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Case No. GR-2014-0152

DIRECT TESTIMONY

OF

ROBERT B. HEVERT

SUSSEX ECONOMIC ADVISORS, LLC

Submitted on Behalf Of

# LIBERTY UTILITIES (MISSTATES NATURAL GAS) CORP. d/b/a LIBERTY UTILITIES 

February 6, 2014

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## BEFORE THE

# MISSOURI PUBLIC SERVICE COMMISSION 

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DIRECT TESTIMONY
OF
Robert B. Hevert
SUSSEX ECONOMIC ADVISORS, LLC
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## LIBERTY UTILITIES

## I. INTRODUCTION

Q. Please state your name, affiliation and business address.
A. My name is Robert B. Hevert. I am Managing Partner of Sussex Economic Advisors, LLC ("Sussex"). My business address is 161 Worcester Road, Suite 503, Framingham, Massachusetts 01701.
Q. On whose behalf are you submitting this testimony?
A. I am submitting this direct testimony ("Direct Testimony") before the Missouri Public Service Commission ("Commission") on behalf of Liberty Utilities (Midstates Natural Gas) Corp., d/b/a Liberty Utilities ("Liberty Utilities" or the "Company"), an indirect wholly owned subsidiary of Algonquin Power \& Utilities Corp.
Q. Please describe your educational background.
A. I hold a Bachelor's degree in Business and Economics from the University of Delaware, and an MBA with a concentration in Finance from the University of Massachusetts. I
also hold the Chartered Financial Analyst designation.

## Q. Please describe your experience in the energy and utility industries.

A. I have worked in regulated industries for over twenty five years, having served as an executive and manager with consulting firms, a financial officer of a publicly-traded natural gas utility (at the time, Bay State Gas Company), and an analyst at a telecommunications utility. In my role as a consultant, I have advised numerous energy and utility clients on a wide range of financial and economic issues, including corporate and asset-based transactions, asset and enterprise valuation, transaction due diligence, and strategic matters. As an expert witness, I have provided testimony in approximately 100 proceedings regarding various financial and regulatory matters before numerous state utility regulatory agencies and the Federal Energy Regulatory Commission. A summary of my professional and educational background, including a list of my testimony in prior proceedings, is included in Attachment A to my Direct Testimony.

## II. PURPOSE AND OVERVIEW OF TESTIMONY

Q. What is the purpose of your Direct Testimony?
A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the Company's return on equity ("ROE") and capital structure. ${ }^{1}$ My analyses and conclusions are supported by the data presented in Schedule RBH-1 through Schedule RBH-11, which have been prepared by me or under my direction. Accordingly, I also sponsor Schedule COS-9, Capital Structure and Cost of Capital, as noted by Company witness James Fallert.

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Q. What are your conclusions regarding the appropriate Cost of Equity, capital structure and cost of debt for the Company?
A. My analyses indicate that the Company's Cost of Equity currently is in the range of 10.00 percent to 10.50 percent. Based on the quantitative and qualitative analyses discussed throughout my Direct Testimony, I recommend that the Commission authorize the Company the opportunity to earn an ROE of 10.50 percent.

As to the Company's capital structure, which includes 58.34 percent common equity and 41.66 percent long-term debt, I note that it is consistent with those in place at comparable operating utility companies. In light of the ongoing need to access capital markets, and seeing that it is consistent with similarly situated utility companies, I conclude that the Company's capital structure is reasonable and appropriate.

Lastly, I note that the Company's 4.78 percent cost of debt is consistent with, although lower than, the debt cost rates authorized for natural gas utilities during calendar year 2013. As such, I conclude that the Company's cost of debt is reasonable and appropriate.
Q. Please provide a brief overview of the analyses that led to your ROE recommendation.
A. Because all models are subject to various assumptions and constraints, equity analysts and investors tend use multiple methods to develop their return requirements. I therefore relied on three widely-accepted approaches to develop my ROE recommendation: (1) the Discounted Cash Flow ("DCF") model, including the Quarterly Growth, Constant Growth, and Multi-Stage forms; (2) the Capital Asset Pricing Model ("CAPM"); and (3) the Bond Yield Plus Risk Premium approach.

My recommendation also takes into consideration the Company's risk profile, in particular its relatively small size, and the direct costs associated with equity issuances. Although I did not make explicit adjustments to my ROE estimates for those factors, I did take them into consideration in determining the range in which the Company's Cost of Equity likely falls.

## Q. How is the remainder of your Direct Testimony organized?

A. The remainder of my Direct Testimony is organized as follows:

- Section III - Discusses the regulatory guidelines and financial considerations pertinent to the development of the cost of capital;
- Section IV - Explains my selection of the proxy group used to develop my analytical results;
- Section V - Explains my analyses and the analytical bases for my ROE recommendation;
- Section VI - Provides a discussion of specific business risks and other considerations that have a direct bearing on the Company's Cost of Equity;
- Section VII - Highlights the current capital market conditions and their effect on the Company's Cost of Equity;
- Section VIII - Addresses the reasonableness of the Company's capital structure;
- Section IX - Briefly discusses the Company's cost of debt; and
- Section X - Summarizes my conclusions and recommendations.


## III. REGULATORY GUIDELINES AND FINANCIAL CONSIDERATIONS

Q. Please provide a brief summary of the guidelines established by the United States Supreme Court (the "Court") for the purpose of determining the ROE.
A. The Supreme Court established the guiding principles for establishing a fair return for capital in two cases: (1) Bluefield Water Works and Improvement Co. v. Public Service Comm'n of West Virginia (Bluefield); and (2) Federal Power Comm'n v. Hope Natural Gas Co. (Hope). In those cases, the Court recognized that the fair rate of return on equity should be: (1) comparable to returns investors expect to earn on other investments of similar risk; (2) sufficient to assure confidence in the company's financial integrity; and (3) adequate to maintain and support the company's credit and to attract capital.

## Q. Does Missouri precedent provide similar guidance?

A. Yes, the Commission cited the Hope and Bluefield decisions at some length and acknowledged its authority and responsibility to set "just and reasonable" rates for public utility service, stating that:

A "just and reasonable" rate is one that is fair to both the utility and its customers; it is no more than is sufficient to "keep public utility plants in proper repair for effective public service, [and] ...to insure to the investors a reasonable return upon funds invested. ${ }^{2}$

Based on those standards, the authorized ROE should provide the Company with the opportunity to earn a fair and reasonable return and should enable efficient access to external capital under a variety of market conditions.
Q. Why is it important for a utility to be allowed the opportunity to earn a return

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## adequate to attract equity capital at reasonable terms?

A. A return that is adequate to attract capital at reasonable terms enables the utility to provide service while maintaining its financial integrity. In keeping with the Hope and Bluefield standards, that return should be commensurate with the returns expected elsewhere in the market for investments of equivalent risk. The consequence of the Commission's order in this case, therefore, should be to provide Liberty Utilities with the opportunity to earn a return on equity that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks. To the extent Liberty Utilities is provided a reasonable opportunity to earn its market-based Cost of Equity, neither customers nor shareholders should be disadvantaged. In fact, a return that is adequate to attract capital at reasonable terms enables Liberty Utilities to provide safe, reliable natural gas utility service while maintaining its financial integrity.

## IV. PROXY GROUP SELECTION

Q. As a preliminary matter, why is it necessary to select a group of proxy companies to determine the Cost of Equity for the Company?
A. Since the ROE is a market-based concept, and Liberty Utilities is not a publicly traded entity, it is necessary to establish a group of comparable publicly-traded companies to serve as its "proxy." Even if Liberty Utilities were a publicly traded entity, short-term events could bias its market value during a given period of time. A significant benefit of using a proxy group is that it serves to moderate the effects of anomalous, temporary events associated with any one company.
Q. Does the selection of a proxy group suggest that analytical results will be tightly clustered around average (i.e., mean) results?
A. No. For example, the Constant Growth DCF approach, defines the Cost of Equity as the sum of the expected dividend yield and projected long-term growth. Despite the care taken to ensure risk comparability, market expectations with respect to future risks and growth opportunities will vary from company to company. Therefore, even within a group of similarly situated companies, it is common for analytical results to reflect a seemingly wide range. Consequently, at issue is how to estimate a Company's ROE from within that range. That determination necessarily must consider a wide range of both empirical and qualitative information.
Q. Please provide a summary profile of Liberty Utilities.
A. Liberty Utilities, which is an indirect wholly owned subsidiary of Algonquin Power \& Utilities Corp., provides natural gas distribution service to approximately 82,000 customers in Missouri, Illinois, and Iowa ${ }^{3}$
Q. How did you select the companies included in your proxy group?
A. I began with the universe of companies that Value Line classifies as Electric or Natural Gas Utilities, which includes a group of 58 domestic U.S. utilities, and applied the following screening criteria:

- I excluded companies that do not consistently pay quarterly cash dividends;
- All of the companies in my proxy group have been covered by at least two utility industry equity analysts;
- All of the companies in my proxy group have investment grade senior unsecured bond and/or corporate credit ratings from Standard \& Poor's ("S\&P") ${ }^{4}$;
- To ensure that my proxy group represents natural gas distribution operations, I included companies with at least 60.00 percent of consolidated net operating income derived from regulated natural gas utility operations; and
- I eliminated companies currently known to be party to a merger, or other significant transaction.


## Q. What companies met those screening criteria?

A. The criteria discussed above resulted in a proxy group of the following nine companies:

Table 1: Proxy Group Screening Results

| Company | Ticker |
| :--- | :---: |
| AGL Resources | GAS |
| Atmos Energy | ATO |
| Laclede Group | LG |
| New Jersey Resources | NJR |
| Northwest Natural Gas | NWN |
| Piedmont Natural Gas | PNY |
| South Jersey Industries | SJI |
| Southwest Gas | SWX |
| Washington Gas Light | WGL |

## Q. Do you believe that a proxy group of nine companies is sufficiently large?

A. Yes. The analyses performed in estimating the ROE are more likely to be representative of the subject utility's Cost of Equity to the extent that the chosen proxy companies are
fundamentally comparable to the subject utility. Because all analysts use some form of screening process to arrive at a proxy group, the group, by definition, is not randomly drawn from a larger population. Consequently, there is no reason to place more reliance on the quantitative results of a larger proxy group simply by virtue of the resulting larger number of observations.

Moreover, because I am using market-based data, my analytical results will not necessarily be tightly clustered around a central point. Results that may be somewhat dispersed, however, do not suggest that the screening approach is inappropriate or the results less meaningful. In my view, including companies whose fundamental comparability is tenuous at best simply for the purpose of expanding the number of observations does not add relevant information to the analysis.

## V. COST OF EQUITY ESTIMATION

## Q. Please briefly discuss the ROE in the context of the regulated rate of return.

A. Regulated utilities primarily use common stock and long-term debt to finance their capital investments. The overall rate of return ("ROR") weighs the costs of the individual sources of capital by their respective book values. While the cost of debt can be directly observed, the Cost of Equity is market-based and, therefore, must be estimated based on observable market information.

## Q. How is the required ROE determined?

A. I estimated the ROE using analyses based on market data to quantify a range of investor expectations of required equity returns. By their very nature, quantitative models produce a range of results from which the market required ROE must be estimated. As
discussed throughout my Direct Testimony, that estimation must be based on a comprehensive review of relevant data and information, and does not necessarily lend itself to a strict mathematical solution. Consequently, the key consideration in determining the ROE is to ensure that the overall analysis reasonably reflects investors' view of the financial markets in general and the subject company (in the context of the proxy companies) in particular.

## Quarterly Growth DCF Model

## Q. Are DCF models widely used in regulatory proceedings?

A. Yes. In my experience, the DCF model is widely recognized in regulatory proceedings, as well as in financial literature. Nonetheless, neither the DCF nor any other model should be applied without considerable judgment in the selection of data and the interpretation of results.

## Q. Please describe the DCF approach.

A. The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its simplest form, the DCF model expresses the Cost of Equity as the sum of the expected dividend yield and long-term growth rate, and is expressed as follows:

$$
P=\frac{D_{1}}{(1+k)}+\frac{D_{2}}{(1+k)^{2}}+\cdots+\frac{D_{\infty}}{(1+k)^{\infty}} \quad \text { Equation [1] }
$$

where $P$ represents the current stock price, $D_{1} \ldots D_{\infty}$ represent expected future dividends, and $k$ is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the familiar form:

$$
k=\frac{D_{0}(1+g)}{P}+g \quad \text { Equation [2] }
$$

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 Direct TestimonyPage 11 of 49 Equation [2] often is referred to as the "Constant Growth DCF" model, in which the first term is the expected dividend yield and the second term is the expected long-term annual growth rate.

In essence, the DCF model assumes that the total return received by investors includes the dividend yield, and the rate of growth. As explained below, under the model's assumptions, the rate of growth equals the rate of capital appreciation. That is, the model assumes that the investor's return is the sum of the dividend yield and the increase in the stock price. However, most dividend-paying companies, including utilities, pay dividends on a quarterly (as opposed to an annual) basis. The yield component of the Quarterly Growth DCF model, therefore, accounts for the quarterly payment of dividends. Thus, the Quarterly Growth DCF model incorporates investors' expectation of the quarterly payment of dividends, and the associated quarterly compounding of those dividends as they are reinvested at investors' required ROE. As noted by Dr. Roger Morin:

Clearly, given that dividends are paid quarterly and that the observed stock price reflects the quarterly nature of dividend payments, the market-required return must recognize quarterly compounding, for the investor receives dividend checks and reinvests the proceeds on a quarterly schedule ... The annual DCF model inherently understates the investors' true return because it assumes all cash flows received by investors are paid annually. ${ }^{5}$
Q. How is the dividend yield component of the Quarterly Growth DCF model calculated?
A. The dividend yield is calculated such that it incorporates the time value of money

5 Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006 at 344.
associated with quarterly compounding. To do so, the $D$ component of the Constant Growth DCF model is replaced with the following equation:

$$
D=d_{1}(1+k)^{75}+d_{2}(1+k)^{.50}+d_{3}(1+k)^{.25}+d_{4}(1+k)^{0} \quad \text { Equation [3] }
$$

where:

$$
\begin{aligned}
& d_{1}, d_{2}, d_{3}, d_{4}=\text { expected quarterly dividends over the coming year } \\
& k=\text { the required Return on Equity }
\end{aligned}
$$

Due to the fact that the required $\operatorname{ROE}(k)$ is a variable in the dividend calculation, the Quarterly Growth DCF model is solved in an iterative fashion.
Q. What market data did you use to calculate the dividend yield in your Quarterly Growth DCF model?
A. To calculate the expected dividends over the coming year for the proxy companies (i.e., $d_{1}, d_{2}, d_{3}$, and $d_{4}$ ), I obtained the last four paid quarterly dividends for each company, and multiplied them by one plus the growth rate (i.e., $1+\mathrm{g}$ ). For the $\mathrm{P}_{0}$ component of the dividends yield, I obtained the closing stock prices over the 30 -, 90 -, and 180 -trading days ended December 31, 2013 for each company in the proxy group.
Q. Why did you use three averaging periods to calculate an average stock price?
A. I did so to ensure that the model's results are not skewed by anomalous events that may affect stock prices on any given trading day. At the same time, the averaging period should be reasonably representative of expected capital market conditions over the long term. In my view, using 30-, 90-, and 180-day averaging periods reasonably balances those concerns.

## Q. Is it important to select appropriate measures of long-term growth in applying the DCF model?

A. Yes. In its Constant Growth form, the DCF model (i.e., as presented in Equation [2] above) assumes a single growth estimate in perpetuity. The same assumption is made in the Quarterly Growth DCF model. Accordingly, in order to reduce the long-term growth rate to a single measure, one must assume a fixed payout ratio, and the same constant growth rate for earnings per share ("EPS"), dividends per share, and book value per share. Since dividend growth can only be sustained by earnings growth, the model should incorporate a variety of measures of long-term earnings growth. That can be accomplished by averaging those measures of long-term growth that tend to be least influenced by capital allocation decisions that companies may make in response to nearterm changes in the business environment. Since such decisions may directly affect nearterm dividend payout ratios, estimates of earnings growth are more indicative of longterm investor expectations than are dividend growth estimates. Therefore, for the purposes of the Quarterly Growth DCF model, growth in EPS represents the appropriate measure of long-term growth.
Q. Please summarize the findings of academic research on the appropriate measure for estimating equity returns using the DCF model.
A. The relationship between various growth rates and stock valuation metrics has been the subject of much academic research. ${ }^{6}$ As noted over 40 years ago by Charles Phillips in The Economics of Regulation:

[^1]For many years, it was thought that investors bought utility stocks largely on the basis of dividends. More recently, however, studies indicate that the market is valuing utility stocks with reference to total per share earnings, so that the earnings-price ratio has assumed increased emphasis in rate cases. ${ }^{7}$

Philips' conclusion continues to hold true. Subsequent academic research has clearly and consistently indicated that measures of earnings and cash flow are strongly related to returns, and that analysts' forecasts of growth are superior to other measures of growth in predicting stock prices. ${ }^{8}$ For example, Vander Weide and Carleton state that, "[our] results...are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions." Other research specifically notes the importance of analysts' growth estimates in determining the Cost of Equity, and in the valuation of equity securities. Dr. Robert Harris noted that "a growing body of knowledge shows that analysts' earnings forecast are indeed reflected in stock prices." Citing Cragg and Malkiel, Dr. Harris notes that those authors "found that the evaluations of companies that analysts make are the sorts of ones on which market valuation is based." ${ }^{10}$ Similarly, Brigham, Shome and Vinson noted that "evidence in the current literature indicates that (i) analysts' forecasts are superior to forecasts based solely on time series data; and (ii) investors do rely on

7

Charles F. Phillips, Jr., The Economics of Regulation, Revised Edition, 1969, Richard D. Irwin, Inc., at 285.

See, for example, Christofi, Christofi, Lori and Moliver, Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate, Journal of Investing (Spring 1999); Harris and Marston, Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts, Financial Management, 21 (Summer 1992); and Vander Weide and Carleton, Investor Growth Expectations: Analysts vs. History, The Journal of Portfolio Management, Spring 1988.
Vander Weide and Carleton, Investor Growth Expectations: Analysts vs. History, The Journal of Portfolio Management, Spring 1988.
Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management, Spring 1986.
analysts' forecasts." ${ }^{11}$
To that point, the research of Carleton and Vander Weide demonstrates that earnings growth projections have a statistically significant relationship to stock valuation levels, while dividend growth rates do not. ${ }^{12}$ Those findings suggest that investors form their investment decisions based on expectations of growth in earnings, not dividends. Consequently, earnings growth not dividend growth is the appropriate estimate for the purpose of the Constant Growth DCF model.

## Q. Please describe the Retention Growth estimate as applied in your Quarterly Growth DCF model.

A. The Retention Growth model, which is a generally recognized and widely taught method of estimating long-term growth, is an alternative approach to the use of analysts' earnings growth estimates. In essence, the model is premised on the proposition that a firm's growth is a function of its expected earnings, and the extent to which it retains earnings to invest in the enterprise. In its simplest form, the model represents long-term growth as the product of the retention ratio (i.e., the percentage of earnings not paid out as dividends (referred to below as " b ") and the expected return on book equity (referred to below as " r ")). Thus, the simple " $\mathrm{b} \times \mathrm{r}$ " form of the model projects growth as a function of internally generated funds. That form of the model is limiting, however, in that it does not provide for growth funded from external equity.

The "br +sv " form of the Retention Growth estimate used in my DCF analysis is

11 Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, The Risk Premium Approach to Measuring a Utility's Cost of Equity, Financial Management, Spring 1985. Portfolio Management, Spring 1988.
meant to reflect growth from both internally generated funds (i.e., the "br" term) and from issuances of equity (i.e., the "sv" term). The first term, which is the product of the retention ratio (i.e., " b ", or the portion of net income not paid in dividends) and the expected Return on Equity (i.e., "r") represents the portion of net income that is "plowed back" into the Company as a means of funding growth. The "sv" term is represented as: $\left(\frac{m}{b}-1\right) x$ Growth rate in Common Shares Equation [4] where $\frac{m}{b}$ is the Market-to-Book ratio.

In this form, the "sv" term reflects an element of growth as the product of (a) the growth in shares outstanding, and (b) that portion of the market-to-book ratio that exceeds unity. As shown in Schedule RBH-4, all of the components of the Retention Growth model can be derived from data provided by Value Line.

## Q. How did you calculate the high and low DCF results?

A. I calculated the proxy group mean high DCF results by using the maximum EPS growth rate as reported by Value Line, Zacks, First Call, and the Retention Growth estimate for each proxy group company in combination with the dividend yield for each of the proxy companies. The proxy group mean high results then reflect the average of the maximum DCF results for the proxy group as a whole. I used a similar approach to calculate the proxy group mean low results using instead the minimum of the Value Line, Zacks, First Call and the Retention Growth estimate for each proxy group company.

## Q. What are the results of your Quarterly Growth DCF analysis?

A. My Quarterly Growth DCF results are summarized in Table 2, below (see also Schedule RBH-1).

Table 2: Quarterly Growth DCF Results ${ }^{13}$

|  | Mean Low | Mean | Mean High |
| :--- | :---: | :---: | :---: |
| 30-Day Average | $8.05 \%$ | $9.29 \%$ | $10.76 \%$ |
| 90-Day Average | $8.05 \%$ | $9.28 \%$ | $10.76 \%$ |
| 180-Day Average | $8.03 \%$ | $9.26 \%$ | $10.74 \%$ |

## Constant Growth DCF Model

## Q. What assumptions are required for the Constant Growth DCF model?

A. The Constant Growth DCF model assumes: (1) a constant average annual growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-toearnings multiple; and (4) a discount rate greater than the expected growth rate. Under those assumptions, dividends, earnings, book value, and the stock price all grow at the same, constant rate.
Q. What market data did you use to calculate the dividend yield component of your DCF model?
A. The dividend yield is based on the proxy companies' current annualized dividend, and average closing stock prices over the $30-, 90$-, and 180 -trading day periods as of December 31, 2013.
Q. Did you make any adjustments to the dividend yield to account for periodic growth in dividends?
A. Yes. Since utilities increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over
calendar quarters. Given that assumption, it is appropriate to calculate the expected dividend yield by applying one-half of the long-term growth rate to the current dividend yield. ${ }^{14}$ That adjustment ensures that the expected dividend yield is representative of the coming twelve-month period, and does not overstate the dividends to be paid during that time.

## Q. What growth rates did you use in your Constant Growth DCF model analysis?

A. I used the same projected EPS growth rates as well as the Retention Growth estimate applied in my Quarterly Growth DCF model analysis.
Q. Please summarize your inputs to the Constant Growth DCF model.
A. I used the following inputs for the price and dividend terms:

1. The average daily closing prices for the $30-, 90$-, and 180 -trading days ended December 31, 2013, for the term $P_{0}$; and
2. The annualized dividend per share as of December 31, 2013, for the term $D_{0}$.

I then calculated my DCF results using each of the following growth terms:

1. The Zacks consensus long-term earnings growth estimates;
2. The First Call consensus long-term earnings growth estimates;
3. The Value Line long-term earnings growth estimates; and
4. An estimate of Retention Growth.
Q. What are the results of your Constant Growth DCF analysis?
A. My Constant Growth DCF results are summarized in Table 3, below (see also Schedule

RBH-2).
Table 3: Constant Growth DCF Results ${ }^{15}$

|  | Mean Low | Mean | Mean High |
| :--- | :---: | :---: | :---: |
| 30-Day Average | $7.93 \%$ | $9.12 \%$ | $10.55 \%$ |
| 90-Day Average | $7.92 \%$ | $9.12 \%$ | $10.55 \%$ |
| 180-Day Average | $7.90 \%$ | $9.10 \%$ | $10.53 \%$ |

## Multi-Stage DCF Model

## Q. What other forms of the DCF model have you used?

A. In order to address certain limiting assumptions underlying the Constant Growth form of the DCF model, I also considered the Multi-Stage (three-stage) DCF Model. The MultiStage model, which is an extension of the Constant Growth form, enables the analyst to specify growth rates over three distinct stages. As with the Constant Growth form of the DCF model, the Multi-Stage form defines the Cost of Equity as the discount rate that sets the current price equal to the discounted value of future cash flows. Unlike the Constant Growth form, however, the Multi-Stage model must be solved in an iterative fashion.
Q. Please generally describe the structure of your Multi-Stage model.
A. As noted above, the model sets the subject company's stock price equal to the present value of future cash flows received over three "stages". In the first two stages, "cash flows" are defined as projected dividends. In the third stage, "cash flows" equal both dividends and the expected price at which the stock will be sold at the end of the period (i.e., the "terminal price"). I calculated the terminal price based on the Gordon model,

15 DCF results presented in Table 3 are unadjusted (i.e., prior to any adjustment for flotation costs).
which defines the price as the expected dividend divided by the difference between the Cost of Equity (i.e., the discount rate) and the long-term expected growth rate. In essence, the terminal price is defined by the present value of the remaining "cash flows" in perpetuity. In each of the three stages, the dividend is the product of the projected earnings per share and the expected dividend payout ratio. A summary description of the model is provided in Table 4 (below).

## Table 4: Multi-Stage DCF Structure

| Stage | 0 | 1 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: |
| Cash Flow Component | Initial Stock Price | Expected <br> Dividend | Expected <br> Dividend | Expected <br> Dividend + <br> Terminal <br> Value |
| Inputs | Stock Price <br> Earnings Per <br> Share (EPS) <br> Dividends Per <br> Share (DPS) | Expected EPS <br> Expected DPS | Expected EPS Expected DPS | Expected EPS <br> Expected DPS <br> Terminal <br> Value |
| Assumptions | $\begin{aligned} & 30-, 90-\text {, and } \\ & \text { 180-day } \\ & \text { average stock } \\ & \text { price } \end{aligned}$ | EPS Growth Rate Payout Ratio | Growth Rate <br> Change <br> Payout Ratio <br> Change | Long-term Growth Rate Long-term Payout Ratio |

## Q. What are the analytical benefits of your three-stage model?

A. The principal benefits relate to the flexibility provided by the model's formulation. Since the model provides the ability to specify near, intermediate and long-term growth rates, for example, it avoids the sometimes limiting assumption that the subject company will grow at the same, constant rate in perpetuity. In addition, by calculating the dividend as the product of earnings and the payout ratio, the model enables analysts to reflect assumptions regarding the timing and extent of changes in the payout ratio to reflect, for
example, increases or decreases in expected capital spending, or transition from current payout levels to long-term expected levels. In that regard, because the model relies on multiple sources of earnings growth rate assumptions, it is not limited to a single source, such as Value Line, for all inputs, and mitigates the potential bias associated with relying on a single source of growth estimates. ${ }^{16}$

The model also enables the analyst to assess the reasonableness of the inputs and results by reference to certain market-based metrics. For example, the stock price estimate can be divided by the expected earnings per share in the final year to calculate an average Price to Earnings ("P/E") ratio. Similarly, the terminal $\mathrm{P} / \mathrm{E}$ ratio can be divided by the terminal growth rate to develop a Price to Earnings Growth ("PEG") ratio. To the extent that either the projected $\mathrm{P} / \mathrm{E}$ or PEG ratios are inconsistent with either historical or expected levels, it may indicate incorrect or inconsistent assumptions within the balance of the model.

## Q. Please summarize your inputs to the Multi-Stage DCF model.

A. I applied the Multi-Stage model to the proxy group described earlier in my Direct Testimony. My assumptions with respect to the various model inputs are described in Table 5 (below).

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Table 5: Multi-Stage DCF Model Assumptions

| Stage | Initial | First | Transition | Terminal |
| :--- | :--- | :--- | :--- | :--- |
| Stock Price | $30-, 90$-, and <br> 180 -day <br> average stock <br> price as of <br> December 31, <br> 2013 |  |  |  |
| Earnings <br> Growth | 2012 actual <br> EPS escalated <br> by Period 1 <br> growth rate | EPS growth as <br> average of (1) <br> Value Line; (2) <br> Zacks; (3) First <br> Call; (4) <br> Retention <br> Growth rates | Transition to <br> Long-term <br> GDP growth | Long-term <br> GDP growth |
| Payout Ratio | Value Line <br> company- <br> specific | Value Line <br> company- <br> specific | Transition to <br> long-term <br> industry payout <br> ratio | Long-term <br> expected <br> payout ratio |
| Terminal Value |  |  | Expected <br> dividend in <br> final year <br> divided by <br> solved Cost of <br> Equity less <br> long-term <br> growth rate |  |

## Q. How did you calculate the long-term GDP growth rate?

A. The long-term growth rate of 5.71 percent is based on the real GDP growth rate of 3.29 percent from 1929 through $2012,{ }^{17}$ and an inflation rate of 2.35 percent. ${ }^{18}$ The GDP growth rate is calculated as the compound growth rate in the chain-weighted GDP for the period from 1929 through 2012. The rate of inflation of 2.35 percent is a compound annual forward rate starting in ten years (i.e., 2024, which is the beginning of the terminal

[^2]period) and is based on the 30-day average projected inflation based on the spread between yields on long-term nominal Treasury Securities and long-term Treasury Inflation Protected Securities, known as the "TIPS spread".

In essence, my real GDP growth rate projection is based on the assumption that absent specific knowledge to the contrary, it is reasonable to assume that over time, real GDP growth will revert to its long-term mean. Moreover, since estimating the Cost of Equity is a market-based exercise, it is important to reflect the sentiments and expectations of investors to the extent possible. In that important respect, the TIPS spread represents the collective views of investors regarding long-term inflation expectations. Equally important, by using forward yields we are able to infer the level of long-term inflation expected by investors as of the terminal period of the Multi-Stage model (that is, ten years in the future).

## Q. What were your specific assumptions with respect to the payout ratio?

A. As noted in Table 5, for the first two periods, I relied on the first year and long-term projected payout ratios reported by Value Line ${ }^{19}$ for each of the proxy companies. I then assumed that by the end of the second period (i.e., the end of year 10), the payout ratio will converge to the industry expected ratio of 69.45 percent. ${ }^{20}$ Table 6 (below; see also Schedule RBH-3) presents the Multi-Stage DCF analysis results. Using the Gordon model to calculate the terminal stock price, the Multi-Stage DCF analysis produces a range of results from 9.56 percent to 10.36 percent.

[^3]Table 6: Multi-Stage DCF Model Results ${ }^{21}$

|  | Low | Mean | High |
| :---: | :---: | :---: | :---: |
| 30-Day Average | $9.58 \%$ | $9.92 \%$ | $10.36 \%$ |
| 90-Day Average | $9.58 \%$ | $9.91 \%$ | $10.36 \%$ |
| 180-Day Average | $9.56 \%$ | $9.89 \%$ | $10.34 \%$ |

## Discounted Cash Flow Model Results

## Q. Please summarize the results of your DCF analyses.

A. Table 7 (below) (see also Schedule RBH-1, Schedule RBH-2 and Schedule RBH-3) presents the results of the Quarterly Growth, Constant Growth and Multi-Stage DCF analyses. Setting aside the low results, the Quarterly Growth DCF produces a range of results from 9.26 percent to 10.76 percent and the Constant Growth DCF model produces a range of results from 9.10 percent to 10.55 percent. The Multi-Stage DCF analysis produces a range of results from 9.5658 percent to 10.36 percent.

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|  | Mean <br> Low | Mean | Mean <br> High |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Quarterly Growth DCF Results |  |  |  |  |  |
| 30-Day Average | $8.05 \%$ | $9.29 \%$ | $10.76 \%$ |  |  |
| 90-Day Average | $8.05 \%$ | $9.28 \%$ | $10.76 \%$ |  |  |
| 180-Day Average | $8.03 \%$ | $9.26 \%$ | $10.74 \%$ |  |  |
| Constant Growth DCF Results |  |  |  |  |  |
| 30-Day Average | $7.93 \%$ | $9.12 \%$ | $10.55 \%$ |  |  |
| 90-Day Average | $7.92 \%$ | $9.12 \%$ | $10.55 \%$ |  |  |
| 180-Day Average | $7.90 \%$ | $9.10 \%$ | $10.53 \%$ |  |  |
|  |  |  |  |  | Multi-Stage DCF Results |
| 30-Day Average | $9.58 \%$ | $9.92 \%$ | $10.36 \%$ |  |  |
| 90-Day Average | $9.58 \%$ | $9.91 \%$ | $10.36 \%$ |  |  |
| 180-Day Average | $9.56 \%$ | $9.89 \%$ | $10.34 \%$ |  |  |

Table 7: Summary of DCF Model Results ${ }^{22}$

3 Q. Did you undertake any additional analyses to support your recommendation?
4 A. Yes. As noted earlier, I also applied the CAPM and Risk Premium approaches.

## CAPM Analysis

## Q. Please briefly describe the general form of the CAPM analysis.

A. The CAPM analysis is a risk premium method that estimates the Cost of Equity for a given security as a function of a risk-free return plus a risk premium (to compensate investors for the non-diversifiable or "systematic" risk of that security). As shown in Equation [5], the CAPM is defined by four components, each of which theoretically must be a forward-looking estimate:

$$
k=r_{f}+\beta\left(r_{m}-r_{f}\right) \quad \text { Equation [5] }
$$

where:
$k=$ the required market ROE for a security;
$\beta=$ the Beta coefficient of that security;
$r_{f}=$ the risk-free rate of return; and
$r_{m}=$ the required return on the market as a whole.
In Equation [5], the term $\left(r_{m}-r_{f}\right)$ represents the Market Risk Premium. ${ }^{23}$ According to the theory underlying the CAPM, since unsystematic risk can be diversified away by adding securities to their investment portfolio, investors should be concerned only with systematic or non-diversifiable risk. Non-diversifiable risk is measured by the Beta coefficient, which is defined as:

$$
\beta_{j}=\frac{\sigma_{j}}{\sigma_{m}} \times \rho_{j, m} \quad \text { Equation [6] }
$$

Where $\sigma_{j}$ is the standard deviation of returns for company " $j$, " $\sigma_{m}$ is the standard deviation of returns for the broad market (as measured, for example, by the S\&P 500 Index), and $\rho_{j, m}$ is the correlation of returns in between company $j$ and the broad market. The Beta coefficient therefore represents both relative volatility (i.e., the standard deviation) of returns, and the correlation in returns between the subject company and the overall market.

Intuitively, higher Beta coefficients indicate that the subject company's returns have been relatively volatile, and have moved in tandem with the overall market. Consequently, if a company has a Beta coefficient of 1.00 , it is as risky as the market and

[^4] The Market Risk Premium is defined as the incremental return of the market over the risk-free rate.
does not provide any diversification benefit.

## Q. Has the CAPM been affected by recent economic conditions?

A. Yes, for example, the risk-free rate, " $r_{f}$ ", in the CAPM formula is represented by the yield on long-term U.S. Treasury securities. During periods of increased equity market volatility investors tend to allocate their capital to low-risk securities such as Treasury bonds, thereby bidding down the yield on those securities. In addition, since the 2008 Lehman Brothers bankruptcy filing, the Federal Reserve has focused on maintaining low long-term interest rates. However, the capital markets continue to change, by some measures quite significantly; as discussed later in my Direct Testimony, the 30-year Treasury yield increased by 113 basis points from May through December 2013.
Q. With those observations in mind, what assumptions did you include in your CAPM analysis?
A. Since utility assets represent long-term investments, I used two different measures of the risk-free rate: (1) the current 30-day average yield on 30 -year Treasury bonds (i.e., 3.87 percent); and (2) the projected 30-year Treasury yield (i.e., 4.15 percent).
Q. Why have you relied upon the 30-year Treasury yield for your CAPM analysis?
A. In determining the security most relevant to the application of the CAPM, it is important to select the term (or maturity) that best matches the life of the underlying investment. Natural gas utilities typically are long-duration investments and as such, the 30-year Treasury yield is more suitable for the purpose of calculating the Cost of Equity.
Q. What Market Risk Premium did you use in your CAPM analysis?
A. For the reasons discussed above, I did not use a historical average; rather, I developed forward-looking (ex-ante) estimates of the Market Risk Premium.

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## Q. Please describe your ex-ante approach to estimating the Market Risk Premium.

A. The approach is based on the market required return, less the current 30 -year Treasury yield. To estimate the market required return, I calculated the market capitalization weighted average ROE based on the Constant Growth DCF model. To do so, I relied on data from two sources: (1) Bloomberg; and (2) Value Line. With respect to Bloombergderived growth estimates, I calculated the expected dividend yield (using the same onehalf growth rate assumption described earlier), and combined that amount with the projected earnings growth rate to arrive at the market capitalization weighted average DCF result. I performed that calculation for each of the $\mathrm{S} \& \mathrm{P} 500$ companies for which Bloomberg provided consensus growth rates. I then subtracted the current 30 -year Treasury yield from that amount to arrive at the market DCF-derived ex-ante market risk premium estimate. In the case of Value Line, I performed the same calculation, again using all companies for which five-year earnings growth rates were available. The results of those calculations are provided in Schedule RBH-5.
Q. How did you apply your expected Market Risk Premium and risk-free rate estimates?
A. I relied on the ex-ante Market Risk Premia discussed above, together with the current and near-term projected 30-year Treasury yields as inputs to my CAPM analyses.

## Q. What Beta coefficient did you use in your CAPM model?

A. With respect to the Beta coefficient, I considered two methods of calculation. My first approach simply employs the average reported Beta coefficient from Bloomberg and Value Line for each of the proxy companies. While both of those services adjust their calculated (or "raw") Beta coefficients to reflect the tendency of the Beta coefficient to
regress to the market mean of 1.00 , Value Line calculates the Beta coefficient over a fiveyear period, while Bloomberg's calculation is based on two years of data. I also calculated Beta coefficients over a more recent time period to provide a more current view as to investors' perspectives with respect to the systematic risk represented by the proxy companies.
Q. Please describe how you calculated the mean adjusted Beta coefficient for your proxy group.
A. As shown in Equation [6], the Beta coefficient is calculated as the ratio of the standard deviation of returns for the subject company and the market, respectively, multiplied by the correlation of returns between the two. I therefore calculated the "raw" Beta coefficient for each member of the proxy group, based on Equation [6], and adjusted those raw Beta coefficients to address the tendency to regress toward the market Beta coefficient of unity. For the purpose of that calculation, I used weekly returns, and calculated the standard deviation and correlations over the eighteen month period ended December 31, 2013. Averaging those results produces an adjusted Beta coefficient of 0.851 .

