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| **Exhibit No.** | |
| **Issue:** | **Cost of Equity Capital, Capital Structure, Overall Return** |
| | **Stephen G. Hill** |
| **Type of Exhibit:** | **Direct Testimony** |
| **Sponsoring Party:** | **Veolia Energy Kansas City Inc.** |
| **Case No.** | **HR-2014-0066** |
| **Date:** | **November 27, 2013** |

**BEFORE THE PUBLIC SERVICE COMMISSION**

**STATE OF MISSOURI**

# DIRECT TESTIMONY

**OF**

**STEPHEN G. HILL**

**VEOLIA ENERGY KANSAS CITY, INC.**

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STEPHEN G. HILL



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**BEFORE THE PUBLIC SERVICE COMMISSION**
**OF THE STATE OF MISSOURI**
**DIRECT TESTIMONY OF STEPHEN G. HILL**
**ON BEHALF OF VEOLIA ENERGY KANSAS CITY, INC.**
**CASE NO. HR-2014-0066**

## INTRODUCTION / SUMMARY

Q. PLEASE STATE YOUR NAME, OCCUPATION AND ADDRESS.

A. My name is Stephen G. Hill. I am self-employed as a financial consultant, and principal of Hill Associates, a consulting firm specializing in financial and economic issues in regulated industries. My business address is P. O. Box 587, Hurricane, West Virginia, 25526 (e-mail: hillassociates@gmail.com).

Q. BRIEFLY, WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. After graduating with a Bachelor of Science degree in Chemical Engineering from Auburn University in Auburn, Alabama, I was awarded a scholarship to attend Tulane Graduate School of Business Administration at Tulane University in New Orleans, Louisiana. There I received a Master's Degree in Business Administration. More recently, I have been awarded the professional designation, "Certified Rate of Return Analyst" by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. I have also been a member of the Board of Directors of that national organization for several years, and am currently the Vice President. A more detailed account of my educational background and occupational experience appears in Appendix A.

Q. HAVE YOU TESTIFIED BEFORE THIS OR OTHER REGULATORY COMMISSIONS?

A. Yes, I have testified in this regulatory jurisdiction and, over the past 30 years, I have

testified on cost of capital, corporate finance and capital market issues in more than 300 regulatory proceedings before the following regulatory bodies: the West Virginia Public Service Commission, the Pennsylvania Public Utilities Commission, the Oklahoma State Corporation Commission, the Public Utilities Commission of the State of California, the Texas Public Utilities Commission, the Maryland Public Service Commission, the Public Utilities Commission of the State of Minnesota, the Ohio Public Utilities Commission, the Insurance Commissioner of the State of Texas, the North Carolina Insurance Commissioner, the Rhode Island Public Utilities Commission, the City Council of Austin, Texas, the Texas Railroad Commission, the Arizona Corporation Commission, the Missouri Public Service Commission, the South Carolina Public Service Commission, the Public Utilities Commission of the State of Hawaii, the New Mexico Corporation Commission, the Kentucky Public Service Commission, the Massachusetts Department of Public Utilities, the State of Washington Utilities and Transportation Commission, the Alabama Public Service Commission, the Georgia Public Service Commission, the Public Service Commission of Utah, the Illinois Commerce Commission, the Kansas Corporation Commission, the Indiana Utility Regulatory Commission, the Washington Utilities and Transportation Commission, the Montana Public Service Commission, the Public Service Commission of the State of Maine, the Public Service Commission of Wisconsin, the Vermont Public Service Board, the Federal Communications Commission and the Federal Energy Regulatory Commission. I have also testified before the West Virginia Air Pollution Control Commission regarding appropriate pollution control technology and its financial impact on the company under review and have been an advisor to the Arizona Corporation Commission on matters of utility finance.

Q. ON BEHALF OF WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the applicant in this proceeding, Veolia Energy Kansas City, Inc. (Veolia, the Company). The Company is a subsidiary of Thermal North America, Inc. (TNAI, the intermediate parent), which is a direct subsidiary of Veolia Energy North America Holdings, Inc. (VENAH, the parent). VENAH, in turn, is a subsidiary of Veolia Environment North America Operations, Inc. (VENAO), which the houses the North

American operations of Veolia Environment S.A. (NYSE: VE), a multi-national corporation, headquartered in France that specializes in four areas: water, energy, transportation and environmental services.

Q. CAN YOU BRIEFLY DESCRIBE THE REGULATED OPERATIONS OF VEOLIA ENERGY KANSAS CITY?

A. Veolia Energy Kansas City provides steam to customers in the downtown loop area of Kansas City, Missouri. Veolia Missouri, a sister company to Veolia Energy Kansas City, supplies chilled water to customers in the same area, but that service is not regulated. The primary heat-generation facility, which is coal-fired, is Veolia's Grand Avenue Station. Additional natural gas-fired capacity is available to support reliable service. Veolia sells steam to customers in downtown Kansas City.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been retained by the Company to present a cost of capital analysis for its regulated steam heating utility operations in Kansas City, Missouri. As part of my analysis, I will recommend and testify to the overall rate of return that I believe should be utilized in determining regulated rates for the steam heating operations of the Company in this proceeding.

Q. MR. HILL, PRIOR TO YOUR TESTIMONY IN THIS PROCEEDING, HAVE YOU EVER TESTIFIED ON BEHALF OF A UTILITY IN A REGULATED RATE PROCEEDING?

A. Yes. I have testified previously on behalf of this utility. However, the vast majority of my prior testimony has been on behalf of public service commissions, consumer advocates or state attorneys general, i.e., representing regulatory/ratepayer interests.

Q. IS YOUR COST OF EQUITY RECOMMENDATION IN THIS PROCEEDING ANY DIFFERENT FROM WHAT IT WOULD BE IF YOU WERE TESTIFYING FOR REGULATORY/RATEPAYER INTERESTS?

A. No. As I will explain in more detail subsequently, in my opinion a reasonable proxy for the utility operations of Veolia is the market-based cost of capital of gas distribution utility operations. In determining the cost of equity appropriate for Veolia, my analytical methods used in estimating the cost of equity capital for the Company are no different than they would be for any other client.

Q. HAVE YOU PREPARED SCHEDULES IN SUPPORT OF YOUR TESTIMONY?

A. Yes. Attached to this testimony, in Exhibit__(SGH-1), are 10 Schedules that provide the analytical support for the conclusions reached regarding the forward-looking overall cost of capital for Veolia's steam heating utility operations presented in the body of this testimony. Also, I have attached three Appendices ("A" through "C"), which contain additional detail regarding certain aspects of my narrative testimony in this proceeding. These Schedules and Appendices were prepared by me and are correct to the best of my knowledge and belief.

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND FINDINGS CONCERNING THE RATE OF RETURN THAT SHOULD BE UTILIZED IN SETTING RATES FOR VEOLIA'S UTILITY OPERATIONS IN THIS PROCEEDING.

A. My testimony is organized into three sections. First, I discuss the cost of capital standard as a measure of the return to be allowed for regulated industries, and review the current economic environment in which the equity return estimate is made. Second, I review the Company's actual capital structure in comparison to capital structures employed by the energy utility industry, generally.

Third, I evaluate the cost of equity capital for similar-risk operations using Discounted Cash Flow (DCF), Capital Asset Pricing Model (CAPM), Modified Earnings-Price Ratio (MEPR), and Market-to-Book Ratio (MTB) analyses.

I have estimated the equity capital cost of gas distribution utility operations similar in operating (business) risk to those of Veolia-Kansas City to be in the range of 8.50% to 9.25%. As I explain in more detail in the body of my testimony, Veolia's actual capital structure is not reliable for ratemaking purposes and I am recommending the use

of a capitalization similar to that of the utility industry in general. That capital structure contains 48.0% common equity and 52.0% long-term debt. Also, the Company's parent, VENAH, has a bond rating of "BBB", which is below the average bond rating of the gas distribution utility companies used to estimate the cost of equity capital (between "A" and "A-"). Therefore, a reasonable estimate of the current cost of equity capital for the Company would be at the upper end of a range of equity costs appropriate for the sample group—9.25%. Utilizing a 9.25% equity cost rate with a current marginal cost rate of long-term utility debt, and the industry-average capital structure noted above, produces an after-tax overall cost of capital for Veolia's utility operations of 7.16% (see Schedule 10). That after-tax overall return, assuming the Company experiences prospectively a 40% combined Federal and State income tax rate of 40%, will afford the Company an opportunity to attain a pre-tax interest coverage level of 3.72 times.

Q. WHY SHOULD THE COST OF CAPITAL SERVE AS A BASIS FOR THE PROPER ALLOWED RATE OF RETURN FOR A REGULATED FIRM?

A. The Supreme Court of the United States has established, as a guide to assessing an appropriate level of profitability for regulated operations, that investors in such firms are to be given an opportunity to earn returns that are sufficient to attract capital and are comparable to returns investors would expect in the unregulated sector for assuming the same degree of risk. The Bluefield and Hope cases provide the seminal decisions [Bluefield Water Works v. PSC, 262 US 679 (1923); FPC v. Hope Natural Gas Company, 320 US 591 (1944)]. These criteria were restated in the Permian Basin Area Rate Cases, 390 US 747 (1968). However, the Court also makes quite clear in Hope that regulation does not guarantee profitability and, in Permian Basin that, while investor interests (profitability) are certainly pertinent to setting adequate rates, those interests do not exhaust the relevant considerations.

As a starting point in the rate-setting process, then, the cost of capital of a regulated firm represents the return investors could expect from other investments, while assuming no more and no less risk. Since financial theory holds that investors will not provide capital for a particular investment unless that investment is expected to yield

their opportunity cost of capital, the correspondence of the cost of capital with the Court's guidelines for appropriate earnings is clear.

## I. ECONOMIC ENVIRONMENT

Q. WHY IS IT IMPORTANT TO REVIEW THE ECONOMIC ENVIRONMENT IN WHICH AN EQUITY COST ESTIMATE IS MADE?

A. The cost of equity capital is an expectational, or *ex ante*, concept. In seeking to estimate the cost of equity capital of a firm, it is necessary to gauge investor expectations with regard to the relative risk and return of that firm, as well as that for the particular risk-class of investments in which that firm resides. Because this exercise is, necessarily, based on understanding and accurately assessing investor expectations, a review of the larger economic environment within which the investor makes his or her decision is most important. Investor expectations regarding the strength of the U.S. economy, the direction of interest rates and the level of inflation (factors that are determinative of capital costs) are key building blocks in the investment decision. The analyst and the regulatory body should review those factors in order to accurately assess investors' required return—the cost of equity capital to the regulated firm.

Q. WHAT ARE THE INDICATIONS WITH REGARD TO THE COST OF CAPITAL IN THE CURRENT MARKET ENVIRONMENT?

A. Although four years have passed since the events of late 2008 and early 2009, any review of the current economic environment and the current cost of capital must take into account what was the most significant disruption in the financial markets since the Great Depression in the 1930s. In the tumultuous economic environment that existed during the third and fourth quarters of 2008 and early 2009, the signals with regard to the cost of capital were difficult to discern. Stock prices fell dramatically, increasing dividend yields, which would indicate increasing capital costs if expected growth rates were constant. However, fundamental indicators of capital cost rates—long-term U.S. Treasury bond yields—declined, signaling that investors actually required and expected

lower returns during that difficult economic time.

As shown in Chart I below, over the past decade there have been wide fluctuations in *short-term* interest rate levels as the Federal Reserve Board (the Fed) raised and lowered the Federal Funds rate to slow down and encourage (respectively) economic growth. However, *long-term* interest rates have ranged from 3.5% to 5% over most of that time, with a slow downward trend. As a result of that 2008/2009 economic downturn, long-term Treasury bond yields dipped, for a time, below the lower end of that historical range as the protection against default available with Treasury bonds caused investors to turn to U.S. government bonds as a "safe haven." As the economic downturn moderated and a modest recovery began to appear in 2010, long-term T-bond yields returned to their historical trend.

In the latter part of 2012, concerns about the international banking industry, centered primarily on the smaller economies in the European Union, caused long-term Treasury yields to dip below historical trends, as shown in Chart I. However, in mid-year, 2013 the expectation that the Fed would begin to reduce its secondary market purchases of Treasury securities in order to reduce yields, caused long-term Treasury prices to fall and yields to increase to levels that exceeded the long-term trend. According to the most recent Federal Reserve Statistical Release H.15, the average 30-year T-Bond yield in September 2013 was approximately 3.8%.[1]

The interest rate data in Chart I also indicate that the Fed lowered short-term interest rates to near zero to attempt to lessen the impact of the recession and, continues to take a very accommodative stance regarding monetary policy, with short-term T-Bills yielding a near zero. The Fed has also announced its intention to keep short-term rates low until unemployment declines significantly. Therefore, fundamental long-term capital costs have not increased as a result of the financial crisis in 2008/09 and, in fact, are currently in line with the long-term downward trend in capital costs that began prior to the financial crisis.

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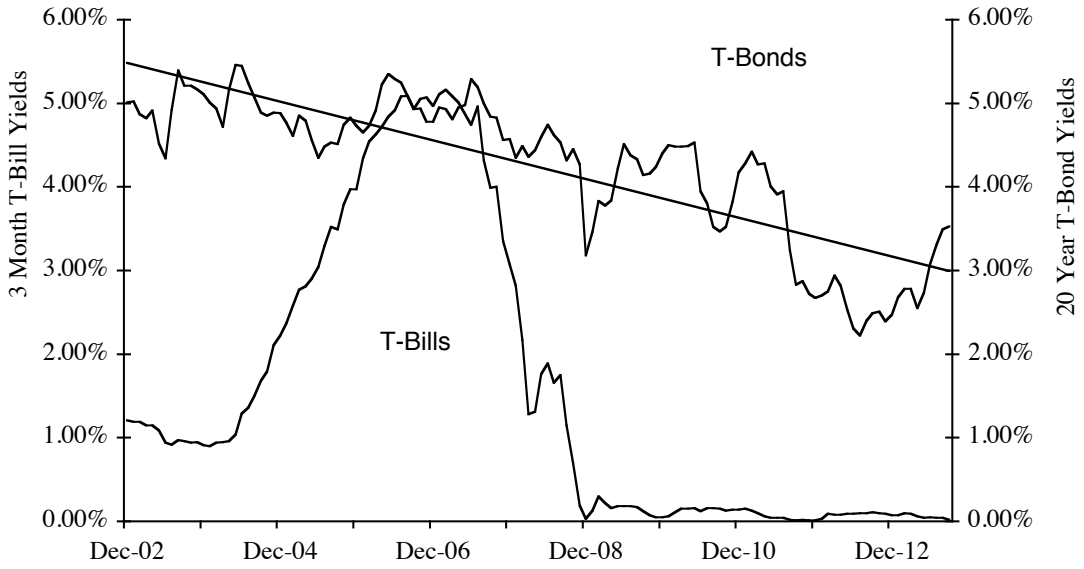
[1] http://www.federalreserve.gov/Releases/H15/Current/, October 28, 2013.

