply	16.6%	15.6%	14.4%	15.6%
16	Smucker (J.M.) Co.	Food Processing	10.9%	9.9%	9.7%	9.9%
17	Verizon	Telecommunications	12.5%	10.3%	14.6%	10.3%
18	Wal-Mart Stores	Retail Store	10.2%	11.0%	11.3%	11.0%
	Average (b)		**11.9%**	**11.6%**	**11.5%**	**11.6%**
	Midpoint (c)		**13.2%**	**12.3%**	**12.1%**	**12.3%**

(a) Sum of dividend yield (Exhibit AMM-14, p. 1) and respective growth rate (Exhibit AMM-14, p. 2).
(b) Excludes highlighted figures.
(c) Average of low and high values.