## Q. How and why did you adjust the raw Beta Coefficient?

A. I adjusted my raw Beta coefficient consistent with the methodology used by Bloomberg, which multiplies the raw Beta coefficient by 0.67 , and adds 0.33 to that product. The purpose of that adjustment is to reflect the results of substantial academic research indicating that, over time, raw Beta coefficients tend to regress to the market mean of

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$1.00 .^{24}$
Q. Please explain why you relied on a eighteen-month estimate of the proxy group mean adjusted Beta Coefficient.
A. As discussed above, the Market Risk Premium tends to change over time. In my view, the use of Beta Coefficients calculated over shorter periods is consistent with the notion that market conditions, and the risk premium required by investors in response to those conditions, also may change over shorter periods. In any case, by relying on both Value Line and Bloomberg, my CAPM analysis reflects Beta Coefficients calculated over longer periods, as well. ${ }^{25}$
Q. What are the results of your CAPM analysis?
A. As shown in Table 8, the CAPM analyses suggest an ROE range of 10.21 percent to 12.78 percent (see also Schedule RBH-7).

[^5]1

| Average Calculated Beta Coefficient |  |  |
| :--- | :---: | :---: |
|  <br> Premium | Bloomberg Derived <br> Market Risk <br> Market Risk <br> Premium |  |
| Current 30-Year Treasury (3.87\%) | $12.50 \%$ | $11.40 \%$ |
| Near Term Projected 30-Year Treasury (4.15\%) | $12.78 \%$ | $11.68 \%$ |
| Average Bloomberg Beta Coefficient |  |  |
| Current 30-Year Treasury (3.87\%) | $11.96 \%$ | $10.93 \%$ |
| Near Term Projected 30-Year Treasury (4.15\%) | $12.24 \%$ | $11.21 \%$ |
| Average Value Line Beta Coefficient |  |  |
| Current 30-Year Treasury (3.87\%) | $11.14 \%$ | $10.21 \%$ |
| Near Term Projected 30-Year Treasury (4.15\%) | $11.42 \%$ | $10.49 \%$ |

Table 8: Summary of CAPM Results

## Bond Yield Plus Risk Premium Approach

## Q. Please generally describe the Bond Yield Plus Risk Premium approach.

A. This approach is based on the basic financial tenet that, since equity investors bear the residual risk associated with ownership and therefore require a premium over the return they would have earned as a bondholder. That is, since returns to equity holders are more risky than returns to bondholders, equity investors must be compensated for bearing that risk. Risk premium approaches, therefore, estimate the Cost of Equity as the sum of the equity risk premium and the yield on a particular class of bonds. As noted in my discussion of the CAPM, since the equity risk premium is not directly observable, it typically is estimated using a variety of approaches, some of which incorporate ex-ante, or forward-looking estimates of the Cost of Equity, and others that consider historical, or ex-post, estimates. An alternative approach is to use actual authorized returns for natural gas utilities to estimate the Equity Risk Premium.

## Q. Please explain how you performed your Bond Yield Plus Risk Premium analysis.

A. As suggested above, I first defined the Risk Premium as the difference between the authorized ROE and the then-prevailing level of long-term (i.e., 30-year) Treasury yield. I then gathered data for over 985 natural gas rate proceedings between January, 1980 and December 31, 2013. In addition to the authorized ROE, I also calculated the average period between the filing of the case and the date of the final order (the "lag period"). In order to reflect the prevailing level of interest rates during the pendency of the proceedings, I calculated the average 30 -year Treasury yield over the average lag period (approximately 187 days).

Because the data cover a number of economic cycles, the analysis also may be used to assess the stability of the Equity Risk Premium. Prior research, for example, has shown that the Equity Risk Premium is inversely related to the level of interest rates. That analysis is particularly relevant given the relatively low, but increasing level of current Treasury yields.
Q. How did you model the relationship between interest rates and the Equity Risk Premium?
A. The basic method used was regression analysis, in which the observed Equity Risk Premium is the dependent variable, and the average 30 -year Treasury yield is the independent variable. Relative to the long-term historical average, the analytical period includes interest rates and authorized ROEs that are quite high during one period (i.e., the 1980s) and that are quite low during another (i.e., the post-Lehman bankruptcy period). To account for that variability, I used the semi-log regression, in which the Equity Risk

Premium is expressed as a function of the natural $\log$ of the 30 -year Treasury yield:

$$
R P=\alpha+\beta\left(\operatorname{LN}\left(T_{30}\right)\right) \text { Equation [7] }
$$

As shown on Chart 1 (below), the semi-log form is useful when measuring an absolute change in the dependent variable (in this case, the Risk Premium) relative to a proportional change in the independent variable (the 30 -year Treasury yield).

## Chart 1: Equity Risk Premium



As Chart 1 illustrates, over time there has been a statistically significant, negative relationship between the 30 -year Treasury yield and the Equity Risk Premium. Consequently, simply applying the long-term average Equity Risk Premium of 4.44 percent would significantly understate the Cost of Equity and produce results well below any reasonable estimate. Based on the regression coefficients in Chart 1 , however, the implied ROE is between $10.19 \%$ percent and $10.69 \%$ percent (see Schedule RBH-8 and Table 9, below).

Table 9: Bond Yield Plus Risk Premium Results

| Treasury Yield | Return on <br> Equity |
| :--- | :---: |
| Current 30-Year Treasury (3.87\%) | $10.19 \%$ |
| Near Term Projected 30-Year Treasury (4.15\%) | $10.27 \%$ |
| Long Term Projected 30-Year Treasury (5.25\%) | $10.69 \%$ |

## VI. BUSINESS RISKS AND OTHER CONSIDERATIONS

Q. What additional information did you consider in assessing the analytical results noted above?
A. Because the analytical methods discussed above provide a range of estimates, there are several additional factors that should be taken into consideration when establishing a reasonable range for the Company's Cost of Equity. Those factors include: (1) the relatively small size of the Company; and (2) flotation costs.

## Small Size Premium

## Q. Please explain the risk associated with small size.

A. Both the financial and academic communities have long accepted the proposition that the Cost of Equity for small firms is subject to a "size effect." ${ }^{26}$ While empirical evidence of the size effect often is based on studies of industries beyond regulated utilities, utility analysts also have noted the risks associated with small market capitalizations. Specifically, Ibbotson Associates noted: "For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of

[^6]
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diversification across customers, energy sources, and geography. These obstacles imply a higher investor return. ${ }^{27}$

## Q. How does Liberty Utilities compare in size to the proxy companies?

A. Liberty Utilities is significantly smaller than the proxy group, both in terms of number of customers and annual revenues. Schedule RBH-9 estimates the implied market capitalization for Liberty Utilities (i.e., the implied market capitalization if Liberty Utilities were a stand-alone, publicly traded entity). That is, because Liberty Utilities is not a separately traded entity, an estimated stand-alone market capitalization for Liberty Utilities must be calculated. The implied market capitalization of Liberty Utilities is calculated by applying the median market-to-book ratio for the proxy group of 1.60 to the Company's implied total common equity of approximately $\$ 51$ million. ${ }^{28}$ The implied market capitalization based on that calculation is $\$ 82$ million, which is only 4.01 percent of the proxy group median of $\$ 2.04$ billion.
Q. Have you also considered Liberty Utilities' comparatively small size in your estimated Cost of Equity?
A. Yes. While I have quantified the small size effect, rather than proposing a specific premium, I have considered the small size of Liberty Utilities in my assessment of business risks in order to determine where, within a reasonable range of returns, Liberty Utilities' required ROE appropriately falls. In that regard, Liberty Utilities' comparatively small size further supports my conclusion that an ROE at the upper end of my recommended range is reasonable.

27 Michael Annin, Equity and the Small-Stock Effect, Public Utilities Fortnightly, October 15, 1995. Equity value of Liberty Utilities is estimated from proposed rate base and its capital structure.

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## Q. How did you estimate the size premium for Liberty Utilities?

A. In its Risk Premia Over Time Report: 2013, Morningstar Inc. ("Morningstar") presents its calculation of the size premium for deciles of market capitalizations relative to the $\mathrm{S} \& \mathrm{P}$ 500 Index. An additional estimate of the size premium associated with Liberty Utilities, therefore, is the difference in the Morningstar size risk premiums for the proxy group median market capitalization relative to the implied market capitalization for Liberty Utilities.

As shown on Schedule RBH-9, based on recent market data, the median market capitalization of the proxy group was approximately $\$ 2.04$ billion, which corresponds to the fifth decile of Morningstar's market capitalization data. Based on the Morningstar analysis, that decile has a size premium of 1.70 percent (or 170 basis points). The implied market capitalization for Liberty Utilities is approximately $\$ 82$ million, which falls within the tenth decile and corresponds to a size premium of 6.03 percent (or 603 basis points). The difference between those size premiums is 433 basis points ( 4.33 percent).

## Flotation Costs

## Q. What are flotation costs?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These include out-of-pocket expenditures for preparation, filing, underwriting, and other costs of issuance.
Q. Are flotation costs part of the utility's invested costs or part of the utility's expenses?
A. Flotation costs are part of capital costs, which are properly reflected on the balance sheet under "paid in capital" rather than current expenses on the income statement. Flotation costs are incurred over time, just as investments in rate base or debt issuance costs. As a result, the great majority of flotation costs are incurred prior to the test year, but remain part of the cost structure during the test year and beyond.
Q. How did you calculate the flotation cost recovery adjustment?
A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs. My flotation cost adjustment recognizes the costs of issuing equity that were incurred by Liberty Utilities' parent company Algonquin Power and Utilities and the proxy companies in their most recent two issuances. As shown in Schedule RBH-10, an adjustment of 0.15 percent (i.e., 15 basis points) reasonably represents flotation costs for the Company.
Q. Are you proposing to adjust your recommended ROE by 15 basis points to reflect the effect of flotation costs on Liberty Utilities' ROE?
A. No. Rather, I have considered the effect of flotation costs, in addition to the Company's other business risks, in determining where the Company's ROE falls within the range of results.

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## VII. CAPITAL MARKET ENVIRONMENT

## Q. Do economic conditions influence the required cost of capital and required return

 on common equity?A. Yes. As discussed in Section V, the models used to estimate the Cost of Equity are meant to reflect, and therefore are influenced by, current and expected capital market conditions. The required cost of capital, including the ROE, is a function of prevailing and expected economic and capital market conditions. As to the analyses used to estimate the Cost of Equity, it is important to assess the reasonableness of any financial model's results in the context of observable market data. To the extent that certain ROE estimates are incompatible with such data or inconsistent with basic financial principles, it is appropriate to consider whether alternative estimation techniques are likely to provide more meaningful and reliable results.
Q. Please summarize the effect of recent Federal Reserve policies on interest rates and the cost of capital.
A. Beginning 2008, the Federal Reserve proceeded on a steady path of initiatives intended to lower long-term Treasury yields. ${ }^{29}$ The Federal Reserve policy actions "were designed to put downward pressure on longer-term interest rates by having the Federal Reserve take onto its balance sheet some of the duration and prepayment risks that would otherwise have been borne by private investors." 30 Under that policy, "Securities held outright" on the Federal Reserve's balance sheet increased from approximately $\$ 489$ billion at the
beginning of October 2008 to $\$ 3.76$ trillion by the end of December 2013. ${ }^{31}$ To put that increase in context, the securities held by the Federal Reserve represented approximately 3.29 percent of Gross Domestic Product ("GDP") at the end of September 2008, and had risen to approximately 22.26 percent of GDP in $2013 .^{32}$

## Q. Is the Federal Reserve expected to maintain these policies?

A. The extent to which the Federal Reserve will maintain its policy action depends on its view of "the likely efficacy and costs" of its Quantitative Easing program. ${ }^{33}$ Although the Federal Reserve began "tapering" its asset purchases in December 2013, the future pace of such reductions is not on a "preset course". ${ }^{34}$ Nonetheless, the steady increase in interest rates since May 2013 suggests that investors have begun to focus on timing and extent of further reductions in monthly asset purchases by the Federal Reserve. As such, significant uncertainties remain in the market today and going forward. The uncertainty surrounding the timing of the Federal Reserve's future policy decisions, including the unwinding of stimulus programs, represents a risk to investors that, in my view, should be reflected in the Company's authorized ROE.

## Q. Have capital market conditions changed over the past year?

A. Yes. There is little question that both current and expected long-term interest rates have increased over the past year, in particular over the latter half of 2013. As Chart 2 indicates, the 30 -year Treasury yield rose by 113 basis points from May through

[^7]December, 2013.

## Chart 2: Treasury Yield Curve ${ }^{35}$



Based on the slope of the yield curve for each trading day over the year ended December 31, 2013, I calculated the forward 27-year Treasury yield expected three years hence. I performed that calculation based on the "expectations" theory, which states that (for example) the current 30-year Treasury yield equals the combination of the current three-year Treasury yield, and the 27 -year Treasury yield expected in three years. That is, an investor would be indifferent to (1) holding a 30 -year Treasury to maturity, or (2) holding a three-year Treasury to maturity, then a Treasury bond with 27 -years remaining to maturity (see, Chart 3, below).

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Q. How does the recent rise in interest rates compare to analyst projections?
A. The recent rise in interest rates is consistent with analyst projections, which indicate further increase in both the near and long-term. As Chart 4 (below) demonstrates, interest rates are expected to rise from the historically low levels observed in 2012 and mid-2013. Chart 4: Historical and Projected Interest Rates ${ }^{37}$

Q. Have you considered any additional data to assess the effect of changing market conditions on Cost of Equity analyses?
A. Yes, I have. As discussed in Section V, it is important to assess model results in the context of prevailing market conditions. As noted above, for example, during the second half of 2013 interest rates significantly increased. As would be expected, as interest rates increased, the proxy companies' stock underperformed the broader market. In fact, while the 30 -year Treasury yield increased by 113 basis points from May through December 2013, the overall market (as measured by the S\&P 500) increased by approximately 16.79 percent, while the market value of the companies in my proxy group increased by

[^8]less than 2.00 percent (see Chart 5, below). ${ }^{38}$
Chart 5: Proxy Group Relative Performance ${ }^{39}$


It also is important to recognize that the policy of reducing asset purchases under the Federal Reserve's Quantitative Easing program is related to expectations of improved conditions and sustained growth in the overall economy. ${ }^{40}$ From that perspective, we would expect to see higher growth estimates for companies in the overall economy, including the utility sector. Since companies such as Liberty Utilities continue to invest in their rate base, and given that utilities provide a vital service to other industry sectors, it also would not be surprising to see an increase in expected utility growth rates.

I note the Florida Public Service Commission recently addressed the risk of rising interest rates in its Order in Tampa Electric Company's rate case which approved a mechanism wherein the authorized ROE will increase by 25 basis points if the six-month average of the 30-year Treasury yield is at least 75 basis points above the level of the 30 -year Treasury yield at the time of the order. See, Order No. PSC-13-044.-FOF-EI (Docket No. 130040-EI, Tampa Electric Company), at Exhibit A, page 4.
Source: SNL Financial. The proxy group relative performance is calculated as an index.
See, Minutes of the Federal Open Market Committee December 17-18, 2013, at 10.

## Q. What conclusions do you draw from your analyses of capital market conditions?

A. From an analytical perspective, it is important that the inputs and assumptions used to arrive at an ROE recommendation, including assessments of capital market conditions, are consistent with the recommendation itself. While I appreciate that all analyses require an element of judgment, the application of that judgment must be made in the context of the quantitative and qualitative information available to the analyst and the capital market environment in which the analyses were undertaken. Because the application of financial models and interpretation of their results often is the subject of differences among analysts in regulatory proceedings, I believe that it is important to review and consider a variety of data points; doing so enables us to put in context both quantitative analyses and the associated recommendations.

## VIII. CAPITAL STRUCTURE

## Q. What is the Company's capital structure?

A. The Company's capital structure consists of 58.34 percent common equity and 41.66 percent long-term debt. In practice, the capital structure should enable the Company to maintain or enhance its financial integrity, thereby enabling access to capital at competitive rates under a variety of economic and financial market conditions. As discussed below, it therefore is important to consider the capital structure in light of industry practice and investor requirements.

## Q. How does the capital structure affect the Cost of Equity?

A. The capital structure relates to financial risk, which is a function of the percentage of debt relative to equity (that relationship is often referred to as "financial leverage"). As the
percentage of debt in the capital structure increases, so do the fixed obligations for the repayment of that debt and, therefore, the risk that cash flows may not be sufficient to meet those obligations on a timely basis. Consequently, as the degree of financial leverage increases, the risk of financial distress (i.e., financial risk) also increases. Since the capital structure can affect the subject company's overall level of risk, it is an important consideration in establishing a just and reasonable rate of return.
Q. Please now describe your analysis of the Company's capital structure relative to industry practice.
A. As a measure of industry practice, I calculated the average capital structure for each of the proxy companies over the last eight fiscal quarters. As shown in Schedule RBH-11, the proxy group average capital structure over that period includes 56.40 percent equity and 43.60 percent long-term debt; the average equity ratios (on a company-specific basis) range from 48.69 percent to 68.42 percent. Based on that review, it is apparent that the Company's capital structure is consistent with those in place at the proxy companies.
Q. What is the basis for using average capital components rather than a point-in-time measurement?
A. Measuring the capital components at a particular point in time can skew the capital structure by the specific circumstances of a particular period. Therefore, it is more appropriate to normalize the relative relationship between the capital components over a period of time.
Q. What is your conclusion regarding an appropriate capital structure for Liberty Utilities?
A. Considering the proxy company average equity ratio of 56.40 percent, I believe that

Liberty Utilities' 58.34 percent common equity ratio is appropriate.

## IX. COST OF DEBT

## Q. What is the Company's cost of debt?

A. As shown in COS -9, the Company's cost of debt of is 4.78 percent.
Q. Have you assessed the Company's cost of debt relative to other natural gas utilities?
A. Yes, I calculated the embedded cost of debt for all authorized returns from January 1, 2013 through December 31, 2013. The mean embedded cost of debt over that period was 5.06 percent; the median was 5.13 percent. Based on that review, I believe the Company's 4.78 percent cost of debt is reasonable and appropriate.

## X. CONCLUSIONS AND RECOMMENDATION

## Q. What is your conclusion regarding the Company's Cost of Equity?

A. As discussed earlier in my Direct Testimony, I have performed several analyses to estimate the Company's Cost of Equity, and have considered several market-wide and Company-specific issues. In light of those considerations, I believe that a rate of return on common equity in the range of 10.00 percent to 10.50 percent represents the range of equity investors' required rate of return for investment in natural gas utilities similar to Liberty Utilities in today's capital markets. Within that range, it is my view that an ROE of 10.50 percent is reasonable and appropriate.

As discussed earlier in my testimony, my recommendation reflects analytical results based on a proxy group of natural gas utilities. My recommendation also takes into consideration the Company's risk profile, including its relatively small size and, as noted in the Direct Testimony of Mr. Christopher D. Krygier, its declining residential
customer base. My recommendation also considers the direct costs associated with equity issuances, although I do not make a specific adjustment for those costs.

I also conclude that the Company's capital structure, which consists of 58.34 percent common equity and 41.66 percent debt, is consistent with industry practice and, therefore, is reasonable and appropriate. Lastly, I conclude that the Company's 4.78 percent cost of debt, which is consistent with (albeit lower than) the cost of debt reflected in the overall rate of return for gas utilities during calendar year 2013, also is reasonable and appropriate.

Robert B. Hevert Direct Testimony

Page 48 of 49
Table 10: Summary of Analytical Results

| Quarterly DCF | Low | Mean | High |
| :---: | :---: | :---: | :---: |
| 30-Day Average | $8.05 \%$ | $9.29 \%$ | $10.76 \%$ |
| 90-Day Average | $8.05 \%$ | $9.28 \%$ | $10.76 \%$ |
| 180-Day Average | $8.03 \%$ | $9.26 \%$ | $10.74 \%$ |
| Constant Growth DCF | Low | Mean | High |
| 30-Day Average | $7.93 \%$ | $9.12 \%$ | $10.55 \%$ |
| 90-Day Average | $7.92 \%$ | $9.12 \%$ | $10.55 \%$ |
| 180-Day Average | $7.90 \%$ | $9.10 \%$ | $10.53 \%$ |
| Multi-Stage DCF | Low | Mean | High |
| 30-Day Average | $9.58 \%$ | $9.92 \%$ | $10.36 \%$ |
| 90-Day Average | $9.58 \%$ | $9.91 \%$ | $\mathbf{1 0 . 3 6 \%}$ |
| 180-Day Average | $9.56 \%$ | $9.89 \%$ | $10.34 \%$ |


| CAPM Results | Bloomberg Derived <br> Market Risk <br> Premium | Value Line Derived <br> Marke Risk <br> Premium |  |
| :--- | :---: | :---: | :---: |
| Average Calculated Beta Coefficient |  |  |  |
| Current 30-Year Treasury (3.87\%) | $12.50 \%$ | $11.40 \%$ |  |
| Near Term Projected 30-Year Treasury (4.15\%) | $12.78 \%$ | $11.68 \%$ |  |
| Average Bloomberg Beta Coefficient |  |  |  |
| Current 30-Year Treasury (3.87\%) | $11.96 \%$ | $10.93 \%$ |  |
| Near Term Projected 30-Year Treasury (4.15\%) | $12.24 \%$ | $11.21 \%$ |  |
| Average Value Line Beta Coefficient |  |  |  |
| Current 30-Year Treasury (3.87\%) | $11.14 \%$ | $10.21 \%$ |  |
| Near Term Projected 30-Year Treasury (4.15\%) | $11.42 \%$ | $10.49 \%$ |  |
|  |  |  |  |
|  |  |  |  |
| Bond Yield Plus Risk Premium | $10.19 \%$ | $10.27 \%$ |  |
| Flotation Cost | Low | Mid |  |

1 Q. Does this conclude your Direct Testimony?
2 A. Yes, it does.

# Attachment A <br> Résume of Robert B. Hevert 

Robert B. Hevert, CFA Managing Partner<br>Sussex Economic Advisors, LLC


#### Abstract

Mr. Hevert is an economic and financial consultant with broad experience in regulated industries. He has an extensive background in the areas of corporate finance, corporate strategic planning, energy market assessment, mergers, and acquisitions, asset-based transactions, feasibility and due diligence analyses, and providing expert testimony in litigated proceedings. Mr. Hevert has significant management experience with both operating and professional services companies.


## REPRESENTATIVE PROJECT EXPERIENCE

## Litigation Support and Expert Testimony

Provided expert testimony and support of litigation in various regulatory proceedings on a variety of energy and economic issues including: cost of capital for ratemaking purposes; the proposed transfer of power purchase agreements; procurement of residual service electric supply; the legal separation of generation assets; merger-related synergies; assessment of economic damages; and specific financing transactions. Services provided include collaborating with counsel, business and technical staff to develop litigation strategies, preparing and reviewing discovery and briefing materials, preparing presentation materials and participating in technical sessions with regulators and intervenors.

## Financial and Economic Advisory Services

Retained by numerous leading energy companies and financial institutions throughout North America to provide services relating to the strategic evaluation, acquisition, sale or development of a variety of regulated and nonregulated enterprises. Specific services have included: developing strategic and financial analyses and managing multi-faceted due diligence reviews of proposed corporate M\&A counter-parties; developing, screening and recommending potential M\&A transactions and facilitating discussions between senior utility executives regarding transaction strategy and structure; performing valuation analyses and financial due diligence reviews of electric generation projects, retail marketing companies, and wholesale trading entities in support of significant M\&A transactions.

Specific divestiture-related services have included advising both buy and sell-side clients in transactions for physical and contractual electric generation resources. Sell-side services have included: development and implementation of key aspects of asset divestiture programs such as marketing, offering memorandum development, development of transaction terms and conditions, bid process management, bid evaluation, negations, and regulatory approval process. Buy-side services have included comprehensive asset screening, selection, valuation and due diligence reviews. Both buy and sell-side services have included the use of sophisticated asset valuation techniques, and the development and delivery of fairness opinions.

Specific corporate finance experience while a Vice President with Bay State Gas included: negotiation, placement and closing of both private and public long-term debt, preferred and common equity; structured and project financing; corporate cash management; financial analysis, planning and forecasting; and various aspects of investor relations.

## Regulatory Analysis and Ratemaking

On behalf of electric, natural gas and combination utilities throughout North America, provided services relating to energy industry restructuring including merchant function exit, residual energy supply obligations, and stranded cost assessment and recovery. Specific services provided include: performing strategic review and development of merchant function exit strategies including analysis of provider of last resort obligations in both electric and gas markets; and developing value optimizing strategies for physical generation assets.

Attachment A<br>Résume of Robert B. Hevert

## Energy Market Assessment

Retained by numerous leading energy companies and financial institutions nationwide to manage or provide assessments of regional energy markets throughout the U.S. and Canada. Such assessments have included development of electric and natural gas price forecasts, analysis of generation project entry and exit scenarios, assessment of natural gas and electric transmission infrastructure, market structure and regulatory situation analysis, and assessment of competitive position. Market assessment engagements typically have been used as integral elements of business unit or asset-specific strategic plans or valuation analyses.

## Resource Procurement, Contracting and Analysis

Assisted various clients in evaluating alternatives for acquiring fuel and power supplies, including the development and negotiation of energy contracts and tolling agreements. Assignments also have included developing generation resource optimization strategies. Provided advice and analyses of transition service power supply contracts in the context of both physical and contractual generation resource divestiture transactions.

## Business Strategy and Operations

Retained by numerous leading North American energy companies and financial institutions nationwide to provide services relating to the development of strategic plans and planning processes for both regulated and non-regulated enterprises. Specific services provided include: developing and implementing electric generation strategies and business process redesign initiatives; developing market entry strategies for retail and wholesale businesses including assessment of asset-based marketing and trading strategies; and facilitating executive level strategic planning retreats. As Vice President, of Bay State was responsible for the company's strategic planning and business development processes, played an integral role in developing the company's non-regulated marketing affiliate, EnergyUSA, and managed the company's non-regulated investments, partnerships and strategic alliances.

## PROFESSIONAL HISTORY

## Sussex Economic Advisors, LLC (2012 - Present)

Managing Partner
Concentric Energy Advisors, Inc. (2002-2012)
President
Navigant Consulting, Inc. (1997-2001)
Managing Director (2000-2001)
Director (1998-2000)
Vice President, REED Consulting Group (1997-1998)

## Bay State Gas Company (now Columbia Gas Company of Massachusetts) (1987-1997)

Vice President and Assistant Treasurer
Boston College (1986-1987)
Financial Analyst
General Telephone Company of the South (1984-1986)
Revenue Requirements Analyst

## EDUCATION

M.B.A., University of Massachusetts at Amherst, 1984
B.S., University of Delaware, 1982

Attachment A<br>Résume of Robert B. Hevert

## DESIGNATIONS AND PROFESSIONAL AFFILIATIONS

Chartered Financial Analyst, 1991
Association for Investment Management and Research
Boston Security Analyst Society

## PUBLICATIONS/PRESENTATIONS

Has made numerous presentations throughout the United States and Canada on several topics, including:

- Generation Asset Valuation and the Use of Real Options
- Retail and Wholesale Market Entry Strategies
- The Use Strategic Alliances in Restructured Energy Markets
- Gas Supply and Pipeline Infrastructure in the Northeast Energy Markets
- Nuclear Asset Valuation and the Divestiture Process


## AVAILABLE UPON REQUEST

Extensive client and project listings, and specific references.

Attachment A
Testimony Listing of Robert B. Hevert

| SpONSOR | Date | Case/Applicant | Docket No. | SubJECT |
| :---: | :---: | :---: | :---: | :---: |
| Arizona Corporation Commission |  |  |  |  |
| Southwest Gas Corporation | 11/10 | Southwest Gas Corporation | $\begin{aligned} & \text { Docket No. G-01551A-10- } \\ & 0458 \end{aligned}$ | Return on Equity |
| Arkansas Public Service Commission |  |  |  |  |
| CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas | 01/07 | CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Arkansas Gas | Docket No. 06-161-U | Return on Equity |
| California Public Utilities Commission |  |  |  |  |
| Southwest Gas Corporation | 12/12 | Southwest Gas Corporation | Docket No. A-12-12-024 | Return on Equity |
| Colorado Public Utilities Commission |  |  |  |  |
| Xcel Energy, Inc. | 12/12 | Public Service Company of Colorado | Docket No. 12AL-1268G | Return on Equity (gas) |
| Xcel Energy, Inc. | 11/11 | Public Service Company of Colorado | Docket No. 11AL-947E | Return on Equity (electric) |
| Xcel Energy, Inc. | 12/10 | Public Service Company of Colorado | Docket No. 10AL-963G | Return on Equity (electric) |
| Atmos Energy Corporation | 07/09 | Atmos Energy Colorado-Kansas Division | Docket No. 09AL-507G | Return on Equity (gas) |
| Xcel Energy, Inc. | 12/06 | Public Service Company of Colorado | Docket No. 06S-656G | Return on Equity (gas) |
| Xcel Energy, Inc. | 04/06 | Public Service Company of Colorado | Docket No. 06S-234EG | Return on Equity (electric) |
| Xcel Energy, Inc. | 08/05 | Public Service Company of Colorado | Docket No. 05S-369ST | Return on Equity (steam) |
| Xcel Energy, Inc. | 05/05 | Public Service Company of Colorado | Docket No. 05S-246G | Return on Equity (gas) |
| Connecticut Public Utilities Regulatory Authority |  |  |  |  |
| Southern Connecticut Gas Company | 09/08 | Southern Connecticut Gas Company | Docket No. 08-08-17 | Return on Equity |
| Southern Connecticut Gas Company | 12/07 | Southern Connecticut Gas Company | Docket No. 05-03-17PH02 | Return on Equity |
| Connecticut Natural Gas Corporation | 12/07 | Connecticut Natural Gas Corporation | Docket No. 06-03-04PH02 | Return on Equity |
| Delaware Public Service Commission |  |  |  |  |
| Delmarva Power \& Light Company | 03/13 | Delmarva Power \& Light Company | Case No. 13-115 | Return on Equity |

Attachment A
Testimony Listing of Robert B. Hevert

| SPONSOR | DATE | CASE/APPLICANT | DOCKET No. | SUBJECT |
| :--- | :---: | :--- | :--- | :--- | :--- |
| Delmarva Power \& Light Company | $12 / 12$ | Delmarva Power \& Light Company | Case No. 12-546 | Return on Equity |
| Delmarva Power \& Light Company | $03 / 12$ | Delmarva Power \& Light Company | Case No. 11-528 | Return on Equity |
| District of Columbia Public Service Commission |  |  |  |  |

Testimony Listing of Robert B. Hevert

| SPONSOR | Date | CASE/APPLICANT | DOCKET NO. | Subject |
| :---: | :---: | :---: | :---: | :---: |
| Florida Public Service Commission |  |  |  |  |
| Tampa Electric Company | 04/13 | Tampa Electric Company | Docket No. 130040-EI | Return on Equity |
| Georgia Public Service Commission |  |  |  |  |
| Atlanta Gas Light Company | 05/10 | Atlanta Gas Light Company | Docket No. 31647-U | Return on Equity |
| Hawaii Public Utilities Commission |  |  |  |  |
| Hawaiian Electric Light Company | 08/12 | Hawaiian Electric Light Company | Docket No. 2012-0099 | Return on Equity |
| Illinois Commerce Commission |  |  |  |  |
| Ameren Illinois Company $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Ameren Illinois | 01/13 | Ameren Illinois Company $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Ameren Illinois | Docket No. 13-0192 | Return on Equity |
| Ameren Illinois Company $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Ameren Illinois | 02/11 | Ameren Illinois Company d/b/a Ameren Illinois | Docket No. 11-0279 | Return on Equity (electric) |
| Ameren Illinois Company $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Ameren Illinois | 02/11 | Ameren Illinois Company $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Ameren Illinois | Docket No. 11-0282 | Return on Equity (gas) |
| Indiana Utility Regulatory Commission |  |  |  |  |
| Northern Indiana Public Service Company | 05/09 | Northern Indiana Public Service Company | Cause No. 43894 |  |
| Maine Public Utilities Commission |  |  |  |  |
| Central Maine Power Company | 06/11 | Central Maine Power Company | Docket No. 2010-327 | Response to Bench Analysis provided by Commission Staff relating to the Company's credit and collections processes |
| Maryland Public Service Commission |  |  |  |  |
| Potomac Electric Power Company | 12/13 | Potomac Electric Power Company | Case No. 9336 | Return on Equity |
| Delmarva Power \& Light Company | 03/13 | Delmarva Power \& Light Company | Case No. 9317 | Return on Equity |
| Potomac Electric Power Company | 11/12 | Potomac Electric Power Company | Case No. 9311 | Return on Equity |
| Potomac Electric Power Company | 12/11 | Potomac Electric Power Company | Case No. 9286 | Return on Equity |
| Delmarva Power \& Light Company | 12/11 | Delmarva Power \& Light Company | Case No. 9285 | Return on Equity |
| Delmarva Power \& Light Company | 12/10 | Delmarva Power \& Light Company | Case No. 9249 | Return on Equity |

Testimony Listing of Robert B. Hevert

| Sponsor | DATE | CASE/APPLICANT | DOCKET NO. | SUBJECT |
| :--- | :---: | :--- | :--- | :--- |
| Massachusetts Department of Public Utilities | $07 / 13$ | Fitchburg Gas and Electric Light <br> Company | DPU 13-90 | Return on Equity |
| Unitil Corporation | $04 / 12$ | Bay State Gas Company d/b/a <br> Columbia Gas of Massachusetts | DPU 12-25 | Capital Cost Recovery |
| Bay State Gas Company d/b/a <br> Columbia Gas of Massachusetts | $08 / 09$ | Massachusetts Electric Company <br> d/b/a National Grid | DPU 09-39 | Revenue Decoupling and <br> Return on Equity |
| National Grid | $08 / 09$ | Massachusetts Electric Company and <br> Nantucket Electric Company d/b/a <br> National Grid | DPU 09-38 | Return on Equity - Solar <br> Generation |
| National Grid | $04 / 09$ | Bay State Gas Company | DPU 09-30 | DTE 04-85 |
| Bay State Gas Company | $09 / 04$ | NSTAR Electric | Rivestiture of Power <br> Purchase Agreement |  |
| NSTAR Electric | $08 / 04$ | NSTAR Electric | Divestiture of Power <br> Purchase Agreement |  |
| NSTAR Electric | $07 / 04$ | NSTAR Electric | Divestiture of Power <br> Purchase Agreement |  |
| NSTAR Electric | $07 / 04$ | NSTAR Electric | Divestiture of Power <br> Purchase Agreement |  |
| NSTAR Electric | $06 / 04$ | NSTAR Electric | Divestiture of Power <br> Purchase Agreement |  |
| NSTAR Electric | $01 / 04$ | Fitchburg Gas and Electric | DTE 03-52 | Integrated Resource Plan; <br> Gas Demand Forecast |
| Unitil Corporation | $01 / 93$ | Bay State Gas Company | DPU 93-14 | Divestiture of Shelf <br> Registration |
| Bay State Gas Company | DPU 91-25 | Divestiture of Shelf <br> Registration |  |  |
| Bay State Gas Company | Bay State Gas Company | DT/91 | Docket No. E002/GR-13- <br> Return on Equity <br> Minnesota Public Utilities Commission <br> Xcel Energy, Inc. | $11 / 13$ |

Attachment A
Testimony Listing of Robert B. Hevert

| Sponsor | Date | Case/Applicant | Docket No. | Subject |
| :---: | :---: | :---: | :---: | :---: |
| CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas | 08/13 | CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Minnesota Gas | $\begin{aligned} & \text { Docket No. G-008/GR-13- } \\ & 316 \end{aligned}$ | Return on Equity |
| Xcel Energy, Inc. | 11/12 | Northern States Power Company | $\begin{aligned} & \text { Docket No. E002/GR-12- } \\ & 961 \\ & \hline \end{aligned}$ | Return on Equity |
| Otter Tail Power Corporation | 04/10 | Otter Tail Power Company | $\begin{aligned} & \text { Docket No. E-017/GR-10- } \\ & 239 \end{aligned}$ | Return on Equity |
| Minnesota Power a division of ALLETE, Inc. | 11/09 | Minnesota Power | Docket No. E-015/GR-091151 | Return on Equity |
| CenterPoint Energy Resources Corp. d/b/a <br> CenterPoint Energy Minnesota Gas | 11/08 | CenterPoint Energy Minnesota Gas | $\begin{aligned} & \text { Docket No. G-008/GR-08- } \\ & 1075 \end{aligned}$ | Return on Equity |
| Otter Tail Power Corporation | 10/07 | Otter Tail Power Company | Docket No. E-017/GR-07- 1178 | Return on Equity |
| Xcel Energy, Inc. | 11/05 | Northern States Power Company Minnesota | Docket No. E-002/GR-051428 | Return on Equity (electric) |
| Xcel Energy, Inc. | 09/04 | Northern States Power Company Minnesota | Docket No. G-002/GR-041511 | Return on Equity (gas) |
| CenterPoint Energy Resources Corp. |  | CenterPoint Energy Minnesota Gas | Docket No. E008/GR-13316 |  |
| Mississippi Public Service Commission |  |  |  |  |
| CenterPoint Energy Resources, Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Mississippi Gas | 07/09 | CenterPoint Energy Mississippi Gas | Docket No. 09-UN-334 | Return on Equity |
| Missouri Public Service Commission |  |  |  |  |
| Laclede Gas Company | 12/12 | Laclede Gas Company | Case No. GR-2013-0171 | Return on Equity |
| Union Electric Company d/b/a Ameren Missouri | 02/12 | Union Electric Company d/b/a Ameren Missouri | Case No. ER-2012-0166 | Return on Equity (electric) |
| Union Electric Company d/b/a AmerenUE | 09/10 | Union Electric Company d/b/a AmerenUE | Case No. ER-2011-0028 | Return on Equity (electric) |