Chart I.

Relative U.S. Treasury Interest Rate Changes




Data from Federal Reserve Statistical Release H.15

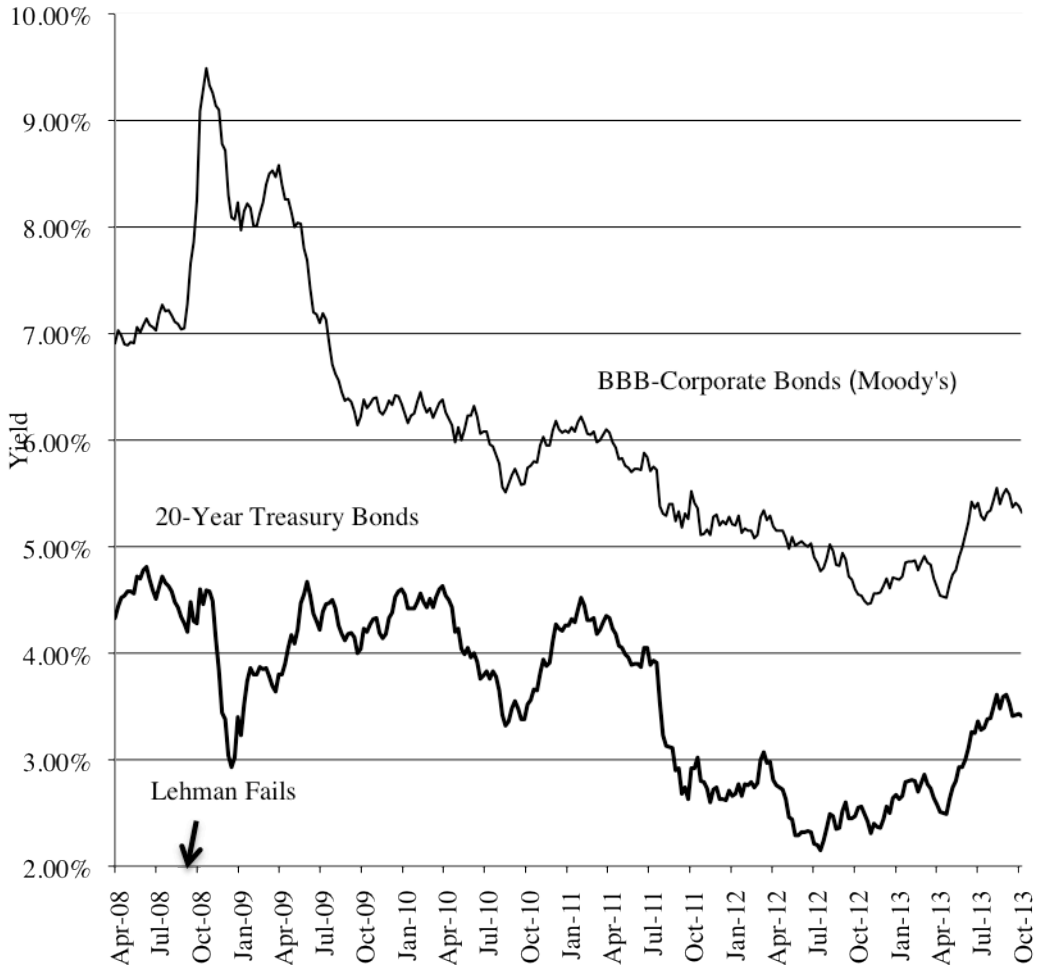
Because the market for U.S. Treasury securities remained liquid throughout the 2008/09 financial crisis and because the liquidity crisis existing during that crisis has subsided, it is reasonable to believe that the recent yields (approximately 3.5%) on long-term (20-year) Treasuries are representative of investors' current long-term risk-free return expectations. Therefore, this fundamental building block of capital costs (long-term T-bond yields) provides an indication that in the current economic environment, capital costs are somewhat lower than they were prior to the economic troubles of late 2008 and early 2009.

However, a review of corporate bond yield history indicates that, during the financial crisis of 2008/2009 declining yields was not the case with corporate bonds. Following the demise of Lehman Brothers and the near-collapse of the financial industry in the U.S. and abroad due to enormous debt obligations related to mortgage-back securities and credit default swaps—even with the commitment of government support of the successor financial institutions—there was a temporary lack of liquidity in the

corporate sector of the bond market. The banks, investment brokerage firms, and other institutional investors were holding on to capital in order to shore up their own balance sheets rather than re-injecting those monies into the financial system through lending (buying corporate debt). As a result, even though the Fed was driving down short-term Treasury rates to provide additional liquidity for the economy in general, that liquidity was not passed through to the corporate bond market and, with a lack of capital supply, corporate bond yields increased in late 2008 and early 2009. The relative movement of BBB-rated corporate bond yields and U.S. Treasury yields is shown in Chart II, below.

Chart II

Financial Crisis: Bond Yield Changes




Following the failure of Lehman Brothers, as the full extent of the debt/derivative

risk overhang in the financial industry became known, BBB-rated corporate bond yields began to increase, even as long-term Treasury yields remained relatively steady at about 4.5%. According to the database of the Federal Reserve, BBB-rated corporate bond yields rose dramatically by 250 basis points as the risk of default, and the nervousness of investors increased.

As liquidity began to be restored to the bond markets, initially through direct government intervention and subsequently through the return of modestly positive economic growth, corporate bond yields have declined substantially from the highs established in the fall of 2008. Over the past couple of years, investors' concerns have eased, the stock market has rebounded, and corporate bond yields have declined well below pre-crisis levels. As a result, the yield spread differential between corporate bonds and long-term Treasury securities, while still slightly elevated from historical levels, has declined to a more normal level. Therefore, because both the absolute level of the risk-free rate and the yield spread between Treasury bonds and corporate bonds have declined since the financial crisis, any concerns that the 2008/09 financial crisis implies continuing financial difficulty in the U.S. capital markets for utilities would be unfounded.

On balance, then, the fixed-income data available in the financial marketplace indicate that while there were technical difficulties in the corporate bond market that drove up yields for a period of time, those difficulties have not proven to be a long-term phenomenon and the high corporate bond yields experienced in the latter part of 2008 and early 2009 do not represent investors' long-term expectations. Those data also indicate that investors' required return for a risk-free investment and for corporate debt remains low by historical standards.

Q. WHAT IS THE CURRENT EXPECTATION WITH REGARD TO THE ECONOMY AND INTEREST RATES?

A. As Value Line notes in its most recent Quarterly Review (quoted below), the current expectation for the U.S. economy is that recovery from the recent economic recession is likely to continue at a moderate pace, which will allow core inflation to remain moderate. Moreover, the Fed is expected to keep interest rates low for at least the next two years.

> **Economic Growth:** Overall, we estimate that GDP will increase by 1.8% in the current three months and then by 2.3% in the final period. We note, however, that the forecast assumes that no sustained budget impasse will evolve out of the contentious dealings in Washington, and that few surprises will take hold internationally. This latter assumption is always a tremendous one.
>
> **Inflation**: This is one notable area of stability, as the nation continues to bask in the glow of benign pricing. In truth, the past decade has seen more intermittent worries about disinflation or deflation and inflation. Irregular economic growth, weak labor market metrics, and the lack of shortages in the basic materials and commodities have been key factors in this long run of pricing stability. Low inflation, in addition to helping extend economic upturns, by not creating the excesses that can destabilize a business cycle, also give the Federal Reserve the latitude necessary to sustain the monetary policies that it believes are appropriate for such an environment.
>
> **Interest Rates:** As noted, the Fed continues to pursue policies that are accommodative. In fact, not only are short-term interest-rate targets—which the Fed controls directly—at historic lows, but yields of longer-dated issues have been driven down in an effort to boost business and consumer outlays. A key mechanism for driving long-term rates lower has been the popular bond-buying program, an undertaking the Fed suggests it will start to taper later this year…As to increasing short-term interest rates, we sense that the bank will hold off on such a move until 2015. (The Value Line Investment Survey, *Selection & Opinion*, August 23, 2013, p. 788.)

In that most recent Quarterly Economic Review cited above, Value Line projects long-term Treasury bond rates will average 4.1% through 2014 and 4.5% in 2015. As noted previously, the Fed's Statistical Release H.15 indicates that the average 30-year Treasury bond yield in September 2013 was 3.8%.

Therefore, the indicated expectation with regard to long-term interest rates is that they are expected to move slightly higher in the future, provided the economic recovery continues to advance at a moderate pace. Simply put, due to the moderate pace of the

economy and relatively low core inflation, capital costs are low and are expected to remain low until the economy shows more rapid growth, which Value Line now expects to occur "toward the end of the decade." If and when the long-awaited and often-predicted economic recovery does eventually appear, interest rates and capital costs are expected to increase moderately.

Q. IS IT REASONABLE TO CONLUDE THAT UTILITY INVESTORS ARE AWARE OF THE EXPECTATIONS FOR SOMEWHAT HIGHER INTEREST RATES IN THE FUTURE, AND HAVE REACTED TO THAT NEWS?

A. Yes. A widely accepted tenet of modern finance is that U.S. capital markets are efficient in quickly assimilating into stock prices news that impacts stock valuation. Higher interest rates have been forecast for some time and, it is reasonable to believe, utility investors have incorporated that expectation into the stock prices they are willing to provide for utility stocks. Therefore, when estimating the cost of equity capital it is necessary to consider current interest rate levels, not projected levels, because current interest rates best represent investors' current expectations for the future.

## II. CAPITAL STRUCTURE

Q. HOW IS VEOLIA ENERGY KANSAS CITY CAPITALIZED?

A. As shown on page 1 of Schedule 1 attached to my testimony, over the most recent five quarters, Veolia Energy Kansas City, due to operating losses, has had negative common equity balances. Therefore, a capital structure for the Company is not calculable and does not provide a capital structure appropriate for ratemaking consideration.

Page 2 of Schedule 2 shows that VENAH's (Veolia Energy Kansas City's parent company) consolidated capital structure over the last five quarters has equity balances that are also very low and approximate 1% of total capital. This, too, is an unacceptable ratemaking capital structure that would be too risky for the Company and is not representative of the manner in which energy utilities are capitalized in today's markets.

Q. HOW ARE ENERGY UTILITIES CAPITALIZED TODAY?

A. Page 3 of Schedule 1 shows that the recent average common equity ratio of the gas industry (distribution and integrated companies) is approximately 50.24% of total capital. Also, the average capital structure of the gas distribution utilities used as a proxy to model the Company's cost of equity capital is nearly identical, at 50.23% of total capital.

Page 4 of Schedule 1 shows that the current average common equity ratio of the electric utility industry is 46.4%, and the average common equity ratio for the combination gas and electric utility industry is 45.3% of total capital. The overall average common equity ratio for the entire electric industry, then, is 45.7% of total capital.

Page 5 of Schedule 1 shows that the average common equity ratio of the market-traded water utility companies in the U.S. is approximately 51% of total capital.

Q. WHAT ARE THE REGULATORY OPTIONS WITH REGARD TO DETERMINING A RATEMAKING CAPITAL STRUCTURE?

A. There are two options. First, the actual capital structure can be used to calculate the overall cost of capital. That is the preferred option in that it is more likely to produce rates that mirror the firm's actual costs—a primary goal of regulation.

However, when the actual capital structure for a firm is not appropriate for ratemaking, as is the case with the Company in this proceeding, the second regulatory treatment is to use a hypothetical or imputed capital structure, which balances the interests of the Company and its ratepayers by recognizing in rates the manner in which other market-traded utility companies are capitalized.

In Case No. HR-2008-0300, the Missouri Commission Staff recommended the use of the average capital structure of the proxy group of gas distributors used to estimate the cost of equity capital, as the basis for determining the overall cost of capital for the Company. I believe that is a reasonable approach in this instance.

Q. WHAT IS YOUR RECOMMENDATION WITH REGARD TO THE CAPITAL STRUCTURE THAT SHOULD BE USED IN DETERMINING THE OVERALL CAPITAL COSTS TO BE USED IN SETTING RATES IN THIS PROCEEDING?

A. I believe a ratemaking capital structure based on the average capital structures currently existing for market traded energy utilities (approximately 46% for electric utilities and 50% for gas and water utilities) would provide a reasonable basis for setting rates for Veolia's utility operations in Kansas City. For purposes of determining the overall cost of capital in this proceeding, then, I will use a ratemaking capital structure consisting of 48.0% common equity and 52.0% long-term debt.

Q. WHAT VALUE DID YOU USE FOR THE COST OF DEBT?

A. I am recommending that the current average yield on BBB-rated long-term utility debt be used as the debt cost rate in this proceeding. The Company's ultimate parent, Veolia Environment S.A. has a bond rating of "BBB+" from S&P and "Baa1" from Moody's. While that bond rating is far above what the Company would receive given its current capital structure, the use of a cost rate associated with a triple-B bond rating is reasonable for ratemaking purposes due to the imputation of an industry-average capital structure.

The six most recent editions of Value Line's *Selection & Opinion* (September 20, 2013 through October 25, 2013) indicate an average yield on BBB-rated 20 to 30-year debt of 5.24%. I will use that value as the Company's imputed cost of long-term debt.[2]

Q. DOES THIS CONCLUDE YOUR DISCUSSION OF CAPITAL STRUCTURE ISSUES?

A. Yes, it does.

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[2] In prior cases, the Staff estimated the average debt cost of the sample group of gas distributors as a proxy for the Company's debt cost rate. While that is certainly a legitimate alternative approach, I believe the use of a widely published recent average yield for BBB-rated utility debt is a more straightforward, transparent methodology.