Attachment A
Testimony Listing of Robert B. Hevert

| Sponsor | Date | Case/Applicant | Docket No. | Subject |
| :---: | :---: | :---: | :---: | :---: |
| Union Electric Company d/b/a AmerenUE | 06/10 | Union Electric Company d/b/a AmerenUE | Case No. GR-2010-0363 | Return on Equity (gas) |
| Montana Public Service Commission |  |  |  |  |
| Northwestern Corporation | 09/12 | Northwestern Corporation d/b/a Northwestern Energy | Docket No. D2012.9.94 | Return on Equity (gas) |
| Nevada Public Utilities Commission |  |  |  |  |
| Southwest Gas Corporation | 04/12 | Southwest Gas Corporation | Docket No. 12-04005 | Return on Equity (gas) |
| Nevada Power Company | 06/11 | Nevada Power Company | Docket No. 11-06006 | Return on Equity (electric) |
| New Hampshire Public Utilities Commission |  |  |  |  |
| Liberty Utilities $\mathrm{d} / \mathrm{b} / \mathrm{a}$ Granite State Electric Company | 03/13 | Liberty Utilities d/b/a Granite State Electric Company | Docket No. DE 13-063 | Return on Equity |
| EnergyNorth Natural Gas d/b/a National Grid NH | 02/10 | EnergyNorth Natural Gas d/b/a National Grid NH | Docket No. DG 10-017 | Return on Equity |
| Unitil Energy Systems, Inc. ("Unitil"), EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. - New Hampshire Division | 08/08 | Unitil Energy Systems, Inc. ("Unitil"), EnergyNorth Natural Gas, Inc. d/b/a National Grid NH, Granite State Electric Company d/b/a National Grid, and Northern Utilities, Inc. - New Hampshire Division | Docket No. DG 07-072 | Carrying Charge Rate on Cash Working Capital |
| New Jersey Board of Public Utilities |  |  |  |  |
| Orange and Rockland Utilities | 11/13 | Rockland Electric Company | Docket No. ER13111135 | Return on Equity |
| Atlantic City Electric Company | 12/12 | Atlantic City Electric Company | Docket No. ER12121071 | Return on Equity |
| Atlantic City Electric Company | 08/11 | Atlantic City Electric Company | Docket No. ER11080469 | Return on Equity |
| Pepco Holdings, Inc. | 09/06 | Atlantic City Electric Company | Docket No. EM06090638 | Divestiture and Valuation of Electric Generating Assets |
| Pepco Holdings, Inc. | 12/05 | Atlantic City Electric Company | Docket No. EM05121058 | Market Value of Electric Generation Assets; Auction |

Testimony Listing of Robert B. Hevert

| SPoNSOR | DATE | CASE/APPLICANT | DockET No. | SUBJECT |
| :--- | :---: | :--- | :--- | :--- |
| Conectiv | $06 / 03$ | Atlantic City Electric Company | Docket No. EO03020091 | Market Value of Electric <br> Generation Assets; <br> Auction Process |
| New Mexico Public Regulation Commission |  |  | Return on Equity (electric) |  |
| Southwestern Public Service Company | $02 / 11$ | Southwestern Public Service <br> Company | Case No. 10-00395-UT | Return on Equity (electric) |
| Public Service Company of New <br> Mexico | $06 / 10$ | Public Service Company of New <br> Mexico | Case No. 10-00086-UT | Return on Equity (electric) |
| Public Service Company of New <br> Mexico | $09 / 08$ | Public Service Company of New <br> Mexico | Case No. 08-00273-UT | Return on Equity (electric) |
| Xcel Energy, Inc. | $07 / 07$ | Southwestern Public Service <br> Company | Case No. 07-00319-UT | Return on Equity (electric) |
| New York State Public Service Commission | $01 / 13$ | Consolidated Edison Company of <br> New York, Inc. | Case No. 13-E-0030 | Return on Equity |
| Consolidated Edison Company of New <br> York, Inc. | $04 / 12$ | Niagara Mohawk Corporation d/b/a <br> National Grid for Electric Service | Case No. 12-E-0201 | (electric) |

Testimony Listing of Robert B. Hevert

| Sponsor | Date | CASE/APPLICANT | Docket No. | Subject |
| :---: | :---: | :---: | :---: | :---: |
| North Carolina Utilities Commission |  |  |  |  |
| Duke Energy Carolinas, LLC | 02/13 | Duke Energy Carolinas, LLC | Docket No. E-7, Sub 1026 | Return on Equity |
| Carolina Power \& Light Company d/b/a Progress Energy Carolinas, Inc. | 10/12 | Carolina Power \& Light Company d/b/a Progress Energy Carolinas, Inc. | Docket No. E-2, Sub 1023 | Return on Equity |
| Virginia Electric and Power Company d/b/a Dominion North Carolina Power | 03/12 | Virginia Electric and Power Company d/b/a Dominion North Carolina Power | Docket No. E-22, Sub 479 | Return on Equity (electric) |
| Duke Energy Carolinas, LLC | 07/11 | Duke Energy Carolinas, LLC | Docket No. E-7, Sub 989 | Return on Equity (electric) |
| North Dakota Public Service Commission |  |  |  |  |
| Otter Tail Power Company | 11/08 | Otter Tail Power Company | Docket No. 08-862 | Return on Equity (electric) |
| Oklahoma Corporation Commission |  |  |  |  |
| Oklahoma Gas \& Electric Company | 07/11 | Oklahoma Gas \& Electric Company | Cause No. PUD201100087 | Return on Equity |
| CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Oklahoma Gas | 03/09 | CenterPoint Energy Oklahoma Gas | Cause No. PUD200900055 | Return on Equity |
| Rhode Island Public Utilities Commission |  |  |  |  |
| The Narragansett Electric Company d/b/a National Grid | 04/12 | The Narragansett Electric Company d/b/a National Grid | Docket No. 4323 | Return on Equity (electric \& gas) |
| National Grid RI - Gas | 08/08 | National Grid RI-Gas | Docket No. 3943 | Revenue Decoupling and Return on Equity |
| South Carolina Public Service Commission |  |  |  |  |
| Duke Energy Carolinas, LLC | 03/13 | Duke Energy Carolinas, LLC | Docket No. 2013-59-E | Return on Equity |
| South Carolina Electric \& Gas | 06/12 | South Carolina Electric \& Gas | Docket No. 2012-218-E | Return on Equity |
| Duke Energy Carolinas, LLC | 08/11 | Duke Energy Carolinas, LLC | Docket No. 2011-271-E | Return on Equity |
| South Carolina Electric \& Gas | 03/10 | South Carolina Electric \& Gas | Docket No. 2009-489-E | Return on Equity |

Testimony Listing of Robert B. Hevert

| SPONSOR | DATE | Case/Applicant | DOCKET No. | SUBJECT |
| :---: | :---: | :---: | :---: | :---: |
| South Dakota Public Utilities Commission |  |  |  |  |
| Otter Tail Power Company | 08/10 | Otter Tail Power Company | Docket No. EL10-011 | Return on Equity (electric) |
| Northern States Power Company | 06/09 | South Dakota Division of Northern States Power | Docket No. EL09-009 | Return on Equity (electric) |
| Otter Tail Power Company | 10/08 | Otter Tail Power Company | Docket No. EL08-030 | Return on Equity (electric) |
| Texas Public Utility Commission |  |  |  |  |
| Sharyland Utilities, L.P. | 05/13 | Sharyland Utilities, L.P. | Docket No. 41474 | Return on Equity |
| Wind Energy Texas Transmission, LLC | 08/12 | Wind Energy Texas Transmission, LLC | Docket No. 40606 | Return on Equity |
| Southwestern Electric Power Company | 07/12 | Southwestern Electric Power Company | Docket No. 40443 | Return on Equity |
| Oncor Electric Delivery Company, LLC | 01/11 | Oncor Electric Delivery Company, LLC | Docket No. 38929 | Return on Equity |
| Texas-New Mexico Power Company | 08/10 | Texas-New Mexico Power Company | Docket No. 38480 | Return on Equity (electric) |
| CenterPoint Energy Houston Electric LLC | 06/10 | CenterPoint Energy Houston Electric LLC | Docket No. 38339 | Return on Equity |
| Xcel Energy, Inc. | 05/10 | Southwestern Public Service Company | Docket No. 38147 | Return on Equity (electric) |
| Texas-New Mexico Power Company | 08/08 | Texas-New Mexico Power Company | Docket No. 36025 | Return on Equity (electric) |
| Xcel Energy, Inc. | 05/06 | Southwestern Public Service Company | Docket No. 32766 | Return on Equity (electric) |
| Texas Railroad Commission |  |  |  |  |
| CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas | 07/12 | CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas | GUD 10182 | Return on Equity |
| Atmos Energy Corporation - West Texas Division | 06/12 | Atmos Energy Corporation - West Texas Division | GUD 10175 | Return on Equity |
| Atmos Energy Corporation - MidTexas Division | 06/12 | Atmos Energy Corporation - MidTexas Division | GUD 10171 | Return on Equity |

Attachment A
Testimony Listing of Robert B. Hevert

| SPONSOR | Date | Case/Applicant | DOCKET NO. | Subject |
| :---: | :---: | :---: | :---: | :---: |
| CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas | 12/10 | CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas | GUD 10038 | Return on Equity |
| Atmos Pipeline - Texas | 09/10 | Atmos Pipeline - Texas | GUD 10000 | Return on Equity |
| CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas | 07/09 | CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas | GUD 9902 | Return on Equity |
| CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas | 03/08 | CenterPoint Energy Resources Corp. d/b/a CenterPoint Energy Texas Gas | GUD 9791 | Return on Equity |
| Utah Public Service Commission |  |  |  |  |
| Questar Gas Company | 12/07 | Questar Gas Company | Docket No. 07-057-13 | Return on Equity |
| Vermont Public Service Board |  |  |  |  |
| Central Vermont Public Service Corporation; Green Mountain Power | 02/12 | Central Vermont Public Service Corporation; Green Mountain Power | Docket No. 7770 | Merger Policy |
| Central Vermont Public Service Corporation | 12/10 | Central Vermont Public Service Corporation | Docket No. 7627 | Return on Equity (electric) |
| Green Mountain Power | 04/06 | Green Mountain Power | Docket Nos. 7175 and 7176 | Return on Equity (electric) |
| Vermont Gas Systems, Inc. | 12/05 | Vermont Gas Systems | Docket Nos. 7109 and 7160 | Return on Equity (gas) |
| Virginia State Corporation Commission |  |  |  |  |
| Virginia Electric and Power Company | 03/13 | Virginia Electric and Power Company | Case No. PUE-2013-00020 | Return on Equity |
| Virginia Natural Gas, Inc. | 02/11 | Virginia Natural Gas, Inc. | Case No. PUE-2010-00142 | Capital Structure |
| Columbia Gas Of Virginia, Inc. | 06/06 | Columbia Gas Of Virginia, Inc. | Case No. PUE-2005-00098 | Merger Synergies |
| Dominion Resources | 10/01 | Virginia Electric and Power Company | Case No. PUE000584 | Corporate Structure and Electric Generation Strategy |

Quarterly Discounted Cash Flow Model
30 Day Average Stock Price

|  |  | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] | [14] | [15] | [16] | [17] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | $\begin{gathered} \text { Dividend } \\ 1 \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 2 \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 3 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 4 \\ \hline \end{gathered}$ | Expected Dividend $1$ $\qquad$ | Expected Dividend 2 | Expected Dividend 3 | Expected Dividend $4$ | Stock Price | $\begin{aligned} & \text { Zacks } \\ & \text { Earnings } \\ & \text { Growth } \\ & \hline \end{aligned}$ | First Call Earnings Growth | Value Line Earnings Growth | $\begin{aligned} & \text { Sustainable } \\ & \text { Growth } \\ & \text { Rate } \\ & \hline \end{aligned}$ | Average Earnings Growth | $\begin{aligned} & \text { Low } \\ & \text { ROE } \end{aligned}$ | $\begin{aligned} & \text { Mean } \\ & \text { ROE } \end{aligned}$ | $\begin{aligned} & \text { High } \\ & \text { ROE } \end{aligned}$ |
| AGL Resources inc. | GAS | \$0.47 | \$0.47 | \$0.47 | \$0.47 | \$0.50 | \$0.50 | \$0.50 | \$0.50 | \$46.44 | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 9.04\% | 10.34\% | 12.57\% |
| Atmos Energy Corporation | ATO | \$0.35 | \$0.35 | \$0.35 | \$0.37 | \$0.37 | \$0.37 | \$0.37 | \$0.40 | \$44.74 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 9.80\% | 10.54\% | 11.31\% |
| Laclede Group, Inc. (The) | LG | \$0.43 | \$0.43 | \$0.43 | \$0.44 | \$0.45 | \$0.45 | \$0.45 | \$0.46 | \$45.67 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.34\% | 9.08\% | 10.13\% |
| New Jersey Resources Corporation | NJR | \$0.40 | \$0.40 | \$0.42 | \$0.42 | \$0.42 | \$0.42 | \$0.44 | \$0.44 | \$45.15 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 6.31\% | 8.72\% | 11.21\% |
| Northwest Natural Gas Company | NWN | \$0.46 | \$0.46 | \$0.46 | \$0.46 | \$0.47 | \$0.47 | \$0.47 | \$0.48 | \$42.38 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.62\% | 8.87\% | 9.15\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$0.31 | \$0.31 | \$0.31 | \$0.31 | \$0.32 | \$0.32 | \$0.32 | \$0.32 | \$32.82 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 7.66\% | 8.21\% | 9.10\% |
| South Jersey Industries, Inc. | SJI | \$0.44 | \$0.44 | \$0.44 | \$0.47 | \$0.47 | \$0.47 | \$0.47 | \$0.51 | \$55.64 | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 9.55\% | 10.90\% | 13.38\% |
| Southwest Gas Corporation | SWX | \$0.33 | \$0.33 | \$0.33 | \$0.33 | \$0.35 | \$0.35 | \$0.35 | \$0.35 | \$53.38 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.13\% | 8.18\% | 10.78\% |
| WGL Holdings, Inc. | WGL | \$0.42 | \$0.42 | \$0.42 | \$0.42 | \$0.44 | \$0.44 | \$0.44 | \$0.44 | \$39.40 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 8.04\% | 8.73\% | 9.21\% |
| Mean |  |  |  |  |  |  |  |  |  |  | 4.76\% | 4.54\% | 6.06\% | 5.84\% | 5.34\% | 8.05\% | 9.29\% | 10.76\% |
| Flotation Costs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.15\% | 0.15\% | 0.15\% |
| Mean (including Flotation Costs) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8.21\% | 9.44\% | 10.91\% |

Notes:
[1] Source: Bloomberg Professional Service
[2] Source: Bloomberg Professional Service
[3] Source: Bloomberg Professional Service
[4] Source: Bloomberg Professional Service
[5] Equals Col. [1] $\times(1+$ Col. [14])
[7] Equals Col. [3] $\times(1+$ Col. (14)
[8] Equals Col. [4] $\times(1+$ Col. [14])
[9] Source: Bloomberg Professional Service, equals indicated number of trading day average as of December 31, 2013
[10] Source: Zacks
[11] Source: Yahoo! Finance
[12] Source: Value Line
[13] Schedule RBH-4
[14] Equals Average (Cols. [10], [11], [12], [13])
[15] Implied Low DCF
[17] Implied High DCF
17) Implied High DCF

Quarterly Discounted Cash Flow Model
90 Day Average Stock Price

|  |  | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] | [14] | [15] | [16] | [17] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | $\begin{gathered} \text { Dividend } \\ 1 \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 2 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 3 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 4 \\ \hline \end{gathered}$ | Expected Dividend 1 $\qquad$ | Expected Dividend $2$ | Expected Dividend $3$ $\qquad$ | Expected Dividend $4$ | Stock Price | Zacks Earnings Growth | First Call Earnings Growth | Value Line Earnings Growth | $\begin{gathered} \text { Sustainable } \\ \text { Growth } \\ \text { Rate } \\ \hline \end{gathered}$ | Average Earnings Growth | $\begin{aligned} & \text { Low } \\ & \text { ROE } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Mean } \\ & \text { ROE } \end{aligned}$ | $\begin{aligned} & \text { High } \\ & \text { ROE } \end{aligned}$ |
| AGL Resources inc. | GAS | \$0.47 | \$0.47 | \$0.47 | \$0.47 | \$0.50 | \$0.50 | \$0.50 | \$0.50 | \$46.07 | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 9.08\% | 10.37\% | 12.61\% |
| Atmos Energy Corporation | ATO | \$0.35 | \$0.35 | \$0.35 | \$0.37 | \$0.37 | \$0.37 | \$0.37 | \$0.40 | \$43.26 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 9.92\% | 10.66\% | 11.43\% |
| Laclede Group, Inc. (The) | LG | \$0.43 | \$0.43 | \$0.43 | \$0.44 | \$0.45 | \$0.45 | \$0.45 | \$0.46 | \$45.49 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.35\% | 9.09\% | 10.14\% |
| New Jersey Resources Corporation | NJR | \$0.40 | \$0.40 | \$0.42 | \$0.42 | \$0.42 | \$0.42 | \$0.44 | \$0.44 | \$44.52 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 6.36\% | 8.77\% | 11.27\% |
| Northwest Natural Gas Company | NWN | \$0.46 | \$0.46 | \$0.46 | \$0.46 | \$0.47 | \$0.47 | \$0.47 | \$0.48 | \$42.14 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.65\% | 8.90\% | 9.18\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$0.31 | \$0.31 | \$0.31 | \$0.31 | \$0.32 | \$0.32 | \$0.32 | \$0.32 | \$32.93 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 7.65\% | 8.20\% | 9.09\% |
| South Jersey Industries, Inc. | S.J | \$0.44 | \$0.44 | \$0.44 | \$0.47 | \$0.47 | \$0.47 | \$0.47 | \$0.51 | \$57.35 | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 9.44\% | 10.79\% | 13.27\% |
| Southwest Gas Corporation | swx | \$0.33 | \$0.33 | \$0.33 | \$0.33 | \$0.35 | \$0.35 | \$0.35 | \$0.35 | \$51.42 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.23\% | 8.28\% | 10.89\% |
| WGL. Holdings, Inc. | WGL | \$0.42 | \$0.42 | \$0.42 | \$0.42 | \$0.44 | \$0.44 | \$0.44 | \$0.44 | \$41.66 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 7.79\% | 8.48\% | 8.96\% |
| Mean |  |  |  |  |  |  |  |  |  |  | 4.76\% | 4.54\% | 6.06\% | 5.84\% | 5.34\% | 8.05\% | 9.28\% | 10.76\% |
| Flotation Costs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.15\% | 0.15\% | 0.15\% |
| Mean (including Flotation Costs) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8.20\% | 9.44\% | 10.91\% |

Notes:
[1] Source: Bloomberg Professional Service
[2] Source: Bloomberg Professional Service
[3] Source: Bloomberg Professional Service
[4] Source: Bloomberg Professional Service
[6] Equals Col. [2] $\times(1+\operatorname{Col} .[14))$
[7] Equals Col. [3] $\times(1+$ Col. [14])
[8] Equals Col. [4] $\times(1+$ Col. [14])
[9] Source: Bloomberg Professional Service, equals indicated number of trading day average as of December 31, 2013
[10] Source: Zacks
[11] Source: Yahoo! Finance
[12] Source: Value Line
[13] Schedule RBH-4
[14] Equals Average (Cols. [10], [11], [12], [13]
[15] Implied Low DCF
[17] Implied High DCF

## Quarterly Discounted Cash Flow Mode

180 Day Average Stock Price

|  |  | [1] | [2] | [3] | [4] | [5] | [6] | 171 | [8] | (9) | [10] | [11] | [12] | [13] | [14] | [15] | [16] | [17] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | $\begin{gathered} \text { Dividend } \\ 1 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 2 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 3 \\ \hline \end{gathered}$ | $\begin{gathered} \text { Dividend } \\ 4 \end{gathered}$ | Expected Dividend 1 $\qquad$ | $\begin{gathered} \text { Expected } \\ \text { Dividend } \\ 2 \\ \hline \end{gathered}$ | Expected Dividend 3 $\qquad$ | Expected Dividend $\qquad$ 4 | Stock Price | $\begin{gathered} \text { Zacks } \\ \text { Earnings } \\ \text { Growth } \\ \hline \end{gathered}$ | First Call Earnings Growth | Value Line Earnings Growth | $\begin{gathered} \text { Sustainable } \\ \text { Growth } \\ \text { Rate } \\ \hline \end{gathered}$ | Average Earnings Growth | $\begin{aligned} & \text { Low } \\ & \text { ROE } \end{aligned}$ | Mean ROE | $\begin{aligned} & \text { High } \\ & \text { ROE } \end{aligned}$ |
| AGL Resources inc. | GAS | \$0.47 | \$0.47 | \$0.47 | \$0.47 | \$0.50 | \$0.50 | \$0.50 | \$0.50 | \$45.00 | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 9.18\% | 10.48\% | 12.72\% |
| Atmos Energy Corporation | ATO | \$0.35 | \$0.35 | \$0.35 | \$0.37 | \$0.37 | \$0.37 | \$0.37 | \$0.40 | \$43.02 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 9.94\% | 10.68\% | 11.45\% |
| Laclede Group, Inc. (The) | LG | \$0.43 | \$0.43 | \$0.43 | \$0.44 | \$0.45 | \$0.45 | \$0.45 | \$0.46 | \$45.73 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.33\% | 9.07\% | 10.12\% |
| New Jersey Resources Corporation | NJR | \$0.40 | \$0.40 | \$0.42 | \$0.42 | \$0.42 | \$0.42 | \$0.44 | \$0.44 | \$44.64 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 6.35\% | 8.76\% | 11.26\% |
| Northwest Natural Gas Company | NWN | \$0.46 | \$0.46 | \$0.46 | \$0.46 | \$0.47 | \$0.47 | \$0.47 | \$0.48 | \$42.87 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.57\% | 8.82\% | 9.10\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$0.31 | \$0.31 | \$0.31 | \$0.31 | \$0.32 | \$0.32 | \$0.32 | \$0.32 | \$33.51 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 7.58\% | 8.13\% | 9.01\% |
| South Jersey Industries, Inc. | SJI | \$0.44 | \$0.44 | \$0.44 | \$0.47 | \$0.47 | \$0.47 | \$0.47 | \$0.51 | \$58.34 | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 9.38\% | 10.73\% | 13.21\% |
| Southwest Gas Corporation | swx | \$0.33 | \$0.33 | \$0.33 | \$0.33 | \$0.35 | \$0.35 | \$0.35 | \$0.35 | \$50.15 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.30\% | 8.35\% | 10.96\% |
| WGL Holdings, Inc. | WGL | \$0.42 | \$0.42 | \$0.42 | \$0.42 | \$0.44 | \$0.44 | \$0.44 | \$0.44 | \$42.98 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 7.66\% | 8.34\% | 8.82\% |
| Mean |  |  |  |  |  |  |  |  |  |  | 4.76\% | 4.54\% | 6.06\% | 5.84\% | 5.34\% | 8.03\% | 9.26\% | 10.74\% |
| Flotation Costs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.15\% | 0.15\% | 0.15\% |
| Mean (including Flotation Costs) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 8.18\% | 9.42\% | 10.89\% |

Notes:
[1] Source: Bloomberg Professional Service
[2] Source: Bloomberg Professional Service
[3] Source: Bloomberg Professional Service
[4] Source: Bloomberg Professional Service
[5] Equals Col. [1] $\times(1+$ Col. [14])
[7] Equals Col. [3] $\times(1+$ Col. [14])
[8] Equals Col. [4] $\times(1+\operatorname{Col}[14])$
[9] Source: Bloomberg Professional Service, equals indicated number of trading day average as of December 31, 2013
[10] Source: Zacks
[11] Source: Yahoo! Finance
12] Source: Value Line
[13] Schedule RBH-4
[14] Equals Average (Cols, [10], [11], [12], [13])
[15] Implied Low DCF
[17] Implied High DCF

Constant Growth Discounted Cash Flow Mode
30 Day Average Stock Price

|  |  | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Annualized Dividend | Average Stock Price | $\begin{gathered} \text { Dividend } \\ \text { Yield } \\ \hline \end{gathered}$ | Expected Dividend Yield | Zacks Earnings Growth | First Call Earnings Growth | Value Line Earnings Growth | Sustainable Growth Estimate | Average Earnings Growth | $\begin{aligned} & \text { Low } \\ & \text { ROE } \\ & \hline \end{aligned}$ | Mean ROE | High ROE |
| AGL Resources Inc. | GAS | \$1.88 | \$46.44 | 4.05\% | 4.17\% | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 8.81\% | 10.05\% | 12.21\% |
| Atmos Energy Corporation | ATO | \$1.48 | \$44.74 | 3.31\% | 3.42\% | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 9.72\% | 10.44\% | 11.19\% |
| Laclede Group, Inc. (The) | LG | \$1.76 | \$45.67 | 3.85\% | 3.95\% | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.24\% | 8.95\% | 9.97\% |
| New Jersey Resources Corporation | NJR | \$1.68 | \$45.15 | 3.72\% | 3.81\% | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 6.27\% | 8.60\% | 11.02\% |
| Northwest Natural Gas Company | NWN | \$1.84 | \$42.38 | 4.34\% | 4.43\% | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.43\% | 8.67\% | 8.94\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$1.24 | \$32.82 | 3.78\% | 3.86\% | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 7.48\% | 8.02\% | 8.87\% |
| South Jersey Industries, Inc. | SJI | \$1.89 | \$55.64 | 3.40\% | 3.52\% | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 9.50\% | 10.81\% | 13.22\% |
| Southwest Gas Corporation | SWX | \$1.32 | \$53.38 | 2.47\% | 2.54\% | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.05\% | 8.03\% | 10.58\% |
| WGL Holdings, Inc. | WGL | \$1.68 | \$39.40 | 4.26\% | 4.35\% | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 7.84\% | 8.50\% | 8.96\% |
| Mean |  |  |  | 3.69\% | 3.78\% | 4.76\% | 4.54\% | 6.06\% | 5.84\% | 5.34\% | 7.93\% | 9.12\% | 10.55\% |
| Flotation Costs |  |  |  |  |  |  |  |  |  |  | 0.15\% | 0.15\% | 0.15\% |
| Mean (including Flotation Costs) |  |  |  |  |  |  |  |  |  |  | 8.08\% | 9.27\% | 10.70\% |

Notes:
[1] Source: Bloomberg Professional Service
[2] Source: Bloomberg Professional Service, equals indicated number of trading day average as of December 31, 2013
[3] Equals [1] / [2]
4] Equals [3] $\times(1+0.5 \times[9])$
[5] Source: Zacks
[6] Source: Yahoo! Finance
7] Source: Value Line
[8] Source: Schedule RBH-4
9] Equals Average([5], [6], [7], [8])
[10] Equals [3] $\times(1+0.5 \times$ Minimum([5], [6], [7], [8]) $)+$ Minimum([5], [6], [7], [8])
[11] Equals [4] + [9]
[12] Equals [3] $\times(1+0.5 \times$ Maximum([5], [6], [7], [8]) $)+$ Maximum([5], [6], [7], [8])

Constant Growth Discounted Cash Flow Model
90 Day Average Stock Price

|  |  | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | 19] | [10] | [11] | [12] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Annualized Dividend | Average Stock Price | Dividend Yield | Expected Dividend Yield | Zacks Earnings Growth | First Call Earnings Growth | Value Line Earnings Growth | Sustainable Growth Estimate | Average Earnings Growth | $\begin{aligned} & \text { Low } \\ & \text { ROE } \end{aligned}$ | Mean ROE | High ROE |
| AGL Resources Inc. | GAS | \$1.88 | \$46.07 | 4.08\% | 4.20\% | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 8.84\% | 10.09\% | 12.24\% |
| Atmos Energy Corporation | ATO | \$1.48 | \$43.26 | 3.42\% | 3.54\% | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 9.83\% | 10.55\% | 11.30\% |
| Laclede Group, Inc. (The) | LG | \$1.76 | \$45.49 | 3.87\% | 3.97\% | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.25\% | 8.97\% | 9.98\% |
| New Jersey Resources Corporation | NJR | \$1.68 | \$44.52 | 3.77\% | 3.86\% | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 6.32\% | 8.65\% | 11.07\% |
| Northwest Natural Gas Company | NWN | \$1.84 | \$42.14 | 4.37\% | 4.46\% | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.45\% | 8.70\% | 8.97\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$1.24 | \$32.93 | 3.77\% | 3.84\% | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 7.47\% | 8.00\% | 8.86\% |
| South Jersey Industries, Inc. | SJI | \$1.89 | \$57.35 | 3.30\% | 3.42\% | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 9.39\% | 10.71\% | 13.12\% |
| Southwest Gas Corporation | SWX | \$1.32 | \$51.42 | 2.57\% | 2.64\% | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.15\% | 8.13\% | 10.67\% |
| WGL Holdings, Inc. | WGL | \$1.68 | \$41.66 | 4.03\% | 4.12\% | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 7.60\% | 8.26\% | 8.73\% |
| Mean |  |  |  | 3.69\% | 3.78\% | 4.76\% | 4.54\% | 6.06\% | 5.84\% | 5.34\% | 7.92\% | 9.12\% | 10.55\% |
| Flotation Costs |  |  |  |  |  |  |  |  |  |  | 0.15\% | 0.15\% | 0.15\% |
| Mean (including Flotation Costs) |  |  |  |  |  |  |  |  |  |  | 8.08\% | 9.27\% | 10.70\% |

Notes:
1] Source: Bloomberg Professional Service
2] Source: Bloomberg Professional Service, equals indicated number of trading day average as of December 31, 2013
[3] Equals [1]/ [2]
[4] Equals [3] $\times(1+0.5 \times[9])$
5] Source: Zacks
[6] Source: Yahoo! Finance
[7] Source: Value Line
8] Source: Schedule RBH-4
[9] Equals Average([5], [6], [7], [8])
[10] Equals [3] $\times(1+0.5 \times$ Minimum([5], [6], [7], [8])) + Minimum([5], [6], [7], [8])
[11] Equals [4] + [9]
[12] Equals [3] $\times(1+0.5 \times$ Maximum([5], [6], [7], [8]) $)+$ Maximum $([5],[6],[7],[8])$

Constant Growth Discounted Cash Flow Model
180 Day Average Stock Price

|  |  | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Annualized Dividend | Average Stock Price | Dividend Yield | Expected Dividend Yield | Zacks Earnings Growth | First Call Earnings Growth | Value Line Earnings Growth | Sustainable Growth Estimate | Average Earnings Growth | $\begin{aligned} & \text { Low } \\ & \text { ROE } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Mean } \\ & \text { ROE } \end{aligned}$ | High ROE |
| AGL Resources Inc. | GAS | \$1.88 | \$45.00 | 4.18\% | 4.30\% | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 8.94\% | 10.19\% | 12.34\% |
| Atmos Energy Corporation | ATO | \$1.48 | \$43.02 | 3.44\% | 3.56\% | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 9.85\% | 10.57\% | 11.32\% |
| Laclede Group, Inc. (The) | LG | \$1.76 | \$45.73 | 3.85\% | 3.95\% | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.23\% | 8.95\% | 9.96\% |
| New Jersey Resources Corporation | NJR | \$1.68 | \$44.64 | 3.76\% | 3.85\% | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 6.31\% | 8.64\% | 11.06\% |
| Northwest Natural Gas Company | NWN | \$1.84 | \$42.87 | 4.29\% | 4.38\% | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.38\% | 8.62\% | 8.89\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$1.24 | \$33.51 | 3.70\% | 3.78\% | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 7.40\% | 7.94\% | 8.79\% |
| South Jersey Industries, Inc. | SJI | \$1.89 | \$58.34 | 3.24\% | 3.36\% | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 9.34\% | 10.65\% | 13.06\% |
| Southwest Gas Corporation | SWX | \$1.32 | \$50.15 | 2.63\% | 2.70\% | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.22\% | 8.19\% | 10.74\% |
| WGL Holdings, Inc. | WGL | \$1.68 | \$42.98 | 3.91\% | 3.99\% | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 7.48\% | 8.14\% | 8.60\% |
| Mean |  |  |  | 3.67\% | 3.76\% | 4.76\% | 4.54\% | 6.06\% | 5.84\% | 5.34\% | 7.90\% | 9.10\% | 10.53\% |
| Flotation Costs |  |  |  |  |  |  |  |  |  |  | 0.15\% | 0.15\% | 0.15\% |
| Mean (including Flotation Costs) |  |  |  |  |  |  |  |  |  |  | 8.06\% | 9.25\% | 10.68\% |

Notes:
1] Source: Bloomberg Professional Service
[2] Source: Bloomberg Professional Service, equals indicated number of trading day average as of December 31, 2013
[3] Equals [1] / [2]
4] Equals [3] $\times(1+0.5 \times[9])$
[5] Source: Zacks
[6] Source: Yahoo! Finance
7] Source: Value Line
8] Source: Schedule RBH-4
[9] Equals Average([5], [6], [7], [8])
[10] Equals [3] $\times(1+0.5 \times$ Minimum([5], [6], [7], [8]) $)+$ Minimum([5], [6], [7], [8])
11] Equals [4] $+[9]$
[12] Equals [3] $\times(1+0.5 \times$ Maximum([5], [6], [7], [8]) $)+\operatorname{Maximum}([5],[6],[7],[8])$

| Inputs |  | Multi-Stage Growth Discounted Cash Flow Model <br> 30 Day Average Stock Price Average Growth Rate Estimate in First Stage |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ${ }_{\text {Stock }}^{[1]}$ | [2] | [3] | [4] | (5) | [6] | 171 | [8] | 19) | $110]$ | [11] | [12] | [13] | [14] |
| Company |  |  | Growth Rate Estimates |  |  |  |  | Long-Term Growth | Payout Ratio |  |  | Iterative Solution |  | Terminal | Terminal |
|  | Ticker |  |  | First Call $\begin{gathered}\text { Value } \\ \text { Line }\end{gathered}$ |  | $\begin{aligned} & \text { Retention } \\ & \text { Growth } \end{aligned}$ | Average |  | 2013 | 2017 | 2024 |  |  |  |  |
|  |  | Price | Zacks |  |  | Proof |  |  |  |  |  | IRR | PIERatio | PEG Ratio |  |
| AGL Resources linc. | GAS | \$46.44 | 5.00\% | NA | 8.00\% |  | 4.66\% | 5.89\% | 5.71\% | 70.00\% | 60.00\% | 69.45\% | 80.00 | 9.73\% | 18.28 | 3.20 |
| Atmos Energy Corp. | ATO | \$44.74 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 5.71\% | 56.00\% | 52.00\% | 69.45\% | (\$0.00) | 9.68\% | 18.50 | 3.24 |
| Laclede Group | LG | \$45.67 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 5.71\% | 85.00\% | 52.00\% | 69.45\% | (\$0.00) | 10.30\% | 16.02 | 2.80 |
| New Jersey Resources | NJR | \$45.15 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 5.71\% | 58.00\% | 48.00\% | 69.45\% | (\$0.00) | 9.98\% | 17.21 | 3.01 |
| Northwest Natural Gas | NWN | \$42.38 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 5.71\% | 85.00\% | 63.00\% | 69.45\% | \$0.00 | 9.53\% | 19.25 | 3.37 |
| Piedmont Natural Gas | PNY | \$32.82 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 5.71\% | 68.00\% | 68.00\% | 69.45\% | (\$0.00) | 9.36\% | 20.15 | 3.53 |
| South Jersey Industries | SJI | \$55.64 | 6. $00 \%$ | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 5.71\% | 65.00\% | 57.00\% | 69.45\% | (\$0.00) | 10.48\% | 15.39 | 2.69 |
| Southwest Gas Corp. | SWX | \$53.38 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.71\% | 40.00\% | 41.00\% | 69.45\% | ( 30.00 ) | 9.60\% | 18.90 | 3.31 |
| wGL. Holdings, Inc. | WGL | 539.40 | 4.80\% | 4.60\% | 3. $50 \%$ | 3.89\% | 4.15\% | 5.71\% | 72.00\% | 62.00\% | 69.45\% | ( 50.001 | 10.59\% | 15.07 | 2.64 |
|  |  |  |  |  |  |  |  |  |  |  |  | MEA | 9.92\% |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | MA | $10.59 \%$ |  |  |


| Projected Annua! Earnings per Share |  | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] | [23] | [24] | [25] | [26] | [27] | [28] | [29] | [30] | [31] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Tickor | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL Resources Inc. | GAS | \$2.32 | \$2.46 | \$2.60 | \$2.75 | \$2.92 | \$3.09 | \$3.27 | \$3.46 | 83.66 | \$3.88 | 54.10 | \$4,34 | \$4.58 | \$4.84 | \$5.12 | \$5.41 | \$5.72 |  |
| Atmos Energy Corp. | ATO | \$2.10 | \$2.25 | \$2.40 | \$2.57 | \$2.75 | \$2.95 | \$3.15 | \$3.37 | \$3.59 | \$3.82 | \$4.05 | \$4.29 | \$4.54 | \$4.80 | \$5.07 | \$5.36 | \$5.67 |  |
| Laclede Group | LG | \$2.79 | \$2.93 | \$3.08 | \$3.23 | \$3,39 | \$3.56 | \$3.74 | \$3.93 | \$4.14 | \$4.36 | \$4.60 | \$4.86 | \$5.13 | \$5.43 | \$5.74 | \$6.06 | \$6.41 |  |
| New Jersey Resources | NJR | \$2.71 | \$2.84 | \$2.98 | \$3.12 | \$3.27 | \$3.42 | \$3.59 | \$3.77 | \$3.96 | \$4.17 | \$4.39 | \$4.63 | \$4.90 | \$5.18 | \$5.48 | \$5.79 | \$6.12 |  |
| Northwest Natural Gas | NWN | \$2.22 | \$2.31 | \$2.41 | \$2.51 | \$2.62 | \$2. 73 | \$2.85 | \$2.98 | \$3.12 | \$327 | \$3.44 | \$3.63 | $\$ 3.84$ | \$4.06 | \$4.29 | \$4.53 | \$4.79 |  |
| Piedmont Natural Gas | PNY | \$1.66 | \$1.73 | \$1.80 | \$1.88 | \$1.95 | \$2.04 | \$2.12 | \$2.21 | \$2.32 | \$2.43 | \$2.56 | \$2.70 | \$2.85 | \$3.01 | \$3.19 | \$3.37 | \$3.56 |  |
| South dersey Industries | SJ: | \$3.03 | \$3.25 | \$3.49 | \$3.74 | \$4.02 | \$4.31 | \$4.62 | \$4.95 | \$5.28 | \$5.62 | \$5.98 | \$6.33 | \$6.89 | \$7.08 | \$7.48 | \$7.91 | \$8.36 |  |
| Southwest Gas Corp. | swx | \$2.86 | \$3.02 | \$3.18 | \$3.36 | \$3.54 | \$3.74 | \$3.94 | \$4.16 | \$4.39 | \$4.64 | \$4.90 | \$5.18 | \$5.47 | \$5.78 | \$6.11 | \$6.46 | \$6.83 |  |
| WGL Holdings, Inc. | WGL | \$2.68 | \$2.79 | \$2.91 | \$3.03 | \$3.15 | \$3.28 | \$3.42 | \$3.57 | \$3.74 | \$3.92 | \$4.13 | \$4.35 | \$4.60 | \$4.86 | \$5.14 | \$5.43 | \$5.74 |  |
| Projected Annual Dividend Payout Ratio |  |  | [32] | [33] | [34]. | [35] | [36] | [37) | [38] | [39] | [40] | [41] | [42] | [43] | [44] | [45] | [46] | [47] |  |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL Resources inc. | GAS |  | 70.00\% | 67.50\% | 65.00\% | 62.50\% | 60.00\% | 61.35\% | 62.70\% | 64.05\% | 65.40\% | 66.75\% | 68.10\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Atmos Energy Corp. | ATO |  | 56.00\% | 55.00\% | 54.00\% | 53.00\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Laclede Group | LG |  | 85.00\% | 76.75\% | 68.50\% | 60.25\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| New Jersey Resources | NJR |  | 58.00\% | 55.50\% | 53.00\% | 50.50\% | 48.00\% | 51.06\% | 54.13\% | 57.19\% | 60.26\% | 63.32\% | 66.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Northwest Natural Gas | NWN |  | 85.00\% | 79.50\% | 74.00\% | 68.50\% | 63.00\% | 63.92\% | 64.84\% | 65.76\% | 66.69\% | 67.61\% | 68.53\% | 89.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Piedmont Natural Gas | PNY |  | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68. $00 \%$ | 68.21\% | 68.41\% | 68.62\% | 68.83\% | 69.04\% | 69.24\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| South Jersey Industries | SJI |  | 65.00\% | 63.00\% | 61.00\% | 59.00\% | 57.00\% | 58.78\% | 60.56\% | 62.34\% | 64.11\% | 65.89\% | 67.67\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 89.45\% |  |
| Southwest Gas Corp. | SWx |  | 40.00\% | 40.25\% | 40.50\% | 40.75\% | 41.00\% | 45.06\% | 49.13\% | 53.19\% | 57.26\% | 61.32\% | 65.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| WGL. Holdings, inc. | WGL |  | 72.00\% | 69.50\% | 67.00\% | 64.50\% | 62.00\% | 63.06\% | 64.13\% | 65.19\% | 66.26\% | 67.32\% | 68.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Projected Annual Cash Flows |  |  | [48] | [49] | [50] | [51] | [52] | (53) | [54] | [55] | [56] | [57] | [58] | [59] | 600 | [61] | [62] | (63) | [64] |
| Company | Tricker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Terminal Value |
| AGL Resources inc. | GAS |  | \$1.72 | $\$ 1.76$ | \$1.79 | \$1.82 | \$1.85 | \$2.01 | \$2.17 | \$2.35 | \$2.53 | \$2.74 | \$2.95 | \$3.18 | \$3.36 | \$3.56 | \$3.75 | $\$ 3.97$ | \$104.61 |
| Atmos Energy Corp. | ATO |  | \$1.26 | \$1.32 | \$1.39 | \$1.46 | \$1.53 | \$1.72 | \$1.92 | \$2.14 | \$2.37 | \$2.61 | \$2.37 | \$3.15 | \$3.33 | \$3.52 | \$3.72 | \$3.94 | \$104.85 |
| Laclede Group | LG |  | \$2.49 | \$2.36 | \$2.21 | \$2.04 | \$1.85 | \$2.04 | \$2.24 | \$2.46 | \$2.70 | \$2.96 | \$3.25 | \$3.56 | \$3.77 | \$3.98 | \$4.21 | \$4.45 | \$102.66 |
| New Jersey Resources | NJR |  | \$1.65 | \$1.65 | \$1.65 | \$1.65 | \$1.64 | \$1.83 | \$2.04 | \$2.26 | \$2.51 | \$2.78 | \$3.08 | \$3.40 | \$3.60 | \$3.80 | \$4.02 | \$4.25 | \$105.31 |
| Northwest Natural Gas | NWN |  | \$1.97 | \$1.92 | \$1.86 | \$1.80 | \$1.72 | \$1.82 | \$1.93 | \$2.05 | \$2.18 | \$2.33 | \$2.49 | \$2.67 | \$2.82 | \$2.98 | \$3.15 | \$3.33 | \$92.25 |
| Piedmont Natural Gas | PNY |  | \$1.18 | \$1.22 | \$1.28 | 51.33 | \$1.38 | \$1.45 | \$1.51 | \$1.59 | \$1.67 | \$1.77 | \$1.87 | \$1.98 | \$2.09 | \$2.21 | \$2.34 | \$2.47 | \$71.74 |
| South Jersey Industrios | S.s |  | \$2.11 | \$2.20 | \$2.28 | \$2.37 | \$2.46 | \$2.72 | \$3.00 | \$3.29 | \$3.61 | \$3. 94 | \$4.29 | \$4.65 | \$4.92 | \$5.20 | \$5.49 | \$5.81 | \$128.65 |
| Southwest Gas Corp. | SWx |  | \$1.21 | \$1.28 | \$1.36 | \$1.44 | \$1.53 | \$1.78 | \$2.04 | \$2.34 | \$2.65 | \$3.00 | \$3,38 | \$3.80 | \$4.02 | \$4.25 | \$4.49 | \$4.75 | \$129.12 |
| WGL Holdings, Inc. | WGL |  | \$2.01 | \$2.02 | $\$ 2.03$ | \$2.03 | \$2.04 | \$2.16 | \$2.29 | \$2.44 | \$2.60 | \$2.78 | \$2.97 | \$3.19 | \$3.38 | \$3.57 | \$3.77 | \$3.99 | \$86.54 |


| Projected Annual Data Investor Cash Flows |  | [65] | [66] | [67] | [68] | [69] | [70] | [71] | [72] | [73] | [74] | [75] | [76] | [77] | [78] | [79] | [80] | [81] | [82] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Initial |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Outilow | 12/31/13 | 12/31/13 | 6/3014 | 6/30/15 | 6/30/16 | 6/30117 | 6/30/18 | 6/30/19 | 6/30120 | 6/30/21 | 6/30/22 | 6/30/23 | 6/30/24 | $6 / 30125$ | 6/30/26 | 6/30/27 | 6/30/28 |
| AGE Resources Inc. | GAS | (\$46.44) |  | \$0.00 | \$1.77 | \$1.79 | \$1.82 | \$1.85 | \$2.01 | 82.17 | \$2.35 | 52.53 | \$2.74 | \$2.95 | \$3.18 | \$3.36 | \$3.56 | \$3.76 | \$108.58 |
| Atmos Energy Corp. | ATO | (\$44.74) |  | \$0.00 | \$1.30 | \$1.39 | \$1.46 | \$1.53 | \$1.72 | \$1.92 | \$2.14 | \$2.37 | \$2.61 | \$2.87 | \$3.15 | \$3.33 | \$3.52 | \$3.72 | \$108.79 |
| Laclede Group | LG | (\$45.67) |  | \$0.00 | \$2.55 | \$2.21 | \$2.04 | \$1.85 | \$2.04 | \$2.24 | \$2.46 | \$2.70 | \$2.96 | \$3.25 | \$3.56 | \$3.77 | \$3.98 | \$4.21 | \$107.11 |
| New Jersey Resources | NJR | (\$45.15) |  | \$0.00 | \$1.69 | \$1.65 | \$1.65 | \$1.64 | \$1.83 | \$2.04 | \$2.26 | \$2.51 | \$2.78 | \$3.08 | \$3.40 | \$3.60 | \$3.80 | \$4.02 | \$109.56 |
| Northwest Natural Gas | NWN | (\$42.38) |  | \$0.00 | \$2.01 | \$1.36 | \$1.80 | \$1.72 | \$1.8? | \$1.93 | \$2.05 | \$2.18 | \$2.33 | \$2.49 | \$2.67 | \$2.82 | \$2.98 | \$3.15 | \$95.58 |
| Piedmont Natural Gas | PNY | (\$32.82) |  | \$0.00 | \$1.20 | \$1.28 | \$1.33 | \$1.38 | \$1.45 | \$1.51 | \$1.59 | \$1.67 | \$1.77 | \$1.87 | \$1.98 | \$2.09 | \$2.21 | \$2.34 | \$74.22 |
| South Jersey Industries | SJI | (\$55.64) |  | \$0.00 | \$2.19 | \$2.28 | \$2.37 | \$2.46 | \$2.72 | \$3.00 | \$3.29 | \$3.61 | \$3.94 | \$4.29 | \$4.65 | \$4.92 | \$5.20 | \$5.49 | \$134.46 |
| Southwest Gas Corp. | Swx | (\$53.38) |  | \$0.00 | \$1.24 | \$1.36 | \$1.44 | \$1.53 | \$1.78 | \$2.04 | \$2.34 | \$2.65 | \$3.00 | \$3.38 | \$3.80 | \$4.02 | \$4.25 | \$4.49 | \$133.87 |
| WGL Holdings, inc. | WGL. | (\$39.40) |  | \$0.00 | \$2.05 | \$2.03 | \$2.03 | \$2.04 | \$2.16 | \$2.29 | \$2.44 | \$2.60 | \$2.78 | \$2.97 | \$3.19 | \$3.38 | \$3.57 | \$3.77 | \$90.53 |



| Projected Annual Earnings per Share |  | [15] | [16] | [17] | [18) | [19]. | [20] | [21] | [22] | [23] | [24] | [25] | [26] | [27]. | [28] | [29] | [30] | [31] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| AGL Resources Inc. | GAS | \$2.32 | \$2.43 | \$2.54 | \$2.66 | \$2.78 | \$2.91 | \$3.05 | \$3.20 | \$3.36 | \$3.53 | \$3.72 | \$3,93 | \$4.15 | \$4.39 | \$4.64 | \$4.00 | \$5.18 |
| Atros Energy Corp. | ATO | \$2.10 | \$2.23 | \$2.37 | \$2.52 | \$2.68 | \$2.85 | \$3.03 | \$3.22 | \$3.4 | \$3.62 | \$3.83 | \$4.06 | \$4. 29 | \$4.53 | \$4.79 | \$5.07 | \$5.36 |
| Laclede Group | LG | \$2.79 | \$2.91 | \$3.04 | \$3.17 | \$3.30 | \$3.44 | \$3.59 | \$3.75 | \$3.93 | \$4.13 | \$4.35 | \$4.59 | \$4.85 | \$5.12 | $\$ 5.42$ | \$5.73 | \$6.05 |
| New Jersey Resources | NJR | \$2.71 | \$2.78 | \$2.85 | \$2.92 | \$2.99 | \$3.07 | \$3.14 | \$3.24 | \$3.35 | \$3.49 | $\$^{3} .65$ | \$3.84 | \$4. 06 | \$4.29 | \$4.54 | \$4.80 | \$5.07 |
| Northwest Natural Gas | NWN | \$2.22 | \$2.31 | \$2.40 | \$2.50 | \$2.60 | \$2.70 | \$2.81 | \$2.93 | \$3.06 | \$3.21 | \$3.38 | \$3.56 | \$3.76 | \$3.98 | \$4.21 | \$4.45 | \$4.70 |
| Piedmont Natural Gas | PNY | \$1.66 | \$1.72 | \$1.78 | \$1.85 | \$1.91 | \$1,98 | \$2.06 | \$2.14 | \$2.23 | \$2.34 | \$2.45 | \$2.58 | \$2.73 | \$2.89 | \$3.05 | \$3.23 | \$3.41 |
| South Jersey Industries | SJf | \$3.03 | \$3.21 | \$3.40 | \$3.61 | \$3.83 | \$4.05 | \$4.30 | \$4.55 | \$4.82 | \$5.11 | \$5.40 | $\$ 5.71$ | \$6.04 | \$6.38 | \$6.75 | \$7.13 | \$7.54 |
| Southwest Gas Corp. | SWX | \$2.86 | \$2.93 | \$3.01 | \$3.08 | \$3.16 | \$3.24 | \$3.33 | \$3.43 | \$3.55 | \$3.70 | \$3.87 | \$4.07 | \$4.30 | \$4.55 | \$4.81 | \$5.09 | \$5.38 |
| WGL Holdings, Inc. | WGL | \$2.68 | \$2.77 | \$2.87 | \$2.97 | \$3.08 | \$3.18 | \$3.29 | \$3.42 | \$3.57 | \$3.73 | \$3.92 | \$4.13 | \$4.36 | \$4.61 | $\$ 4.87$ | \$5.15 | \$5.45 |


| Projected Annual Dividend Payout Ratio |  | [32] | [33] | [34] | [35] | [36] | (37) | 38] | [39] | (40) | 41) | $42]$ | [43] | [44] | $45]$ | 461 | [47] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| AGL Resources Inc. | GAS | 70.00\% | 67.50\% | 65.00\% | 62.50\% | 60.00\% | 61,35\% | 62.70\% | 64.05\% | 65.40\% | 86.75\% | 68.10\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Atmos Energy Corp. | ATO | 56.00\% | 55.00\% | 54.00\% | 53,00\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Laclede Group | LG | 85.00\% | 76.75\% | 68.50\% | 60.25\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| New Jersey Resources | NJR | 58.00\% | 55.50\% | 53.00\% | 50.50\% | 48.00\% | 51.06\% | 54.13\% | 57.19\% | 60.26\% | 63.32\% | 66.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Northwest Natural Gas | NWN | 85.00\% | 79.50\% | 74.00\% | 68.50\% | 63.00\% | 63.92\% | 64.84\% | 65.76\% | 66.69\% | 67.61\% | 88.53\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Piedmont Natural Gas | PNY | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.21\% | 68.41\% | 68.62\% | 68.83\% | 69.04\% | 69.24\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| South Jersey Industries | S.j | 65.00\% | 63.00\% | 61.00\% | 59.00\% | 57.00\% | 58.78\% | 60.56\% | 62.34\% | 64.11\% | 65.89\% | 67.67\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Southwest Gas Corp. | SWX | 40.00\% | 40.25\% | 40.50\% | 40.75\% | 41.00\% | 45.06\% | 49.13\% | 53.19\% | 57.26\% | 61.32\% | 65.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| WGL Holdings, Inc. | WGL | 72.00\% | 69.50\% | 67.00\% | 64.50\% | 62.00\% | 63.06\% | 64.13\% | 65.19\% | 66.26\% | 67.32\% | 68.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |


| Cash Flows |  | [48) | [49] | [50] | [51] | [52] | [53] | [54] | [55] | [56] | [57] | [58] | [59] | 60] | (61] | (62] | [63] | $\frac{[64]}{\text { Torminal }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Value |
| AGL Resources inc. | GAS | \$1.70 | \$1.72 | \$1.73 | \$1.74 | \$1.75 | \$1.87 | \$2.00 | \$2.15 | \$2.31 | \$2.48 | \$2.67 | \$2.88 | \$3.05 | \$3.22 | \$3.41 | \$3.60 | \$103.62 |
| Atmos Energy Corp. | 4 TO | \$1.25 | \$1.31 | \$1.36 | \$1.42 | \$1.48 | \$1.65 | \$1.83 | \$2.03 | \$2.24 | \$2.47 | \$2.72 | \$2.98 | \$3.15 | \$3.33 | \$3.52 | \$3.72 | \$104.19 |
| Laclede Group | LG | \$2.47 | \$2.33 | \$2.17 | \$1.99 | \$¢. 79 | \$1.96 | \$2.14 | \$2.34 | \$2.56 | \$2.80 | \$3.07 | \$3.37 | \$3.56 | \$3.76 | \$3.98 | \$4.20 | \$102.00 |
| New Jersey Resources | NJR | \$1.61 | \$1.58 | \$1.55 | \$1.51 | \$1.47 | \$1.60 | \$1.75 | \$1.92 | \$2.10 | \$2.31 | \$2.55 | \$2.82 | \$2.98 | \$3.15 | \$3.33 | \$3.52 | \$103.13 |
| Northwest Naturai Gas | NWN | \$1.96 | \$1.91 | \$1.85 | \$1.78 | \$1.70 | \$1.80 | \$1.90 | \$2.01 | \$2.14 | \$2.28 | \$2.44 | \$2.61 | \$2.76 | \$2.92 | \$3.09 | \$3.26 | \$92.10 |
| Piedmont Natural Gas | PNY | \$1.17 | \$1.21 | \$1.26 | \$1.30 | \$1.35 | \$1.40 | \$1.46 | \$1.53 | \$1.61 | \$1.69 | \$1.79 | \$1.90 | \$2.01 | \$2.12 | \$2.24 | \$2.37 | \$71.51 |
| South Jersey Industries | SJI | \$2.09 | \$2.14 | \$2.20 | \$2.26 | \$2.31 | \$2.53 | \$2.76 | \$3.01 | \$3.27 | \$3.56 | \$3.87 | \$4.19 | \$4.43 | \$4.69 | \$4.96 | \$5.24 | \$127.07 |
| Southwest Gas Corp. | SWX | \$1.17 | \$1.21 | \$1.25 | \$1.29 | \$1.33 | \$1.50 | \$1.68 | \$1.89 | \$2.12 | \$2.37 | \$2.66 | \$2.99 | \$3.16 | \$3.34 | \$3.53 | \$3.73 | \$125.63 |
| WGL Holdings, Inc. | WGL | \$2.00 | \$2.00 | \$1.99 | \$1.98 | \$1.97 | \$2.08 | \$2.19 | \$2.33 | \$2.47 | \$2.64 | \$2.82 | \$3.03 | \$3.20 | \$3.39 | \$3.58 | \$3.78 | \$86.06 |


| Projected Annual Data Investor Cash Flows |  |  | [66] |  |  |  | [70] | [71] | [72] |  |  |  |  |  |  |  |  | [81] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Outfow | 12/31/13 | 12/31/13 | 6/3014 | 6/30115 | 6/30/16 | 6/30/17 | 6/30/18 | 6/30119 | 6/30/20 | 6/30/21 | 6/30/22 | 8/30/23 | 6/30124 | 6/30/25 | 6/30/26 | 6/30/27 | 6/30/28 |
| AGL Resources tic. | GAS | (\$46.44) |  | \$0.00 | \$1.74 | \$1.73 | \$1.74 | \$1.75 | \$1.87 | \$2.00 | \$2.15 | \$2.31 | \$2.48 | \$2.67 | \$2.88 | \$3.05 | \$3.22 | \$3.41 | \$107.23 |
| Atmos Energy Corp. | ATO | (\$44.74) |  | \$0.00 | \$1.29 | \$1.36 | \$1.42 | \$1.48 | \$1.65 | \$1.83 | \$2.03 | \$2.24 | \$2.47 | \$2.72 | \$2.98 | \$3.15 | \$3.33 | \$3.52 | \$107.91 |
| Laclede Group | LG | (\$45.67) |  | \$0.00 | \$2.53 | \$2.17 | \$1.99 | \$1.79 | \$1.96 | \$2.14 | \$2.34 | \$2.56 | \$2.80 | \$3.07 | \$3.37 | \$3.56 | \$3.76 | \$3.98 | \$106.20 |
| New Jersey Resources | NJR | (\$45.15) |  | \$0.00 | \$1.63 | \$1.55 | \$1.51 | \$1.47 | \$1.60 | $\$ 1.75$ | \$1.92 | \$2.10 | \$2.31 | \$2.55 | \$2.82 | \$2.98 | \$3.15 | \$3.33 | \$106.66 |
| Northwest Natural Gas | NWN | (\$42.38) |  | \$0.00 | \$2.00 | \$1.85 | \$1.78 | \$1.70 | \$1.80 | \$1.90 | \$2.01 | \$2.14 | \$2.28 | \$2.44 | \$2.61 | \$2.76 | \$2.92 | \$3.09 | \$95.37 |
| Piedmont Natural Gas | PNY | (\$32.82) |  | \$0.00 | \$1.19 | \$1.26 | \$1.30 | \$1.35 | \$1.40 | \$1.46 | \$1.53 | \$1.61 | \$1.69 | \$1.79 | \$1.90 | \$2.01 | \$2.12 | \$2.24 | \$73.88 |
| South Jersey Industries | SJI | (\$55.64) |  | \$0.00 | \$2.15 | \$2.20 | \$2.26 | \$2.31 | \$2.53 | \$2.76 | \$3.01 | \$3.27 | \$3.56 | \$3.87 | \$4.19 | \$4.43 | \$4.69 | \$4.96 | \$132.30 |
| Southwest Gas Corp. | SWX | (\$53.38) |  | \$0.00 | \$1.19 | \$1.25 | \$1.29 | \$1.33 | \$1.50 | \$1.68 | \$1.89 | \$2.12 | \$2.37 | \$2.66 | \$2.99 | \$3.16 | \$3,34 | \$3.53 | \$129.36 |
| WGL Holdings. Inc. | WGL | (\$39.40) |  | \$0.00 | \$2.03 | \$1.99 | \$1.88 | \$1,97 | \$2.08 | \$2.t9 | \$2.33 | \$2.47 | \$2.64 | \$2.82 | \$3.03 | \$3.20 | \$3,39 | \$3.58 | \$89.84 |


| Inputs |  | [1] | Multi-Stage Growth Discounted Cash Flow Model 30 Day Average Stock Price High Growth Rate Estimate in First Stage |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | [2] | [3] | [4] | (5) | [6] | [7] | [8] | [9] | 1101 | [11] | [12] | [13) | [14] |
|  |  |  | Stock | Growth Rate Estimates |  |  |  |  | Long-TermGrowth | Payout Ratio |  |  | Herative Solution |  | Terminal | Terminal |
| Compary | Ticker | Prioe | Zacks | First Call | Value | Relention Growth | High | 2013 |  | 2017 | 2024 |  | IRR | PIE Ratio | PEG Ratio |
| AGL Resources inc. | GAS | \$46.44 | 5.00\% | NA | 8.00\% | 4.66\% | 8.00\% | 5.71\% | 70.00\% | 60.00\% | 69.45\% | 80.00 | 10.38\% | 15.74 | 2.76 |
| Atmos Energy Corp. | ATO | \$44.74 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.75\% | 5.71\% | 56.00\% | 52.00\% | 69.45\% | 80.00 | 9.89\% | 17.57 | 3.08 |
| Laclede Group | LG | \$45.67 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 6.00\% | 5.71\% | 85.00\% | 52.00\% | 69.45\% | \$0.00 | 10.63\% | 14.93 | 2.61 |
| New Jersey Resources | NJR | \$45.15 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 7.16\% | 5.71\% | 58.00\% | 48.00\% | 69.45\% | (\$0.00) | 10.74\% | 14.60 | 2.55 |
| Northwest Natural Gas | NWN | \$42.38 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.50\% | 5.71\% | 85.00\% | 63.00\% | 69.45\% | \$0.00 | 9.60\% | 18.88 | 3.30 |
| Piedmont Natural Gas | PNY | \$32.82 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 5.00\% | 5.74\% | 68.00\% | 68.00\% | 69.45\% | (\$0.00) | 9.59\% | 18.92 | 3.31 |
| South Jersey Industries | Sul | \$55.64 | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 9.66\% | 5.7\%\% | 65.00\% | 57.00\% | 69.45\% | (\$0.00) | 11.32\% | 13.11 | 2.29 |
| Southwest Gas Corp. | SWX | \$53.38 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 8.00\% | 5.71\% | 40.00\% | 41.00\% | 69.45\% | (\$0.00) | 10.33\% | 15.90 | 2.78 |
| WGL Holdings, Inc. | WGL | \$38.40 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.60\% | 5.71\% | 72.00\% | 62.00\% | 69.45\% | 80.00 | 10.75\% | 14.58 | 2.55 |
|  |  |  |  |  |  |  |  |  |  |  |  | MEA | 10.36\% |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | MAX | $\begin{aligned} & 11.32 \% \\ & 0.500 \% \end{aligned}$ |  |  |


| Projected Annual <br> Earnings per Share |  | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] | [23] | [24] | [25] | [26] | [27] | [28] | [29] | [30] | [31] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| AGL. Resources Inc. | GAS | \$2.32 | \$2.51 | \$2.71 | \$2.92 | \$3.16 | \$3.41 | \$3.68 | \$3.96 | \$4.25 | \$4.54 | \$4.83 | \$5.13 | \$5.42 | \$5.73 | 36.06 | \$6.41 | \$6.77 |
| Atmos Energy Corp. | ATO | \$2.10 | \$2.26 | \$2.44 | \$2.63 | \$2.83 | \$3.05 | \$3.29 | \$3.53 | \$3.78 | \$4.03 | \$4.29 | \$4.55 | \$4.81 | \$5.09 | \$5.38 | \$5.68 | \$6.01 |
| Laclede Group | LG | \$2.79 | \$2.96 | \$3.13 | \$3.32 | \$3.52 | \$3.73 | \$3.96 | \$4.19 | $\$ 4.44$ | \$4.70 | \$4.97 | \$5.26 | \$5.56 | \$5.88 | \$6.21 | \$6.57 | 86.95 |
| New Jersey Resources | NJR | \$2.71 | \$2.90 | \$3.11 | \$3.34 | \$3.57 | \$3.83 | \$4.10 | \$4.39 | \$4.68 | \$4.98 | \$5.29 | \$5.61 | \$5.93 | \$6.27 | \$6.62 | \$7.00 | \$7.40 |
| Northwest Natural Gas | NWN | \$2.22 | \$2.32 | \$2.42 | \$2.53 | \$2.65 | \$2.77 | \$2.89 | \$3.03 | \$3.18 | \$3.34 | \$3.51 | \$3.71 | \$3.92 | \$4.14 | \$4.38 | \$4.63 | 84.90 |
| Piedmont Natural Gas | PNY | \$1.66 | \$1.74 | \$1.83 | \$1.92 | \$2.02 | \$2.12 | \$2.22 | \$2.34 | \$2.46 | \$2.59 | \$2.73 | \$2.89 | \$3.05 | \$3.23 | \$3.41 | \$3.61 | \$3.81 |
| Scuth Jersey Industries | S. 4 | \$3.03 | \$3.32 | \$3.64 | \$4.00 | \$4.38 | \$4.81 | \$5.27 | \$5.74 | \$6.22 | \$6.70 | \$7.17 | \$7.63 | \$8.07 | \$8.53 | \$9.01 | \$9.53 | \$10.07 |
| Southwest Gas Corp. | SWX | \$2.86 | \$3.09 | \$3.34 | \$3.60 | \$3.89 | \$4.20 | \$4.54 | \$4.89 | \$5.24 | \$5.60 | \$5.96 | \$6.32 | \$6.69 | \$7.07 | \$7.47 | 87.90 | \$8.35 |
| WOL. Holdings. lnc | WGL | \$2.68 | \$2.80 | \$2.93 | \$3.07 | \$3.21 | \$3.36 | \$3.51 | \$3.68 | \$3.86 | \$4.06 | \$4.28 | \$4.51 | \$4.77 | \$5.04 | \$5.33 | \$5.64 | \$5.96 |
| Projected Annual <br> Dividend Payout Ratio |  |  | [32] | [33] | [34] | [35] | [36] | [37] | [38] | [39] | [40] | [41] | 421 | [43] | [44] | [45] | [46] | [47] |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| AGL Resources Inc. | GAS |  | 70.00\% | 67.50\% | 65.00\% | 62.50\% | 60.00\% | 61.35\% | 62.70\% | 64.05\% | 65.40\% | 66.75\% | 68.10\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Atmos Energy Corp. | ATO |  | 56.00\% | 55.00\% | 54.00\% | 53.00\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Laclede Group | LG |  | 85.00\% | 76.75\% | 68.50\% | 60.25\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| New Jersey Resources | NJR |  | 58.00\% | 55.50\% | 53.00\% | 50.50\% | 48.00\% | 51.06\% | 54.13\% | 57.19\% | 60.26\% | 63.32\% | 66.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| Northwest Natural Gas | NWN |  | 85.00\% | 79.50\% | 74.00\% | 68.50\% | 63.00\% | 63.92\% | 64.84\% | 65.76\% | 66.69\% | 67.61\% | 68.53\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 89.45\% |
| Piedmont Natural Gas | PNY |  | 68.00\% | 88.00\% | 68.00\% | 68.00\% | 68.00\% | 68.21\% | 68.41\% | 68.62\% | 68.83\% | 69.04\% | 69.24\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| South Jersey Industries | SJ |  | 65.00\% | 83.00\% | 61.00\% | 59.00\% | 57.00\% | 58.78\% | 60.56\% | 62.34\% | 64.11\% | 65.89\% | 67.67\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | $80.45 \%$ |
| Southwest Gas Corp. | Swx |  | 40.00\% | 40.25\% | 40.50\% | 40.75\% | 41.00\% | 45.06\% | 49.13\% | 53.19\% | 57.26\% | 61.32\% | 65.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |
| WGL. Holdings, inc. | WGL |  | 72.00\% | 69.50\% | 67.00\% | 64.50\% | 62.00\% | 63.06\% | 64.13\% | 65.19\% | 66.26\% | 67.32\% | 68.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |


| Projected Annual Cash Flows |  | [48] | [49] | [50] | [51] | [52] | [53] | [54] | [55] | 156.) | [57] | [58] | [59] | (60) | [61] | [62] | (63) | [64] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Terminal |
| Company | Ticker | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Value |
| AGL Resources lnc. | GAS | \$1.75 | \$1.83 | \$1.90 | \$1.97 | \$2.05 | \$2.26 | \$2.48 | \$2.72 | \$2.97 | \$3.23 | \$3.49 | \$3.77 | \$3,98 | \$4.21 | $\$ 4.45$ | \$4.70 | \$108.58 |
| Atmos Energy Corp. | ATO | \$1.27 | \$1.34 | \$1.42 | \$1.50 | \$1.59 | \$1.79 | \$2.01 | \$2.25 | \$2.50 | \$2.77 | \$3.05 | \$3.34 | \$3.53 | \$3.73 | \$3.95 | \$4.17 | \$105.59 |
| Laclede Group | LG | \$2.51 | \$2.41 | \$2.28 | \$2.12 | 81.94 | \$2.16 | \$2.39 | \$2.64 | \$2.91 | \$3.21 | \$3.52 | \$3.86 | \$4.08 | \$4.32 | \$4.56 | \$4.82 | \$103.68 |
| New Jersey Resources | NJR | \$1.68 | \$1.73 | \$1.77 | \$1.80 | \$1.84 | \$2.10 | \$2.38 | \$2.68 | \$3.00 | \$3.35 | \$3.72 | \$4.12 | \$4.35 | \$4.60 | \$4.86 | \$5.14 | \$108.03 |
| Northwest Natural Gas | NWN | \$1.97 | \$1.93 | \$1.87 | \$1.81 | \$1.74 | \$1.85 | \$1.96 | \$2.09 | \$2.23 | \$2.38 | \$2.54 | \$2.72 | \$2.88 | \$3.04 | \$3.22 | \$3.40 | \$92.42 |
| Piedmont Natural Gas | PNY | \$1.19 | \$1.24 | \$1.31 | \$1.37 | \$1.44 | \$1.52 | \$1.60 | \$1.69 | \$1.78 | \$1.89 | \$2.00 | \$2.12 | \$2.24 | \$2.37 | \$2.50 | \$2.65 | \$72.15 |
| South Jersey Industries | SJI | \$2.16 | \$2.30 | \$2,44 | \$2.59 | \$2.74 | \$3.10 | \$3.48 | \$3.88 | \$4.30 | \$4.73 | \$5.16 | \$5.60 | \$5.92 | \$6.26 | \$6.62 | \$7.00 | \$132.03 |
| Southwest Gas Corp. | swx | \$1.24 | \$1.34 | \$1,46 | \$1.59 | \$1.72 | \$2.05 | \$2.40 | \$2.79 | \$3.21 | \$3.66 | \$4.14 | \$4.64 | \$4.91 | \$5.19 | \$5.49 | \$5.80 | \$132.79 |
| WGL Holdings, Inc. | WGL | \$2.02 | \$2.04 | \$2.05 | \$2.07 | \$2.08 | \$2.21 | \$2.36 | \$2.52 | \$2.69 | \$2.88 | \$3.09 | \$3.31 | \$3.50 | \$3.70 | \$3.91 | \$4.14 | \$86.90 |


| Projected Annual Data Investor Cash Flows |  | [65] | [66] | [67] | [68] | [69] | [70] | [71] | [72] | [73] | [74] | [75] | [76] | [77] | [78) | [79] | [80] | [81] | [82] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \|nitial |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Outilow | 12/31/13 | 12/31/13 | 6/3014 | $6 / 3015$ | 6/30116 | $6 / 3017$ | 6/30/18 | 6/30119 | 6/30120 | 6/30/21 | 6/30122 | 6/30/23 | 6/30124 | 6/30/25 | 6/30/26 | 6/30/27 | 6/30/28 |
| AGL Resources Inc. | GAS | (\$46.44) |  | \$0.00 | \$1.82 | \$1.90 | \$1.97 | \$2.05 | \$2.26 | \$2.48 | \$2.72 | \$2.97 | \$3.23 | \$3.49 | \$3.77 | \$3.98 | \$4.21 | \$4.45 | \$111.28 |
| Almos Energy Corp. | ATO | (\$44.74) |  | \$0.00 | \$1.32 | \$1.42 | \$1.50 | \$1.59 | \$1.79 | \$2.01 | \$2.25 | \$2.50 | \$2.77 | \$3.05 | \$3.34 | \$3.53 | \$3.73 | \$3.95 | \$109.76 |
| Laclede Group | LG | (\$45.67) |  | \$0.00 | \$2.59 | \$2.28 | \$2.12 | \$1.94 | \$2.16 | \$2.39 | \$2.64 | \$2.91 | \$3.21 | \$3.52 | \$3.86 | \$4.08 | \$4.32 | \$4.56 | \$108.50 |
| New Jersay Resourcas | NJR | (\$45.15) |  | \$0.00 | \$1.74 | 51.77 | \$1.80 | \$1.84 | \$2.10 | \$2.38 | \$2.68 | \$3.00 | \$3.35 | \$3.72 | \$4.12 | \$4.35 | \$4.60 | \$4.86 | \$113.17 |
| Northwest Natural Gas | NWN | (\$42.38) |  | \$0.00 | \$2.02 | \$1.87 | \$1.81 | \$1.74 | \$1.85 | \$1.96 | \$2.09 | \$2.23 | \$2.38 | \$2.54 | \$2.72 | \$2.88 | \$3.04 | \$3.22 | 895.82 |
| Piedmont Natural Gas | PNY | (\$32.82) |  | \$0.00 | \$1.21 | \$1.31 | \$1.37 | \$1.44 | \$1.52 | \$1.60 | \$1.69 | \$1.78 | \$1.89 | \$2.00 | \$2.12 | \$2.24 | \$2.37 | \$2.50 | \$74.80 |
| South Jersey Industries | SJ | (\$55.64) |  | \$0.00 | \$2.26 | \$2.44 | \$2.59 | \$2.74 | \$3.10 | \$3.48 | \$3.88 | \$4.30 | \$4.73 | \$5.16 | \$5.60 | \$5.92 | \$6.26 | \$6.62 | \$139.02 |
| Southwest Gas Corp. | swx | (\$53.38) |  | \$0.00 | \$1.28 | \$1.46 | \$1.59 | \$1.72 | \$2.05 | \$2.40 | \$2.79 | \$3.21 | \$3.66 | \$4.14 | \$4.64 | \$4.91 | \$5.19 | \$5.49 | \$138.59 |
| WGL Holdings, Inc. | WGL | (\$39.40) |  | \$0.00 | \$2.06 | \$2.05 | $\$ 2.07$ | \$2.08 | \$2.21 | \$2.36 | \$2.52 | \$2.69 | \$2.88 | \$3.09 | \$3.31 | \$3,50 | \$3.70 | \$3.91 | \$91.04 |


| Inputs | [1] |  | Multi-Stage Growth Discounted Cash Flow Model 90 Day Average Stock Price Average Growth Rate Estimate in First Stage |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] | [14] |
|  |  | Stock | Growth Rate Estimates |  |  |  |  | Long-Term Growth | Payout Ratio |  |  | fterative Solution |  | Terminal | Terminal |
|  |  |  |  |  | Value | Retention |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Price | Zacks | First Cam | Line | Growth | Average |  | 2013 | 2017 | 2024 | Proof | IRR | PIE Ratio | PEGRatio |
| AGL Resources Inc. | GAS | \$46.07 | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 5.71\% | 70.00\% | 60.00\% | 69.45\% | \$0.00 | 9.76\% | 18.13 | 3.17 |
| Atmos Energy Corp. | ATO | \$43.26 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 5.71\% | 56.00\% | 52.00\% | 69.45\% | (30.00) | 9.81\% | 17.91 | 3.13 |
| Laclede Group | LG | \$45.49 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 5.71\% | 85.00\% | 52.00\% | 69.45\% | ( 80.00 ) | 10.31\% | 15.96 | 2.79 |
| Now Jersey Resources | NJR | \$44.52 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 5.71\% | 58.00\% | 48.00\% | 69.45\% | ( 80.00 ) | 10.04\% | 16.98 | 2.97 |
| Northwest Natural Gas | NWN | \$42.14 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 5.71\% | 85.00\% | 63.00\% | 69.45\% | \$0.00 | 9.55\% | 19.13 | 3.35 |
| Piedmont Natural Gas | PNY | \$32.93 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 5.71\% | 68.00\% | 68.00\% | 69.45\% | ( 50.00 ) | 9.34\% | 20.22 | 3.54 |
| South Jersey Industries | SJ | \$57.35 | 6.00\% | 8.00\% | 7.50\% | 9.66\% | 7.29\% | 5.71\% | 65.00\% | 57.00\% | 69.45\% | (\$0.00) | 10.35\% | 15.85 | 2.77 |
| Southwest Gas Corp. | SWX | \$51.42 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 5.71\% | 40.00\% | 41.00\% | 69.45\% | ( 50.00 ) | 9.74\% | 18.25 | 3.19 |
| WGL Holdings, Inc. | WGL | \$41.66 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 5.71\% | 72.00\% | 62.00\% | 69.45\% | ( 50.00 ) | 10.32\% | 15.85 | 2.79 |
|  |  |  |  |  |  |  |  |  |  |  |  | MEAN | 9.91\% |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | MAX | 10.35\% |  |  |