## III. METHODS OF EQUITY COST EVALUATION

### A. DISCOUNTED CASH FLOW MODEL

Q. PLEASE DESCRIBE THE DISCOUNTED CASH FLOW (DCF) MODEL YOU USED TO ARRIVE AT AN ESTIMATE OF THE COST RATE OF COMMON EQUITY CAPITAL FOR THE COMPANY IN THIS PROCEEDING.

A. The DCF model relies on the equivalence of the market price of the stock (P) with the present value of the cash flows investors expect from the stock, and assumes that the percentage rate which discounts the future cash flows (dividends) to the present value (the stock price) equals the cost of capital. The total return to the investor, which equals the required return according to this theory, is the sum of the dividend yield and the expected growth rate in the dividend.

The theory is represented by the equation,

$$k = D/P + g, \qquad (1)$$

where "k" is the equity capitalization rate (cost of equity, required return), "D/P" is the dividend yield (dividend divided by the stock price) and "g" is the expected sustainable growth rate.

Q. WHAT GROWTH RATE (g) DID YOU ADOPT IN DEVELOPING YOUR DCF COST OF COMMON EQUITY FOR THE GAS UTILITIES?

A. The growth rate variable in the traditional DCF model is quantified, theoretically, as the dividend growth rate investors expect to continue into the indefinite future. The DCF model is actually derived by 1) considering the dividend a growing perpetuity, that is, a payment to the stockholder which grows at a constant rate indefinitely, and 2) calculating the present value (the current stock price) of that perpetuity. The model also assumes that the company whose equity cost is to be measured exists in a steady state environment, i.e., the payout ratio and the expected return are constant and the earnings, dividends,

book value and stock price all grow at the same rate, forever.

While that assumption seems unrealistic because, in the short term, growth rates in those parameters (dividends, earnings and book value) can be quite different, over the long term it has proven to be true. For example, according to Value Line's published year-by-year retrospective of the Dow Jones Industrials Index (DJI) from 1920 through 2005, the average earnings, dividend and book value growth rates for the companies in the DJI over that time period were 5.3%, 4.9% and 5.2%.[3] For utility companies, over the long term, average growth rates in earnings, dividends and book value are even closer. Moody's Public Utility Manual reports that, between 1947 and 1999,[4] average growth in earnings, dividend and book value growth of Moody's Electric Utilities was 3.34%, 3.22% and 3.66%, respectively. Therefore, the fundamental DCF assumption that earnings, dividends and book value are expected to grow, over the long-term, at the same sustainable rate of growth is reasonable and is an accurate representation of how firms actually grow over time.

However, even though the long-term the fundamental assumptions of the DCF have proven to be sound, as with all mathematical models of real-world phenomena, the DCF theory does not precisely "track" reality in the shorter term. Payout ratios and expected equity returns as well as earnings and dividend growth rates do change over the short-term. Therefore, in order to properly apply the DCF model to any real-world situation and, in this case, to find the long-term sustainable growth rate called for in the DCF theory, it is essential to understand the determinants of long-run expected dividend growth.

Q. CAN YOU PROVIDE AN EXAMPLE TO ILLUSTRATE THE DETERMINANTS OF LONG-RUN EXPECTED DIVIDEND GROWTH?

A. Yes, in Appendix B, I provide an example of the determinants of a sustainable growth rate on which to base a reliable DCF estimate. In addition, in Appendix B, I show how reliance on earnings or dividend growth rates alone, absent an examination of the

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[3] www.valueline.com, Dow Jones Long Term Chart (PDF)

[4] Moody's ceased publication of its Public Utility Manual in 2001.

underlying determinants of long-run dividend growth, can produce inaccurate DCF results.

Q. HOW HAVE YOU DEVELOPED AN ESTIMATE OF THE EXPECTED GROWTH RATE FOR THE DCF MODEL?

A. While I have calculated both the historical and projected sustainable growth rates for a sample of utility firms with similar risk to Veolia, I have relied on other growth rate indicators as well. To estimate an appropriate DCF growth rate, I have also relied on published data regarding both historical and projected growth rates in earnings, dividends, and book value for the sample group of utility companies. Recall that DCF theory assumes that earnings, dividends and book value all grow at the same rate. Through an examination of all of those data, which are available to and used by investors, I estimate investors' long-term growth rate expectations. To that long-term growth rate estimate, I add any additional growth that is attributable to investors' expectations regarding the on-going sale of stock for each of the companies under review.

Q. WHY HAVE YOU USED THE TECHNIQUE OF ANALYZING THE MARKET DATA OF SEVERAL COMPANIES?

A. I have used the "similar sample group" approach to cost of capital analysis because it yields a more accurate determination of the cost of equity capital than does the analysis of the data of one individual company. Any form of analysis, in which the result is an estimate, such as growth in the DCF model, is subject to measurement error, i.e., error induced by the measurement of a particular parameter or by variations in the estimate of the technique chosen. When the technique is applied to only one observation (e.g., estimating the DCF growth rate for a single company) the estimate is referred to, statistically, as having "zero degrees of freedom." This means, simply, that there is no way of knowing if any observed change in the growth rate estimate is due to measurement error or to an actual change in the cost of capital. The degrees of freedom can be increased and exposure to measurement error reduced by applying any given estimation technique to a sample of companies rather than one single company.

Therefore, by analyzing a group of firms with similar characteristics, the estimated value (the growth rate and the resultant cost of capital) is more likely to equal the "true" value for that type of operation.

Q. HOW WERE THE SAMPLE COMPANIES SELECTED?

A. In selecting a sample of gas distribution firms to analyze, I screened all the gas distribution firms followed by Value Line. I selected companies from that group that had a continuous financial history and had 50% or more of revenues generated by gas distribution operations.[5] In addition, I eliminated companies that were in the process of merging or being acquired, or companies that had recently omitted dividends. The data for the gas sample group were obtained from the Value Line Investment Survey, *Ratings and Reports*, March 11, 2011, and A.U.S. Utility Reports, October 2013.

The companies included in the similar-risk sample group in this proceeding are AGL Resources (GAS), Atmos Energy Corporation (ATO), Laclede Group (LG), NiSource (NI), Northwest Natural Gas (NWNG), Piedmont Natural Gas Company (PNY), South Jersey Industries (SJI), Southwest Gas (SWX) and WGL Holdings (WGL). [Note: In the Schedules accompanying this testimony, the sample group companies are referred to by their stock ticker symbols.]

Q. HOW HAVE YOU CALCULATED THE DCF GROWTH RATES FOR THE SAMPLE OF COMPARABLE COMPANIES?

A. Schedule 2, pages 1 through 3, shows the retention ratios, equity returns, sustainable growth rates, book values per share and number of shares outstanding for the comparable companies for the past five years. Also included in the information presented in Schedule 2, are Value Line's projected 2013, 2014 and 2016-2018 values for equity return, retention ratio, book value growth rates and number of shares outstanding.

In evaluating these data, I first calculate the five-year average sustainable growth rate, which is the product of the earned return on equity (r) and the ratio of earnings

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[5] Many of the gas distributors have recently added energy merchant functions to their operations, lowering the percentage of revenues provided by regulated utility operations and increasing overall investment risk.

retained within the firm (b). For example, Schedule 2, page 1, shows that the five-year average sustainable growth rate for AGL Resources (GAS) is 3.54%. The simple five-year average sustainable growth value is used as a benchmark against which I measure the company's most recent growth rate trends. Recent growth rate trends are more investor influencing than are simple historical averages. Continuing to focus on GAS, we see that sustainable growth in 2012 was 2.00%—below the average growth for the five-year period. Those recent historical data, then, indicate a declining growth rate trend. By the 2016-2018 period, however, Value Line projects GAS's sustainable growth will reach a level above the recent five-year average—about 5%. These forward-looking data indicate that investors expect GAS to grow at a rate in the future greater than the growth rate that has existed, on average, over the past five years.

At this point I should note that, while the five-year projections are given consideration in estimating a proper growth rate because they are available to and are used by investors, they are not given sole consideration. Without reviewing all the data available to investors, both projected and historic, sole reliance on projected information may be misleading. Value Line readily acknowledges to its subscribers the subjectivity necessarily present in estimates of the future:

> "We have greater confidence in our year-ahead ranking system, which is based on proven price and earnings momentum, than in 3- to 5-year projections." (Value Line Investment Survey, Selection and Opinion, June 7, 1991, p.854).

Another factor to consider is that GAS's book value growth is expected to increase at a 5% level over the next five years, after increasing at a 5% rate historically. That signals steady growth for GAS. However, as shown on Schedule 3, page 2, that company's dividend growth rate, which was 6.5% historically, is expected to decline to a 4.5% rate of growth in the future—lower than the sustainable growth rate projections, and below historical levels. That information would tend to moderate investor expectations regarding growth in the future. Earnings growth rate data available from Value Line indicate that investors can expect an increase in the earnings growth rate in

the future (9%), higher than that which has existed historically (only 1.5%). However, that future earnings growth projected by Value Line is based on an expectation that the average ROEs realized historically (about 8.7%) will increase significantly in the projected period (to 11.5%). That increase in ROE and, thus, a 9% earnings growth rate are unlikely to be considered to be sustainable by investors. Also, Zack's (an investor advisory service that polls institutional analysts for growth earnings rate projections) projects earnings growth rate for GAS of approximately 4% over the next five years.

GAS's projected sustainable growth, as well as projected earnings growth indicates that investors can expect higher growth in the future similar to that which has occurred, on average, in the past, but not as high as the earnings growth Value Line projects. Those projections are moderated by an expectation of lower dividend growth. A long-term sustainable growth rate of 4.75% is a reasonable expectation for GAS.

Q. IS THE INTERNAL (b x r) GROWTH RATE THE FINAL GROWTH RATE YOU USE IN YOUR DCF ANALYSIS?

A. No. An investor's sustainable growth rate analysis does not end upon the determination of an internal growth rate from earnings retention. Investor expectations regarding growth from external sources (sales of stock) must also be considered and examined. For GAS, page 1 of Schedule 2 shows that the number of outstanding shares increased at about an 11% rate over the most recent five-year period due to a large one-time issuance in 2011. Prior to that stock issuance, GAS's growth rate in shares outstanding had been quite moderate at below 0.5%. Value Line expects the number of shares outstanding to decline through the 2016-2018 period, bringing the share growth rate to *negative* 0.15% rate by that time. Therefore, an expectation of share growth of 2.0% is reasonable for this company.

As shown on page 1 of Schedule 3, because GAS is currently trading at a market price that is greater than its book value, a long-term expectation of increasing the number of shares outstanding will also increase investors' growth expectations for that company. Multiplying the expected growth rate in shares outstanding by (1-(Book Value/Market

Value)) increases the long-term DCF growth rate for GAS by about 50 basis points.[6]

I have included the details of my growth rate analyses for AGL Resources (GAS) as an example of the methodology I use in determining the DCF growth rate for each company in the gas utility sample group. A description of the growth rate analyses of each of the companies included in my sample group is set out in Appendix C. Schedule 3, page 1, attached to this testimony shows the internal, external and resultant overall DCF growth rates for all the gas distribution utility companies analyzed.

Q. HAVE YOU CHECKED THE REASONABLENESS OF YOUR GROWTH RATE ESTIMATES AGAINST OTHER, PUBLICLY AVAILABLE, GROWTH RATE DATA?

A. Yes. Page 2 of Schedule 3 shows the results of my DCF sustainable growth rate analysis as well as 5-year historic and projected earnings, dividends and book value growth rates from Value Line, earnings growth rate projections from Reuters, the average of Value Line and Reuters growth rates and the 5-year historical compound growth rates for earnings, dividends and book value for each company under study.

For the gas distribution sample group, Schedule 3 page 2 shows that my DCF growth rate estimate for those companies is 5.32%. That long-term growth rate estimate is higher than Value Line's projected average earnings, dividend and book value growth rate (4.69%) and higher than the historical average of those same parameters (3.89%). In addition, my DCF growth rate estimate for the gas distributors is also higher than IBES earnings growth rate projections (5.17%) and also above earnings growth projections by Zack's (4.93%). Therefore, my average DCF growth rate for the gas distribution companies is on the high side when compared to available published information.

Q. DOES THIS CONCLUDE THE GROWTH RATE PORTION OF YOUR DCF ANALYSIS?

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[6] As explained in Appendix B attached to this testimony, according to Gordon's original DCF formula the factor that accounts for additional growth due to sales of stock is "s" the rate of increase in shares outstanding, times "v" the equity accretion rate, defined as (1-M/B). For the gas utilities under study, the "sv" term adds an additional 75 basis points to the DCF cost of equity capital.

A. Yes, it does.

Q. HOW HAVE YOU CALCULATED THE DIVIDEND YIELDS?

A. In calculating the dividend yields, I have simply used Value Line's most recently published year-ahead dividend yield projection for each company analyzed. Those data are drawn from Value Line's *Summary and Index*, October 25, 2013 edition. Schedule 4 contains the market prices (the most recent 30-day closing average) and the Value Line projected dividend yields of the utility companies under study. Schedule 4 indicates that the average dividend yield for the sample group of gas companies is 3.64%.

Q. WHAT IS YOUR COST OF EQUITY CAPITAL ESTIMATE FOR THE UTILITY COMPANIES, UTILIZING THE DCF MODEL?

A. Schedule 5 shows that the average DCF cost of equity capital, combining the sustainable growth rates shown in Schedule 3, page 1, and the projected dividend yields shown in Schedule 4 for the gas distribution companies is 8.97%.

Q. DOES THIS CONCLUDE YOUR DCF ANALYSIS OF THE COST OF EQUITY CAPITAL FOR VEOLIA?

A. Yes, it does.

## B. CAPITAL ASSET PRICING MODEL

Q. PLEASE DESCRIBE THE CAPITAL ASSET PRICING MODEL (CAPM) YOU USED TO ARRIVE AT AN ESTIMATE FOR THE COST RATE OF HECO'S EQUITY CAPITAL.

A. The CAPM states that the expected rate of return on a security is determined by a risk-free rate of return plus a risk premium, which is proportional to the non-diversifiable (systematic) risk of a security. Systematic risk refers to the risk associated with movements in the macro-economy (the economic "system") and thus, cannot be eliminated through diversification by holding a portfolio of securities. The beta

coefficient (β) is a statistical measure that attempts to quantify the non-diversifiable risk of the return on a particular security against the returns inherent in general stock market fluctuations. The formula is expressed as follows:

$$k = r_f + \beta(r_m - r_f), \qquad (2)$$

where "k" is the cost of equity capital of an individual security, "$r_f$" is the risk-free rate of return, "β" is the beta coefficient, "$r_m$" is the average market return and "$r_m - r_f$" is the market risk premium. The CAPM is used in my analysis, not as a primary cost of equity analysis, but as a check of the DCF cost of equity estimate. Although I believe the CAPM can be useful in testing the reasonableness of a cost of capital estimate, certain theoretical shortcomings of this model (when applied in cost of capital analysis) call for caution in application of the model.

Q. CAN YOU EXPLAIN WHY THE CAPM ANALYSIS SHOULD BE USED WITH CAUTION TO ESTIMATE OF THE COST OF EQUITY CAPITAL?

A. Yes. The reasons why the CAPM should be used in cost of capital analysis carefully are noted briefly below. It is important to understand that my caution with regard to the use of the CAPM in a cost of equity capital analysis does not indicate that the model is not a useful description of the capital markets. Rather, my caution recognizes that in the practical application of the CAPM to cost of capital analysis, there are problems that can cause the results of that type of analysis to be less reliable than other, more widely accepted models such as the DCF.

There has been much comment in the financial literature regarding the strength of the assumptions that underlie the CAPM and the inability to substantiate those assumptions through empirical analysis. Also, there are problems with the key CAPM risk measure, beta, that indicate that the CAPM analysis is not a reliable primary indicator of equity capital costs.

Cost of capital analysis is a decidedly forward-looking, or *ex-ante*, concept. Beta is not. The measurement of beta is derived with historical, or *ex-post*, information.

Therefore, the beta of a particular company, because it is usually derived with five years of historical data, is slow to change to current (i.e., forward-looking) conditions, and some price abnormality that may have happened four years ago could substantially affect beta while, currently, being of little actual concern to investors. Moreover, this same shortcoming, which assumes that past results mirror investor expectations for the future, plagues the market risk premium in an ex-post, or historically-oriented CAPM.

Q. WHAT HAVE YOU CHOSEN FOR A RISK-FREE RATE OF RETURN IN YOUR CAPM ANALYSIS?

A. As the CAPM is designed, the risk-free rate is that rate of return investors can realize with certainty. The nearest analog in the investment spectrum is the 13-week U. S. Treasury bill. However, T-Bills can be heavily influenced by Federal Reserve policy, as they have been over the past three years. While longer-term Treasury bonds have equivalent default risk to T-Bills, those longer-term government securities carry maturity risk that the T-Bills do not have. When investors tie up their money for longer periods of time, as they do when purchasing a long-term Treasury, they must be compensated for future investment opportunities forgone as well as the potential for future changes in inflation. Investors are compensated for this increased investment risk by receiving a higher yield on T-Bonds. When T-Bills and T-Bonds exhibit a "normal" (historical average) spread of about 1.5% to 2%, the results of a CAPM analysis that matches a higher market risk premium with lower T-Bill yields or a lower market risk premium with higher T-Bond yields, are very similar.

As I noted in my previous discussion of the macro-economy, in an attempt to fend off a severe recession and to inject liquidity into the financial system, the Fed has acted vigorously over the past two years to lower short-term interest rates. Recently, T-Bills have produced an average yield near zero. Also, as I noted in my discussion of the current economic environment, the current yield for T-Bonds is 3.75%. Therefore, for purposes of a forward-looking CAPM analysis in this proceeding I will use 3.75% as the long-term risk-free rate.

Q. WHAT MARKET RISK PREMIUM HAVE YOU USED IN YOUR CAPM ANALYSIS?

A. In their 2011 edition of Stocks, Bonds, Bills and Inflation, Morningstar indicates that the average market risk premium between stocks and T-Bills over the 1926–2009 time period is 6.0% (based on an arithmetic average), and 4.4% (based on a geometric average). I have, in prior analyses, used these values as an estimate of the market risk premium in the CAPM analysis.

As I noted previously, immediately following the 2008/2009 financial crisis and again last year, investor worries regarding the international financial system caused investors to be more concerned about default risk and seek the safety of risk-free investments. Because of that fact, the yields on long-term U.S. Treasury bonds declined more rapidly than the yields on corporate debt (see Chart II). For that reason, I believe it is reasonable to rely on the upper end of the historical risk premium range (6.0%) published by Ibbotson in calculating a current cost of equity capital. Therefore, I have utilized the upper end of that long-term historical risk premium range in my CAPM equity cost estimate in this proceeding.

Q. WHAT VALUES HAVE YOU CHOSEN FOR THE BETA COEFFICIENTS IN THE CAPM ANALYSIS?

A. Value Line reports beta coefficients for all the stocks it follows. Value Line's beta is derived from a regression analysis between weekly percentage changes in the market price of a stock and weekly percentage changes in the New York Stock Exchange Composite Index over a period of five years. The average beta coefficient of the sample of gas distribution companies under study is 0.69.

Q. WHAT IS YOUR RECOMMENDED COST OF EQUITY CAPITAL FOR THE SAMPLE OF GAS COMPANIES USING THE CAPITAL ASSET PRICING MODEL ANALYSIS?

A. Schedule 6 shows that the average Value Line beta coefficient for the group of gas distribution companies under study is 0.69. Using the historical average market risk

premium published by Morningstar (6.0%) would, upon the adoption of a 0.69 beta, become a sample group risk premium of 4.17% (0.69 x 6.0%). That non-specific risk premium added to the recent average T-Bond rate of 3.75% yields a common equity cost rate estimate of 7.92%.

## C. MODIFIED EARNINGS-PRICE RATIO ANALYSIS

Q. PLEASE DESCRIBE THE MODIFIED EARNINGS-PRICE RATIO (MEPR) ANALYSIS OF THE COST OF COMMON EQUITY CAPITAL.

A. The earnings-price ratio is the expected earnings per share divided by the current market price. In cost of capital analysis, the earnings-price ratio alone (which is one portion of this MEPR analysis) can be useful in a corroborative sense, since it can be a good indicator of the proper range of equity costs when the market price of a stock is near its book value. When the market price of a stock is *above* its book value, the earnings-price ratio *understates* the cost of equity capital. Schedule 7 contains mathematical proof for this concept. The opposite is also true, i.e.; the earnings-price ratio *overstates* the cost of equity capital when the market price of a stock is *below* book value.

Under current market conditions, the utilities under study have an average market-to-book ratio of 1.73 and, therefore, the average earnings-price ratio, alone, is likely to understate the cost of equity for the sample group. However, I do not use the earnings-price ratio alone as an indicator of equity capital cost rates. Because of the relationship among the earnings-price ratio, the market-to-book ratio and the investor-expected return on equity, described mathematically in Schedule 7, I have modified the earnings-price ratio analysis by averaging projected equity returns with the current earnings-price ratio for the companies under study. It is that modified analysis that I will use to assist in estimating an appropriate range of equity capital costs in this proceeding.

Q. PLEASE EXPLAIN THE RELATIONSHIP AMONG THE EARNINGS-PRICE RATIO, THE EXPECTED RETURN ON EQUITY, AND THE MARKET-TO-BOOK RATIO.

A. When the expected return (ROE) approximates the cost of equity, the market price of the utility approximates its book value and the earnings-price ratio provides an accurate estimate of the cost of equity. As the investor-expected return on equity for a utility (ROE) begins to exceed the investor-required return (the cost of equity capital), the market price of the firm will tend to exceed its book value. Also as explained above, in that instance the earnings-price ratio understates the cost of equity capital.

Conversely, in situations where the expected equity return is below what investors require, market prices fall below book value. Further, when market-to-book ratios are below 1.0, the earnings-price ratio overstates the cost of equity capital. Thus, the expected rate of return on equity and the earnings-price ratio tend to move in a countervailing fashion around a central locus, and that central locus is the cost of equity capital. Therefore, the average of the expected book return and the earnings price ratio provides a reasonable estimate of the cost of equity capital.

These relationships represent general rather than precisely quantifiable tendencies but are useful in corroborating other cost of capital methodologies. The Federal Energy Regulatory Commission, in its generic rate of return hearings, found this technique useful and indicated that under the circumstances of market-to-book ratios exceeding unity, the cost of equity is bounded above by the expected equity return and below by the earnings-price ratio (e.g., 50 Fed Reg, 1985, p. 21822; 51 Fed Reg, 1986, pp. 361, 362; 37 FERC ¶ 61,287). The mid-point of these two parameters, therefore, produces an estimate of the cost of equity capital which, when market-to-book ratios are different from unity, is far more accurate than the earnings-price ratio alone.

Q. IS THERE THEORETICAL SUPPORT FOR THE USE OF AN EARNINGS-PRICE RATIO IN CONJUNCTION WITH AN EXPECTED RETURN ON EQUITY AS AN INDICATOR OF THE COST OF EQUITY CAPITAL?

A. Yes. Elton and Gruber, Modern Portfolio Theory and Investment Analysis (New York University, Wiley & Sons, New York, 1995, pp. 401-404) provide support for reliance on the modified earnings price ratio analysis.

The Elton and Gruber text posits the following formula,

$$k = (1\text{-}b)E/(1\text{-}cb)P, \text{ where} \quad (3)$$

"k" is the cost of equity capital, "b" is the retention ratio, "E" is earnings, "P" is market price and "c" is the ratio of the expected return on equity to the cost of equity capital (ROE/k). This formula shows that when ROE = k, "c" equals 1.0, and the cost of equity capital equals the earnings-price ratio. Moreover, in that case, ROE is greater than "k" (as it is in today's market), "c" is greater than 1.0, and the earnings-price ratio will understate the cost of equity. Also, the more that ROE exceeds "k," the more the earnings price ratio will understate "k." In other words, those two parameters, the earnings-price ratio and the expected return on equity (ROE), orbit around the cost of equity capital, with the cost of equity as the locus, and fluctuate so that their mid-point approximates the cost of equity capital.

Assuming an industry average retention ratio of about 30% (i.e., 70% of earnings are paid out as dividends), the stochastic relationship between the expected return (ROE) and the earnings price ratio can be determined from Equation (3), above, as shown in Table I below. Most importantly, Equation (3) shows that the average of the EPR and ROE (which is my MEPR analysis) will approximate "k," the cost of equity capital.

Table I.

SUPPORT FOR THE MODIFIED EARNINGS PRICE RATIO ANALYSIS

| Cost of Equity | Retention Ratio | ROE | ROE/k | Earn-Price Ratio | M.E.P.R. (ROE+EPR)/2 |
|---|---|---|---|---|---|
| [1] | [2] | [3] | [4]=[3]/[1] | [5] | [6]=([3]+[5])/2 |
| 10.00% | 35.00% | 13.00% | 1.3 | 8.38% | 10.69% |
| 10.00% | 35.00% | 12.00% | 1.2 | 8.92% | 10.46% |
| 10.00% | 35.00% | 11.00% | 1.1 | 9.46% | 10.23% |
| 10.00% | 35.00% | 10.00% | 1.0 | 10.00% | 10.00% |
| 10.00% | 35.00% | 9.00% | 0.9 | 10.54% | 9.77% |
| 10.00% | 35.00% | 8.00% | 0.8 | 11.08% | 9.54% |
| 10.00% | 35.00% | 7.00% | 0.7 | 11.62% | 9.31% |

[5] From Equation (3): E/P = k(1-cb)/(1-b)

As the data in Table I shows, the average of the expected return (ROE) and the earnings price ratio (EPR) produces an MEPR estimate of the cost of common equity capital of sufficient accuracy to serve as a check of other analyses, which is how I use the model in my testimony.

Q. WHAT ARE THE RESULTS OF YOUR EARNINGS-PRICE RATIO ANALYSIS OF THE COST OF EQUITY FOR THE SAMPLE GROUP?

A. Schedule 8 shows the Zacks projected 2014 per share earnings for each of the firms in the sample groups. Recent average market prices (the same market prices used in my DCF analysis), and Value Line's projected return on equity for 2013 and 2016-2018 for each of the companies are also shown.

The average earnings-price ratio for the gas distributor sample group, 5.93%, is below the cost of equity for those companies due to the fact that their average market-to-book ratio is currently well above unity (average gas utility M/B = 1.73). The sample gas companies' 2013 expected book equity return averages 9.59%. For the entire gas sample group, then, the mid-point of the earnings-price ratio and the current equity return is 7.76%.

Schedule 8 also shows that the average expected book equity return for the gas utilities over the next three- to five-year period is 10.78%. The midpoint of that long-term projected return on book equity (10.78%) and the current earnings-price ratio (5.93%) is 8.35%. Both of those results are well below the cost of equity estimate provided by the DCF, indicating the DCF result may be somewhat overstated.

## D. MARKET-TO-BOOK RATIO ANALYSIS

Q. PLEASE DESCRIBE YOUR MARKET-TO-BOOK (MTB) ANALYSIS OF THE COST OF COMMON EQUITY CAPITAL FOR THE SAMPLE GROUPS.

A. This technique of analysis is a derivative of the DCF model that attempts to adjust the capital cost derived with regard to inequalities that might exist in the market-to-book

ratio. This method is derived algebraically from the DCF model and therefore, cannot be considered a strictly independent check of that method. However, the MTB analysis is useful in a corroborative sense. The MTB seeks to determine the cost of equity using market-determined parameters in a format different from that employed in the DCF analysis. In the DCF analysis, the available data is "smoothed" to identify investors' long-term sustainable expectations. The MTB analysis, while based on the DCF theory, relies instead on point-in-time data projected one year and five years into the future and thus, offers a practical corroborative check on the traditional DCF. The MTB formula is derived as follows:

Solving for "P" from Equation (1), the standard DCF model, we have

$$P = D/(k-g). \qquad (4)$$

But the dividend (D) is equal to the earnings (E) times the earnings payout ratio, or one minus the retention ratio (b), or

$$D = E(1-b). \qquad (5)$$

Substituting Equation (5) into Equation (4), we have

$$P = \frac{E(1-b)}{k-g} \ . \qquad (6)$$

The earnings (E) are equal to the return on equity (r) times the book value of that equity (B). Making that substitution into Equation (6), we have

$$P = \frac{rB(1-b)}{k-g} \ . \qquad (7)$$

Dividing both sides of Equation (7) by the book value (B) and noting from Equation (iii) in Appendix B that g = br+sv,

$$\frac{P}{B} = \frac{r(1-b)}{k-br-sv} \quad . \qquad (8)$$

Finally, solving Equation (8) for the cost of equity capital (k) yields the MTB formula:

$$k = \frac{r(1-b)}{P/B} + br + sv. \qquad (9)$$

Equation (9) indicates that the cost of equity capital equals the expected return on equity multiplied by the payout ratio, divided by the market-to-book ratio plus growth. Schedule 9 shows the results of applying Equation (9) to the defined parameters for the gas utility firms in the comparable sample. For the gas utility sample group, page 1 of Schedule 9 utilizes current year (2013) data for the MTB analysis, while page 2 utilizes Value Line's 2016-2018 projections for those companies that have them.