| Projected Annual <br> Earnings per Share |  | [15] | $[161$. | [17] | [18] | [19] | [20] | [21] | [22] | [23] | [24] | [25] | [26] | [27] | [28] | [291 | [30] | [31] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |
| AGL Resources Inc. | GAS | \$2.32 | \$2.46 | \$2.60 | \$2.75 | \$2.92 | \$3.09 | \$3.27 | \$3.46 | \$3.66 | \$3.88 | \$4.10 | \$4.34 | \$4.58 | \$4.84 | \$5.12 | \$5.41 | \$5.72 |
| Atmos Energy Corp. | Ato | \$2.10 | \$2.25 | \$2.40 | \$2.57 | \$2.75 | \$2.95 | \$3.15 | \$3.37 | \$3.59 | \$3.82 | \$4.05 | \$4.29 | \$4.54 | \$4.80 | \$5.07 | \$5.36 | \$5.67 |
| Lactedo Group | LG | \$2.79 | \$2.93 | \$3.08 | \$3.23 | \$3.39 | \$3.56 | \$3.74 | \$3.93 | \$4.14 | \$4.36 | \$4.80 | \$4.86 | \$5.13 | \$5.43 | \$5.74 | \$6.06 | \$6.41 |
| New Jersey Resources | NJR | \$2.71 | \$2.84 | \$2.98 | \$3.12 | \$3.27 | \$3.42 | \$3.59 | \$3.77 | \$3.96 | \$4.17 | \$4.39 | \$4.63 | \$4.90 | \$5.18 | \$5.48 | \$5.79 | \$6.12 |
| Northwest Natural Gas | NWN | \$2.22 | \$2.31 | \$2.41 | \$2.51 | \$2.62 | \$2.73 | \$2.85 | \$2.98 | \$3.12 | \$3.27 | \$3.44 | \$3.63 | \$3.84 | \$4.06 | \$4.29 | \$4.53 | \$4.79 |
| Piedment Natural Gas | PNY | \$1.66 | \$1.73 | \$1.80 | \$1.88 | \$1.95 | \$2.04 | \$2.12 | \$2.21 | \$2.32 | \$2.43 | \$2.56 | \$2.70 | \$2.85 | \$3.01 | \$3.19 | \$3.37 | \$3.56 |
| South Jersey Industries | S.J | \$3.03 | \$3.25 | \$3.49 | \$3.74 | \$4.02 | \$4.31 | \$4.62 | \$4.95 | \$5.28 | \$5.62 | \$5.98 | \$6.33 | \$6.69 | \$7.08 | \$7.48 | \$7.91 | \$8.36 |
| Southwest Gas Corp. | Swx | \$2.86 | \$3.02 | \$3.18 | \$3.36 | \$3.54 | \$3.74 | \$3.94 | \$4.16 | \$4.39 | \$4.64 | \$4.90 | \$5.18 | \$5.47 | \$5.78 | \$6.11 | \$6.46 | \$6.83 |
| WGL Holdings, Inc. | WGL | \$2.68 | \$2.79 | \$2.91 | \$3.03 | \$3.15 | \$3.28 | \$3.42 | \$3.57 | \$3.74 | \$3.92 | \$4.13 | \$4.35 | \$4.60 | \$4.86 | \$5.14 | \$5.43 | \$5.74 |


| Projected Annual Dividend Payout Ratio |  |  | [32] | [33] | [34] | [35] | [36] | [37] | [38] | [39] | [40] | [41] | [42] | [43] | [44] | [45] | [46] | [47) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL Resources Inc. | GAS |  | 70.00\% | 67.50\% | 65.00\% | 62.50\% | 60.00\% | 61.35\% | 62.70\% | 64.05\% | 65.40\% | 66.75\% | 68.10\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Atmos Energy Corp. | ATO |  | 56.00\% | 55.00\% | 54.00\% | 53.00\% | 52.00\% | 54.49\% | 56. $99 \%$ | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Lactede Group | LG |  | 85.00\% | 76.75\% | 68.50\% | 60.25\% | $52.00 \%$ | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 89.45\% |  |
| New Jersey Resources | NJR |  | 58.00\% | 55.50\% | 53.00\% | 50.50\% | 48.00\% | 51.06\% | 54.13\% | 57.19\% | 60.26\% | 63.32\% | 66.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Northwest Natural Gas | NWN |  | 85.00\% | 79.50\% | 74.00\% | 68.50\% | 63.00\% | 63.92\% | 64,34\% | 65.76\% | 66.69\% | 67.61\% | 68.53\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Piedmont Natural Gas | PNY |  | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.21\% | 68.41\% | 68.62\% | 68.83\% | 69.04\% | 69.24\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| South Jersey Industries | SJI |  | 65.00\% | 63.00\% | 61.00\% | 59,00\% | 57.00\% | 58.78\% | 60.56\% | 62.34\% | 64.11\% | 65.89\% | 67.67\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Southwest Gas Corp. | swx |  | 40.00\% | 40.25\% | 40.50\% | 40.75\% | 41.00\% | 45.06\% | 49.13\% | 53.19\% | 57.26\% | 61.32\% | 65.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| WGL Holdings, inc. | WGL. |  | 72.00\% | 69.50\% | 67.00\% | 64.50\% | 62.00\% | 63.06\% | 64.13\% | 65.19\% | 66.26\% | 67.32\% | 68.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Projected Arnusal Cash Flows |  |  | [48] | [49] | [50] | [51] | [52] | [53] | [54] | [55] | [56] | [57] | [58] | [59] | (60) | [01] | [62] | [63] | [64] |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Terminal |
| AGL Resources Inc. | GAS |  | \$1.72 | \$1.70 | \$1.79 | \$1.82 | \$1.85 | \$2.01 | \$2.17 | $\$ 2.35$ | \$2.53 | \$2.74 | \$2.95 | \$3.18 | \$3.36 | \$3.56 | \$3.76 | \$3.97 | \$103.77 |
| Atmos Energy Corp. | ATO |  | \$1.26 | \$1.32 | \$1.39 | \$1.46 | \$1.53 | \$1.72 | \$1.92 | \$2.14 | \$2.37 | \$2.61 | \$2.87 | \$3.15 | \$3.33 | \$3.52 | \$3.72 | \$3.94 | \$101.52 |
| Laclede Group | L.G |  | \$2.49 | $\$ 2.36$ | \$2.21 | \$2.04 | \$1.85 | $\$ 2.04$ | \$2.24 | \$2.46 | \$2.70 | \$2.96 | \$3.25 | \$3.56 | \$3.77 | \$3.98 | \$4.21 | \$4.45 | \$102.27 |
| New Jersey Resources | NJR |  | \$1.65 | \$1.65 | \$1.65 | \$1.65 | \$1.64 | \$1.83 | \$2.04 | \$2.26 | \$2.51 | \$2.78 | \$3.08 | \$3.40 | \$3.60 | \$3.80 | \$4.02 | \$4.25 | \$103.88 |
| Northwest Natural Gas | NWN |  | \$1.97 | \$1.92 | \$1.86 | \$1.80 | \$1.72 | \$1.82 | \$1.93 | \$2.05 | \$2.18 | \$2.33 | \$2.49 | \$2.67 | \$2.82 | \$2.98 | \$3.15 | \$3.33 | \$91.71 |
| Piedmont Natural Gas | PNY |  | \$1.18 | \$1.22 | \$1.28 | \$1.33 | \$1.38 | \$1.45 | \$1.51 | \$1.59 | \$1.67 | \$1.77 | \$1.87 | \$1.98 | \$2.09 | \$2.21 | \$2.34 | \$2.47 | \$72.07 |
| South Jersey Industries | S.l |  | \$2.11 | \$2.20 | \$2.28 | \$2.37 | \$2.46 | \$2.72 | \$3.00 | \$3.29 | \$3.61 | \$3.94 | \$4.29 | \$4.65 | \$4.92 | \$5.20 | \$5.49 | \$5.81 | \$132.50 |
| Southwest Gas Corp. | SWX |  | \$1.21 | \$1.28 | \$1.36 | \$1.44 | \$1.53 | \$1.78 | \$2.04 | \$2.34 | \$2.65 | \$3.00 | \$3.38 | \$3.80 | \$4.02 | \$4.25 | \$4.49 | \$4.75 | \$124.68 |
| WGI. Holdings, Inc. | WGL |  | \$2.01 | \$2.02 | \$2.03 | \$2.03 | \$2.04 | \$2.16 | \$2.29 | \$2.44 | \$2. 60 | \$2.78 | \$2.97 | \$3.19 | \$3.38 | \$3.57 | \$3.77 | \$3.99 | \$91.64 |
| Projected Annual Data Investor Cash Flows |  | [65] | [66] | [67] | [68] | [69] | [70] | [71] | [72] | [73] | (74) | [75] | [76] | [77] | [78] | [79] | [80] | [81] | [82] |
|  |  | Iritia! |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Ouflow | 12/31/13 | 12/31/13 | 6/30/14 | 6/30/15 | $6 / 30116$ | 6/30/17 | 6/30/18 | 6/30/19 | 6/30/20 | $6 / 30121$ | 6/30/22 | 6/30/23 | 6/30/24 | 6/30/25 | 6/30/26 | 6/30/27 | 6/30128 |
| AGL Resources Inc. | GAS | (\$46.07) |  | \$0.00 | \$1.77 | \$1.79 | \$1.82 | \$1.85 | \$2.01 | \$2.17 | \$2.35 | \$2.53 | \$2.74 | $\$ 2.95$ | \$3.18 | \$3.36 | \$3.56 | \$3.76 | \$107.74 |
| Atmos Energy Corp. | ATO | (\$43.26) |  | \$0.00 | \$1.30 | \$1.39 | \$1.46 | $\$ 1.53$ | \$1.72 | \$1.92 | \$2.14 | \$2.37 | \$2.61 | \$2.87 | \$3.15 | \$3.33 | \$3.52 | \$3.72 | \$105.46 |
| Laclede Group | LG | (\$45.49) |  | \$0.00 | \$2.55 | \$2.21 | \$2.04 | \$1.85 | \$2.04 | \$2.24 | \$2.46 | \$2.70 | \$2.96 | \$3.25 | \$3.56 | \$3.77 | \$3.98 | \$4.21 | \$106.72 |
| New Jersey Resources | NJR | (\$44.52) |  | \$0.00 | \$1.69 | \$1.65 | \$1.65 | \$1.64 | \$1.83 | \$2.04 | \$2.26 | \$2.51 | \$2.78 | \$3.08 | \$3.40 | \$3.60 | \$3.80 | \$4.02 | \$108.13 |
| Northwest Natural Gas | NWN | (\$42.14) |  | \$0.00 | \$2.01 | \$1.86 | \$1.80 | \$1.72 | \$1.82 | \$1.93 | \$2.05 | \$2.18 | \$2.33 | \$2.49 | \$2.67 | \$2.82 | \$2.98 | \$3.15 | \$95.04 |
| Piedmont Natural Gas | PNY | (\$32.93) |  | \$0.00 | \$1.20 | \$1.28 | \$1.33 | \$1.38 | \$1.45 | \$1.51 | \$1.59 | \$1.67 | \$1.77 | \$1.87 | \$1.98 | \$2.09 | \$2.21 | \$2.34. | \$74.48 |
| South Jersey Industries | SJI | (\$57.35) |  | \$0.00 | \$2.19 | \$2.28 | \$2.37 | \$2.46 | \$2.72 | \$3.00 | \$3.29 | \$3.61 | \$3.94 | \$4.29 | \$4.65 | \$4.92 | \$5.20 | \$5.49 | \$138.31 |
| Southwest Gas Corp. | SwX | (\$51.42) |  | \$0.00 | \$1.24 | \$1.36 | \$1.44 | $\$ 1.53$ | \$1.78 | \$2.04 | \$2.34 | \$2.65 | \$3.00 | \$3.38 | \$3.80 | \$4.02 | \$4.25 | \$4.49 | \$129.43 |
| WGL. Holdings, Inc. | WGL | (\$41.66) |  | \$0.00 | \$2.05 | \$2.03 | \$2.03 | 12.04 | \$2.16 | \$2.29 | \$2.44 | \$2.60 | \$2.78 | \$2.97 | \$3.19 | \$3.38 | \$3.57 | $\$ 3.77$ | \$95.60 |





| Multi-Stage Growth Discounted Cash Flow Model 180 Day Average Stock Price Low Growth Rate Estimate in First Stage |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inputs |  | ${ }_{\text {Stock }}$ | [2] | [3) | [4] | [5] | 161 | [7] | (8) | [9] | [10] | [11] | [12] | [13] | [14] |  |  |  |  |
|  |  |  | Growth Rale Estimates |  |  |  |  | Long-Term Growth | Payout Ratio |  |  | iterative Solution |  | Terminal Terminal |  |  |  |  |  |
| Company | Ticker |  | Zacks | First Call | Value Line | $\begin{aligned} & \text { Retention } \\ & \text { Growth } \end{aligned}$ | $\begin{aligned} & \text { Low } \\ & \text { Growth } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |
| AGL. Resources inc. | GAS | \$45.00 | 5.00\% | NA | 8.00\% | 4.66\% | 4.66\% | 5.71\% | 70.00\% | 60.00\% | 69.45\% |  |  | \$0.00 | 9.51\% | 19.36 | 3.39 |  |  |  |  |
| Atmos Energy Corp. | ATO | \$43.02 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 6.30\% | 5.71\% | 56.00\% | 52.00\% | 69.45\% | (\$0,00) | 9.63\% | 18.73 | 3.28 |  |  |  |  |
| Laclede Group | LG | \$45.73 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 4.30\% | 5.71\% | 85.00\% | 52.00\% | 69.45\% | 80.00 | 10.07\% | 16.87 | 2.95 |  |  |  |  |
| New Jersey Resources | N.JR | \$44.64 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 2.50\% | 5.71\% | 58.00\% | 48.00\% | 69.45\% | \$0.00 | 9.37\% | 20.10 | 3.52 |  |  |  |  |
| Northwest Natural Gas | NWN | \$42.87 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.00\% | 5.71\% | 85.00\% | 63.00\% | 69.45\% | \$0.00 | 9.42\% | 19.83 | 3.47 |  |  |  |  |
| Piedmont Natural Gas | PNY | \$33.51 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 3.64\% | 5.7\%\% | 68.00\% | 68.00\% | 69.45\% | \$0.00 | 9.14\% | 21.41 | 3.75 |  |  |  |  |
| South Jersey industries | SJ 1 | \$58.34 | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 6.00\% | 5.71\% | 65.00\% | 57.00\% | 69.45\% | \$0,00 | 9.87\% | 17.65 | 3.09 |  |  |  |  |
| Southwest Gas Corp. | SWX | \$50.15 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 2.55\% | 5.71\% | 40.00\% | 41.00\% | 69.45\% | \$0,00 | 9.05\% | 22.04 | 3.85 |  |  |  |  |
| WGL Holdings, Inc. | WGL. | \$42.98 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 3.50\% | 5.71\% | 72.00\% | 62.00\% | 69.45\% | \$0.00 | 9.96\% | 17.27 | 3.02 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | MEAN | 9.56\% |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { MAX } \\ & \text { MIN } \end{aligned}$ | $\begin{gathered} 10.07 \% \\ 9.05 \% \end{gathered}$ |  |  |  |  |  |  |
| Projected Annual <br> Earnings per Share |  | [15] | [16] | [17] | [18] | [19] | [20] | [21] | [22] | [23] | [24] | [25] | [26] | [27] | [28] | [29] | [30] | [31] |  |
| Company | Ticker | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2018 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL. Resources Inc. | GAS | \$2.32 | \$2.43 | \$2.54 | \$2.66 | \$2.78 | \$2.91 | \$3.05 | $\$ 3.20$ | \$3.36 | \$3.53 | \$3.72 | $\$ 3.93$ | \$4.15 | \$4.39 | \$4.64 | \$4.90 | \$5.18 |  |
| Atmos Energy Corp. | ATO | \$2.10 | \$2.23 | \$2.37 | \$2.52 | \$2.68 | \$2.85 | \$3.03 | \$3.22 | \$3.41 | \$3.62 | \$3.83 | \$4.06 | \$4.29 | \$4.53 | \$4.79 | \$5.07 | $\$ 5.36$ |  |
| Laclede Group | LG | \$2.79 | \$2.91 | \$3.04 | \$3.17 | \$3.30 | \$3.44 | \$3.59 | \$3.75 | \$3.93 | \$4.13 | \$4.35 | \$4.59 | \$4.85 | \$5.12 | \$5.42 | \$5.73 | \$6.05 |  |
| Now Jersey Resources | NJR | \$2.71 | \$2.78 | \$2.85 | \$2.92 | \$2.99 | \$3.07 | \$3.14 | \$3.24 | \$3.35 | \$3.49 | \$3.65 | \$3.84 | \$4.06 | \$4.29 | \$4.54 | \$4.80 | \$5.07 |  |
| Northwest Natural Gas | NWN | \$2.22 | \$2.31 | \$2.40 | \$2.50 | \$2.60 | \$2.70 | \$2.81 | \$2.93 | \$3.06 | \$3.21 | \$3,38 | \$3.56 | \$3.76 | \$3.98 | \$4.21 | \$4.45 | \$4.70 |  |
| Piedmont Natural Gas | PNY | \$1.66 | $\$ 1.72$ | \$1.78 | \$1.85 | \$1.91 | \$1.98 | \$2.06 | \$2.14 | \$2.23 | \$2.34 | \$2.45 | 12.58 | \$2.73 | \$2.89 | \$3.05 | \$3.23 | \$3.41 |  |
| South Jersey Industries | S.j | \$3.03 | \$3.21 | \$3.40 | \$3.61 | \$3.83 | $\$ 4.05$ | \$4.30 | \$4.55 | \$4.82 | \$5.14 | \$5.40 | \$5.71 | \$6.04 | \$6,38 | \$6.75 | \$7.13 | \$7.54 |  |
| Southwest Gas Corp. | swx | \$2.86 | \$2.93 | \$3.01 | \$3.08 | \$3.16 | \$3.24 | \$3.33 | \$3.43 | \$3.55 | \$3.70 | \$3.87 | \$4.07 | \$4.30 | \$4.55 | \$4.81 | \$5.09 | 85.38 |  |
| WGL Holdings Inc. | WGL | \$2.68 | \$2.77 | \$2.87 | \$2.97 | \$3.08 | \$3.18 | 53.29 | \$3.42 | \$3.57 | \$3.73 | \$3.92 | \$4.13 | \$4.36 | \$4.61 | \$4.87 | \$5.15 | \$5.45 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL Resources Inc. | gas |  | 70.00\% | 67.50\% | 65.00\% | 62.50\% | 80.00\% | 61.35\% | 62.70\% | 64.05\% | 65.40\% | 66.75\% | 68.10\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Atmos Energy Corp. | ATO |  | 56.00\% | 55.00\% | 54.00\% | 53.00\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Laclede Group | LG |  | 85.00\% | 76.75\% | 68.50\% | 60.25\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 89.45\% |  |
| Now Jersey Resources | NJR |  | 58.00\% | 55.50\% | 53.00\% | 50.50\% | 48.00\% | 51.06\% | 54.13\% | 57.19\% | 80.26\% | 63.32\% | 66.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Northwest Natural Gas | NWN |  | 85.00\% | 79.50\% | 74.00\% | 68.50\% | 63.00\% | 63.92\% | 64.84\% | 65.76\% | 66.69\% | 67.61\% | 68.53\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Piedmont Natural Gas | PNY |  | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.21\% | 68.41\% | 68.62\% | 68.83\% | 69.04\% | 69.24\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| South Jersey Industries | ¢ $\quad 1$ |  | 65.00\% | 63.00\% | 61.00\% | 59.00\% | 57.00\% | 58.78\% | 60.56\% | 62.34\% | 64.11\% | 65.89\% | 67.67\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Southwest Gas Corp. | swx |  | 40.00\% | 40.25\% | 40.50\% | 40.75\% | 41.00\% | 45.06\% | 49.13\% | 53.19\% | 57.26\% | 61.32\% | 65.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| WGL Holdings, Inc. | WGL |  | 72.00\% | 69.50\% | 67.00\% | 64.50\% | 62.00\% | 63.06\% | 64.13\% | 65.19\% | 66.26\% | 67.32\% | 68.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Prolected Annual Cash Flows |  |  | [48) | [49] | (50) | [51) | [52] | [53] | [54] | [55] | [56] | [57] | [58] | (59) | [60) | [61] | [62] | [63] | [64] |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Terminal Value |
| AGL Resources Inc. | GAS |  | \$1.70 | \$1.72 | \$1.73 | \$1.74 | \$1.75 | \$1.87 | $\$ 2.00$ | \$2.15 | \$2.31 | \$2.48 | \$2.67 | \$2.88 | \$3.05 | \$3.22 | \$3.41 | \$3.60 | \$100.39 |
| Atmos Energy Corp. | ATO |  | \$1.25 | \$1.31 | \$1.36 | $\$ 1.42$ | \$1.48 | \$1.65 | \$1.83 | \$2.03 | \$2. 24 | \$2.47 | \$2.72 | \$2.98 | \$3.15 | \$3.33 | \$3.52 | \$3.72 | \$100.30 |
| Laclede Group | LG |  | \$2.47 | \$2.33 | \$2.17 | \$1.99 | \$1.79 | \$1.96 | \$2.14 | \$2.34 | \$2.56 | \$2.80 | \$3.07 | \$3.37 | \$3.56 | \$3.76 | \$3.98 | \$4.20 | \$102.12 |
| New Jersey Resources | NJR |  | \$1.61 | \$1.58 | \$1.55 | \$1.51 | \$1.47 | \$1.60 | \$1.75 | \$1.92 | \$2.10 | \$2.31 | \$2.55 | \$2.82 | \$2.38 | \$3.15 | \$3.33 | \$3.52 | \$101.98 |
| Northwest Natural Gas | NWN |  | \$1.96 | \$1.91 | \$1,85 | \$1.78 | \$1.70 | \$1.80 | \$1.90 | \$2.01 | \$2.14 | \$2.28 | \$2.44 | \$2.61 | \$2.76 | \$2.92 | \$3.09 | \$3.26 | \$93.19 |
| Piedmont Natural Gas | PNY |  | \$1.17 | $\$ 1.21$ | \$1.26 | \$1.30 | \$1.35 | \$1.40 | \$1.46 | \$1.53 | \$1.61 | \$1.69 | \$1.79 | \$1.90 | \$2.01 | \$2.12 | \$2.24 | \$2.37 | \$73.06 |
| South Jersey Industries | SJ |  | \$2.09 | \$2.14 | \$2.20 | \$2.26 | \$2.31 | \$2.53 | \$2.76 | \$3.01 | \$3.27 | \$3.56 | \$3.87 | \$4.19 | \$4.43 | \$4.69 | \$4.96 | \$5.24 | \$133.14 |
| Southwest Gas Corp. | swx |  | \$1.17 | \$1.21 | \$1.25 | \$1.29 | \$1.33 | \$1.50 | \$1.68 | \$1.89 | \$2.12 | \$2.37 | \$2.66 | \$2.99 | \$3.16 | \$3.34 | \$3.53 | \$3.73 | \$118.35 |
| WGL Holdings, Inc. | WGL |  | \$2.00 | \$2.00 | \$1.99 | \$1.98 | \$1.97 | \$2.08 | \$2.19 | \$2.33 | \$2.47 | \$2.64 | \$2.82 | 83.03 | \$3.20 | \$3.39 | \$3.58 | 83.78 | \$94.09 |
| Projected Annual Data Investior Cash Flows |  | [65] | [66] | [67] | [68] | [69] | [70] | [71] | [72] | [73] | [74] | [75] | [76] | [77] | [78) | [79] | [80] | [81] | [82] |
| Initial |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Outilow | 12/31/13 | 12/31/13 | 6/30114 | 6/30/15 | 6/30/16 | 6/30117 | 6/30/18 | $6 / 30 / 19$ | 6/30/20 | 6/30121 | 6/30122 | 6/30/23 | 6/30/24 | 6/30/25 | 6/30/26 | 6/30/27 | 6/30/28 |
| 4GL Resources Inc. | GAS | (\$45.00) |  | \$0.00 | 81.74 | \$1.73 | \$1.74 | \$1.75 | \$1.87 | \$2.00 | \$2.15 | \$2.31 | \$2.48 | \$2.67 | \$2.88 | \$3.05 | \$3.22 | \$3.41 | \$103.99 |
| Atmos Energy Corp. | ATO | (\$43.02) |  | \$0.00 | \$1.29 | \$1,36 | \$1.42 | \$1.48 | \$1.65 | \$1.83 | \$2.03 | \$2.24 | \$2.47 | \$2.72 | \$2.98 | \$3.15 | \$3,33 | \$3.52 | \$104.02 |
| Laclede Group | LG | (\$45.73) |  | \$0.00 | \$2.53 | \$2.17 | \$1.99 | \$1.79 | \$1.96 | \$2.14 | \$2.34 | \$2.56 | \$2.80 | \$3.07 | \$3.37 | \$3.56 | \$3.76 | \$3.98 | \$106.33 |
| New Jersey Resources | NJR | (\$44.64) |  | \$0.00 | \$1.63 | \$1,55 | \$1.51 | \$1.47 | \$1.60 | \$1.75 | \$1.92 | \$2.10 | \$2.31 | \$2.55 | \$2.82 | \$2.98 | \$3.15 | \$3.33 | \$105.51 |
| Northwest Natural Gas | NWN | (\$42.87) |  | \$0.00 | \$2.00 | \$1.85 | \$1.78 | \$1.70 | \$1.80 | \$1.90 | \$2.01 | \$2.14 | \$2.28 | \$2.44 | \$2.61 | \$2.76 | \$2.92 | \$3.09 | \$96.46 |
| Piedmont Natural Gas | PNY | (\$33.51) |  | \$0.00 | \$1.19 | \$1.26 | \$1.30 | \$1.35 | \$1.40 | \$1.46 | \$1.53 | \$1.61 | \$1.69 | \$1.79 | \$1.90 | \$2.01 | \$2.12 | \$2.24 | \$75.43 |
| South Jersey Industries | S.J | (\$58.34) |  | \$0.00 | \$2.15 | \$2.20 | \$2.26 | \$2.31 | \$2.53 | \$2.76 | \$3.04 | \$3.27 | \$3.56 | \$3.87 | \$4.19 | \$4.43 | \$4.69 | \$4.96 | \$138.38 |
| Soultwest Gas Corp. | swx | (\$50.15) |  | \$0.00 | \$1.19 | \$1.25 | \$1.29 | \$1.33 | \$1.50 | \$1.68 | \$1.89 | \$2.12 | \$2.37 | \$2.66 | \$2.99 | \$3.16 | \$3.34 | \$3.53 | \$122.09 |
| WGL Holdings. Inc. | WGL | (\$42.98) |  | \$0.00 | \$2.03 | \$1.99 | \$1.98 | \$1.97 | \$2.08 | \$2.19 | \$2.33 | \$2.47 | \$2.64 | \$2.82 | \$3.03 | \$3.20 | \$3.39 | 83.58 | \$97.87 |


|  |  |  | Multi-Slage Growth Discounted Cash Flow Model 180 Day Average Stock Price High Growth Rate Estimate in First Stage |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inputs |  | [1] | [2] | [3] | (4) | (5) | [6] | [7] | [8] | [9] | [10] | [114] | [12] | [13] | [14] |
|  |  | Stock | Growth Rate Estimates |  |  |  |  | Long-Term | Payout Ratio |  |  | Iterative Solution |  | Terminal | Terminal |
| Company | Ticker |  | Zacks | First Call | $\begin{aligned} & \begin{array}{l} \text { Value } \\ \text { Line } \end{array} \end{aligned}$ | $\begin{aligned} & \text { Retenlion } \\ & \text { Growth } \end{aligned}$ | $\begin{aligned} & \text { High } \\ & \text { Growth } \end{aligned}$ |  | 2013 | 2017 | 2024 | Proof | IRR |  | PEG Ratio |
| AGL Resources $\operatorname{lnc}$. | GAS | \$45.00 | 5.00\% | NA | 8.00\% | 4.66\% | 8.00\% | 5.71\% | 70.00\% | 60.00\% | 69.45\% | 80.00 | 10.52\% | 15.26 | 2.87 |
| Atmos Energy Corp. | ATO | \$43.02 | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.75\% | 5.71\% | 56.00\% | 52.00\% | 69.45\% | \$0.00 | 10.05\% | 16.92 | 2.96 |
| Laclede Group | LG | \$45.73 | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 6.00\% | 5.71\% | 85.00\% | 52.00\% | 69.45\% | (\$0.00) | 10.63\% | 14.95 | 2.62 |
| New Jersey Resources | NJR | \$44.64 | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 7.16\% | 5.71\% | 58.00\% | 48.00\% | 69.45\% | (\$0.00) | 10.80\% | 14.44 | 2.53 |
| Northwest Natural Gas | NWN | \$42.87 | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.50\% | 5.71\% | 85.00\% | 63.00\% | 69.45\% | \$0.00 | 9.56\% | 19.10 | 3.34 |
| Piedmont Natural Gas | PNY | \$33.51 | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 5.00\% | 5.71\% | 68.00\% | 68.00\% | 69.45\% | \$0.00 | 9.51\% | 19.33 | 3.38 |
| South Jersey Industries | SJI | \$58.34 | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 9.66\% | 5.71\% | 65.00\% | 57.00\% | 69.45\% | (\$0.00) | 11.07\% | 13.71 | 2.40 |
| Southwest Gas Corp. | SWX | \$50.15 | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 8.00\% | 5.71\% | 40.00\% | 41.00\% | 69.45\% | (\$0.00) | 10.60\% | 15.02 | 2.63 |
| WGL Holdings, Inc. | WGL | \$42.98 | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.60\% | 5.71\% | 72.00\% | 62.00\% | 69.45\% | 80.00 | 10.32\% | 15.93 | 2.79 |
|  |  |  |  |  |  |  |  |  |  |  |  | MEAN | 10.34\% |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  | MA | 11.07\% |  |  |