The MTB cost of equity for the entire sample of gas utility firms, recognizing a current average market-to-book ratio of 1.73 is 8.71% using the current year data and 8.84% using projected three- to five-year data. The average of those point-in-time estimates is similar to but lower than my DCF equity cost estimate for gas utilities.

## E. SUMMARY

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR EQUITY CAPITAL COST ANALYSES FOR THE SAMPLE GROUP OF SIMILAR-RISK COMPANIES.

A. My analysis of the cost of common equity capital for the sample group of gas distribution companies is summarized in the table below.

| METHOD | COST OF EQUITY |
|---|---|
| DCF | 8.97% |
| CAPM | 7.92% |
| MEPR | 7.76%/8.35% |
| MTB | 8.71%/8.84% |

The DCF result noted above, which is my primary indication of the cost of equity capital, is 8.97%. Averaging the highest and lowest results of all of the corroborative methodologies indicates a cost of equity range for the gas distributors of 8.13%-8.37%. My DCF result is above the average of the higher corroborative results. Therefore, weighing all the evidence presented herein, my best estimate of the cost of equity capital for a company facing similar risks as that group of investment-grade gas distribution utility companies ranges from 8.50% to 9.25%, with a mid-point of 8.875%.

Q. ARE THERE FACTORS THAT SHOULD BE CONSIDERED IN DETERMINING A POINT-ESTIMATE FOR VEOLIA'S EQUITY RETURN RELATIVE TO THE RANGE OF 8.50% TO 9.25%?

A. Yes. I have analyzed the market data of gas distribution utilities as reasonable proxies for Veolia's operations. The current cost of equity of those companies falls in a range of 8.50% to 9.25%, and the mid-point of that range is 8.875%. It is also important to note that the average bond rating of the sample companies fall between "A-" and "A", which is above the bond rating of Veolia's parent (VENAH), which is "BBB". As an indication of the "price" of the investment risk difference contained in an "A" bond rating and a

"BBB" bond rating, the October 25, 2013 edition of Value Line's *Selection & Opinion* (p. 685) reports that "A"-rated utility debt currently exhibits a yield of 4.61%, approximately 60 basis points lower than the current "BBB" yield of 5.25%.

In addition, the capital structure I recommend for the Company in this proceeding contains less common equity than that of the sample group of market-traded gas distributors used to estimate the cost of equity. Moderating the upward adjustment to some degree is the fact that those market traded gas distributors also have unregulated marketing operations that would tend to increase the cost of common equity over that of a pure utility operation. On balance, therefore an upward adjustment to the top end of the current cost of equity capital range is appropriate in this instance. I recommend that rates be set for the Company with an allowed return on common equity of 9.25%.

Q. WHAT IS THE OVERALL COST OF CAPITAL FOR VEOLIA'S UTILITY OPERATIONS IN KANSAS CITY, BASED ON AN ALLOWED EQUITY RETURN OF 9.25%, AND YOUR RECOMMENDED CAPITAL STRUCTURE?

A. Schedule 10 attached to my testimony shows that, with an allowed return on equity capital of 9.25%, using a ratemaking capital structure based on a capital structure based on utility industry-average capitalization and debt cost rates, Veolia's overall cost of capital would be 7.16%. As also shown on Schedule 10, if Veolia were capitalized in a manner similar to that of the energy utility industry, the equity return I recommend would afford the company a pre-tax interest coverage of approximately 3.72 times.

Q. DOES THIS CONCLUDE YOUR ANALYSIS OF THE COMPANY'S OVERALL COST OF CAPITAL?

A. Yes, it does.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, it does.

**APPENDIX A**

EDUCATION AND EMPLOYMENT HISTORY
OF
STEPHEN G. HILL

EDUCATION

Auburn University - Auburn, Alabama - Bachelor of Science in Chemical Engineering (1971); Honors - member Tau Beta Pi national engineering honorary society, Dean's list, candidate for outstanding engineering graduate; Organizations - Engineering Council, American Institute of Chemical Engineers

Tulane University - New Orleans, Louisiana - Masters in Business Administration (1973); concentration: Finance; awarded scholarship; Organizations - member MBA curriculum committee, Vice-President of student body, academic affairs

Continuing Education - NARUC Regulatory Studies Program at Michigan State University

EMPLOYMENT

West Virginia Air Pollution Control Commission (1975)
Position: Engineer ; Responsibility: Overseeing the compliance of all chemical companies in the State with the pollution guidelines set forth in the Clean Air Act.

West Virginia Public Service Commission-Consumer Advocate (1982)
Position: Rate of Return Analyst ; Responsibility: All rate of return research and testimony promulgated by the Consumer Advocate; also, testimony on engineering issues, when necessary.

Hill Associates (1989)
Position: Principal; Responsibility: Expert testimony regarding financial and economic issue in regulated industries.

PUBLICATIONS

"The Market Risk Premium and the Proper Interpretation of Historical Data," Proceedings of the Fourth NARUC Biennial Regulatory Information Conference, Volume I, pp. 245-255.
"Use of the Discounted Cash Flow Has Not Been Invalidated," Public Utilities Fortnightly, March 31, 1988, pp. 35-38.
"Private Equity Buyouts of Public Utilities: Preparation for Regulators," National Regulatory Research Institute, Paper 07-11, December 2007.

MEMBERSHIPS

American Institute of Chemical Engineers; Society of Utility and Regulatory Financial Analysts (Certified Rate of Return Analyst, Member of the Board of Directors)

# APPENDIX B
# UTILITY GROWTH RATE FUNDAMENTALS

Q. PLEASE PROVIDE AN EXAMPLE WHICH DESCRIBES THE DETERMINANTS OF LONG-TERM SUSTAINABLE GROWTH.

A. Assume that a hypothetical regulated firm had a first period common equity or book value per share of $10, the investor-expected return on that equity was 10% and the stated company policy was to pay out 60% of earnings in dividends. The first period earnings per share are expected to be $1.00 ($10/share book equity x 10% equity return) and the expected dividend is $0.60. The amount of earnings not paid out to shareholders ($0.40), the retained earnings, raises the book value of the equity to $10.40 in the second period. The table below continues the hypothetical for a five year period and illustrates the underlying determinants of growth.

TABLE A.

| | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | GROWTH |
|---|---|---|---|---|---|---|
| BOOK VALUE | $10.00 | $10.40 | $10.82 | $11.25 | $11.70 | 4.00% |
| EQUITY RETURN | 10% | 10% | 10% | 10% | 10% | - |
| EARNINGS/SH. | $1.00 | $1.040 | $1.082 | $1.125 | $1.170 | 4.00% |
| PAYOUT RATIO | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | - |
| DIVIDENDS/SH. | $0.60 | $0.624 | $0.649 | $0.675 | $0.702 | 4.00% |

We see that under steady-state conditions, the earnings, dividends and book value all grow at the same rate. Moreover, the key to this growth is the amount of earnings retained or reinvested in the firm and the return on that new portion of equity. If we let "b" equal the retention ratio of the firm (1 – the payout ratio) and let "r" equal the firm's expected return on equity, the DCF growth rate "g" (also referred to as the internal or sustainable growth rate ) is equal to their product, or

$$g = br. \qquad \text{(i)}$$

Professor Myron Gordon, who developed the Discounted Cash Flow technique and first introduced it into the regulatory arena, has determined that Equation (i) embodies the underlying fundamentals of growth and, therefore, is a primary measure of growth to be used in the DCF model. Professor Gordon's research also indicates that analysts' growth rate projections are useful in estimating investors' expected sustainable growth.

I should note here that the above hypothetical does not allow for the existence of external sources of equity financing, i.e., sales of common stock. Stock financing will cause investors to expect additional growth if the company is expected to issue new shares at a market price that exceeds book value. The excess of market over book would inure to current shareholders, increasing their per share equity value. Therefore, if the company is expected to continue to issue stock at a price that exceeds book value, the shareholders would continue to expect their book value to increase and would add that growth expectation to that stemming from earnings retention or internal growth. Conversely, if a company were expected to issue new equity at a price below book value, that would have a negative effect on shareholder's current growth rate expectations. In such a situation, shareholders would perceive an overall growth rate less than that produced by internal sources (retained earnings). Finally, with little or no expected equity financing or a market-to-book ratio near unity, investors would expect the sustainable growth rate for the company to equal that derived from Equation (i), "g = br." Dr. Gordon[1] identifies the growth rate which includes both expected internal and external financing as:

$$g = br + vs, \qquad \text{(ii)}$$

where,

g = DCF expected growth rate,
r = return on equity,
b = retention ratio,
v = fraction of new common stock sold that accrues to the current

[1]Gordon, M.J., The Cost of Capital to a Public Utility, MSU Public Utilities Studies, East Lansing, Michigan, 1974, pp., 30–33.

shareholder,
s = funds raised from the sale of stock
as a fraction of existing equity.

Additionally,

$$v = 1 - BV/MP, \quad \text{(iii)}$$

where,

MP = market price,
BV = book value.

I have used Equation (iii) as the basis for my examination of the investor expected long-term growth rate (g) in this proceeding.

Q. IN YOUR PREVIOUS EXAMPLE, EARNINGS AND DIVIDENDS GREW AT THE SAME RATE (br) AS DID BOOK VALUE. WOULD THE GROWTH RATE IN EARNINGS OR DIVIDENDS, THEREFORE, BE SUITABLE FOR DETERMINING THE DCF GROWTH RATE ?

A. No, not necessarily. Rates of growth derived from earnings or dividends alone can be unreliable due to extraneous influences on those parameters such as changes in the expected rate of return on common equity or changes in the payout ratio. That is why it is necessary to examine the underlying determinants of growth through the use of a sustainable growth rate analysis.

If we take the hypothetical example previously stated and assume that, in year three, the expected return on equity rises to 15%, the resultant growth rate for earnings and dividends far exceeds that which the company could sustain indefinitely. The potential error in using those growth rates to estimate “g” is illustrated in the following table.

TABLE B.

| | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | GROWTH |
|---|---|---|---|---|---|---|
| BOOK VALUE | $10.00 | $10.40 | $10.82 | $11.47 | $12.157 | 5.00% |
| EQUITY RETURN | 10% | 10% | 15% | 15% | 15% | 10.67% |
| EARNINGS/SH. | $1.00 | $1.040 | $1.623 | $1.720 | $1.824 | 16.20% |
| PAYOUT RATIO | 0.60 | 0.60 | 0.60 | 0.60 | 0.60 | - |
| DIVIDENDS/SH. | $0.60 | $0.624 | $0.974 | $1.032 | $1.094 | 16.20% |

What has happened is a shift in steady-state growth paths. For years one and two, the sustainable rate of growth (g=br) is 4.00%, just as in the previous hypothetical. Then, in the last three years, the sustainable growth rate increases to 6.00% (g=br = 0.4x15%). If the regulated firm were expected to continue to earn a 15% return on equity and retain 40% of its earnings, then a growth rate of 6.0% would be a reasonable estimate of the long-term sustainable growth rate. However, the compound annual growth rate for dividends and earnings exceeds 16% which is the result only of an increased equity return rather than the intrinsic ability of the firm to grow continuously at a 16% annual rate. Clearly, this type of estimate of future growth cannot be used with any reliability at all. In the case of the hypothetical, to utilize a 16% growth rate in a DCF model would be to expect the company's return on common equity to increase by 50% every five years into the indefinite future. This would be a ridiculous forecast for any regulated firm and underscores the importance of utilizing the underlying fundamentals of growth in the DCF model.

It can also be demonstrated that a change in our hypothetical regulated firm's payout ratio makes the past rate of growth in dividends an unreliable basis for predicting "g". If we assume our regulated firm consistently earns its expected equity return (10%) but in the third year, changes its payout ratio from 60% to 80% of earnings, the results are shown in the table below.

TABLE C.

| | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | GROWTH |
|---|---|---|---|---|---|---|
| BOOK VALUE | $10.00 | $10.40 | $10.82 | $11.036 | $11.26 | 3.01% |
| EQUITY RETURN | 10% | 10% | 10% | 10% | 10% | - |
| EARNINGS/SH. | $1.00 | $1.040 | $1.082 | $1.104 | $1.126 | 3.01% |
| PAYOUT RATIO | 0.60 | 0.60 | 0.80 | 0.80 | 0.80 | 7.46% |
| DIVIDENDS/SH. | $0.60 | $0.624 | $0.866 | $0.833 | $0.900 | 10.67% |

What we see here is that, although the company has registered a high dividend growth rate (10.67%), it is, again, not at all representative of the growth that could be sustained indefinitely, as called for in the DCF model. In actuality, the sustainable growth rate has declined from 4.0% the first two years to only 2.0% (g=br = 0.2x10%) during the last three years due to the increased payout ratio. To utilize a 10% growth rate in a DCF analysis of this hypothetical regulated firm would 1) assume the payout ratio of the firm would continue to increase 33% every five years into the indefinite future, 2) lead to the highly implausible result that the firm intends to consistently pay out more in dividends than it earns and 3) grossly overstate the cost of equity capital.

# APPENDIX C
# SAMPLE COMPANY GROWTH RATE ANALYSES

## GAS DISTRIBUTORS

**AGL - AGL Resources** - AGL's sustainable growth rate has averaged 3.54% over the most recent five year period (2008-2012). VL expects AGL's sustainable growth, after declining in 2013 and 2014, to increase above that historical growth rate level and to reach 4.99% by the 2016-2018 period. AGL's book value growth rate is expected to be 5.00% over the next five years, continuing from the 5% rate of growth experienced over the past five years (indicating very steady growth). Also, AGL's earnings per share are projected to increase at a 4.03% (Zack's) to 9% (VL) rate. The Value Line rate is based on a significant increase in ROE, which is not likely to be sustainable. AGL's dividends are expected to show 4.5% annual growth over the next five years, moderating long-term growth expectations. Over the past five years, AGL's earnings showed 1.5% growth, while its dividends increased at a 6.5% rate. Investors can reasonably expect a sustainable growth rate in the future of **4.75%** for AGL.