| Projected Annual Earnings per Share |  | (15) | [16] | [17] | (18) | [19] | [20] | [21] | [22] | [23] | [24] | [25] | [26]. | [27] | [28] | [29] | [30] | [31] |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL Resources inc. | GAS | \$2.32 | \$2.51 | \$2.71 | \$2.92 | \$3.16 | \$3.41 | \$3.68 | \$3.96 | \$4.25 | \$4.54 | \$4.83 | 85.13 | \$5.42 | \$5.73 | ${ }^{66.06}$ | 86.41 | \$6.77 |  |
| Atmos Energy Corp. | 4TO | \$2.10 | \$2.26 | \$2.44 | \$2.63 | $\$ 2.83$ | \$3.05 | \$3.29 | $\$ 3.53$ | \$3.78 | \$4.03 | \$4.29 | $\pm 4.55$ | \$4.81 | \$5.09 | \$5.38 | \$5.68 | \$6.01 |  |
| Laclede Group | 16 | \$2.79 | \$2.96 | \$3. 13 | \$3.32 | \$3.5? | \$3.73 | \$3.96 | \$4.19 | \$4.44 | \$4.70 | \$4.97 | \$5.26 | \$5.56 | \$5.88 | \$6.21 | 86.57 | \$6.95 |  |
| New Jersey Resources | NJR | \$2.71 | \$2.90 | \$3.11 | \$3.34 | \$3.57 | \$3.83 | \$4.10 | \$4.39 | \$4.68 | \$4.98 | \$5.29 | \$5.61 | \$5.93 | \$6.27 | \$6.62 | \$7.00 | \$7.40 |  |
| Northwest Natural Gas | NWN | \$2.22 | \$2.32 | \$2.42 | \$2.53 | \$2.65 | \$2.77 | \$2.89 | \$3.03 | \$3.18 | \$3.34 | \$3.51 | \$3.71 | \$3.92 | \$4.14 | \$4.38 | \$4.63 | \$4.90 |  |
| Fiedmont Natural Gas | PNY | \$1.66 | \$1.74 | \$1.83 | \$1.92 | \$2.02 | \$2.12 | \$2.22 | \$2.34 | \$2.46 | \$2.59 | \$2.73 | \$2.89 | \$3.05 | \$3.23 | \$3.41 | \$3.61 | \$3.81 |  |
| South Jersey industries | Sul | \$3.03 | \$3.32 | \$3.64 | \$4.00 | \$4.38 | \$4.81 | \$5.27 | \$5.74 | \$6.22 | \$6.70 | \$7.17 | \$7.63 | \$8.07 | \$8.53 | \$9.01 | \$9.53 | \$10.07 |  |
| Southwest Gas Corp. | SWX | \$2.86 | \$3.09 | \$3.34 | \$3.60 | \$3.89 | \$4.20 | \$4.54 | \$4.89 | \$5.24 | \$5.60 | \$5.96 | \$6.32 | \$6.69 | \$7.07 | \$7.47 | \$7.90 | \$8.35 |  |
| WGL Heldings. Inc. | WGL | \$2.68 | \$2.80 | \$2.93 | \$3.07 | \$3.21 | \$3.36 | \$3.51 | \$3.68 | \$3.86 | \$4.06 | \$4.28 | \$4.51 | \$4.77 | \$5.04 | \$5.33 | \$5.64 | \$5.96 |  |
| Projected Annual <br> Dividend Payout Ratio |  |  | [32] | [33] | [34] | [35] | [36] | [37] | [38) | [39] | [40] | [41] | [42] | [43] | [44] | [45] | [46] | [47] |  |
| Company | Ticker |  | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 |  |
| AGL Resources inc. | GAS |  | 70.00\% | 67.50\% | 65.00\% | 62.50\% | 60.00\% | 61.35\% | 62.70\% | 64.05\% | 65.40\% | 66.75\% | 63.10\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Almos Energy Corp. | ATO |  | 56.00\% | 55.00\% | 54.00\% | 53.00\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | $66.96 \%$ | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Laclede Group | LG |  | 85.00\% | 76.75\% | 68.50\% | 60.25\% | 52.00\% | 54.49\% | 56.99\% | 59.48\% | 61.97\% | 64.46\% | 66.96\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| New Jersey Resources | NJR |  | 58.00\% | 55.50\% | 53.00\% | 50.50\% | 48.00\% | 51.06\% | 54.13\% | 57.19\% | 60.26\% | 63.32\% | 66.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Northwest Natural Gas | NWN |  | 85.00\% | 79.50\% | 74.00\% | 68.50\% | 63.00\% | 63.92\% | 64.84\% | 65.76\% | 66.69\% | 67.61\% | 68.53\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Piedmont Natural Gas | PNY |  | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.00\% | 68.21\% | 68.41\% | 68.62\% | 68.83\% | 69.04\% | 69.24\% | 69.45\% | 69.45\% | 69,45\% | 69.45\% | 69.45\% |  |
| South Jersey industries | SJI |  | 65.00\% | 63.00\% | 61.00\% | 59.00\% | 57.00\% | 58.78\% | 60.56\% | 62.34\% | 64.11\% | 65.89\% | 67.67\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Southwest Gas Corp. | swx |  | 40.00\% | 40.25\% | 40.50\% | 40.75\% | 41.00\% | 45.06\% | 49.13\% | 53.19\% | 57.26\% | 61.32\% | 65.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| WGL Holdings. Inc. | WGL |  | 72.00\% | 69.50\% | 67.00\% | 64.50\% | 62.00\% | 63.06\% | 64.13\% | 65.19\% | 66.26\% | 67.32\% | 68.39\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% | 69.45\% |  |
| Projected Annual <br> Cash Flows |  |  | [48] | [49] | [50] | [51] | [52] | [53] | [54] | [55] | [56] | [57] | [58] | $159]$ | 600 | 6611 | [62] | [63] | (64) |
| pany |  |  |  |  |  |  |  |  |  |  | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Terminal |
| AGL Resources finc. | GAS |  | \$1.75 | \$1.83 | \$1.90 | \$1.97 | \$2.05 | \$2.26 | \$2.48 | \$2.72 | \$2.97 | \$3.23 | \$3.49 | \$3.77 | \$3.98 | \$4.21 | \$4.45 | \$4.70 | \$103.33 |
| Atmos Energy Corp. | ATO |  | \$1.27 | \$1.34 | \$1.42 | \$1.50 | \$1.59 | \$1.79 | \$2.01 | \$2.25 | \$2.50 | \$2.77 | \$3.05 | \$3.34 | \$3.53 | \$3.73 | \$3.95 | \$4.17 | \$101.70 |
| Laclede Group | LG |  | \$2.51 | \$2.41 | \$2.28 | \$2.12 | \$1.94 | \$2.16 | \$2.39 | \$2.64 | $\$ 2.91$ | \$3.21 | \$3.52 | \$3.86 | \$4.08 | \$4.32 | \$4.56 | \$4.82 | \$103.81 |
| New Jersey Resources | NJR |  | \$1.68 | \$1.73 | \$1.77 | \$1.80 | \$1.84 | \$2.10 | \$2.38 | \$2.68 | \$3.00 | \$3.35 | \$3.72 | \$4.12 | \$4.35 | \$4.60 | \$4.86 | \$5.14 | \$106.87 |
| Northwest Natural Gas | NWN |  | \$1.97 | \$1.93 | \$1.87 | \$1.81 | \$1.74 | \$1.85 | \$1.90 | \$2.09 | \$2.23 | \$2.38 | \$2.54 | \$2.72 | \$2.88 | \$3.04 | \$3.22 | \$3.40 | \$93.51 |
| Pledmont Natural Gas | PNY |  | \$1.19 | \$1.24 | \$1.31 | \$1.37 | \$1.44 | \$1.52 | \$1.60 | \$1.69 | \$1.78 | \$1.89 | \$2.00 | \$2.12 | \$2.24 | \$2.37 | \$2.50 | \$2.65 | \$73.70 |
| South Jersey Industries | SJI |  | \$2.16 | \$2.30 | \$2.44 | \$2.59 | \$2.74 | \$3.10 | \$3.48 | \$3.88 | \$4.30 | \$4.73 | $\$ 5.16$ | \$5.60 | \$5.92 | \$6.26 | \$6.62 | \$7.00 | \$138.15 |
| Southwest Gas Corp. | swx |  | \$1.24 | \$1.34 | \$1.46 | \$1.59 | \$1.72 | \$2.05 | \$2.40 | \$2.79 | \$3.21 | \$3.66 | \$4.14 | \$4.64 | \$4.91 | \$5.19 | \$5.49 | \$5.80 | \$125.43 |
| WGL. Holdings ! !nc. | WGL |  | \$2.02 | \$2.04 | \$2.05 | \$2.07 | \$2.08 | \$2.21 | \$2.36 | \$2.52 | \$2.69 | \$2.88 | \$3.09 | \$3.31 | \$3.50 | \$3.70 | \$3.91 | \$4.14 | \$94.94 |
| Projected Annual Data Investor Cash Flows |  | [65] | [66] | [67] | [68] | [69] | [70] | [71] | [72] | [73] | [74] | [75] | [76] | [77] | [78] | [79] | ${ }^{\text {[80] }}$ | [81] | [82] |
|  |  | Initial |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Company | Ticker | Outilow | 12/31/13 | 12/31/13 | 6/30/14 | 6/30/15 | 6/30/16 | 6/30117 | 6/30/18 | $6 / 30119$ | 6/30/20 | 6/30/21 | 6/30/22 | 6/30/23 | 6/30/24 | 6/30/25 | 6/30/26 | 6/30/27 | 6/30/28 |
| AGL Resources Inc. | GAS | (\$45.00) |  | \$0.00 | \$1.82 | \$1.90 | \$1.97 | \$2.05 | \$2.26 | \$2.48 | \$2.72 | \$2.97 | \$3.23 | \$3.49 | \$3.77 | \$3.98 | \$4.21 | \$4.45 | \$108.03 |
| Atmos Energy Corp. | ATO | (\$43.02) |  | 80.00 | \$1.32 | \$1.42 | \$1.50 | \$1.59 | \$1.79 | \$2.01 | \$2.25 | \$2.50 | \$2.77 | \$3.05 | \$3.34 | \$3.53 | \$3.73 | \$3.95 | \$105.87 |
| Laciede Group | LG | (\$45.73) |  | 80.00 | \$2.59 | \$2.28 | \$2.12 | \$1.94 | \$2.16 | \$2.39 | \$2.64 | \$2.91 | \$3.21 | \$3.52 | \$3.86 | \$4.08 | \$4.32 | \$4.56 | \$108.63 |
| New Jersey Resources | NJR | (\$44.64) |  | 80.00 | \$1.74 | \$1.77 | \$1.80 | \$1.84 | \$2.10 | \$2.38 | \$2.68 | \$3.00 | \$3.35 | \$3.72 | \$4.12 | \$4.35 | \$4.60 | \$4.86 | \$112.01 |
| Northwest Natural Gas | nvin | (\$42.87) |  | \$0.00 | \$2.02 | \$1.87 | \$1.87 | \$1.74 | \$1.85 | \$1.96 | \$2.09 | \$2.23 | \$2.38 | \$2.54 | \$2.72 | \$2.88 | \$3.04 | \$3.22 | \$96.91 |
| Piedmont Natural Gas | PNY | (\$33.51) |  | \$0.00 | \$1.21 | \$1.37 | \$1.37 | \$1.44 | \$1.52 | \$1.60 | \$1.69 | \$1.78 | \$1.89 | \$2.00 | \$2.12 | \$2.24 | \$2.37 | \$2.50 | \$76.34 |
| South Jersey Industries | SJI | (\$58.34) |  | \$0.00 | \$2.26 | \$2.44 | \$2.59 | \$2.74 | \$3.10 | \$3.48 | \$3.88 | \$4,30 | \$4.73 | \$5.16 | \$5.60 | \$5.92 | $\$ 6.26$ | \$6.62 | \$145.14 |
| Southwest Gas Corp. | swx | (\$50.15) |  | \$0.00 | \$1.28 | \$1.46 | \$1.59 | \$1.72 | \$2.05 | \$2.40 | \$2.79 | \$3.21 | \$3.66 | \$4.14 | \$4.64 | \$4.91 | \$5.19 | \$5.49 | \$131.23 |
| WGL. Hoidings, Inc. | WGL | (\$42.98) |  | \$0.00 | \$2.06 | \$2.05 | \$2.07 | \$2.08 | \$2.21 | \$2.36 | \$2.52 | \$2.69 | \$2.88 | \$3.09 | \$3.31 | \$3.50 | \$3.70 | \$3.91 | \$99.08 |

```
Multi-Stage DCF Notes:
    [2] Source: Zacks
    [3] Source: Yahoo! Finance
    [5] Source: Schedule RBH-4
    [6] Equals average Columns [2], [3]. [4], [5]
    [7] Source: Federal Reserve, Bureau of Economic Analysis
    [8] Source: Value Lin
[9] Source: Value Line
[10] Source: Sloomberg Professional
[12] Equals result of Excel Solver function: goal: Column [11] equals $0.00
[12] Equals result Equals Column [64]/Column [31]
(14] Equals Colurnn [13]/(Column [7] x 100)
[15] Source: Value Line
[16] Equals Column [15] \times(1+Column [6])
(18] Equals Column [17) x (1+Column[6]
19] Equals Column[18] x(1+Column [6])
    Equals Column[19] x (1+Column[6])
    Equals {1+(Column [6]+(([Column [7]-Column [6])/(2023-2018+1))\times(2019-2018)m)\timesColumn [21]
    Equats (1+(Column [6] +(()Column [7]-Column [6])/{2023-2018+1) <(2020-2018)))}\times\mathrm{ Column [22]
    Equals {1+(Column[6]+((Column[7]-Column[6])//2023-2018+1)\times(2021-2018)))\timesColumn [23]
    Equals (1+(Column[6] +(()Column []]-Column [8]) )(2023-2018+1) > (2022-2088))}\times\mathrm{ Column [24]
    Equals Column [26] \times(1+Column [7])
    Equals Column [27] \times(1+Column[7])
    Equals Column[28]\times(1+Column[7])
    Equals Column [30] x(1+Column [7])
    Equals Column [8]
    Equals Column [32]+((Column [36]-Column[321/4)
    Equals Column [33]+ ((Column [36]-Column [32]/4)
    Equals Column [34]+((Column [36]-Column [32]/4)
    Equats Column [9]
    Equals Column [36]+((Column [43]-Column [36])/7)
    Equals Column [37] + ((Cofumn [43]-Column [38]/77)
    Equals Column[38] + ((Column[43]-Column [36])/7)
    Equals Column [39] + ((Column [43]-Column [36); /7)
    Equals Column [40] + ((Column [43]-Column [36])/7)
    Equais Column[41] +((Column[43]-Column[36])/7)
    Equals Column [10]
    Equals Column [10]
    Equals Column [10]
    Equals Column [10
    Equals Column [16] x Column [32
    Equals Column [16] \times Column [32]
    Equals Column [18]\timesColumn [34
    Equais Column [19] \timesColumn [35
    Equais Column [20] x Column [36]
    Equats Column [21] \times Coiumn [37]
    Equals Column [22] x Coiumn [38]
    Equals Column [23] x Coiumn [39
    Equals Column [24]\timesColumn [40
    Equals Column [25] \times Column [41)
    Equals Column[25]\timesColumn [4]
    Equals Column[26] \times Column [42
    Equals Column [28] x Column! [44]
    Equals Column [29] x Column [45]
    EEquals Column [30] \times Column [46]
    Equals (Column [63]\times(1+Column [7]))/(Column [12]-Column [7])
    Equals negative net present value, discount rale equals Column [12], cash flows equal Column [67] through Column [82]
    Equals negativ
    Equals (12/31/2013-12/31/2013)/365 x Column [48
    Equals Column [48] \times(1 + (0.5 x Column [6])
    Equais Column (50)
    Equais Column [51]
    Equais Column [52]
    Equais Column [53]
    Equals Columm [54]
    Equals Column[55]
    Equals Column [56]
    Equals Column [57]
    Equals Column [58
    Equals Column [59
    Equals Column [61
    Equals Column [62]
    Equals Coiumn [63]+[64]
```



## Ex-Ante Market Risk Premium

Market DCF Method Based - Bloomberg

| $[1]$ | $[2]$ | $[3]$ |
| :---: | :---: | :---: |
| S\&P 500 | Current 30-Year |  |
| Est. Required | Treasury (30-day | Implied Market |
| Market Return | average) | Risk Premium |
| $14.01 \%$ | $3.87 \%$ | $10.14 \%$ |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| AGILENT TECHNOLOGIES INC | A | 18,869.95 | 0.11\% | 0.82\% | 10.77\% | 11.63\% | 0.0129\% |
| ALCOA INC | AA | 11,209.43 | 0.07\% | 1.15\% | 5.00\% | 6.17\% | 0.0041\% |
| APPLE INC | AAPL | 498,913.72 | 2.93\% | 2.29\% | 19.14\% | 21.65\% | 0.6344\% |
| ABBVIE INC | ABBV | 82,470.28 | 0.48\% | 3.09\% | 1.50\% | 4.61\% | 0.0223\% |
| AMERISOURCEBERGEN CORP | $A B C$ | 16,070.04 | 0.09\% | 1.35\% | 12.72\% | 14.16\% | 0.0134\% |
| ABBOTT LABORATORIES | ABT | 59,203.45 | 0.35\% | 1.46\% | 11.57\% | 13.11\% | 0.0456\% |
| ACE LTD | ACE | 35,118.85 | 0.21\% | 1.98\% | 8.70\% | 10.76\% | 0.0222\% |
| ACCENTURE PLC-CL A | $A C N$ | 55,176.40 | 0.32\% | 2.27\% | 11.67\% | 14.07\% | 0.0456\% |
| ACTAVIS PLC | ACT | 29,138.83 | 0.17\% | 0.00\% | 16.87\% | 16.87\% | 0.0289\% |
| ADOBE SYSTEMS INC | ADBE | 29,593.33 | 0.17\% | 0.00\% | 11.50\% | 11.50\% | 0.0200\% |
| ANALOG DEVICES INC | ADI | 15,406.06 | 0.09\% | 2.92\% | 11.67\% | 14.76\% | 0.0134\% |
| ARCHER-DANIELS-MIDLAND CO | ADM | 28,417.73 | 0.17\% | 1.72\% | 8.33\% | 10.13\% | 0.0169\% |
| AUTOMATIC DATA PROCESSING | ADP | 38,456.26 | 0.23\% | 2.26\% | 9.80\% | 12.17\% | 0.0275\% |
| ALLIANCE DATA SYSTEMS CORP | ADS | 12,674.55 | 0.07\% | 0.00\% | 13.83\% | 13.83\% | 0.0103\% |
| AUTODESK INC | ADSK | 11,088.50 | 0.07\% | 0.00\% | 11.60\% | 11.60\% | 0.0076\% |
| ADT CORP/THE | ADT | 8,050.39 | 0.05\% | 1.50\% | 9.00\% | 10.57\% | 0.0050\% |
| AMEREN CORPORATION | AEE | 8,698.45 | 0.05\% | 4.46\% | 4.50\% | 9.06\% | 0.0046\% |
| AMERICAN ELECTRIC POWER | AEP | 22,849.05 | 0.13\% | 4.15\% | 4.69\% | 8.94\% | 0.0120\% |
| AES CORP | AES | 10,460.96 | 0.06\% | 1.13\% | 7.20\% | 8.37\% | 0.0051\% |
| AETNA INC | AET | 25,181.10 | 0.15\% | 1.06\% | 10.96\% | 12.08\% | 0.0179\% |
| AFLAC INC | AFL | 30,995.00 | 0.18\% | 2.14\% | 15.00\% | 17.30\% | 0.0315\% |
| ALLERGAN INC | AGN | 32,649.23 | 0.19\% | 0.18\% | 13.50\% | 13.69\% | 0.0263\% |
| AMERICAN INTERNATIONAL GROUP | AIG | 75,457.75 | 0.44\% | 0.34\% | 11.00\% | 11.36\% | 0.0503\% |
| APARTMENT INVT \& MGMT CO - A | AIV | 3,783.61 | 0.02\% | 3.73\% | 9.68\% | 13.59\% | 0.0030\% |
| ASSURANT INC | $A I Z$ | 4,805.14 | 0.03\% | 1.45\% | 9.00\% | 10.52\% | 0.0030\% |
| AKAMAI TECHNOLOGIES INC | AKAM | 8,379.70 | 0.05\% | 0.00\% | 14.80\% | 14.80\% | 0.0073\% |
| ALLSTATE CORP | ALL | 24,643.69 | 0.14\% | 1.84\% | 9.05\% | 10.98\% | 0.0159\% |
| ALLEGION PLC | ALLE | 4,215.48 | N/A | 0.00\% | NA | N/A | N/A |
| ALTERA CORP | ALTR | 10,288.96 | 0.06\% | 1.50\% | 11.36\% | 12.95\% | 0.0078\% |
| ALEXION PHARMACEUTICALS INC | ALXN | 25,732.80 | 0.15\% | 0.00\% | 29.13\% | 29.13\% | 0.0440\% |
| APPLIED MATERIALS INC | AMAT | 21,049.13 | 0.12\% | 2.24\% | 9.67\% | 12.02\% | 0.0149\% |
| AMETEK INC | AME | 12,793.28 | 0.08\% | 0.48\% | 15.00\% | 15.51\% | 0.0117\% |
| AMGEN INC | AMGN | 86,256.95 | 0.51\% | 1.65\% | 9.19\% | 10.91\% | 0.0553\% |
| AMERIPRISE FINANCIAL INC | AMP | 22,249.62 | 0.13\% | 1.76\% | 19.00\% | 20.93\% | 0.0274\% |
| AMERICAN TOWER CORP | AMT | 31,381.77 | 0.18\% | 1.39\% | 18.96\% | 20.48\% | 0.0378\% |
| AMAZON.COM INC | AMZN | 181,029.07 | 1.06\% | 0.00\% | 37.14\% | 37.14\% | 0.3950\% |
| AUTONATION INC | AN | 6,084.52 | 0.04\% | 0.00\% | 25.81\% | 25.81\% | 0.0092\% |
| AON PLC | $A O N$ | 25,092.35 | 0.15\% | 0.82\% | 10.00\% | 10.86\% | 0.0160\% |
| APACHE CORP | APA | 34,274.43 | 0.20\% | 0.97\% | 10.00\% | 11.01\% | 0.0222\% |
| ANADARKO PETROLEUM CORP | APC | 39,702.73 | 0.23\% | 0.63\% | 7.00\% | 7.65\% | 0.0178\% |
| AIR PRODUCTS \& CHEMICALS INC | APD | 23,637.52 | 0.14\% | 2.63\% | 8.43\% | 11.17\% | 0.0155\% |
| AMPHENOL CORP-CL A | APH | 13,946.15 | 0.08\% | 0.63\% | 15.00\% | 15.68\% | 0.0128\% |
| AIRGAS INC | ARG | 8,216.15 | 0.05\% | 1.68\% | 12.22\% | 14.00\% | 0.0068\% |
| ALLEGHENY TECHNOLOGIES INC | ATI | 3,816.09 | 0.02\% | 2.04\% | 15.00\% | 17.19\% | 0.0039\% |
| AVALONBAY COMMUNITIES INC | AVB | 15,344.51 | 0.09\% | 3.61\% | 11.53\% | 15.35\% | 0.0138\% |
| AVON PRODUCTS INC | AVP | 7,387.09 | 0.04\% | 1.41\% | 12.86\% | 14.36\% | 0.0062\% |
| AVERY DENNISON CORP | AVY | 4,825.96 | 0.03\% | 2.25\% | 7.00\% | 9.33\% | 0.0026\% |
| AMERICAN EXPRESS CO | AXP | 97,432.08 | 0.57\% | 0.98\% | 11.40\% | 12.43\% | 0.0712\% |
| AUTOZONE INC | AZO | 16,076.25 | 0.09\% | 0.00\% | 12.51\% | 12.51\% | 0.0118\% |
| BOEING CO/THE | BA | 102,656.06 | 0.60\% | 1.40\% | 11.50\% | 12.98\% | 0.0783\% |
| BANK OF AMERICA CORP | BAC | 170,114.17 | 1.00\% | 0.25\% | 8.17\% | 8.43\% | 0.0842\% |
| BAXTER INTERNATIONAL INC | BAX | 37,663.21 | 0.22\% | 2.66\% | 10.50\% | 13.30\% | 0.0294\% |
| BED BATH \& BEYOND INC | BBBY | 17,237.62 | 0.10\% | 0.00\% | 13.56\% | 13.56\% | 0.0137\% |
| BB\&T CORP | BBT | 26,152.72 | 0.15\% | 2.48\% | 6.40\% | 8.96\% | 0.0138\% |
| BEST BUY CO INC | BBY | 13,996.01 | 0.08\% | 1.67\% | 10.45\% | 12.21\% | 0.0100\% |
| CR BARD INC | BCR | 10,301.77 | 0.06\% | 0.61\% | 10.80\% | 11.44\% | 0.0069\% |
| BECTON DICKINSON AND CO | BDX | 21,197.81 | 0.12\% | 1.92\% | 8.61\% | 10.61\% | 0.0132\% |
| BEAM INC | BEAM | 10,961.51 | 0.06\% | 1.34\% | 10.22\% | 11.63\% | 0.0075\% |
| FRANKLIN RESOURCES INC | BEN | 36,027.05 | 0.21\% | 0.94\% | 13.41\% | 14.41\% | 0.0305\% |
| BROWN-FORMAN CORP-CLASS B | BF/B | 15,887.34 | 0.09\% | 1.46\% | 11.54\% | 13.08\% | 0.0122\% |
| BAKER HUGHES INC | BHI | 24,488.22 | 0.14\% | 1.09\% | 17.90\% | 19.08\% | 0.0275\% |
| BIOGEN IDEC INC | BIIB | 65,804.20 | 0.39\% | 0.00\% | 21.06\% | 21.06\% | 0.0814\% |
| BANK OF NEW YORK MELLON CORP | BK | 40,003.01 | 0.24\% | 1.67\% | 10.70\% | 12.45\% | 0.0293\% |
| BLACKROCK INC | BLK | 53,087.63 | 0.31\% | 2.14\% | 14.07\% | 16.36\% | 0.0510\% |
| BALL CORP | BLL | 7,455.86 | 0.04\% | 1.01\% | 11.67\% | 12.73\% | 0.0056\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| BEMIS COMPANY | BMS | 4,217.48 | 0.02\% | 2.56\% | 6.00\% | 8.64\% | 0.0021\% |
| BRISTOL-MYERS SQUIBB CO | BMY | 87,299.70 | 0.51\% | 2.64\% | 13.20\% | 16.02\% | 0.0822\% |
| BROADCOM CORP-CL A | BRCM | 16,579.92 | 0.10\% | 1.51\% | 12.03\% | 13.63\% | 0.0133\% |
| BERKSHIRE HATHAWAY INC-CL B | BRK/B | 291,522.75 | N/A | 0.00\% | NA | N/A | N/A |
| BOSTON SCIENTIFIC CORP | BSX | 15,982.60 | 0.09\% | 0.00\% | 9.66\% | 9.66\% | 0.0091\% |
| PEABODY ENERGY CORP | BTU | 5,321.07 | 0.03\% | 1.74\% | 12.00\% | 13.84\% | 0.0043\% |
| BORGWARNER INC | BWA | 12,622.56 | 0.07\% | 0.37\% | 16.15\% | 16.55\% | 0.0123\% |
| BOSTON PROPERTIES INC | BXP | 15,326.10 | 0.09\% | 2.63\% | 4.85\% | 7.53\% | 0.0068\% |
| CITIGROUP INC | C | 158,110.33 | 0.93\% | 0.08\% | 8.00\% | 8.08\% | 0.0751\% |
| CAINC | CA | 15,027.44 | 0.09\% | 3.01\% | 6.67\% | 9.78\% | 0.0086\% |
| CONAGRA FOODS INC | CAG | 14,176.11 | 0.08\% | 2.97\% | 8.80\% | 11.90\% | 0.0099\% |
| CARDINAL HEALTHINC | CAH | 22,643.31 | 0.13\% | 1.80\% | 11.00\% | 12.90\% | 0.0172\% |
| CAMERON INTERNATIONAL CORP | CAM | 14,127.14 | 0.08\% | 0.00\% | 14.00\% | 14.00\% | 0.0116\% |
| CATERPILLAR INC | CAT | 57,170.22 | 0.34\% | 2.31\% | 4.88\% | 7.24\% | 0.0243\% |
| CHUBB CORP | CB | 24,141.26 | 0.14\% | 1.83\% | 9.67\% | 11.58\% | 0.0164\% |
| CBRE GROUP INC - A | CBG | 8,748.79 | 0.05\% | 0.00\% | 13.50\% | 13.50\% | 0.0069\% |
| CBS CORP-CLASS B NON VOTING | CBS | 37,894,56 | 0.22\% | 0.78\% | 13.39\% | 14.22\% | 0.0317\% |
| COCA-COLA ENTERPRISES | CCE | 11,312.62 | 0.07\% | 1.84\% | 10.05\% | 11.98\% | 0.0080\% |
| CROWN CASTLE INTL CORP | CCl | 24,223.45 | 0.14\% | 0.00\% | 18.00\% | 18.00\% | 0.0256\% |
| CARNIVAL CORP | CCL | 32,402.19 | 0.19\% | 2.65\% | 16.14\% | 19.00\% | 0.0362\% |
| CELGENE CORP | celg | 69,911.71 | 0.41\% | 0.00\% | 23.36\% | 23.36\% | 0.0959\% |
| CERNER CORP | CERN | 18,941.25 | 0.11\% | 0.00\% | 18.00\% | 18.00\% | 0.0200\% |
| CF INDUSTRIES HOLDINGS INC | CF | 13,509.74 | 0.08\% | 0.98\% | 9.00\% | 10.03\% | 0.0080\% |
| CAREFUSION CORP | CFN | 8,360.59 | 0.05\% | 0.00\% | 11.50\% | 11.50\% | 0.0056\% |
| CHESAPEAKE ENERGY CORP | CHK | 18,077.37 | 0.11\% | 1.23\% | 44.90\% | 46.40\% | 0.0493\% |
| C.H. ROBINSON WORLDWIDE INC | CHRW | 8,832.74 | 0.05\% | 2.37\% | 13.00\% | 15.52\% | 0.0081\% |
| CIGNA CORP | Cl | 24,139.06 | 0.14\% | 0.04\% | 11.33\% | 11.38\% | 0.0161\% |
| CINCINNATI FINANCIAL CORP | CINF | 8,511.01 | N/A | 3.19\% | NA | N/A | N/A |
| COLGATE-PALMOLIVE CO | CL | 59,853.17 | 0.35\% | 2.10\% | 9.31\% | 11.51\% | 0.0405\% |
| CLIFFS NATURAL RESOURCES INC | CLF | 3,979.70 | 0.02\% | 2.41\% | 5.00\% | 7.47\% | 0.0017\% |
| CLOROX COMPANY | CLX | 11,794.68 | 0.07\% | 3.08\% | 8.15\% | 11.36\% | 0.0079\% |
| COMERICAINC | CMA | 8,664.48 | 0.05\% | 1.44\% | 6.84\% | 8.32\% | 0.0042\% |
| COMCAST CORP-CLASS A | CMCSA | 133,461.17 | 0.78\% | 1.52\% | 18.72\% | 20.38\% | 0.1598\% |
| CME GROUP INC | CME | 26,073.43 | 0.15\% | 2.42\% | 14.63\% | 17.22\% | 0.0264\% |
| CHIPOTLE MEXICAN GRILL INC | CMG | 16,361.85 | 0.10\% | 0.00\% | 20.79\% | 20.79\% | 0.0200\% |
| CUMMINS INC | CMI | 26,073,60 | 0.15\% | 1.53\% | 9.81\% | 11.41\% | 0.0175\% |
| CMS ENERGY CORP | CMS | 7,120.64 | 0.04\% | 3.83\% | 6.00\% | 9.94\% | 0.0042\% |
| CENTERPOINT ENERGY INC | CNP | 9,845.86 | 0.06\% | 3.61\% | 5.00\% | 8.70\% | 0.0050\% |
| CONSOL ENERGY INC | CNX | 8,729.55 | 0.05\% | 1.15\% | 12.00\% | 13.22\% | 0.0068\% |
| CAPITAL ONE FINANCIAL CORP | COF | 44,734.90 | 0.26\% | 1.22\% | 9.75\% | 11.03\% | 0.0290\% |
| CABOT OIL \& GAS CORP | COG | 16,447.98 | 0.10\% | 0.19\% | 35.00\% | 35.23\% | 0.0340\% |
| COACH INC | COH | 15,829.32 | 0.09\% | 2.38\% | 11.12\% | 13.63\% | 0.0127\% |
| ROCKWELL COLLINS INC | COL | 9,944.45 | 0.06\% | 1.70\% | 7.97\% | 9.75\% | 0.0057\% |
| CONOCOPHILLIPS | COP | 86,785.99 | 0.51\% | 3.81\% | 7.50\% | 11.45\% | 0.0584\% |
| COSTCO WHOLESALE CORP | COST | 52,258.81 | 0.31\% | 1.08\% | 12.08\% | 13.22\% | 0.0406\% |
| COVIDEN PLC | cov | 30,500.98 | 0.18\% | 1.98\% | 8.68\% | 10.75\% | 0.0193\% |
| CAMPBELL SOUP CO | CPB | 13,405.73 | 0.08\% | 2.91\% | 5.46\% | 8.45\% | 0.0067\% |
| SALESFORCE.COM INC | CRM | 33,002.19 | 0.19\% | 0.00\% | 28.50\% | 28.50\% | 0.0553\% |
| COMPUTER SCIENCES CORP | CSC | 8,234.97 | 0.05\% | 1.43\% | 8.00\% | 9.49\% | 0.0046\% |
| CISCO SYSTEMS INC | csco | 118,267.18 | 0.69\% | 2.68\% | 10.13\% | 12.94\% | 0.0899\% |
| CSXCORP | CSX | 29,011.36 | 0.17\% | 2.07\% | 11.50\% | 13.69\% | 0.0233\% |
| CINTAS CORP | CTAS | 7,103.43 | 0.04\% | 1.30\% | 11.05\% | 12.42\% | 0.0052\% |
| CENTURYLINKINC | CTL | 18,778.32 | 0.11\% | 6.80\% | -0.11\% | 6.69\% | 0.0074\% |
| COGNIZANT TECH SOLUTIONS-A | CTSH | 29,983.51 | 0.18\% | 0.00\% | 16.39\% | 16.39\% | 0.0289\% |
| CITRIX SYSTEMS INC | CTXS | 11,558.48 | 0.07\% | 0.00\% | 15.26\% | 15.26\% | 0.0104\% |
| CABLEVISION SYSTEMS-NY GRP-A | CVC | 4,660.74 | 0.03\% | 3.45\% | 16.31\% | 20.04\% | 0.0055\% |
| CVS CAREMARK CORP | cvs | 84,115.26 | 0.49\% | 1.22\% | 13.86\% | 15.16\% | 0.0749\% |
| CHEVRON CORP | CVX | 239,819.67 | 1.41\% | 3.11\% | 4.87\% | 8.06\% | 0.1135\% |
| DOMINION RESOURCES INCNA | D | 37,188.51 | 0.22\% | 3.51\% | 5.15\% | 8.75\% | 0.0191\% |
| delta air lines inc | DAL | 23,989.51 | 0.14\% | 0.43\% | 15.91\% | 16.37\% | 0.0231\% |
| DU PONT (E.I.) DE NEMOURS | DD | 59,650.29 | 0.35\% | 2.77\% | 6.86\% | 9.72\% | 0.0341\% |
| DEERE \& CO | DE | 33,963.12 | 0.20\% | 2.25\% | 7.40\% | 9.73\% | 0.0194\% |
| DISCOVER FINANCIAL SERVICES | DFS | 26,531.36 | 0.16\% | 1.34\% | 11.00\% | 12.41\% | 0.0193\% |
| DOLLAR GENERAL CORP | DG | 19,577.20 | 0.12\% | 0.00\% | 14.68\% | 14.68\% | 0.0169\% |
| QUEST DIAGNOSTICS INC | DGX | 7,749.80 | 0.05\% | 2.28\% | 10.78\% | 13.18\% | 0.0060\% |
| DR HORTON INC | DHI | 7,091.96 | 0.04\% | 0.64\% | 5.64\% | 6.29\% | 0.0026\% |
| DANAHER CORP | DHR | 53,663.47 | 0.32\% | 0.13\% | 13.00\% | 13.14\% | 0.0414\% |
| WALT DISNEY COTHE | DIS | 133,799.27 | 0.79\% | 1.09\% | 11.90\% | 13.05\% | 0.1026\% |
| DISCOVERY COMMUNICATIONS-A | DISCA | 31,798.38 | 0.19\% | 0.00\% | 19.20\% | 19.20\% | 0.0359\% |
| DELPHI AUTOMOTIVE PLC | DLPH | 18,309.19 | 0.11\% | 1.15\% | 13.86\% | 15.09\% | 0.0162\% |
| DOLLAR TREE INC | DLTR | 11,748.99 | 0.07\% | 0.00\% | 16.68\% | 16.68\% | 0.0115\% |
| DUN \& BRADSTREET CORP | DNB | 4,688.00 | N/A | 1.30\% | NA | N/A | N/A |
| DENBURY RESOURCES INC | DNR | 6,010.03 | N/A | 0.00\% | NA | N/A | N/A |
| DIAMOND OFFSHORE DRILLING | DO | 7,954.22 | 0.05\% | 6.12\% | 18.00\% | 24.68\% | 0.0115\% |
| DOVER CORP | DOV | 16,350.00 | 0.10\% | 1.51\% | 13.50\% | 15.11\% | 0.0145\% |
| DOW CHEMICAL COTHE | DOW | 53,584.42 | 0.31\% | 2.94\% | 5.50\% | 8.52\% | 0.0268\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| DR PEPPER SNAPPLE GROUP INC | DPS | 9,622.84 | 0.06\% | 3.14\% | 6.85\% | 10.09\% | 0.0057\% |
| DARDEN RESTAURANTS INC | DRI | 7,046.77 | 0.04\% | 4.18\% | 7.40\% | 11.74\% | 0.0049\% |
| DTE ENERGY COMPANY | DTE | 11,635.03 | 0.07\% | 3.94\% | 5.13\% | 9.18\% | 0.0063\% |
| DIRECTV | DTV | 36,150.41 | 0.21\% | 0.00\% | 14.21\% | 14.21\% | 0.0302\% |
| DUKE ENERGY CORP | DUK | 48,664.58 | 0.29\% | 4.50\% | 4.20\% | 8.80\% | 0.0252\% |
| DAVITA HEALTHCARE PARTNERS I | DVA | 13,665.98 | 0.08\% | 0.00\% | 12.92\% | 12.92\% | 0.0104\% |
| DEVON ENERGY CORPORATION | DVN | 25,033.96 | 0.15\% | 1.41\% | 5.00\% | 6.44\% | 0.0095\% |
| ELECTRONIC ARTS INC | EA | 7,017.08 | 0.04\% | 0.00\% | 15.00\% | 15.00\% | 0.0062\% |
| EBAY INC | EBAY | 70,685.04 | 0.42\% | 0.00\% | 14.77\% | 14.77\% | 0.0613\% |
| ECOLAB INC | ECL | 31,407.43 | 0.18\% | 0.89\% | 13.20\% | 14.15\% | 0.0261\% |
| CONSOLIDATED EDISON INC | ED | 15,982.91 | 0.09\% | 4.51\% | 2.73\% | 7.29\% | 0.0068\% |
| EQUIFAXINC | EFX | 8,364.66 | 0.05\% | 1.28\% | 12.00\% | 13.36\% | 0.0066\% |
| EDISON INTERNATIONAL | EIX | 15,065.51 | 0.09\% | 2.93\% | 4.43\% | 7.42\% | 0.0066\% |
| ESTEE LAUDER COMPANIES-CL A | EL | 28,832.69 | 0.17\% | 1.09\% | 12.05\% | 13.21\% | 0.0224\% |
| EMC CORP/MA | EMC | 51,672.53 | 0.30\% | 0.93\% | 13.00\% | 13.99\% | 0.0425\% |
| EASTMAN CHEMICAL CO | EMN | 12,370.58 | 0.07\% | 1.42\% | 7.50\% | 8.97\% | 0.0065\% |
| EMERSON ELECTRIC CO | EMR | 49,005.55 | 0.29\% | 2.48\% | 8.75\% | 11.34\% | 0.0327\% |
| EOG RESOURCES INC | EOG | 45,783.32 | 0.27\% | 0.44\% | 12.57\% | 13.03\% | 0.0350\% |
| EQUITY RESIDENTIAL | EQR | 18,734.15 | 0.11\% | 3.55\% | 6.82\% | 10.49\% | 0.0115\% |
| EQT CORP | EQT | 13,546.38 | 0.08\% | 0.14\% | 30.00\% | 30.16\% | 0.0240\% |
| EXPRESS SCRIPTS HOLDING CO | ESRX | 56,398.36 | 0.33\% | 0.00\% | 14.92\% | 14.92\% | 0.0494\% |
| ENSCO PLC-CL A | ESV | 13,400.51 | 0.08\% | 3.72\% | 18.00\% | 22.05\% | 0.0174\% |
| E*TRADE FINANCIAL CORP | ETFC | 5,643.44 | 0.03\% | 0.00\% | 40.00\% | 40.00\% | 0.0133\% |
| EATON CORP PLC | ETN | 35,755.76 | 0.21\% | 2.23\% | 10.80\% | 13.15\% | 0.0276\% |
| ENTERGY CORP | ETR | 11,209.15 | 0.07\% | 5.28\% | -1.89\% | 3.35\% | 0.0022\% |
| EDWARDS LIFESCIENCES CORP | EW | 7,147.53 | 0.04\% | 0.00\% | 14.89\% | 14.89\% | 0.0063\% |
| EXELON CORP | EXC | 23,530.58 | 0.14\% | 5.29\% | 0.19\% | 5.48\% | 0.0076\% |
| EXPEDITORS INTL WASH INC | EXPD | 9,047.59 | 0.05\% | 1.36\% | 11.40\% | 12.83\% | 0.0068\% |
| EXPEDIA INC | EXPE | 9,021.40 | 0.05\% | 0.78\% | 13.13\% | 13.96\% | 0.0074\% |
| FORD MOTOR CO | $F$ | 60,547.10 | 0.36\% | 2.61\% | 7.89\% | 10.59\% | 0.0377\% |
| FASTENAL CO | FAST | 13,943.91 | 0.08\% | 1.70\% | 17.07\% | 18.91\% | 0.0155\% |
| FACEBOOK INC-A | FB | 138,771.84 | 0.82\% | 0.00\% | 30.85\% | 30.85\% | 0.2515\% |
| FREEPORT-MCMORAN COPPER | FCX | 39,159.21 | 0.23\% | 4.97\% | 7.00\% | 12.14\% | 0.0279\% |
| FAMILY DOLLAR STORES | FDO | 7,499.11 | 0.04\% | 1.68\% | 11.02\% | 12.79\% | 0.0056\% |
| FEDEX CORP | FDX | 44,795.38 | 0.26\% | 0.42\% | 13.11\% | 13.56\% | 0.0357\% |
| FIRSTENERGY CORP | FE | 13,638.47 | 0.08\% | 6.75\% | 2.87\% | 9.71\% | 0.0078\% |
| F5 NETWORKS INC | FFIV | 6,949.08 | 0.04\% | 0.00\% | 17.00\% | 17.00\% | 0.0069\% |
| FIDELITY NATIONAL INFORMATIO | FIS | 15,610.22 | 0.09\% | 1.61\% | 11.75\% | 13.46\% | 0.0123\% |
| FISERV INC | FISV | 15,125.50 | 0.09\% | 0.00\% | 11.50\% | 11.50\% | 0.0102\% |
| FIFTH THIRD BANCORP | FITB | 18,592.52 | 0.11\% | 2.23\% | 8.77\% | 11.10\% | 0.0121\% |
| FLIR SYSTEMS INC | FLIR | 4,188.74 | 0.02\% | 1.22\% | 12.50\% | 13.79\% | 0.0034\% |
| FLUOR CORP | FLR | 13,035.53 | 0.08\% | 0.75\% | 13.40\% | 14.20\% | 0.0109\% |
| FLOWSERVE CORP | FLS | 10,872.97 | 0.06\% | 0.71\% | 14.33\% | 15.09\% | 0.0096\% |
| FMC CORP | FMC | 9,992.87 | 0.06\% | 0.89\% | 10.50\% | 11.43\% | 0.0067\% |
| FOSSIL GROUP INC | FOSL | 6,583.70 | 0.04\% | 0.00\% | 16.05\% | 16.05\% | 0.0062\% |
| TWENTY-FIRST CENTURY FOX-A | FOXA | 80,481.65 | 0.47\% | 0.67\% | 15.33\% | 16.05\% | 0.0759\% |
| FOREST LABORATORIES INC | FRX | 16,089.07 | 0.09\% | 0.00\% | 47.15\% | 47.15\% | 0.0446\% |
| FIRST SOLAR INC | FSLR | 5,445.34 | 0.03\% | 0.00\% | 0.00\% | 0.00\% | 0.0000\% |
| FMC TECHNOLOGIES INC | FTI | 12,335.73 | 0.07\% | 0.00\% | 18.00\% | 18.00\% | 0.0130\% |
| FRONTIER COMMUNICATIONS CORP | FTR | 4,627.90 | 0.03\% | 8.64\% | 10.75\% | 19.85\% | 0.0054\% |
| AGL RESOURCES INC | GAS | 5,535.55 | 0.03\% | 4.00\% | 5.50\% | 9.61\% | 0.0031\% |
| GANNETT CO | GCl | 6,713.75 | 0.04\% | 2.72\% | 4.50\% | 7.28\% | 0.0029\% |
| GENERAL DYNAMICS CORP | GD | 33,613.80 | 0.20\% | 2.26\% | 8.00\% | 10.35\% | 0.0204\% |
| GENERAL ELECTRIC CO | GE | 279,745.25 | 1.64\% | 2.79\% | 9.25\% | 12.17\% | 0.2000\% |
| GENERAL GROWTH PROPERTIES | GGP | 18,287.39 | 0.11\% | 2.53\% | 8.84\% | 11.48\% | 0.0123\% |
| GRAHAM HOLDINGS CO-CLASS B | GHC | 4,880.55 | N/A | 0.00\% | NA | N/A | N/A |
| GILEAD SCIENCES INC | GILD | 114,679.18 | 0.67\% | 0.00\% | 34.55\% | 34.55\% | 0.2328\% |
| GENERAL MILLS INC | GIS | 30,877.08 | 0.18\% | 3.07\% | 8.33\% | 11.53\% | 0.0209\% |
| CORNING INC | GLW | 25,644.42 | 0.15\% | 2.21\% | 11.67\% | 14.00\% | 0.0211\% |
| GENERAL MOTORS CO | GM | 56,253.44 | 0.33\% | 0.00\% | 12.67\% | 12.67\% | 0.0419\% |
| GAMESTOP CORP-CLASS A | GME | 5,608.71 | 0.03\% | 2.40\% | 15.30\% | 17.89\% | 0.0059\% |
| GENWORTH FINANCIAL INC-CL A | GNW | 7,631.37 | 0.04\% | 0.00\% | 5.00\% | 5.00\% | 0.0022\% |
| GOOGLE INC-CLA | GOOG | 371,658.88 | 2.18\% | 0.00\% | 18.01\% | 18.01\% | 0.3933\% |
| GENUINE PARTS CO | GPC | 12,714.40 | 0.07\% | 2.60\% | 8.33\% | 11.03\% | 0.0082\% |
| GAP INC/THE | GPS | 17,640.22 | 0.10\% | 1.62\% | 12.93\% | 14.65\% | 0.0152\% |
| GARMIN LTD | GRMN | 8,814,26 | 0.05\% | 3.99\% | 3.94\% | 8.01\% | 0.0041\% |
| GOLDMAN SACHS GROUP INC | GS | 83,687.24 | 0.49\% | 1.17\% | 6.52\% | 7.72\% | 0.0380\% |
| GOODYEAR TIRE \& RUBBER CO | GT | 5,834.18 | 0.03\% | 0.28\% | 24.04\% | 24.36\% | 0.0083\% |
| WW GRAINGER INC | GWW | 17,675.69 | 0.10\% | 1.39\% | 13.98\% | 15.46\% | 0.0161\% |
| HALLIBURTON CO | HAL | 42,945.70 | 0.25\% | 1.02\% | 18.14\% | 19.25\% | 0.0486\% |
| HARMAN INTERNATIONAL | HAR | 5,498.63 | 0.03\% | 0.64\% | 15.00\% | 15.69\% | 0.0051\% |
| HASBRO INC | HAS | 7,150.78 | 0.04\% | 2.75\% | 9.00\% | 11.87\% | 0.0050\% |
| HUNTINGTON BANCSHARES INC | HBAN | 8,022.80 | 0.05\% | 1.97\% | 5.25\% | 7.27\% | 0.0034\% |
| HUDSON CITY BANCORP INC | HCBK | 4,972.42 | N/A | 2.04\% | NA | N/A | N/A |
| HEALTH CARE REIT INC | HCN | 15,446.77 | 0.09\% | 5.72\% | 4.83\% | 10.69\% | 0.0097\% |
| HCP INC | HCP | 16,562.66 | 0.10\% | 5.79\% | 4.53\% | 10.45\% | 0.0102\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| HOME DEPOT INC | HD | 115,953.41 | 0.68\% | 1.91\% | 17.04\% | 19.11\% | 0.1302\% |
| HESS CORP | HES | 27,884.38 | 0.16\% | 0.87\% | 4.31\% | 5.19\% | 0.0085\% |
| HARTFORD FINANCIAL SVCS GRP | HIG | 16,054.76 | 0.09\% | 1.36\% | 9.50\% | 10.92\% | 0.0103\% |
| HARLEY-DAVIDSON INC | HOG | 15,201.17 | 0.09\% | 1.22\% | 12.25\% | 13.54\% | 0.0121\% |
| HONEYWELL INTERNATIONAL INC | HON | 71,256.13 | 0.42\% | 1.83\% | 10.50\% | 12.43\% | 0.0520\% |
| STARWOOD HOTELS \& RESORTS | HOT | 15,190.72 | 0.09\% | 1.70\% | 10.73\% | 12.52\% | 0.0112\% |
| HELMERICH \& PAYNE | HP | 9,028.94 | 0.05\% | 2.32\% | 8.00\% | 10.41\% | 0.0055\% |
| HEWLETT-PACKARD CO | HPQ | 53,006.74 | 0.31\% | 2.14\% | 3.15\% | 5.32\% | 0.0166\% |
| H\&R BLOCK INC | HRB | 7,972.01 | 0.05\% | 2.75\% | 12.33\% | 15.25\% | 0.0071\% |
| HORMEL FOODS CORP | HRL | 11,830.83 | 0.07\% | 1.68\% | 11.00\% | 12.77\% | 0.0089\% |
| HARRIS CORP | HRS | 7,362.57 | 0.04\% | 2.44\% | 3.00\% | 5.48\% | 0.0024\% |
| HOSPIRA INC | HSP | 6,804.20 | 0.04\% | 0.00\% | 10.31\% | 10.31\% | 0.0041\% |
| HOST HOTELS \& RESORTS INC | HST | 14,596.26 | 0.09\% | 2.29\% | 10.35\% | 12.76\% | 0.0109\% |
| HERSHEY COTHE | HSY | 21,430.30 | 0.13\% | 1.85\% | 8.88\% | 10.81\% | 0.0136\% |
| HUMANA INC | HUM | 16,118.32 | 0.09\% | 1.02\% | 11.00\% | 12.08\% | 0.0114\% |
| INTL BUSINESS MACHINES CORP | IBM | 201,979.77 | 1.19\% | 1.98\% | 9.33\% | 11.41\% | 0.1354\% |
| INTERCONTINENTALEXCHANGE GRO | ICE | 25,708.49 | 0.15\% | 0.29\% | 21.80\% | 22.13\% | 0.0334\% |
| INTL FLAVORS \& FRAGRANCES | IFF | 7,037.85 | 0.04\% | 1.68\% | 6.50\% | 8.23\% | 0.0034\% |
| INTL GAME TECHNOLOGY | IGT | 4,694.40 | 0.03\% | 2.24\% | 14.00\% | 16.40\% | 0.0045\% |
| INTEL CORP | INTC | 127,108.47 | 0.75\% | 3.57\% | 8.64\% | 12.37\% | 0.0924\% |
| INTUIT INC | INTU | 21,589.01 | 0.13\% | 0.97\% | 12.82\% | 13.86\% | 0.0176\% |
| INTERNATIONAL PAPER CO | IP | 21,799.65 | 0.13\% | 2.58\% | 8.67\% | 11.36\% | 0.0145\% |
| INTERPUBLIC GROUP OF COS INC | IPG | 7,607.82 | 0.04\% | 1.70\% | 6.17\% | 7.92\% | 0.0035\% |
| INGERSOLL-RAND PLC | IR | 17,737.49 | 0.10\% | 1.36\% | 11.20\% | 12.64\% | 0.0132\% |
| IRON MOUNTAIN INC | IRM | 5,814.94 | 0.03\% | 3.55\% | 13.50\% | 17.29\% | 0.0059\% |
| INTUITIVE SURGICAL INC | ISRG | 14,459.82 | 0.08\% | 0.00\% | 13.54\% | 13.54\% | 0.0115\% |
| ILLINOIS TOOL WORKS | ITW | 37,149.23 | 0.22\% | 1.73\% | 9.58\% | 11.39\% | 0.0249\% |
| INVESCO LTD | IVZ | 16,016.62 | 0.09\% | 2.46\% | 13.43\% | 16.05\% | 0.0151\% |
| JABIL CIRCUIT INC | JBL | 3,447.72 | 0.02\% | 1.92\% | 11.00\% | 13.03\% | 0.0026\% |
| JOHNSON CONTROLS INC | JCl | 34,448.65 | 0.20\% | 1.68\% | 15.17\% | 16.97\% | 0.0343\% |
| JACOBS ENGINEERING GROUP INC | JEC | 8,443.30 | 0.05\% | 0.95\% | 13.93\% | 14.94\% | 0.0074\% |
| JOHNSON \& JOHNSON | JNJ | 257,738.40 | 1.51\% | 2.85\% | 6.90\% | 9.85\% | 0.1491\% |
| JUNIPER NETWORKS INC | JNPR | 11,367.65 | 0.07\% | 0.00\% | 11.14\% | 11.14\% | 0.0074\% |
| JOY GLOBAL INC | JOY | 5,829.10 | 0.03\% | 1.24\% | 2.57\% | 3.83\% | 0.0013\% |
| JPMORGAN CHASE \& CO | JPM | 219,123.14 | 1.29\% | 2.47\% | 6.82\% | 9.37\% | 0.1207\% |
| NORDSTROM INC | JWN | 11,999.75 | 0.07\% | 1.78\% | 11.40\% | 13.28\% | 0.0094\% |
| KELLOGG CO | K | 22,130.25 | 0.13\% | 2.93\% | 7.00\% | 10.03\% | 0.0130\% |
| KEYCORP | KEY | 11,997.47 | 0.07\% | 1.64\% | 5.00\% | 6.69\% | 0.0047\% |
| KIMCO REALTY CORP | KIM | 8,128.25 | 0.05\% | 4.27\% | 4.69\% | 9.06\% | 0.0043\% |
| KLA-TENCOR CORPORATION | KLAC | 10,608.90 | 0.06\% | 2.72\% | 16.07\% | 19.01\% | 0.0118\% |
| KIMBERLY-CLARK CORP | KMB | 39,870.75 | 0.23\% | 3.05\% | 7.65\% | 10.82\% | 0.0253\% |
| KINDER MORGAN INC | KMI | 37,435.61 | 0.22\% | 4.45\% | 45.00\% | 50.45\% | 0.1109\% |
| CARMAXINC | KMX | 10,468.19 | 0.06\% | 0.00\% | 13.26\% | 13.26\% | 0.0082\% |
| COCA-COLA CO/THE | KO | 180,125.49 | 1.06\% | 2.72\% | 7.42\% | 10.24\% | 0.1084\% |
| MICHAEL KORS HOLDINGS LTD | KORS | 16,803.40 | 0.10\% | 0.00\% | 25.65\% | 25.65\% | 0.0253\% |
| KROGER CO | KR | 20,320.14 | 0.12\% | 1.49\% | 9.26\% | 10.82\% | 0.0129\% |
| KRAFT FOODS GROUP INC | KRFT | 31,962.60 | 0.19\% | 3.80\% | 9.00\% | 12.97\% | 0.0244\% |
| KOHLS CORP | KSS | 12,302.34 | 0.07\% | 2.26\% | 8.35\% | 10.71\% | 0.0077\% |
| KANSAS CITY SOUTHERN | KSU | 13,501.74 | 0.08\% | 0.68\% | 16.50\% | 17.23\% | 0.0137\% |
| LOEWS CORP | L | 18,591.49 | N/A | 0.52\% | NA | N/A | N/A |
| $L B R A N D S \mathbb{N C}$ | LB | 18,064.22 | 0.11\% | 1.93\% | 11.58\% | 13.61\% | 0.0144\% |
| LEGGETT \& PLATT INC | LEG | 4,352.13 | 0.03\% | 3.80\% | 15.00\% | 19.08\% | 0.0049\% |
| LENNAR CORP-A | LEN | 7,461.46 | 0.04\% | 0.34\% | 4.67\% | 5.02\% | 0.0022\% |
| LABORATORY CRP OF AMER HLDGS | LH | 8,005.84 | 0.05\% | 0.00\% | 11.56\% | 11.56\% | 0.0054\% |
| LIFE TECHNOLOGIES CORP | LIFE | 13,100.39 | 0.08\% | 0.00\% | 10.35\% | 10.35\% | 0.0080\% |
| L-3 COMMUNICATIONS HOLDINGS | LLL | 9,405.82 | 0.06\% | 2.07\% | 2.35\% | 4.44\% | 0.0025\% |
| LINEAR TECHNOLOGY CORP | LLTC | 10,563.08 | 0.06\% | 2.33\% | 10.70\% | 13.16\% | 0.0082\% |
| ELI LILLY \& CO | LLY | 57,481.66 | 0.34\% | 3.84\% | -0.85\% | 2.97\% | 0.0100\% |
| LEGG MASON INC | LM | 5,195.66 | 0.03\% | 1.20\% | 54.83\% | 56.36\% | 0.0172\% |
| LOCKHEED MARTIN CORP | LMT | 47,258.13 | 0.28\% | 3.24\% | 6.88\% | 10.23\% | 0.0284\% |
| LINCOLN NATIONAL CORP | LNC | 13,321.99 | 0.08\% | 0.96\% | 10.00\% | 11.00\% | 0.0086\% |
| LORILLARD INC | LO | 18,646.60 | 0.11\% | 4.35\% | 11.36\% | 15.96\% | 0.0175\% |
| LOWE'S COS INC | LOW | 52,029.98 | 0.31\% | 1.41\% | 17.23\% | 18.77\% | 0.0574\% |
| LAM RESEARCH CORP | LRCX | 8,761.04 | 0.05\% | 0.00\% | 22.45\% | 22.45\% | 0.0116\% |
| LSI CORP | LSI | 6,002.47 | 0.04\% | 0.38\% | 15.33\% | 15.74\% | 0.0056\% |
| LEUCADIA NATIONAL CORP | LUK | 10,378.39 | N/A | 0.00\% | NA | N/A | N/A |
| SOUTHWEST AIRLINES CO | LUV | 13,202.85 | 0.08\% | 0.75\% | 24.38\% | 25.22\% | 0.0196\% |
| LYONDELLBASELLINDU-CL A | LYB | 43,900.45 | 0.26\% | 2.31\% | 8.25\% | 10.65\% | 0.0275\% |
| MACY'S INC | M | 19,798.54 | 0.12\% | 1.82\% | 11.88\% | 13.80\% | 0.0161\% |
| MASTERCARD INC-CLASS A | MA | 100,229.99 | 0.59\% | 0.23\% | 19.44\% | 19.69\% | 0.1160\% |
| MACERICH CO/THE | MAC | 8,246.89 | 0.05\% | 4.05\% | 5.19\% | 9.34\% | 0.0045\% |
| MARRIOTT INTERNATIONAL -CL A | MAR | 14,665.40 | 0.09\% | 1.26\% | 12.93\% | 14.26\% | 0.0123\% |
| MASCO CORP | MAS | 8,167.87 | 0.05\% | 1.33\% | 19.00\% | 20.46\% | 0.0098\% |
| MATTEL INC | MAT | 16,065.48 | 0.09\% | 3.03\% | 9.00\% | 12.17\% | 0.0115\% |
| MCDONALD'S CORP | MCD | 96,328,87 | 0.57\% | 3.23\% | 8.97\% | 12.34\% | 0.0698\% |
| MICROCHIP TECHNOLOGY INC | MCHP | 8,821.44 | 0.05\% | 3.12\% | 10.00\% | 13.27\% | 0.0069\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| MCKESSON CORP | MCK | 36,659.57 | 0.22\% | 0.54\% | 13.13\% | 13.71\% | 0.0295\% |
| MOODY'S CORP | MCO | 16,590.20 | 0.10\% | 1.18\% | 13.50\% | 14.76\% | 0.0144\% |
| MONDELEZ INTERNATIONAL INC-A | MDLZ | 61,365.03 | 0.36\% | 1.54\% | 12.19\% | 13.82\% | 0.0498\% |
| MEDTRONIC INC | MDT | 57,105.63 | 0.34\% | 1.97\% | 7.94\% | 9.99\% | 0.0335\% |
| METLIFE INC | MET | 59,561.74 | 0.35\% | 1.92\% | 8.00\% | 9.99\% | 0.0350\% |
| MCGRAW HILL FINANCIAL INC | MHFI | 20,800.15 | 0.12\% | 1.46\% | 10.00\% | 11.53\% | 0.0141\% |
| MOHAWK INDUSTRIES INC | MHK | 10,839.26 | 0.06\% | 0.00\% | 23.50\% | 23.50\% | 0.0150\% |
| MEAD JOHNSON NUTRITION CO | MJN | 16,659.73 | 0.10\% | 1.64\% | 10.86\% | 12.59\% | 0.0123\% |
| MCCORMICK \& CO-NON VTG SHRS | MKC | 9,043.04 | N/A | 1.98\% | NA | N/A | N/A |
| MARSH \& MCLENNAN COS | mMC | 26,346.72 | 0.15\% | 2.01\% | 12.00\% | 14.13\% | 0.0219\% |
| 3MCO | MMM | 92,435.36 | 0.54\% | 1.83\% | 11.53\% | 13.47\% | 0.0732\% |
| MONSTER BEVERAGE CORP | MNST | 11,361.54 | 0.07\% | 0.00\% | 12.83\% | 12.83\% | 0.0086\% |
| ALTRIA GROUP INC | MO | 76,388.06 | 0.45\% | 4.83\% | 7.69\% | 12.71\% | 0.0570\% |
| MONSANTO CO | MON | 61,338.98 | 0.36\% | 1.40\% | 13.60\% | 15.10\% | 0.0544\% |
| MOSAIC COTHE | MOS | 20,234.08 | 0.12\% | 2.11\% | 7.67\% | 9.85\% | 0.0117\% |
| MARATHON PETROLEUM CORP | MPC | 27,498.79 | 0.16\% | 1.67\% | 8.41\% | 10.15\% | 0.0164\% |
| MERCK \& CO. INC. | MRK | 145,336.74 | 0.85\% | 3.46\% | 2.25\% | 5.75\% | 0.0491\% |
| MARATHON OLL CORP | MRO | 24,584.22 | 0.14\% | 2.03\% | 15.35\% | 17.54\% | 0.0253\% |
| MORGAN STANLEY | MS | 60,784.25 | 0.36\% | 0.64\% | 12.21\% | 12.89\% | 0.0460\% |
| MICROSOFT CORP | MSFT | 310,293.98 | 1.82\% | 2.82\% | 8.29\% | 11.23\% | 0.2048\% |
| MOTOROLA SOLUTIONS INC | MSI | 17,336.33 | 0.10\% | 1.61\% | 7.00\% | 8.66\% | 0.0088\% |
| M \& T BANK CORP | MTB | 15,123.52 | 0.09\% | 2.41\% | 13.00\% | 15.57\% | 0.0138\% |
| MICRON TECHNOLOGY INC | MU | 22,883.17 | 0.13\% | 0.00\% | 12.84\% | 12.84\% | 0.0173\% |
| MURPHY OLL CORP | MUR | 12,060.38 | 0.07\% | 1.95\% | 13.00\% | 15.08\% | 0.0107\% |
| MEADWESTVACO CORP | MWV | 6,576.21 | 0.04\% | 2.70\% | 10.00\% | 12.84\% | 0.0050\% |
| MYLAN INC | MYL | 16,432.22 | 0.10\% | 0.00\% | 11.70\% | 11.70\% | 0.0113\% |
| NOBLE ENERGY INC | NBL | 24,215.27 | 0.14\% | 0.82\% | 12.58\% | 13.45\% | 0.0191\% |
| NABORS INDUSTRIES LTD | NBR | 5,041.44 | 0.03\% | 0.63\% | 3.85\% | 4.48\% | 0.0013\% |
| NASDAQ OMX GROUP/THE | NDAQ | 6,667.85 | 0.04\% | 1.31\% | 12.77\% | 14.16\% | 0.0055\% |
| NOBLE CORP PLC | NE | 9,515.44 | 0.06\% | 2.19\% | 13.67\% | 16.01\% | 0.0089\% |
| NEXTERA ENERGY INC | NEE | 36,999.09 | 0.22\% | 3.10\% | 5.98\% | 9.18\% | 0.0200\% |
| NEWMONT MINING CORP | NEM | 11,916.26 | 0.07\% | 4.77\% | 2.00\% | 6.82\% | 0.0048\% |
| NETFLIX INC | NFLX | 21,593.54 | 0.13\% | 0.00\% | 28.33\% | 28.33\% | 0.0359\% |
| NEWFIELD EXPLORATION CO | NFX | 3,345.91 | 0.02\% | 0.00\% | 11.50\% | 11.50\% | 0.0023\% |
| NISOURCE INC | Ni | 10,235.34 | 0.06\% | 3.01\% | 4.00\% | 7.08\% | 0.0043\% |
| NIKE INC -CL B | NKE | 69,741.13 | 0.41\% | 1.16\% | 12.76\% | 13.99\% | 0.0573\% |
| NIELSEN HOLDINGS NV | NLSN | 17,291.02 | 0.10\% | 1.53\% | 11.25\% | 12.87\% | 0.0131\% |
| NORTHROP GRUMMAN CORP | NOC | 25,355.76 | 0.15\% | 2.06\% | 8.00\% | 10.14\% | 0.0151\% |
| NATIONAL OILWELL VARCO INC | NOV | 34,325.07 | 0.20\% | 1.08\% | 11.30\% | 12.44\% | 0.0251\% |
| NRG ENERGY INC | NRG | 9,272.34 | N/A | 1.63\% | NA | N/A | N/A |
| NORFOLK SOUTHERN CORP | NSC | 28,478.44 | 0.17\% | 2.22\% | 14.25\% | 16.63\% | 0.0278\% |
| NETAPP INC | NTAP | 13,844.04 | 0.08\% | 1.56\% | 14.00\% | 15.67\% | 0.0127\% |
| NORTHERN TRUST CORP | NTRS | 14,788.33 | 0.09\% | 1.99\% | 11.12\% | 13.21\% | 0.0115\% |
| NORTHEAST UTILITIES | NU | 13,274.91 | 0.08\% | 3.48\% | 7.00\% | 10.61\% | 0.0083\% |
| NUCOR CORP | NUE | 16,865.19 | 0.10\% | 2.77\% | 7.33\% | 10.21\% | 0.0101\% |
| NVIDIA CORP | NVDA | 9,011.29 | 0.05\% | 1.96\% | 9.25\% | 11.30\% | 0.0060\% |
| NEWELL RUBBERMAID INC | NWL | $9,265.07$ | 0.05\% | 1.89\% | 10.03\% | 12.01\% | 0.0065\% |
| NEWS CORP - CLASS A | NWSA | 10,452.52 | 0.06\% | 0.43\% | 6.00\% | 6.44\% | 0.0040\% |
| OWENS-ILLINOIS INC | Ol | 5,842.45 | 0.03\% | 0.00\% | 9.54\% | 9.54\% | 0.0033\% |
| ONEOK INC | OKE | 12,736.14 | 0.07\% | 2.40\% | 11.00\% | 13.53\% | 0.0101\% |
| OMNICOM GROUP | OMC | 19,168.24 | 0.11\% | 2.02\% | 7.80\% | 9.89\% | 0.0111\% |
| ORACLE CORP | ORCL | 170,047.03 | 1.00\% | 1.26\% | 11.00\% | 12.33\% | 0.1232\% |
| O'REILLY AUTOMOTIVE INC | ORLY | 13,815.76 | 0.08\% | 0.00\% | 19.00\% | 19.00\% | 0.0154\% |
| OCCIDENTAL PETROLEUM CORP | OXY | 76,390.30 | 0.45\% | 2.60\% | 7.25\% | 9.94\% | 0.0446\% |
| PAYCHEXINC | PAYX | 16,440.54 | 0.10\% | 3.06\% | 9.33\% | 12.54\% | 0.0121\% |
| PEOPLE'S UNITED FINANCIAL | PBCT | 4,817.86 | 0.03\% | 4.29\% | 6.50\% | 10.93\% | 0.0031\% |
| PITNEY BOWES INC | PBI | 4,704.41 | 0.03\% | 4.01\% | 8.50\% | 12.69\% | 0.0035\% |
| PACCAR INC | PCAR | 20,767.49 | 0.12\% | 2.45\% | 10.25\% | 12.83\% | 0.0157\% |
| P G\&ECORP | PCG | 18,070.66 | 0.11\% | 4.53\% | 3.44\% | 8.05\% | 0.0085\% |
| PLUM CREEK TIMBER CO | PCL | 8,252.85 | 0.05\% | 3.70\% | 5.00\% | 8.79\% | 0.0043\% |
| PRICELINE.COMINC | PCLN | 59,212.67 | 0.35\% | 0.00\% | 20.00\% | 20.00\% | 0.0696\% |
| PRECISION CASTPARTS CORP | PCP | 38,957.69 | 0.23\% | 0.04\% | 11.87\% | 11.91\% | 0.0273\% |
| PATTERSON COS INC | PDCO | 4,304.69 | 0.03\% | 1.59\% | 9.33\% | 11.00\% | 0.0028\% |
| PUBLIC SERVICE ENTERPRISE GP | PEG | 16,091.45 | 0.09\% | 4.53\% | 1.31\% | 5.86\% | 0.0055\% |
| PEPSICO INC | PEP | 126,307.26 | 0.74\% | 2.72\% | 7.78\% | 10.60\% | 0.0787\% |
| PETSMART INC | PETM | 7,542.21 | 0.04\% | 0.68\% | 13.98\% | 14.71\% | 0.0065\% |
| PFIZER INC | PFE | 196,765.31 | 1.16\% | 3.15\% | 5.02\% | 8.25\% | 0.0953\% |
| PRINCIPAL FINANCIAL GROUP | PFG | 14,385.88 | 0.08\% | 2.00\% | 11.50\% | 13.61\% | 0.0115\% |
| PROCTER \& GAMBLE CO/THE | PG | 219,442.77 | 1.29\% | 3.06\% | 9.18\% | 12.39\% | 0.1597\% |
| PROGRESSIVE CORP | PGR | 16,295.90 | 0.10\% | 2.92\% | 7.67\% | 10.70\% | 0.0102\% |
| PARKER HANNIFIN CORP | PH | 19,072.34 | 0.11\% | 1.45\% | 9.75\% | 11.27\% | 0.0126\% |
| PULTEGROUP INC | PHM | 7,730.10 | 0.05\% | 0.56\% | 28.95\% | 29.60\% | 0.0134\% |
| PERKINELMER INC | PKI | 4,612.59 | 0.03\% | 0.68\% | 11.00\% | 11.72\% | 0.0032\% |
| PROLOGIS INC | PLD | 18,437.81 | 0.11\% | 3.03\% | 8.26\% | 11.41\% | 0.0124\% |
| PALL CORP | PLL | 9,408.31 | 0.06\% | 1.22\% | 12.04\% | 13.33\% | 0.0074\% |
| PHILIP MORRIS INTERNATIONAL | PM | 138,331.03 | 0.81\% | 4.13\% | 8.98\% | 13.30\% | 0.1081\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| PNC FINANCIAL SERVICES GROUP | PNC | 41,025.52 | 0.24\% | 2.23\% | 5.02\% | 7.31\% | 0.0176\% |
| PENTAIR LTD-REGISTERED | PNR | 15,438.41 | 0.09\% | 1.24\% | 15.50\% | 16.83\% | 0.0153\% |
| PINNACLE WEST CAPITAL | PNW | 5,808.17 | 0.03\% | 4.20\% | 4.52\% | 8.81\% | 0.0030\% |
| PEPCO HOLDINGS INC | POM | 4,750.37 | 0.03\% | 5.68\% | 4.86\% | 10.68\% | 0.0030\% |
| PPG INDUSTRIES INC | PPG | 26,936.01 | 0.16\% | 1.27\% | 8.23\% | 9.56\% | 0.0151\% |
| PPL CORPORATION | PPL | 18,850.77 | 0.11\% | 4.91\% | 5.00\% | 10.03\% | 0.0111\% |
| PERRIGO CO PLC | PRGO | 20,359.97 | 0.12\% | 0.23\% | 15.65\% | 15.90\% | 0.0190\% |
| PRUDENTIAL FINANCIAL INC | PRU | 42,160.78 | 0.25\% | 1.80\% | 11.00\% | 12.90\% | 0.0320\% |
| PUBLIC STORAGE | PSA | 25,810.03 | 0.15\% | 3.43\% | 5.79\% | 9.32\% | 0.0141\% |
| PHILLIPS 66 | PSX | 46,278.22 | 0.27\% | 1.71\% | 7.50\% | 9.28\% | 0.0252\% |
| PVH CORP | PVH | 11,131.66 | 0.07\% | 0.13\% | 13.67\% | 13.81\% | 0.0090\% |
| QUANTA SERVICES INC | PWR | 6,696.57 | 0.04\% | 0.00\% | 22.55\% | 22.55\% | 0.0089\% |
| PRAXAIR INC | PX | 38,217.20 | 0.22\% | 1.85\% | 10.63\% | 12.57\% | 0.0282\% |
| PIONEER NATURAL RESOURCES CO | PXD | 25,089.14 | 0.15\% | 0.04\% | 19.92\% | 19.96\% | 0.0294\% |
| QUALCOMM INC | QCOM | 123,835.63 | 0.73\% | 1.92\% | 14.50\% | 16.56\% | 0.1205\% |
| QEP RESOURCES INC | QEP | 5,489.59 | 0.03\% | 0.26\% | 15.00\% | 15.28\% | 0.0049\% |
| RYDER SYSTEM INC | R | 3,852.98 | 0.02\% | 1.75\% | 10.40\% | 12.24\% | 0.0028\% |
| REYNOLDS AMERICAN INC | RAI | 26,709.23 | 0.16\% | 5.06\% | 7.97\% | 13.24\% | 0.0208\% |
| ROWAN COMPANIES PLC-A | RDC | 4,361.94 | 0.03\% | 0.00\% | 23.00\% | 23.00\% | 0.0059\% |
| REGENERON PHARMACEUTICALS | REGN | 27,123.73 | 0.16\% | 0.00\% | 28.46\% | 28.46\% | 0.0454\% |
| REGIONS FINANCIAL CORP | RF | 13,692.87 | 0.08\% | 1.01\% | 7.00\% | 8.04\% | 0.0065\% |
| ROBERT HALF INTL INC | RHI | 5,785.04 | 0.03\% | 1.52\% | 12.50\% | 14.12\% | 0.0048\% |
| RED HAT INC | RHT | 10,503.95 | 0.06\% | 0.00\% | 16.00\% | 16.00\% | 0.0099\% |
| TRANSOCEAN LTD | RIG | 17,845.63 | 0.10\% | 3.93\% | 18.00\% | 22.29\% | 0.0234\% |
| RALPH LAUREN CORP | RL | 16,066.05 | 0.09\% | 0.98\% | 12.81\% | 13.85\% | 0.0131\% |
| ROCKWELL AUTOMATION INC | ROK | 16,252.67 | 0.10\% | 1.90\% | 10.63\% | 12.63\% | 0.0121\% |
| ROPER INDUSTRIES INC | ROP | 13,708.69 | 0.08\% | 0.55\% | 15.00\% | 15.59\% | 0.0126\% |
| ROSS STORES INC | ROST | 16,142.29 | 0.09\% | 0.88\% | 12.20\% | 13.13\% | 0.0125\% |
| RANGE RESOURCES CORP | RRC | 13,756.83 | 0.08\% | 0.19\% | 27.00\% | 27.22\% | 0.0220\% |
| REPUBLIC SERVICES INC | RSG | 11,929.93 | 0.07\% | 2.77\% | 1.65\% | 4.44\% | 0.0031\% |
| RAYTHEON COMPANY | RTN | 28,643.86 | 0.17\% | 2.41\% | 9.25\% | 11.77\% | 0.0198\% |
| STARBUCKS CORP | SBUX | 58,271.07 | 0.34\% | 1.38\% | 18.22\% | 19.73\% | 0.0675\% |
| SCANA CORP | SCG | 6,569.26 | 0.04\% | 4.34\% | 6.00\% | 10.47\% | 0.0040\% |
| SCHWAB (CHARLES) CORP | SCHW | 33,416.51 | 0.20\% | 0.93\% | 19.29\% | 20.31\% | 0.0399\% |
| SPECTRA ENERGY CORP | SE | 23,705.98 | 0.14\% | 3.47\% | 5.50\% | 9.07\% | 0.0126\% |
| SEALED AIR CORP | SEE | 6,665.91 | 0.04\% | 1.48\% | 7.00\% | 8.54\% | 0.0033\% |
| SHERWIN-WILLIAMS CO/THE | SHW | 18,539.89 | 0.11\% | 1.09\% | 14.50\% | 15.67\% | 0.0171\% |
| SIGMA-ALDRICH | SIAL | 11,171.99 | 0.07\% | 0.93\% | 6.54\% | 7.51\% | 0.0049\% |
| JM SMUCKER COTTHE | SJM | 10,793.49 | 0.06\% | 2.24\% | 8.00\% | 10.33\% | 0.0066\% |
| SCHLUMBERGER LTD | SLB | 118,354.74 | 0.70\% | 1.37\% | 16.53\% | 18.02\% | 0.1253\% |
| SLM CORP | SLM | 11,451.93 | N/A | 2.29\% | NA | N/A | N/A |
| SNAP-ON INC | SNA | 6,355.19 | 0.04\% | 0.00\% | 10.00\% | 10.00\% | 0.0037\% |
| SANDISK CORP | SNDK | 15,762.71 | 0.09\% | 0.59\% | 20.76\% | 21.41\% | 0.0198\% |
| SCRIPPS NETWORKS INTER-CL A | SNI | 12,503.95 | 0.07\% | 0.70\% | 12.58\% | 13.32\% | 0.0098\% |
| SOUTHERN CO/THE | SO | 36,098.46 | 0.21\% | 4.93\% | 4.50\% | 9.54\% | 0.0202\% |
| SIMON PROPERTY GROUP INC | SPG | 47,421.09 | 0.28\% | 3.05\% | 7.13\% | 10.28\% | 0.0287\% |
| STAPLES INC | SPLS | 10,432.67 | 0.06\% | 3.04\% | 7.24\% | 10.39\% | 0.0064\% |
| STERICYCLE INC | SRCL | 9,867.84 | 0.06\% | 0.00\% | 16.14\% | 16.14\% | 0.0094\% |
| SEMPRA ENERGY | SRE | 21,756.48 | 0.13\% | 2.84\% | 7.00\% | 9.94\% | 0.0127\% |
| SUNTRUST BANKS INC | STI | 19,711.74 | 0.12\% | 0.95\% | 14.25\% | 15.27\% | 0.0177\% |
| ST JUDE MEDICAL INC | STJ | 18,054.48 | 0.11\% | 1.60\% | 10.30\% | 11.98\% | 0.0127\% |
| STATE STREET CORP | STT | 32,253.42 | 0.19\% | 1.41\% | 12.20\% | 13.70\% | 0.0260\% |
| SEAGATE TECHNOLOGY | STX | 18,091.11 | 0.11\% | 2.96\% | 6.52\% | 9.58\% | 0.0102\% |
| CONSTELLATION BRANDS INC-A | STZ | 13,181.38 | 0.08\% | 0.00\% | 23.41\% | 23.41\% | 0.0181\% |
| STANLEY BLACK \& DECKER INC | SWK | 14,238.90 | 0.08\% | 2.46\% | 10.40\% | 12.99\% | 0.0109\% |
| SOUTHWESTERN ENERGY CO | SWN | 13,855.53 | N/A | 0.00\% | NA | N/A | N/A |
| SAFEWAY INC | SWY | 7,868.79 | 0.05\% | 2.22\% | 13.48\% | 15.84\% | 0.0073\% |
| STRYKER CORP | SYK | 28,241.41 | 0.17\% | 1.42\% | 8.71\% | 10.20\% | 0.0169\% |
| SYMANTEC CORP | SYMC | 16,287.14 | 0.10\% | 2.84\% | 7.27\% | 10.22\% | 0.0098\% |
| SYSCO CORP | SYY | 21,035.68 | 0.12\% | 3.20\% | 8.50\% | 11.84\% | 0.0146\% |
| AT\&TINC | T | 185,750.40 | 1.09\% | 5.14\% | 5.53\% | 10.81\% | 0.1180\% |
| MOLSON COORS BREWING CO-B | TAP | 10,107.39 | 0.06\% | 2.36\% | 4.82\% | 7.23\% | 0.0043\% |
| TERADATA CORP | TDC | 7,429.21 | 0.04\% | 0.00\% | 14.50\% | 14.50\% | 0.0063\% |
| TECO ENERGY INC | TE | 3,748.45 | 0.02\% | 5.11\% | 4.50\% | 9.72\% | 0.0021\% |
| INTEGRYS ENERGY GROUP INC | TEG | 4,331.15 | 0.03\% | 5.01\% | 5.00\% | 10.14\% | 0.0026\% |
| TE CONNECTIVITY LTD | TEL | 22,406.43 | 0.13\% | 1.84\% | 15.00\% | 16.98\% | 0.0223\% |
| TARGET CORP | TGT | 40,327.20 | 0.24\% | 2.41\% | 11.14\% | 13.68\% | 0.0324\% |
| TENET HEALTHCARE CORP | THC | 4,210.19 | 0.02\% | 0.00\% | 10.33\% | 10.33\% | 0.0026\% |
| TIFFANY \& CO | TIF | 11,978.92 | 0.07\% | 1.44\% | 14.17\% | 15.71\% | 0.0111\% |
| TJX COMPANIES INC | TJX | 45,552.29 | 0.27\% | 0.87\% | 11.47\% | 12.39\% | 0.0332\% |
| TORCHMARK CORP | TMK | 7,015.66 | 0.04\% | 0.85\% | 8.50\% | 9.39\% | 0.0039\% |
| THERMO FISHER SCIENTIFIC INC | TMO | 39,739.56 | 0.23\% | 0.55\% | 8.73\% | 9.30\% | 0.0217\% |
| TRIPADVISORINC | TRIP | 11,534.05 | 0.07\% | 0.00\% | 20.75\% | 20.75\% | 0.0141\% |
| TROWE PRICE GROUP INC | TROW | 21,670.64 | 0.13\% | 1.83\% | 13.04\% | 14.99\% | 0.0191\% |
| TRAVELERS COS INC/THE | TRV | 32,959.05 | 0.19\% | 2.18\% | 8.28\% | 10.54\% | 0.0204\% |
| TYSON FOODS INC-CL A | TSN | 11,462.88 | 0.07\% | 0.80\% | 8.33\% | 9.17\% | 0.0062\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| TESORO CORP | TSO | 7,757.42 | 0.05\% | 1.52\% | 9.14\% | 10.73\% | 0.0049\% |
| TOTAL SYSTEM SERVICES INC | TSS | 6,253.28 | 0.04\% | 1.15\% | 12.00\% | 13.22\% | 0.0049\% |
| TIME WARNER CABLE | TWC | 37,970.57 | 0.22\% | 1.93\% | 12.05\% | 14.10\% | 0.0315\% |
| TIME WARNER INC | TWX | 62,597.75 | 0.37\% | 1.66\% | 10.07\% | 11.81\% | 0.0434\% |
| TEXAS INSTRUMENTS INC | TXN | 47,350.80 | 0.28\% | 2.44\% | 9.67\% | 12.23\% | 0.0340\% |
| TEXTRON INC | TXT | 10,276.05 | 0.06\% | 0.22\% | 9.25\% | 9.47\% | 0.0057\% |
| TYCO INTERNATIONAL LTD | TYC | 19,063.45 | 0.11\% | 1.66\% | 12.00\% | 13.76\% | 0.0154\% |
| UNITEDHEALTH GROUP INC | UNH | 75,678.01 | 0.44\% | 1.38\% | 10.55\% | 11.99\% | 0.0533\% |
| UNUM GROUP | UNM | 9,067.55 | 0.05\% | 1.59\% | 9.50\% | 11.16\% | 0.0059\% |
| UNION PACIFIC CORP | UNP | 77,407.77 | 0.45\% | 1.74\% | 12.60\% | 14.45\% | 0.0657\% |
| UNITED PARCEL SERVICE-CL B | UPS | 96,934.60 | 0.57\% | 2.38\% | 10.44\% | 12.94\% | 0.0737\% |
| URBAN OUTFITTERS INC | URBN | 5,639.01 | 0.03\% | 0.00\% | 17.61\% | 17.61\% | 0.0058\% |
| US BANCORP | USB | 73,070.46 | 0.43\% | 2.22\% | 7.00\% | 9.30\% | 0.0399\% |
| UNITED TECHNOLOGIES CORP | UTX | 103,494.07 | 0.61\% | 1.97\% | 12.37\% | 14.47\% | 0.0880\% |
| VISA INC-CLASS A SHARES | V | 140,352.27 | 0.82\% | 0.73\% | 18.71\% | 19.52\% | 0.1609\% |
| VARIAN MEDICAL SYSTEMS INC | VAR | 8,214.39 | 0.05\% | 0.00\% | 10.00\% | 10.00\% | 0.0048\% |
| VF CORP | VFC | 27,576.29 | 0.16\% | 1.44\% | 12.13\% | 13.66\% | 0.0221\% |
| VIACOM INC-CLASS B | $V I A B$ | 38,743.78 | 0.23\% | 1.44\% | 8.90\% | 10.40\% | 0.0237\% |
| VALERO ENERGY CORP | VLO | 27,199.33 | 0.16\% | 1.68\% | 9.21\% | 10.97\% | 0.0175\% |
| VULCAN MATERIALS CO | VMC | 7,627.78 | 0.04\% | 0.07\% | 8.75\% | 8.82\% | 0.0040\% |
| VORNADO REALTY TRUST | VNO | 16,622.97 | 0.10\% | 3.19\% | 5.60\% | 8.88\% | 0.0087\% |
| VERISIGN INC | VRSN | 8,166.95 | 0.05\% | 0.00\% | 12.33\% | 12.33\% | 0.0059\% |
| VERTEX PHARMACEUTICALS INC | VRTX | 17,305.02 | 0.10\% | 0.00\% | 26.78\% | 26.78\% | 0.0272\% |
| VENTAS INC | VTR | 16,765.55 | 0.10\% | 4.72\% | 4.49\% | 9.31\% | 0.0092\% |
| VERIZON COMMUNICATIONS INC | VZ | 140,340.26 | 0.82\% | 4.26\% | 7.02\% | 11.42\% | 0.0942\% |
| WALGREEN CO | WAG | 54,169.26 | 0.32\% | 2.25\% | 13.33\% | 15.73\% | 0.0501\% |
| WATERS CORP | WAT | 8,459.40 | 0.05\% | 0.00\% | 10.83\% | 10.83\% | 0.0054\% |
| WESTERN DIGITAL CORP | WDC | 19,638.03 | 0.12\% | 1.29\% | 5.00\% | 6.33\% | 0.0073\% |
| WISCONSIN ENERGY CORP | WEC | 9,316.75 | 0.05\% | 3.53\% | 5.00\% | 8.62\% | 0.0047\% |
| WELLS FARGO \& CO | WFC | 237,568.70 | 1.40\% | 2.55\% | 9.94\% | 12.62\% | 0.1761\% |
| WHOLE FOODS MARKET INC | WFM | 21,338.41 | 0.13\% | 1.36\% | 17.09\% | 18.57\% | 0.0233\% |
| WHIRLPOOL CORP | WHR | 12,276.60 | 0.07\% | 1.57\% | 29.85\% | 31.66\% | 0.0228\% |
| WINDSTREAM HOLDINGS INC | WIN | 4,792.43 | 0.03\% | 12.44\% | 0.50\% | 12.97\% | 0.0037\% |
| WELLPOINTINC | WLP | 27,139.97 | 0.16\% | 1.57\% | 11.17\% | 12.82\% | 0.0204\% |
| WASTE MANAGEMENT INC | WM | 20,921.01 | 0.12\% | 3.27\% | 5.10\% | 8.46\% | 0.0104\% |
| WILLIAMS COS INC | WMB | 26,387.17 | 0.16\% | 3.73\% | 15.90\% | 19.92\% | 0.0309\% |
| WAL-MART STORES INC | WMT | 255,237.73 | 1.50\% | 2.37\% | 9.10\% | 11.58\% | 0.1736\% |
| WPXENERGY INC | WPX | 4,032.24 | N/A | 0.00\% | NA | N/A | N/A |
| WESTERN UNION CO | WU | 9,515.29 | 0.06\% | 2.94\% | 10.29\% | 13.37\% | 0.0075\% |
| WEYERHAEUSER CO | WY | 18,374.28 | 0.11\% | 2.60\% | 5.00\% | 7.66\% | 0.0083\% |
| WYNDHAM WORLDWIDE CORP | WYN | 9,610.13 | N/A | 1.57\% | NA | N/A | N/A |
| WYNN RESORTS LTD | WYNN | 19,869.94 | 0.12\% | 2.04\% | 11.00\% | 13.15\% | 0.0153\% |
| UNITED STATES STEEL CORP | X | 4,392.09 | 0.03\% | 0.66\% | 6.00\% | 6.68\% | 0.0017\% |
| XCEL ENERGYINC | XEL | 13,839.35 | 0.08\% | 4.00\% | 5.00\% | 9.10\% | 0.0074\% |
| XL GROUP PLC | XL | 8,967.92 | 0.05\% | 1.74\% | 12.50\% | 14.35\% | 0.0076\% |
| XILINXINC | XLNX | 12,527.56 | 0.07\% | 2.14\% | 12.14\% | 14.41\% | 0.0106\% |
| EXXON MOBIL CORP | XOM | 438,380.36 | 2.58\% | 2.46\% | 19.78\% | 22.47\% | 0.5788\% |
| DENTSPLY INTERNATIONAL INC | XRAY | 6,835.90 | 0.04\% | 0.51\% | 10.18\% | 10.72\% | 0.0043\% |
| XEROX CORP | XRX | 14,711.82 | 0.09\% | 1.92\% | 10.00\% | 12.02\% | 0.0104\% |
| XYLEM INC | XYL | 6,353.77 | 0.04\% | 1.36\% | 7.15\% | 8.56\% | 0.0032\% |
| YAHOOI INC | YHOO | 40,775.51 | 0.24\% | 0.00\% | 11.81\% | 11.81\% | 0.0283\% |
| YUM! BRANDS INC | YUM | 33,520.03 | 0.20\% | 1.80\% | 11.22\% | 13.12\% | 0.0258\% |
| ZIONS BANCORPORATION | ZION | 5,525.53 | 0.03\% | 0.43\% | 7.67\% | 8.12\% | 0.0026\% |
| ZIMMER HOLDINGS INC | ZMH | 15,755.89 | 0.09\% | 0.70\% | 10.18\% | 10.91\% | 0.0101\% |
| ZOETIS INC | ZTS | 16,125.22 | 0.09\% | 0.81\% | 13.54\% | 14.40\% | 0.0136\% |