Regarding share growth, AGL's shares outstanding increased at approximately a 11% rate over the past five years due to a large issuance in 2011. Prior to the stock issuance, share growth for AGL was modest—approximately 0.5%. The number of shares is projected by VL to decline through the 2016-18 period. An expectation of share growth of **2%** for this company is reasonable.

**ATO – Atmos Energy Corp** - ATO's sustainable growth rate averaged only about 3.1% for the five-year historical period. Value Line projects increasing growth in 2013, and then a rise by the 2016-18 period to a level of 4.25%, through an increasing earnings retention. Also, ATO's book value growth during the most recent five years (4%) is expected to increase to a 5.5% rate in the future. ATO's earnings per share are projected to increase at a 5.5% (VL) to 6.2% (IBES) to 6.13% (Zack's) rate, but its dividends are expected to grow at only a 1.5% rate, moderating long-term growth expectations. Historically ATO's earnings have shown 3% growth, while its dividends increased at a 1.5% rate. Investors can reasonably expect a sustainable growth rate higher than that established historically, but not as high as the earnings growth projected by Value Line; **4.5%** is a reasonable expectation for this company.

Regarding share growth, ATO's shares outstanding grew at approximately a -0.16% rate over the past five years. The number of shares is expected to grow at approximately a 2.7% rate through 2016-18. An expectation of share growth of **2%** for this company is reasonable.

**LG – Laclede Group** - LG's sustainable growth rate has averaged 4.75% over the most recent five year period, with lower growth in the most recent year—indicating an moderating trend. VL expects LG's sustainable growth moderate 4.3% by the 2016-2018 period. LG's book value growth rate is expected to be -3% over the next five years, substantially down from the 6.5% rate of growth

experienced over the past five years. While a negative book value could not be sustainable it would moderate long-term growth expectations. Also, LG's earnings per share are projected to increase at 6% rate, according to Value Line—below the indicated sustainable growth rate. Analysts polled by IBES expect 4.7% earnings growth, while those polled by Zack's expect 4.1% growth over the next five years. Also, LG's dividends are expected to grow at 3.5%. Over the past five years, LG's earnings growth was 4% while its dividends increased at a 3% rate. Investors can reasonably expect a sustainable growth rate in the future of **4.25%** for LG.

Regarding share growth, LG's shares outstanding increased at a 0.7% rate over the past five years. The number of shares outstanding is expected to increase at a rate of 7.8% from 2012 levels by the 2016-18 period. An expectation of share growth of **3%** for this company is reasonable.

**NI – NiSource** - NI's sustainable growth rate has averaged 1.17% over the most recent five year period. VL expects NI's sustainable growth to increase from that historical growth rate level to reach 5.24% by the 2016-2018 period. NI's book value growth rate is expected to be only 1% over the next five years, above the -0.05% rate of growth experienced over the past five years. NI's earnings per share are projected to increase at a 10.5% (VL) 6.7% (IBES) to 6.7% (Zack's). the higher earnings growth rates are based on the assumption of returning to normal ROE levels from the reduced earnings rates experienced over the 2009-2012 period (4.8% to 7.4%). NI's dividends are expected to grow 3% growth over the next five years, which gives an idea of what the company's board believes is a sustainable growth rate. Over the past five years, NI's earnings growth was 0.5% while its dividends did not increase at all. Investors can reasonably expect a sustainable growth rate in the future of **4.25%** for NI.

Regarding share growth, NI's shares outstanding increased at approximately a 3% rate over the past five years. That rate of increase is expected to moderate in the future with number of shares outstanding in 2016-2018 is expected to grow at about a 1% rate. An expectation of share growth of **2%** for this company is reasonable.

**NWN - Northwest Natural Gas** - NWN's sustainable growth rate averaged 3.50% for the five-year period, with the results in the most recent year below that the average. VL expects sustainable growth to rise slightlt to a 3.75% level through the 2016-18 period. NWN's book value growth is expected to increase at a 3% rate , just below the historical level of 4%, showing relative growth stability for this company. NWN's earnings per share growth is projected to increase at 4.5% (VL) to 4% (IBES) to 4.25% (Zack's). VL projects its dividends are expected to grow at a 2.5% rate, moderating growth expectations. Historically NWN's earnings and dividends increased at 0.5% and 4.5% rates, respectively, according to Value Line. Investors can reasonably expect sustainable growth from NWN to be similar to past averages, a sustainable internal growth rate of **4.0%** is reasonable for this company.

Regarding share growth, NWN's shares outstanding grew at a 0.39% rate over the past five years. The growth in the number of shares is expected by VL to be 0.79% through 2016-18. An expectation of share growth of **0.5%** for this company is reasonable.

**PNY - Piedmont Natural Gas** - PNY's sustainable internal growth rate averaged 3.65% over the five-year historical period. VL projects PNY's sustainable growth to rise to a level of 3.7% through 2016-18. Also, PNY's book value growth rate is expected to continue in the future at 4.5%, above the historical level of 3.0%, pointing to increasing growth for this company. PNY's earnings per share are projected to increase at 4.0% (VL) to 4.3% (Zack's), to 5% (IBES). PNY's dividends are expected to grow at a 3% rate, below the historical rate of 5.5%, again indicating moderating growth. Sustainable growth has been consistent for this company and is expected to rise to just below 4%. Dividends and earnings growth are expected to be lower and higher, respectively, than that level of sustainable growth, therefore, investors can reasonably expect a sustainable growth rate of **4.00%**, from PNY.

Regarding share growth, PNY's shares outstanding grew at about a -0.35% rate over the past five years, due to share repurchases. The level of share growth is expected by VL to decline at a 1.02% rate through 2016-18. An expectation of share growth of **0.25%** for this company is reasonable.

**SJI – South Jersey Industries** - SJI's internal sustainable growth rate has averaged 6.52% over the most recent five-year period (2008-2012), with a downward trend. That average historical level of growth is expected to be maintained and to be 6.61% by the 2016-2018 period. SJI's book value growth rate is expected to be 6.5% over the next five years—down from the 7% rate of growth experienced over the past five years. SJI's earnings per share are projected to increase at 7.5% (VL) to 6.0% (Zack's) and 6.0% (IBES), while its dividends are expected to grow at 8.5%. Over the past five years, SJI's earnings grew at a 6.5% rate while its dividends showed a 10.5% increase. Investors can reasonably expect a sustainable growth rate in the future to be higher than past averages, **6.5%** is reasonable for SJI.

Regarding share growth, SJI's shares outstanding grew at a 1.58% rate over the past five years. The number of shares outstanding is projected by VL to rise at approximately a 2.61% rate through 2016-18. An expectation of share growth of **2%** for this company is reasonable.

**SWX – Southwest Gas** - SWX's sustainable growth rate averaged 4.45% over the five-year historical period with an increasing trend. VL projects that through 2016-18, sustainable growth will increase to 5.94%. SWX's book value, which increased at a 5% rate during the most recent five years, is expected to continue at a 5% rate in the future, somewhat below the sustainable growth projection. SWX's earnings per share are projected to increase at a 8.0% (VL) 3.53% (IBES) and 3.53% (Zack's). Its dividends are expected to grow at a 7% rate, increasing long-term growth expectations. Historically SWX's earnings grew at a 6.5% rate, according to Value Line and its dividends showed 4% growth. The projected

sustainable growth data indicate that investors can expect the growth from SWX to be higher in the future than has existed in the past, those expectations are confirmed by the VL earnings and dividend projections, but are countered by the Zacks and IBES earnings growth projections. Investors can reasonably expect a sustainable growth rate 6.0**%** for SWX.

Regarding share growth, SWX's shares outstanding showed a 1.09% increase over the past five years. Further, SWX's growth rate in shares outstanding is expected to increase at about a 1.6% rate of increase through 2016-18. An expectation of share growth of **1.25%** for this company is reasonable.

**WGL – WGL Holdings** - WGL's sustainable growth rate has averaged 4.11% over the most recent five year period, with an increasing trend. VL expects WGL's sustainable growth to decline from that historical growth rate level to reach 3.8% by the 2016-2018 period. WGL's book value growth rate is expected to be 4.0% over the next five years, slightly below the 4.5% rate of growth experienced over the past five years. WGL's earnings per share are projected to increase at 3.5% (VL), 5.25% (IBES) to 5.3% (Zack's). However, WGL's dividends are expected to grow at only 3%. Over the past five years, WGL's earnings growth was 3% while its dividends also increased at a 3% rate. Investors can reasonably expect a sustainable growth rate in the future of **4.25%** for WGL.

Regarding share growth, WGL's shares outstanding increased at approximately a 0.8% rate over the past five years. That rate of increase is expected to moderate in the future with number of shares outstanding in 2016-2018 is expected to grow at a 0.19% rate. An expectation of share growth of **0.5%** for this company is reasonable.

# VEOLIA ENERGY KANSAS CITY
# CAPITAL STRUCTURE

**AMOUNT**

| Type of Capital | 9/30/12 | 12/12/12 | 3/31/13 | 6/30/13 | 9/30/13 | AVERAGE |
|---|---|---|---|---|---|---|
| Common Equity | -$4,146,812 | -$5,187,681 | -$5,722,591 | -$6,810,875 | -$7,796,268 | -$5,932,845 |
| Long-term Debt | $4,763,991 | $4,763,991 | $4,763,991 | $4,763,991 | $4,763,991 | $4,763,991 |
| Total Capital | $617,179 | -$423,690 | -$958,600 | -$2,046,884 | -$3,032,277 | -$1,168,854 |

**PERCENT**

| Type of Capital | 9/30/12 | 12/12/12 | 3/31/13 | 6/30/13 | 9/30/13 | AVERAGE |
|---|---|---|---|---|---|---|
| Common Equity | NMF | NMF | NMF | NMF | NMF | NMF |
| Long-term Debt | NMF | NMF | NMF | NMF | NMF | NMF |
| Total Capital | NMF | NMF | NMF | NMF | NMF | NMF |

Data provided by Company.

**VEOLIA ENERGY KANSAS CITY**
**VEOLIA ENERGY NORTH AMERICA HOLDINGS, INC.**
CAPITAL STRUCTURE

**AMOUNT [000]**

| Type of Capital | 9/30/12 | 12/12/12 | 3/31/13 | 6/30/13 | 9/30/13 | AVERAGE |
|---|---|---|---|---|---|---|
| Common Equity | $10,855,929 | $1,953,759 | -$6,119,226 | $1,972,155 | $8,022,392 | $3,337,002 |
| Long-term Debt | $702,180,795 | $702,180,795 | $696,573,019 | $696,573,019 | $696,573,019 | $698,816,129 |
| Total Capital | $713,036,724 | $704,134,554 | $690,453,793 | $698,545,174 | $704,595,411 | $702,153,131 |

**PERCENTAGE**

| Type of Capital | 9/30/12 | 12/12/12 | 3/31/13 | 6/30/13 | 9/30/13 | AVERAGE |
|---|---|---|---|---|---|---|
| Common Equity | 1.52% | 0.28% | -0.89% | 0.28% | 1.14% | 0.48% |
| Long-term Debt | 98.48% | 99.72% | 100.89% | 99.72% | 98.86% | 99.52% |
| Total Capital | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |

Data provided by Company.

**VEOLIA ENERGY KANSAS CITY**
**GAS INDUSTRY COMMON EQUITY RATIOS**

| | COMPANY | COMMON EQUITY RATIO [%] |
|---|---|---|
| 1 | AGL Resources Inc. (NYSE-GAS)* | 44.8 |
| 2 | Atmos Energy Corporation (NYSE-ATO)* | 49.8 |
| 3 | Delta Natural Gas Company (NDQ-DGAS) | 55.3 |
| 4 | Energen Corporation (NYSE-EGN) | 58.7 |
| 5 | EQT Corporation (NYSE-EQT) | 57.2 |
| 6 | Gas Natural, Inc. (NDQ-EGAS) | 56.4 |
| 7 | Laclede Group, Inc. (NYSE-LG)* | 69.9 |
| 8 | National Fuel Gas Company (NYSE-NFG) | 56.4 |
| 9 | New Jersey Resources Corp. (NYSE-NJR)* | 50.3 |
| 10 | NiSource Inc. (NYSE-NI) | 41.4 |
| 11 | Northwest Natural Gas Co. (NYSE-NWN)* | 47.5 |
| 12 | ONEOK, Inc. (NYSE-OKE) | 18.1 |
| 13 | Piedmont Natural Gas Co., Inc. (NYSE-PNY)* | 44.8 |
| 14 | Questar Corporation (NYSE-STR) | 45.1 |
| 15 | RGC Resources, Inc. (NDQ-RGCO) | 63.7 |
| 16 | South Jersey Industries, Inc. (NYSE-SJI)* | 45.5 |
| 17 | Southwest Gas Corporation (NYSE-SWX)* | 52.1 |
| 18 | UGI Corporation (NYSE-UGI)* | 34.4 |
| 19 | WGL Holdings, Inc. (NYSE-WGL)* | 63.2 |
| | **INDUSTRY AVERAGE** | **50.24** |
| | **GAS DISTRIB. AVG.** | **50.23** |

*Companies selected in Mr. Hill's gas distribution sample group.
AUS Utility Reports, October 2013, pp. 13, 14.

# VEOLIA ENERGY KANSAS CITY
# ELECTRIC UTILITY INDUSTRY COMMON EQUITY RATIOS

| ELECTRIC COMPANIES | EQUITY RATIO [%] |
|---|---|
| ALLETE, Inc. (NYSE-ALE) | 53.1 |
| American Electric Power Co. (NYSE-AEP) | 44.8 |
| Cleco Corporation (NYSE-CNL) | 53.3 |
| Edison International (NYSE-EIX) | 43.3 |
| El Paso Electric Company (NYSE-EE) | 45.3 |
| FirstEnergy Corporation (ASE-FE) | 38.3 |
| Great Plains Energy Incorporated (NYSE-GXP) | 45.6 |
| Hawaiian Electric Industries, Inc. (NYSE-HE) | 47.8 |
| IDACORP, Inc. (NYSE-IDA) | 50.7 |
| Nextera Energy (NYSE-NEE) | 37.0 |
| OGE Energy Corp. (NYSE-OGE) | 49.4 |
| Otter Tail Corporation (NDQ-OTTR) | 54.5 |
| Pinnacle West Capital Corp. (NYSE-PNW) | 52.9 |
| PNM Resources, Inc. (NYSE-PNM) | 44.7 |
| Portland General Electric Company (NYSE-POR | 50.3 |
| PPL Corporation (NYSE-PPL) | 34.4 |
| Southern Company (NYSE-SO) | 45.3 |
| Westar Energy, Inc. (NYSE-WR) | 44.9 |
| Electric Company Average | 46.4 |

| COMBINATION GAS & ELECTRIC COMPANIES | EQUITY RATIO [%] |
|---|---|
| Alliant Energy Corporation (NYSE-LNT) | 51.0 |
| Ameren Corporation (NYSE-AEE) | 49.6 |
| Avista Corporation (NYSE-AVA) | 46.7 |
| Black Hills Corporation (NYSE-BKH) | 44.7 |
| CenterPoint Energy (NYSE-CNP) | 25.1 |
| Chesapeake Utilities Corporation (NYSE-CPK) | 50.6 |
| CMS Energy Corporation (NYSE-CMS) | 27.9 |
| Consolidated Edison, Inc. (NYSE-ED) | 48.0 |
| Dominion Resources, Inc. (NYSE-D) | 62.4 |
| DTE Energy Company (NYSE-DTE) | 41.3 |
| Duke Energy Corporation (NYSE-DUK) | 45.2 |
| Empire District Electric Co. (NYSE-EDE) | 54.4 |
| Entergy Corporation (NYSE-ETR) | 47.8 |
| Exelon Corporation (NYSE-EXC) | 41.5 |
| Integrys Energy Group (NYSE-TEG) | 51.2 |
| MDU Resources Group, Inc. (NYSE-MDU) | 53.3 |
| MGE Energy, Inc. (NYSE-MGEE) | 63.4 |
| NiSource Inc. (NYSE-NI) | 58.5 |
| Northeast Utilities (NYSE-NU) | 39.7 |
| NorthWestern Corporation (NYSE-NWE) | 42.8 |
| NV Energy, Inc. (NYSE-NVE) | 42.6 |
| Pepco Holdings, Inc. (NYSE-POM) | 41.0 |
| PG&E Corporation (NYSE-PCG) | 37.3 |
| Public Service Enterprise Group (NYSE-PEG) | 46.7 |
| SCANA Corporation (NYSE-SCG) | 47.4 |
| SEMPRA Energy (NYSE-SRE) | 46.8 |
| TECO Energy, Inc. (NYSE-TE) | 51.6 |
| UIL Holdings Corporation (NYSE-UIL) | 42.6 |
| Unitil Corporation (ASE-UTL) | 48.4 |
| UNS Energy Corp. (NYSE-UNS) | 38.6 |
| Vectren Corporation (NYSE-VVC) | 43.5 |
| Wisconsin Energy Corporation (NYSE-WEC) | 30.2 |
| Xcel Energy Inc. (NYSE-XEL) | 34.6 |
| Combination Company Average | 45.3 |

**OVERALL AVERAGE** **45.7**

AUS Utility Reports, October 2013, pp. 5,6, 9, and 10 .

**VEOLIA ENERGY KANSAS CITY**
**WATER INDUSTRY COMMON EQUITY RATIOS**

| | COMPANY | COMMON EQUITY RATIO [%] |
|---|---|---|
| 1 | American States Water Co. (NYSE-AWR) | 58.1 |
| 2 | American Water Works Co., Inc. (NYSE-AWK) | 44.2 |
| 3 | Aqua America, Inc. (NYSE-WTR) | 46.4 |
| 4 | Artesian Resources Corp. (NDQ-ARTNA) | 50.7 |
| 5 | California Water Service Group (NYSE-CWT) | 53.3 |
| 6 | Connecticut Water Service, Inc. (NDQ-CTWS) | 51.1 |
| 7 | Middlesex Water Company (NDQ-MSEX) | 52.0 |
| 8 | SJW Corporation (NYSE-SJW) | 48.3 |
| 9 | York Water Company (NDQ-YORW) | 54.1 |
| | **INDUSTRY AVERAGE** | **50.91** |

AUS Utility Reports, October 2013, pp. 17, 18.

**VEOLIA ENERGY KANSAS CITY**
**RATEMAKNG CAPITAL STRUCTURE**

| Type of Capital | PERCENT | COST RATE† | WT. AVG. COST RATE |
|---|---|---|---|
| Common Equity | 48.00% | - | - |
| Long-term Debt8 | 52.00% | 5.24% | 2.725% |
| TOTAL CAPITAL | 100.00% | | - |

* Debt Cost estimated. Six week average Baa Utility Bond Yield 2/11/11-3/18/11.

**VEOLIA ENERGY KANSAS CITY, INC.**
**DCF GROWTH RATE PARAMETERS**
GAS DISTRIBUTORS

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **GAS** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.3801 | 12.6% | 4.79% | 21.48 | 76.90 | |
| 2009 | 0.4028 | 12.5% | 5.03% | 22.95 | 77.54 | |
| 2010 | 0.4133 | 12.9% | 5.33% | 23.24 | 78.00 | |
| 2011 | 0.1038 | 05.2% | 0.54% | 28.33 | 117.10 | |
| 2012 | 0.2500 | 08.0% | 2.00% | 28.76 | 117.88 | |
| AVERAGE GROWTH | | | 3.54% | 5.00% | | 11.27% |
| 2013 | 0.2769 | 08.0% | 2.22% | | 117.00 | -0.75% |
| 2014 | 0.3379 | 08.5% | 2.87% | | 117.00 | -0.04% |
| 2016-2018 | 0.4341 | 11.5% | 4.99% | 5.00% | 117.00 | -0.15% |

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **ATO** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.3500 | 08.8% | 3.08% | 22.60 | 90.81 | |
| 2009 | 0.3299 | 08.3% | 2.74% | 23.52 | 92.55 | |
| 2010 | 0.3796 | 09.2% | 3.49% | 24.16 | 90.16 | |
| 2011 | 0.3982 | 08.8% | 3.50% | 24.98 | 90.30 | |
| 2012 | 0.3429 | 08.1% | 2.78% | 26.14 | 90.24 | |
| AVERAGE GROWTH | | | 3.12% | 4.00% | | -0.16% |
| 2013 | 0.4286 | 08.8% | 3.77% | | 91.00 | 0.84% |
| 2014 | 0.4538 | 08.5% | 3.86% | | 92.00 | 0.97% |
| 2016-2018 | 0.5000 | 08.5% | 4.25% | 5.50% | 103.00 | 2.68% |

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **LG** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.4356 | 11.8% | 5.14% | 22.12 | 21.99 | |
| 2009 | 0.4760 | 12.4% | 5.90% | 23.32 | 22.17 | |
| 2010 | 0.3539 | 10.1% | 3.57% | 24.02 | 22.29 | |
| 2011 | 0.4371 | 11.1% | 4.85% | 25.56 | 22.43 | |
| 2012 | 0.4050 | 10.6% | 4.29% | 26.60 | 22.62 | |
| AVERAGE GROWTH | | | 4.75% | 6.50% | | 0.71% |
| 2013 | 0.3704 | 10.0% | 3.70% | | 26.00 | 14.94% |
| 2014 | 0.4102 | 12.5% | 5.13% | | 32.00 | 18.94% |
| 2016-2018 | 0.4805 | 09.0% | 4.32% | -3.00% | 33.00 | 7.85% |

**VEOLIA ENERGY KANSAS CITY, INC.**
**DCF GROWTH RATE PARAMETERS**
GAS DISTRIBUTORS

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **NI** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.3134 | 07.8% | 2.44% | 17.24 | 274.26 | |
| 2009 | -0.0952 | 04.8% | -0.46% | 17.54 | 276.79 | |
| 2010 | 0.1321 | 06.0% | 0.79% | 17.63 | 279.30 | |
| 2011 | 0.1238 | 06.1% | 0.76% | 17.71 | 282.18 | |
| 2012 | 0.3139 | 07.4% | 2.32% | 17.9 | 310.28 | |
| AVERAGE GROWTH | | | 1.17% | -0.05% | | 3.13% |
| 2013 | 0.3806 | 08.5% | 3.24% | | 310.00 | -0.09% |
| 2014 | 0.4000 | 09.5% | 3.80% | | 315.00 | 0.76% |
| 2016-2018 | 0.4762 | 11.0% | 5.24% | 1.00% | 325.00 | 0.93% |

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **NWN** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.4086 | 10.9% | 4.45% | 23.71 | 26.50 | |
| 2009 | 0.4346 | 11.4% | 4.95% | 24.88 | 26.53 | |
| 2010 | 0.3919 | 10.5% | 4.12% | 26.08 | 26.58 | |
| 2011 | 0.2678 | 08.9% | 2.38% | 26.7 | 26.76 | |
| 2012 | 0.1937 | 08.2% | 1.59% | 27.23 | 26.92 | |
| AVERAGE GROWTH | | | 3.50% | 4.00% | | 0.39% |
| 2013 | 0.1488 | 07.5% | 1.12% | | 27.00 | 0.30% |
| 2014 | 0.1870 | 08.0% | 1.50% | | 27.00 | 0.15% |
| 2016-2018 | 0.3750 | 10.0% | 3.75% | 3.00% | 28.00 | 0.79% |

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **PNY** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.3087 | 12.4% | 3.83% | 12.11 | 73.26 | |
| 2009 | 0.3593 | 13.2% | 4.74% | 12.67 | 73.27 | |
| 2010 | 0.2839 | 11.6% | 3.29% | 13.35 | 72.28 | |
| 2011 | 0.2675 | 11.4% | 3.05% | 13.79 | 72.32 | |
| 2012 | 0.2831 | 11.7% | 3.31% | 14.31 | 72.25 | |
| AVERAGE GROWTH | | | 3.65% | 3.00% | | -0.35% |
| 2013 | 0.2971 | 11.0% | 3.27% | | 76.00 | 5.19% |
| 2014 | 0.3316 | 11.0% | 3.65% | | 76.00 | 2.56% |
| 2016-2018 | 0.3220 | 11.5% | 3.70% | 4.50% | 76.00 | 1.02% |

**VEOLIA ENERGY KANSAS CITY, INC.**
**DCF GROWTH RATE PARAMETERS**
GAS DISTRIBUTORS

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **SJI** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.5110 | 13.1% | 6.69% | 17.33 | 29.73 | |
| 2009 | 0.4874 | 13.1% | 6.38% | 18.24 | 29.80 | |
| 2010 | 0.4963 | 14.2% | 7.05% | 19.06 | 29.87 | |
| 2011 | 0.4828 | 13.9% | 6.71% | 20.66 | 30.21 | |
| 2012 | 0.4554 | 12.7% | 5.78% | 23.26 | 31.65 | |
| AVERAGE GROWTH | | | 6.52% | 7.00% | | 1.58% |
| 2013 | 0.4286 | 12.0% | 5.14% | | 32.50 | 2.69% |
| 2014 | 0.4179 | 12.5% | 5.22% | | 33.50 | 2.88% |
| 2016-2018 | 0.4556 | 14.5% | 6.61% | 6.50% | 36.00 | 2.61% |

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **SWX** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.3525 | 05.9% | 2.08% | 23.49 | 44.19 | |
| 2009 | 0.5103 | 07.9% | 4.03% | 24.44 | 45.09 | |
| 2010 | 0.5595 | 08.9% | 4.98% | 25.62 | 45.56 | |
| 2011 | 0.5638 | 09.2% | 5.19% | 26.66 | 45.96 | |
| 2012 | 0.5874 | 10.2% | 5.99% | 28.39 | 46.15 | |
| AVERAGE GROWTH | | | 4.45% | 5.00% | | 1.09% |
| 2013 | 0.5875 | 10.5% | 6.17% | | 47.00 | 1.84% |
| 2014 | 0.5882 | 10.5% | 6.18% | | 48.00 | 1.98% |
| 2016-2018 | 0.5400 | 11.0% | 5.94% | 5.00% | 50.00 | 1.62% |

| COMPANY | INTERNAL GROWTH | | | | EXTERNAL GROWTH | |
|---|---|---|---|---|---|---|
| **WGL** | RETENTION RATIO | EQUITY RETURN | "g" | BOOK VALUE ($/SHARE) | SHARES OUTST (MILLIONS) | SHARE GROWTH |
| 2008 | 0.4221 | 11.6% | 4.90% | 20.99 | 49.92 | |
| 2009 | 0.4190 | 11.6% | 4.86% | 21.89 | 50.14 | |
| 2010 | 0.3392 | 09.9% | 3.36% | 22.82 | 50.54 | |
| 2011 | 0.3111 | 09.5% | 2.96% | 23.49 | 51.20 | |
| 2012 | 0.4067 | 11.0% | 4.47% | 24.75 | 51.50 | |
| AVERAGE GROWTH | | | 4.11% | 4.50% | | 0.78% |
| 2013 | 0.3490 | 10.0% | 3.49% | | 51.75 | 0.49% |
| 2014 | 0.3547 | 10.0% | 3.55% | | 52.00 | 0.48% |
| 2016-2018 | 0.3797 | 10.0% | 3.80% | 4.00% | 52.00 | 0.19% |

Data from Value Line Ratings & Reports, September 6, 2013.

**VEOLIA ENERGY KANSAS CITY, INC.**
**DCF GROWTH RATES**
GAS DISTRIBUTORS

| COMPANY | br | + | sv=g*(1-(1/(M/B))) | | | = | g |
|---|---|---|---|---|---|---|---|
| GAS | 4.75% | + | 2.00% | ( 1 - (1/ 1.38 )) | | = | 5.30% |
| ATO | 4.50% | + | 2.00% | ( 1 - (1/ 1.44 )) | | = | 5.11% |
| LG | 4.25% | + | 3.00% | ( 1 - (1/ 1.74 )) | | = | 5.53% |
| NI | 4.25% | + | 2.00% | ( 1 - (1/ 1.72 )) | | = | 5.09% |
| NWN | 4.00% | + | 0.50% | ( 1 - (1/ 1.52 )) | | = | 4.17% |
| PNY | 4.00% | + | 0.25% | ( 1 - (1/ 2.11 )) | | = | 4.13% |
| SJI | 6.50% | + | 2.00% | ( 1 - (1/ 2.31 )) | | = | 7.63% |
| SWX | 6.00% | + | 1.25% | ( 1 - (1/ 1.67 )) | | = | 6.50% |
| WGL | 4.25% | + | 0.50% | ( 1 - (1/ 1.69 )) | | = | 4.45% |

Average Market-to-Book Ratio = 1.73

| | | |
|---|---|---|
| GAS | = | AGL Resources |
| ATO | = | Atmos Energy Corporation |
| LG | = | Laclede Group |
| NI | = | NiSource |
| NWN | = | Northwest Natural Gas Co. |
| PNY | = | Piedmont Natual Gas Company |
| SJI | = | South Jersey Industries, Inc. |
| SWX | = | Southwest Gas |
| WGL | = | WGL Holdlings |

g*= expected growth in number of shares outstanding

**VEOLIA ENERGY KANSAS CITY, INC.**
**GROWTH RATE COMPARISON**
GAS DISTRIBUTORS

| COMPANY | DCF Growth | Value Line Projected EPS | Value Line Projected DPS | Value Line Projected BVPS | Zacks EPS | Value Line Historic EPS | Value Line Historic DPS | Value Line Historic BVPS | Zacks & VL AVGS. | 5-yr Compound Hist. EPS | 5-yr Compound Hist. DPS | 5-yr Compound Hist. BVPS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GAS | 5.30% | 9.00% | 4.50% | 5.00% | 4.03% | 1.50% | 6.50% | 5.00% | 5.08% | -0.83% | 2.28% | 9.20% |
| ATO | 5.11% | 5.50% | 1.50% | 5.50% | 6.13% | 3.00% | 1.50% | 4.00% | 3.88% | 4.14% | 1.49% | 5.62% |
| LG | 5.53% | 6.00% | 3.50% | -3.00% | 4.14% | 4.00% | 3.00% | 6.50% | 3.45% | 0.45% | 2.67% | 3.60% |
| NI | 5.09% | 10.50% | 3.00% | 1.00% | 6.70% | 0.05% | 0.00% | -0.05% | 3.03% | 2.95% | 0.85% | 0.98% |
| NWN | 4.17% | 4.50% | 2.50% | 3.00% | 4.25% | 0.05% | 4.50% | 4.00% | 3.26% | -3.51% | 3.78% | 3.35% |
| PNY | 4.13% | 4.00% | 3.00% | 4.50% | 4.30% | 3.50% | 5.50% | 3.00% | 3.97% | 3.27% | 3.61% | 5.33% |
| SJI | 7.63% | 7.50% | 8.50% | 6.50% | 6.00% | 6.50% | 10.00% | 7.00% | 7.43% | 6.77% | 10.15% | 7.95% |
| SWX | 6.50% | 8.00% | 7.00% | 5.00% | 3.53% | 6.50% | 4.00% | 5.00% | 5.58% | 18.15% | 7.96% | 5.60% |
| WGL | 4.45% | 3.50% | 3.00% | 4.00% | 5.30% | 3.00% | 3.00% | 4.50% | 3.76% | 0.89% | 3.32% | 4.05% |
| | | 6.50% | 4.06% | 3.50% | | 3.12% | 4.22% | 4.33% | | 3.59% | 4.01% | 5.07% |
| AVERAGES | 5.32% | | 4.69% | | 4.93% | | 3.89% | | 4.38% | | 4.23% | |

IBES Earnings Growth Projections: ATG-n/a, ATO-6.2%, LG-4.7%, NI-6.7%, NWN-4.0%,
PNY-5.0%, SJI-6.0%, SWX-3.53%, WGL-5.25%; Average = 5.17%.

**VEOLIA ENERGY KANSAS CITY, INC.**
**STOCK PRICES, DIVIDEND YIELDS**
GAS DISTRIBUTORS

| COMPANY | AVG. STOCK PRICE 9/23/13-11/1/13 (PER SHARE) | VALUE LINE PROJECTED DIVIDEND YIELD* |
|---|---|---|
| GAS | $45.89 | 4.20% |
| ATO | $42.73 | 3.40% |
| LG | $45.93 | 3.70% |
| NI | $31.14 | 3.30% |
| NWN | $42.49 | 4.40% |
| PNY | $33.15 | 3.90% |
| SJI | $58.57 | 3.20% |
| SWX | $51.46 | 2.70% |
| WGL | $43.26 | 4.00% |
| | Average | **3.64%** |

* Dividend yield from Value Line *Summary and Index*, October 25, 2013..
Stock prices = 30-day closing average, data from Yahoo!Finance.com.

**VEOLIA ENERGY KANSAS CITY, INC.**
**DCF COST OF EQUITY CAPITAL**
GAS DISTRIBUTORS

| COMPANY | DIVIDEND YIELD (Schedule 4) | GROWTH RATE (Schedule 3) | DCF COST OF EQUITY CAPITAL |
|---|---|---|---|
| GAS | 4.20% | 5.30% | 9.50% |
| ATO | 3.40% | 5.11% | 8.51% |
| LG | 3.70% | 5.53% | 9.23% |
| NI | 3.30% | 5.09% | 8.39% |
| NWN | 4.40% | 4.17% | 8.57% |
| PNY | 3.90% | 4.13% | 8.03% |
| SJI | 3.20% | 7.63% | 10.83% |
| SWX | 2.70% | 6.50% | 9.20% |
| WGL | 4.00% | 4.45% | 8.45% |
| | | AVERAGE | **8.97%** |
| | | STANDARD DEVIATION | **0.85%** |

**VEOLIA ENERGY KANSAS CITY, INC.**
**CAPM COST OF EQUITY CAPITAL**
GAS DISTRIBUTORS

**k = rf + B (rm - rf)**

| | |
|---|---|
| [rf]* | = 3.75% |
| [rm - rf]† | = 6.00% |
| average beta†† | = 0.69 |

k = 3.75% + 0.69 (6.00%)
k = 3.75% + 4.17%
k = **7.92%**

*Current T-Bond yields, six-week average yield from Federal Reserve Statistical Release H.15 (9/13-10/18/13)
†Arithmetric market risk premium from 2011 Ibbotson SBBI Valuation Yearbook, at 23.
††Value Line beta from Summary & Index, October 25, 2013.

**VEOLIA ENERGY KANSAS CITY**
PROOF

If market price exceeds book value,
the market-to-book ratio is greater than 1.0,
and the earnings-price ratio understates the cost of capital.

MP = market price
BV = book value
i = cost of equity capital
r = earned return
E = earnings

1. At MP = BV, $i = r = \frac{E}{MP}$ .
2. E = rBV.
3. Then, $\frac{E}{MP} = \frac{rBV}{MP}$ .
4. When BV < MP, i.e., $\frac{BV}{MP} < 1$, then,
   a. $\frac{E}{MP} < r$, since $\frac{E}{MP} = \frac{rBV}{MP} < r$, because $\frac{BV}{MP} < 1$;
   b. $i < r$, since at $\frac{BV}{MP} = 1$, $i = \frac{E}{MP} = \frac{rBV}{MP}$, but if $\frac{BV}{MP} < 1$, then $i < r$; and
   c. $\frac{E}{MP} < i$, since at $\frac{BV}{MP} = 1$, $i = \frac{E}{MP} = \frac{rBV}{MP}$, but if $\frac{BV}{MP} < 1$, then $\frac{E}{MP} < i$, because,
      1) $\frac{BV}{MP} < 1$, through MP increasing, and, if so, $\frac{E}{MP}$ decreases, therefore, $\frac{E}{MP} < i$, or
      2) $\frac{BV}{MP} < 1$, through BV decreasing, and, if so, given E = rBV, $\frac{E}{MP}$ decreases, therefore, $\frac{E}{MP} < i$.
5. Ergo, $\frac{E}{MP} < i < r$, the earnings-price ratio is lower than the cost of capital, which is lower than the earned return.

**VEOLIA ENERGY KANSAS CITY, INC.**
**MODIFIED EARNINGS-PRICE RATIO ANALYSIS**
GAS DISTRIBUTORS

| COMPANY | ZACKS 2014 EARNINGS (Per Share) | MARKET PRICE (Per share) | EARNINGS-PRICE RATIO | CURRENT R.O.E. 2013 | PROJECTED R.O.E. 2016-2018 |
|---|---|---|---|---|---|
| GAS | $2.80 | $45.89 | 6.10% | 8.00% | 11.50% |
| ATO | $2.68 | $42.73 | 6.27% | 8.80% | 8.50% |
| LG | $2.93 | $45.93 | 6.38% | 10.00% | 9.00% |
| NI | $1.67 | $31.14 | 5.36% | 8.50% | 11.00% |
| NWN | $2.37 | $42.49 | 5.58% | 7.50% | 10.00% |
| PNY | $1.87 | $33.15 | 5.64% | 11.00% | 11.50% |
| SJI | $3.50 | $58.57 | 5.98% | 12.00% | 14.50% |
| SWX | $3.04 | $51.46 | 5.91% | 10.50% | 11.00% |
| WGL | $2.66 | $43.26 | 6.15% | 10.00% | 10.00% |
| | | AVERAGE | 5.93% | 9.59% | |
| | | CURRENT M.E.P.R. | | **7.76%** | |
| | | AVERAGE | 5.93% | | 10.78% |
| | | PROJECTED M.E.P.R. | | **8.35%** | |

**VEOLIA ENERGY KANSAS CITY, INC.**
**MARKET-TO-BOOK RATIO ANALYSIS**
GAS DISTRIBUTORS

k = R.O.E.(1-b)/(M/B) + g
[2013]

| COMPANY | | | | | | | | MARKET-TO-BOOK COST OF EQUITY |
|---|---|---|---|---|---|---|---|---|
| GAS | k= 08.0% | (1- | 0.3379 )/ | 1.38 | + | 5.30% | = | 9.15% |
| ATO | k= 08.8% | (1- | 0.4538 )/ | 1.44 | + | 5.11% | = | 8.45% |
| LG | k= 10.0% | (1- | 0.4102 )/ | 1.74 | + | 5.53% | = | 8.92% |
| NI | k= 08.5% | (1- | 0.4000 )/ | 1.72 | + | 5.09% | = | 8.05% |
| NWN | k= 07.5% | (1- | 0.1870 )/ | 1.52 | + | 4.17% | = | 8.18% |
| PNY | k= 11.0% | (1- | 0.3316 )/ | 2.11 | + | 4.13% | = | 7.61% |
| SJI | k= 12.0% | (1- | 0.4179 )/ | 2.31 | + | 7.63% | = | 10.66% |
| SWX | k= 10.5% | (1- | 0.5882 )/ | 1.67 | + | 6.50% | = | 9.09% |
| WGL | k= 10.0% | (1- | 0.3547 )/ | 1.69 | + | 4.45% | = | 8.27% |
| | | | | | | | AVERAGE | **8.71%** |
| | | | | | | | STANDARD DEVIATION | **0.89%** |

Note: Equity returns and retention ratios based on Value Line current year projections.

**VEOLIA ENERGY KANSAS CITY, INC.**
**MARKET-TO-BOOK RATIO ANALYSIS**
GAS DISTRIBUTORS

k = R.O.E.(1-b)/(M/B) + g
[2014-2016]

| COMPANY | | | | | | | | MARKET-TO-BOOK COST OF EQUITY |
|---|---|---|---|---|---|---|---|---|
| GAS | k= 11.5% | (1- 0.4341 )/ | 1.38 | + | 5.30% | = | | 10.03% |
| ATO | k= 08.5% | (1- 0.5000 )/ | 1.44 | + | 5.11% | = | | 8.06% |
| LG | k= 09.0% | (1- 0.4805 )/ | 1.74 | + | 5.53% | = | | 8.21% |
| NI | k= 11.0% | (1- 0.4762 )/ | 1.72 | + | 5.09% | = | | 8.44% |
| NWN | k= 10.0% | (1- 0.3750 )/ | 1.52 | + | 4.17% | = | | 8.28% |
| PNY | k= 11.5% | (1- 0.3220 )/ | 2.11 | + | 4.13% | = | | 7.82% |
| SJI | k= 14.5% | (1- 0.4556 )/ | 2.31 | + | 7.63% | = | | 11.06% |
| SWX | k= 11.0% | (1- 0.5400 )/ | 1.67 | + | 6.50% | = | | 9.53% |
| WGL | k= 10.0% | (1- 0.3797 )/ | 1.69 | + | 4.45% | = | | 8.12% |
| | | | | | | | AVERAGE | **8.84%** |
| | | | | | | | STANDARD DEVIATION | **1.11%** |

Note: Equity returns and retention ratios based on Value Line three- to five-year projections.

**VEOLIA ENERGY KANSAS CITY**
**OVERALL COST OF CAPITAL**

| Type of Capital | PERCENT | COST RATE | WT. AVG. COST RATE |
|---|---|---|---|
| Common Equity | 48.00% | 9.25% | 4.44% |
| Long-term Debt | 52.00% | 5.24% | 2.72% |
| TOTAL CAPITAL | 100.00% | | 7.16% |

PRE-TAX INTEREST COVERAGE* = 3.72x

*Assuming the Company experiences, prospectively, a combined income tax rate of 40%, the pre-tax overall return would be 10.12% [7.16%-2.72% = 4.44%/(1-40%) = 7.40%+2.72%]. That pre-tax overall return (10.12%), divided by the weighted cost of debt (2.72%), indicates a pre-tax interest coverage level of 3.72 times.

**BEFORE THE PUBLIC SERVICE COMMISSION**
**OF THE STATE OF MISSOURI**

| | | |
|---|---|---|
| In The Matter Of Veolia Energy Kansas City, Inc. for Authority to File Tariffs to Increase Rates | ) ) ) | Case No.HR-2014-0066 |

AFFIDAVIT OF STEPHEN G. HILL

STATE OF WEST VIRGINIA )
) ss
COUNTY OF PUTNAM )

I, Stephen G. Hill, being of lawful age, on my oath states as follows:

I participated in the preparation of the foregoing Direct Testimony in question and answer form to be presented in the above case;

I provided the answers in this Direct Testimony;

I have knowledge of the matters set forth in such answers; and

The information presented in this Direct Testimony is true and correct to the best of my knowledge and belief.

Stephen G. Hill

Subscribed and sworn to before me this 21st day of November, 2013.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
BILLY JACK GREGG
P. O. Box 107
Hurricane, WV 25526
My Commission Expires Sept. 10, 2014

Notary Public in and for the State of ___

My commission expires: Sept. 10, 2014