## Notes:

[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] - [2]
[4] Source: Bloomberg Professional
[5] Equals weight in S\&P 500 based on market capitalization
[6] Source: Bloomberg Professional
[7] Source: Bloomberg Professional
[8] Equals $([6] \times(1+(0.5 \times[7])))+[7]$
[9] Equals Col. [5] $\times$ Col. [8]

Ex-Ante Market Risk Premium
Market DCF Method Based - Value Line

| $[1]$ | $[2]$ | $[3]$ |
| :---: | :---: | :---: |
| S\&P 500 | Current 30-Year |  |
| Est. Required | Treasury (30-day | Implied Market |
| Market Return | average) | Risk Premium |
| $12.72 \%$ | $3.87 \%$ | $8.85 \%$ |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| AGILENT TECHNOLOGIES INC | A | 19,007.25 | 0.11\% | 0.92\% | 7.00\% | 7.95\% | 0.01\% |
| ALCOA INC | AA | 11,155.95 | 0.07\% | 1.15\% | 16.00\% | 17.24\% | 0.01\% |
| APPLEINC | AAPL | 512,270.50 | 3.00\% | 2.16\% | 14.50\% | 16.82\% | 0.51\% |
| ABBVIE INC | ABBV | 84,148.12 | 0.49\% | 3.02\% | 0.00\% | 3.02\% | 0.01\% |
| AMERISOURCEBERGEN CORP | ABC | 16,224.89 | 0.10\% | 1.34\% | 13.50\% | 14.93\% | 0.01\% |
| ABBOTT LABORATORIES | ABT | 59,296.19 | 0.35\% | 2.30\% | -5.50\% | -3.26\% | -0.01\% |
| ACE LTD | ACE | 34,921.69 | 0.20\% | 2.45\% | 9.50\% | 12.07\% | 0.02\% |
| ACCENTURE PLC-CL A | ACN | 52,054.26 | 0.31\% | 2.26\% | 8.00\% | 10.35\% | 0.03\% |
| ACTAVIS PLC | ACT | 22,128.17 | 0.13\% | 0.00\% | 14.00\% | 14.00\% | 0.02\% |
| ADOBE SYSTEMS INC | ADBE | 29,897.60 | 0.18\% | 0.00\% | 6.00\% | 6.00\% | 0.01\% |
| ANALOG DEVICES INC | ADI | 15,782.42 | 0.09\% | 2.68\% | 11.50\% | 14.33\% | 0.01\% |
| ARCHER-DANIELS-MIDLAND CO | ADM | 28,720.39 | 0.17\% | 2.20\% | 6.00\% | 8.27\% | 0.01\% |
| AUTOMATIC DATA PROCESSING | ADP | 38,905.35 | 0.23\% | 2.38\% | 9.00\% | 11.49\% | 0.03\% |
| ALLIANCE DATA SYSTEMS CORP | ADS | 12,424.43 | 0.07\% | 0.00\% | 16.50\% | 16.50\% | 0.01\% |
| AUTODESK INC | ADSK | 11,142.38 | 0.07\% | 0.00\% | 8.00\% | 8.00\% | 0.01\% |
| ADT CORP/THE | ADT | 8,555.64 | 0.05\% | 1.22\% | 0.00\% | 1.22\% | 0.00\% |
| AMEREN CORPORATION | AEE | 8,721.47 | 0.05\% | 4.45\% | -0.50\% | 3.94\% | 0.00\% |
| AMERICAN ELECTRIC POWER | AEP | 22,618.47 | 0.13\% | 4.35\% | 5.50\% | 9.97\% | 0.01\% |
| AES CORP | AES | 10,732.86 | 0.06\% | 1.38\% | 22.00\% | 23.53\% | 0.01\% |
| AETNA INC | AET | 25,103.92 | 0.15\% | 1.32\% | 11.00\% | 12.39\% | 0.02\% |
| AFLAC INC | AFL | 31,253.80 | 0.18\% | 2.21\% | 8.50\% | 10.80\% | 0.02\% |
| ALLERGAN INC | AGN | 32,656.34 | 0.19\% | 0.18\% | 12.50\% | 12.69\% | 0.02\% |
| AMERICAN INTERNATIONAL GROUP | AIG | 75,089.49 | 0.44\% | 0.78\% | 0.00\% | 0.78\% | 0.00\% |
| APARTMENT INVT \& MGMT CO -A | AIV | - | 0.00\% | 3.71\% | 0.00\% | 3.71\% | 0.00\% |
| ASSURANT INC . | AIZ | 4,860.32 | 0.03\% | 1.51\% | 7.50\% | 9.07\% | 0.00\% |
| AKAMAI TECHNOLOGIES INC | AKAM | 8,452.84 | 0.05\% | 0.00\% | 14.50\% | 14.50\% | 0.01\% |
| ALLSTATE CORP | ALL | 24,519.12 | 0.14\% | 1.86\% | 15.50\% | 17.50\% | 0.03\% |
| ALLEGION PLC | ALLE | N/A | N/A | N/A | N/A | N/A | N/A |
| ALTERA CORP | ALTR | 10,333.16 | 0.06\% | 1.87\% | 3.00\% | 4.90\% | 0.00\% |
| ALEXION PHARMACEUTICALS INC | ALXN | 26,054.75 | 0.15\% | 0.00\% | 26.50\% | 26.50\% | 0.04\% |
| APPLIED MATERIALS INC | AMAT | 20,997.76 | 0.12\% | 2.47\% | 19.00\% | 21.70\% | 0.03\% |
| AMETEK INC | AME | 12,866.67 | 0.08\% | 0.46\% | 10.50\% | 10.98\% | 0.01\% |
| AMGEN INC | AMGN | 86,238.88 | 0.51\% | 2.13\% | 10.00\% | 12.24\% | 0.06\% |
| AMERIPRISE FINANCIAL INC | AMP | 22,220.15 | 0.13\% | 1.83\% | 13.00\% | 14.95\% | 0.02\% |
| AMERICAN TOWER CORP | AMT | 31,105.06 | 0.18\% | 1.62\% | 20.50\% | 22.29\% | 0.04\% |
| AMAZON.COM INC | AMZN | 185,210.60 | 1.09\% | 0.00\% | 48.00\% | 48.00\% | 0.52\% |
| AUTONATION INC | AN | 6,176.48 | 0.04\% | 0.00\% | 16.00\% | 16.00\% | 0.01\% |
| AON PLC | AON | 25,128.48 | 0.15\% | 0.84\% | 15.50\% | 16.41\% | 0.02\% |
| APACHE CORP | APA | 34,862.25 | 0.20\% | 0.93\% | 8.00\% | 8.97\% | 0.02\% |
| ANADARKO PETROLEUM CORP | APC | 39,360.30 | 0.23\% | 0.92\% | 74.50\% | 75.76\% | 0.17\% |
| AIR PRODUCTS \& CHEMICALS INC | APD | 23,828.25 | 0.14\% | 2.50\% | 9.00\% | 11.61\% | 0.02\% |
| AMPHENOL CORP-CLA | APH | 13,971.94 | 0.08\% | 0.91\% | 8.50\% | 9.45\% | 0.01\% |
| AIRGAS INC | ARG | 8,168.48 | 0.05\% | 1.92\% | 14.00\% | 16.05\% | 0.01\% |
| ALLEGHENY TECHNOLOGIES INC | ATI | 3,783.49 | 0.02\% | 2.06\% | 14.50\% | 16.71\% | 0.00\% |
| AVALONBAY COMMUNITIES INC | AVB | - | 0.00\% | 3.78\% | 0.00\% | 3.78\% | 0.00\% |
| AVON PRODUCTS INC | AVP | 7,530.23 | 0.04\% | 1.38\% | 16.00\% | 17.49\% | 0.01\% |
| AVERY DENNISON CORP | AVY | 4,924.45 | 0.03\% | 2.35\% | 10.00\% | 12.47\% | 0.00\% |
| AMERICAN EXPRESS CO | AXP | 95,586.00 | 0.56\% | 1.10\% | 9.00\% | 10.15\% | 0.06\% |
| AUTOZONE INC | AZO | 16,070.32 | 0.09\% | 0.00\% | 15.00\% | 15.00\% | 0.01\% |
| BOEING CO/THE | BA | 103,966.60 | 0.61\% | 2.11\% | 11.00\% | 13.23\% | 0.08\% |
| BANK OF AMERICA CORP | BAC | 167,193.40 | 0.98\% | 0.26\% | 0.00\% | 0.26\% | 0.00\% |
| BAXTER INTERNATIONAL INC | $B A X$ | 37,644.16 | 0.22\% | 2.83\% | 8.50\% | 11.45\% | 0.03\% |
| BED BATH \& BEYOND INC | BBBY | 16,760.79 | 0.10\% | 0.00\% | 10.50\% | 10.50\% | 0.01\% |
| BB\&T CORP | BBT | 26,194.98 | 0.15\% | 2.69\% | 11.00\% | 13.84\% | 0.02\% |
| BEST BUY COINC | BBY | 14,181.95 | 0.08\% | 1.73\% | 2.50\% | 4.25\% | 0.00\% |
| CR BARD INC | BCR | 10,417.01 | 0.06\% | 0.63\% | 8.50\% | 9.16\% | 0.01\% |
| BECTON DICKINSON AND CO | $B D X$ | 21,382.74 | 0.13\% | 1.98\% | 8.50\% | 10.56\% | 0.01\% |
| BEAM INC | BEAM | 10,954.97 | 0.06\% | 1.34\% | 11.50\% | 12.92\% | 0.01\% |
| FRANKLIN RESOURCES INC | BEN | 36,350.30 | 0.21\% | 0.84\% | 10.50\% | 11.38\% | 0.02\% |
| BROWN-FORMAN CORP-CLASS B | BF/B | 16,030.16 | 0.09\% | 1.55\% | 8.50\% | 10.12\% | 0.01\% |
| BAKER HUGHES INC | BHI | 24,191.22 | 0.14\% | 1.10\% | 13.00\% | 14.17\% | 0.02\% |
| BIOGEN IDEC INC | $B \\| B$ | 66,455.89 | 0.39\% | 0.00\% | 12.50\% | 12.50\% | 0.05\% |
| BANK OF NEW YORK MELLON CORP | BK | 39,692.88 | 0.23\% | 1.74\% | 10.00\% | 11.83\% | 0.03\% |
| BLACKROCK INC | BLK | 53,430.85 | 0.31\% | 2.13\% | 8.00\% | 10.22\% | 0.03\% |
| BALL CORP | BLL | 7,448.60 | 0.04\% | 1.01\% | 8.50\% | 9.55\% | 0.00\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | $\begin{gathered} \text { Estimated } \\ \text { Dividend Yield } \end{gathered}$ | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| BEMIS COMPANY | BMS | 4,178.77 | 0.02\% | 2.66\% | 8.00\% | 10.77\% | 0.00\% |
| BRISTOL-MYERS SQUIBB CO | BMY | 88,254.65 | 0.52\% | 2.69\% | 10.00\% | 12.82\% | 0.07\% |
| BROADCOM CORP-CLA | BRCM | 16,574.24 | 0.10\% | 1.65\% | 3.00\% | 4.67\% | 0.00\% |
| BERKSHIRE HATHAWAY INC-CL B | BRK/B | - | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| BOSTON SCIENTIFIC CORP | BSX | 16,293.63 | 0.10\% | 0.00\% | 11.00\% | 11.00\% | 0.01\% |
| PEABODY ENERGY CORP | BTU | 5,029.07 | 0.03\% | 1.82\% | 9.00\% | 10.90\% | 0.00\% |
| BORGWARNER INC | BWA | 12,686.25 | 0.07\% | 0.90\% | 14.00\% | 14.96\% | 0.01\% |
| BOSTON PROPERTIES INC | BXP |  | 0.00\% | 2.58\% | 0.00\% | 2.58\% | 0.00\% |
| Citigroup inc | C | 158,777.50 | 0.93\% | 1.05\% | 14.00\% | 15.12\% | 0.14\% |
| CAINC | CA | 14,949.24 | 0.09\% | 2.99\% | 5.50\% | 8.57\% | 0.01\% |
| CONAGRA FOODS INC | CAG | 14,099.20 | 0.08\% | 2.99\% | 11.00\% | 14.15\% | 0.01\% |
| CARDINAL HEALTH INC | CAH | 23,010.68 | 0.13\% | 1.88\% | 12.00\% | 13.99\% | 0.02\% |
| CAMERON INTERNATIONAL CORP | CAM | 14,182.94 | 0.08\% | 0.00\% | 16.00\% | 16.00\% | 0.01\% |
| CATERPILLARINC | CAT | 58,003.75 | 0.34\% | 2.63\% | 6.00\% | 8.71\% | 0.03\% |
| CHUBB CORP | CB | 24,123.55 | 0.14\% | 1.84\% | 8.00\% | 9.91\% | 0.01\% |
| CBRE GROUP INC - A | CBG | 8,621.34 | 0.05\% | 0.00\% | 10.50\% | 10.50\% | 0.01\% |
| CBS CORP-CLASS B NON VOTING | CBS | 37,863.00 | 0.22\% | 0.76\% | 13.00\% | 13.81\% | 0.03\% |
| COCA-COLA ENTERPRISES | CCE | 11,304.81 | 0.07\% | 1.98\% | 9.50\% | 11.57\% | 0.01\% |
| CROWN CASTLE INTL CORP | CCl | 21,069.39 | 0.12\% | 1.93\% | 27.00\% | 29.19\% | 0.04\% |
| CARNIVAL CORP | CCL | 30,683.04 | 0.18\% | 2.53\% | 5.00\% | 7.59\% | 0.01\% |
| CELGENE CORP | celg | 69,787.17 | 0.41\% | 0.00\% | 13.50\% | 13.50\% | 0.06\% |
| CERNER CORP | CERN | 19,103.49 | 0.11\% | 0.00\% | 15.50\% | 15.50\% | 0.02\% |
| CF INDUSTRIES HOLDINGS INC | CF | 13,332.71 | 0.08\% | 1.72\% | 9.50\% | 11.30\% | 0.01\% |
| CAREFUSION CORP | CFN | 8,429.88 | 0.05\% | 0.00\% | 13.50\% | 13.50\% | 0.01\% |
| CHESAPEAKE ENERGY CORP | CHK | 17,967.55 | 0.11\% | 1.26\% | 7.00\% | 8.30\% | 0.01\% |
| C.H. ROBINSON WORLDWIDE INC | CHRW | 8,712.72 | 0.05\% | 2.45\% | 8.00\% | 10.55\% | 0.01\% |
| CIGNA CORP | Cl | 24,041.16 | 0.14\% | 0.05\% | 10.50\% | 10.55\% | 0.01\% |
| CINCINNATI FINANCIAL CORP | CINF | 8,590.32 | 0.05\% | 3.21\% | 13.50\% | 16.93\% | 0.01\% |
| COLGATE-PALMOLIVE CO | CL | 59,981.23 | 0.35\% | 2.24\% | 10.00\% | 12.35\% | 0.04\% |
| CLIFFS NATURAL RESOURCES INC | CLF | 3,829.63 | 0.02\% | 2.40\% | -4.00\% | -1.65\% | 0.00\% |
| CLOROX COMPANY | CLX | 11,956.64 | 0.07\% | 3.24\% | 12.50\% | 15.94\% | 0.01\% |
| COMERICAINC | CMA | 8,727.59 | 0.05\% | 1.43\% | 12.50\% | 14.02\% | 0.01\% |
| COMCAST CORP-CLASS A | CMCSA | 134,720.70 | 0.79\% | 1.51\% | 11.00\% | 12.59\% | 0.10\% |
| CME GROUP INC | CME | 26,635.27 | 0.16\% | 2.25\% | 7.00\% | 9.33\% | 0.01\% |
| CHIPOTLE MEXICAN GRILL INC | CMG | 16,563.53 | 0.10\% | 0.00\% | 18.00\% | 18.00\% | 0.02\% |
| CUMmINS Inc | CMI | 26,026.09 | 0.15\% | 1.79\% | 10.50\% | 12.38\% | 0.02\% |
| CMS ENERGY CORP | CMS | 7,091.56 | 0.04\% | 4.05\% | 5.50\% | 9.66\% | 0.00\% |
| CENTERPOINT ENERGY INC | CNP | 9,888.73 | 0.06\% | 3.68\% | 6.00\% | 9.79\% | 0.01\% |
| CONSOL ENERGY ING | CNX | 8,665.23 | 0.05\% | 1.32\% | 9.00\% | 10.38\% | 0.01\% |
| CAPITAL ONE FINANCIAL CORP | COF | 44,184.93 | 0.26\% | 1.58\% | 4.00\% | 5.61\% | 0.01\% |
| CABOT OIL \& GAS CORP | COG | 16,239.54 | 0.10\% | 0.21\% | 29.50\% | 29.74\% | 0.03\% |
| COACH INC | COH | 158,635.30 | 0.93\% | 2.39\% | 8.50\% | 10.99\% | 0.10\% |
| ROCKWELL COLLINS INC | COL | 10,002.80 | 0.06\% | 1.62\% | 7.50\% | 9.18\% | 0.01\% |
| CONOCOPHILLIPS | COP | 85,989.63 | 0.50\% | 3.93\% | 3.50\% | 7.50\% | 0.04\% |
| COSTCO WHOLESALE CORP | COST | 52,164.22 | 0.31\% | 1.05\% | 11.50\% | 12.61\% | 0.04\% |
| COVIDEN PLC | cov | 31,150.62 | 0.18\% | 1.90\% | 6.00\% | 7.96\% | 0.01\% |
| CAMPBELL SOUP CO | CPB | 13,445.48 | 0.08\% | 2.92\% | 6.00\% | 9.01\% | 0.01\% |
| SALESFORCE.COM INC | CRM | 33,074.55 | 0.19\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| COMPUTER SCIENCES CORP | csc | 8,200.90 | 0.05\% | 1.44\% | 7.00\% | 8.49\% | 0.00\% |
| CISCO SYSTEMS INC | CSCO | 116,651.80 | 0.68\% | 3.12\% | 7.50\% | 10.74\% | 0.07\% |
| CSXCORP | CSX | 28,818.75 | 0.17\% | 2.11\% | 10.00\% | 12.22\% | 0.02\% |
| CINTAS CORP | CTAS | 7,175.42 | 0.04\% | 1.30\% | 9.50\% | 10.86\% | 0.00\% |
| CENTURYLINK INC | CTL | 18,902.88 | 0.11\% | 6.78\% | 8.00\% | 15.05\% | 0.02\% |
| COGNIZANT TECH SOLUTIONS-A | CTSH | 30,067.57 | 0.18\% | 0.00\% | 20.00\% | 20.00\% | 0.04\% |
| CITRIX SYSTEMS INC | CTXS | 11,465.90 | 0.07\% | 0.00\% | 13.50\% | 13.50\% | 0.01\% |
| CABLEVISION SYSTEMS-NY GRP-A | CVC | 4,743.38 | 0.03\% | 3.39\% | 11.00\% | 14.58\% | 0.00\% |
| CVS CAREMARK CORP | CVS | 85,821.12 | 0.50\% | 1.54\% | 11.50\% | 13.13\% | 0.07\% |
| CHEVRON CORP | CVX | 240,031.20 | 1.41\% | 3.21\% | 5.50\% | 8.80\% | 0.12\% |
| DOMINION RESOURCES INCNA | D | 37,397.42 | 0.22\% | 3.68\% | 5.00\% | 8.77\% | 0.02\% |
| DELTA AIR LINES INC | DAL | 23,725.88 | 0.14\% | 0.86\% | 12.50\% | 13.41\% | 0.02\% |
| DU PONT (E.I.) DE NEMOURS | DD | 59,500.00 | 0.35\% | 2.86\% | 8.00\% | 10.97\% | 0.04\% |
| DEERE \& CO | DE | 34,884.84 | 0.20\% | 2.24\% | 7.50\% | 9.82\% | 0.02\% |
| DISCOVER FINANCIAL SERVICES | DFS | 26,142.10 | 0.15\% | 1.47\% | 8.50\% | 10.03\% | 0.02\% |
| DOLLAR GENERAL CORP | DG | 19,513.14 | 0.11\% | 0.00\% | 16.00\% | 16.00\% | 0.02\% |
| QUEST DIAGNOSTICS INC | DGX | 7,832.27 | 0.05\% | 2.23\% | 7.00\% | 9.31\% | 0.00\% |
| DR HORTON INC | DHI | 6,901.29 | 0.04\% | 0.70\% | 29.00\% | 29.80\% | 0.01\% |
| DANAHER CORP | DHR | 53,628.55 | 0.31\% | 0.13\% | 12.00\% | 12.14\% | 0.04\% |
| WALT DISNEY COITHE | DIS | 134,316.00 | 0.79\% | 1.15\% | 11.50\% | 12.72\% | 0.10\% |
| DISCOVERY COMMUNICATIONS-A | DISCA | 21,751.67 | 0.13\% | 0.00\% | 15.00\% | 15.00\% | 0.02\% |
| DELPHI AUTOMOTVE PLC | DLPH | 18,500.21 | 0.11\% | 1.13\% | 0.00\% | 1.13\% | 0.00\% |
| DOLLAR TREE INC | DLTR | 11,774.30 | 0.07\% | 0.00\% | 15.50\% | 15.50\% | 0.01\% |
| DUN \& BRADSTREET CORP | DNB | 4,705.89 | 0.03\% | 1.30\% | 9.00\% | 10.36\% | 0.00\% |
| DENBURY RESOURCES INC | DNR | 5,992.86 | 0.04\% | 0.00\% | 13.50\% | 13.50\% | 0.00\% |
| DIAMOND OFFSHORE DRILLING | DO | 7,776.23 | 0.05\% | 6.26\% | 6.50\% | 12.96\% | 0.01\% |
| DOVER CORP | DOV | 16,375.48 | 0.10\% | 1.56\% | 11.00\% | 12.65\% | 0.01\% |
| DOW CHEMICAL COITHE | DOW | 54,240.18 | 0.32\% | 3.12\% | 13.00\% | 16.32\% | 0.05\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| DR PEPPER SNAPPLE GROUP INC | DPS | 9,781.31 | 0.06\% | 3.21\% | 7.50\% | 10.83\% | 0.01\% |
| DARDEN RESTAURANTS INC | DRI | 7,092.45 | 0.04\% | 4.05\% | 11.00\% | 15.27\% | 0.01\% |
| DTE ENERGY COMPANY | DTE | 11,696.89 | 0.07\% | 4.07\% | 5.00\% | 9.17\% | 0.01\% |
| DIRECTV | DTV | 35,774.12 | 0.21\% | 0.00\% | 16.50\% | 16.50\% | 0.03\% |
| DUKE ENERGY CORP | DUK | 48,551,62 | 0.28\% | 4.58\% | 4.00\% | 8.67\% | 0.02\% |
| DAVITA HEALTHCARE PARTNERS I | DVA | 13,481.21 | 0.08\% | 0.00\% | 14.00\% | 14.00\% | 0.01\% |
| DEVON ENERGY CORPORATION | DVN | 24,814.72 | 0.15\% | 1.44\% | 7.50\% | 8.99\% | 0.01\% |
| ELECTRONIC ARTS INC | EA | 7,314.03 | 0.04\% | 0.00\% | 15.50\% | 15.50\% | 0.01\% |
| EBAY INC | EBAY | 69,953.64 | 0.41\% | 0.00\% | 14.50\% | 14.50\% | 0.06\% |
| ECOLAB INC | ECL | 31,546.00 | 0.19\% | 1.05\% | 13.00\% | 14.12\% | 0.03\% |
| CONSOLIDATED EDISON INC | ED | 16,108.11 | 0.09\% | 4.55\% | 2.50\% | 7.11\% | 0.01\% |
| EQUIFAXINC | EFX | 8,404.16 | 0.05\% | 1.27\% | 11.00\% | 12.34\% | 0.01\% |
| EDISON INTERNATIONAL | EIX | 15,039.44 | 0.09\% | 3.08\% | 1.50\% | 4.60\% | 0.00\% |
| ESTEE LAUDER COMPANIES-CL A | EL | 28,955.77 | 0.17\% | 1.07\% | 12.00\% | 13.13\% | 0.02\% |
| EMC CORP/MA | EMC | 51,487.31 | 0.30\% | 1.60\% | 11.50\% | 13.19\% | 0.04\% |
| EASTMAN CHEMICAL CO | EMN | 12,151.04 | 0.07\% | 1.77\% | 13.00\% | 14.89\% | 0.01\% |
| EMERSON ELECTRIC CO | EMR | 50,179.62 | 0.29\% | 2.45\% | 8.00\% | 10.55\% | 0.03\% |
| EOG RESOURCES INC | EOG | 45,855.85 | 0.27\% | 0.46\% | 24.00\% | 24.52\% | 0.07\% |
| EQUITY RESIDENTIAL | EQR | - | 0.00\% | 5.02\% | 0.00\% | 5.02\% | 0.00\% |
| EQT CORP | EQT | 13,608.15 | 0.08\% | 0.13\% | 17.00\% | 17.14\% | 0.01\% |
| EXPRESS SCRIPTS HOLDING CO | ESRX | 56,511.18 | 0.33\% | 0.00\% | 13.50\% | 13.50\% | 0.04\% |
| ENSCO PLC-CL A | ESV | 13,064.79 | 0.08\% | 5.36\% | 17.00\% | 22.82\% | 0.02\% |
| E*TRADE FINANCIAL CORP | ETFC | 5,587.18 | 0.03\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| EATON CORP PLC | ETN | 36,337.21 | 0.21\% | 2.19\% | 9.50\% | 11.79\% | 0.03\% |
| ENTERGY CORP | ETR | 11,120.88 | 0.07\% | 5.32\% | -3.50\% | 1.73\% | 0.00\% |
| EDWARDS LIFESCIENCES CORP | EW | 7,153.67 | 0.04\% | 0.00\% | 15.50\% | 15.50\% | 0.01\% |
| EXELON CORP | EXC | 23,299.19 | 0.14\% | 4.56\% | -5.50\% | -1.07\% | 0.00\% |
| EXPEDITORS INTL WASH INC | EXPD | 8,964.00 | 0.05\% | 1.38\% | 7.00\% | 8.43\% | 0.00\% |
| EXPEDIA INC | EXPE | 9,109.34 | 0.05\% | 0.87\% | 7.00\% | 7.90\% | 0.00\% |
| FORD MOTOR CO | F | 60,468.20 | 0.35\% | 2.61\% | 10.00\% | 12.74\% | 0.05\% |
| FASTENAL CO | FAST | 13,985.45 | 0.08\% | 2.12\% | 15.00\% | 17.28\% | 0.01\% |
| FACEBOOK INC-A | FB | 140,861.20 | 0.83\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| FREEPORT-MCMORAN COPPER | FCX | 38,370.21 | 0.23\% | 3.54\% | 7.50\% | 11.17\% | 0.03\% |
| FAMILY DOLLAR STORES | FDO | 7,469.19 | 0.04\% | 1.60\% | 10.00\% | 11.68\% | 0.01\% |
| FEDEX CORP | FDX | 44,742.27 | 0.26\% | 0.42\% | 9.00\% | 9.44\% | 0.02\% |
| FIRSTENERGY CORP | FE | 13,412.19 | 0.08\% | 6.86\% | 3.50\% | 10.48\% | 0.01\% |
| F5 NETWORKS INC | FFIV | 6,991.07 | 0.04\% | 0.00\% | 13.50\% | 13.50\% | 0.01\% |
| FIDELITY NATIONAL INFORMATIO | FIS | 15,329.33 | 0.09\% | 1.67\% | 10.00\% | 11.75\% | 0.01\% |
| FISERV INC | FISV | 15,226.37 | 0.09\% | 0.00\% | 10.00\% | 10.00\% | 0.01\% |
| FIFTH THIRD BANCORP | FITB | 18,663.09 | 0.11\% | 2.42\% | 11.00\% | 13.55\% | 0.01\% |
| FLIR SYSTEMS INC | FLIR | 4,201.87 | 0.02\% | 1.35\% | 6.50\% | 7.89\% | 0.00\% |
| FLUOR CORP | FLR | 13,057.61 | 0.08\% | 0.80\% | 12.00\% | 12.85\% | 0.01\% |
| FLOWSERVE CORP | FLS | 10,652.65 | 0.06\% | 0.73\% | 11.50\% | 12.27\% | 0.01\% |
| FMC CORP | FMC | 10,048.78 | 0.06\% | 0.82\% | 12.50\% | 13.37\% | 0.01\% |
| FOSSIL GROUP INC | FOSL | 6,766.12 | 0.04\% | 0.00\% | 14.50\% | 14.50\% | 0.01\% |
| TWENTY-FIRST CENTURY FOX-A | FOXA | 80,194.35 | 0.47\% | 0.77\% | 11.00\% | 11.81\% | 0.06\% |
| FOREST LABORATORIES INC | FRX | 15,909.46 | 0.09\% | 0.00\% | -5.00\% | -5.00\% | 0.00\% |
| FIRST SOLAR INC | FSLR | 5,536.71 | 0.03\% | 0.00\% | -3.50\% | -3.50\% | 0.00\% |
| FMC TECHNOLOGIES INC | FTI | 12,372.31 | 0.07\% | 0.00\% | 20.50\% | 20.50\% | 0.01\% |
| FRONTIER COMMUNICATIONS CORP | FTR | 4,697.73 | 0.03\% | 8.51\% | 9.50\% | 18.41\% | 0.01\% |
| AGL RESOURCES INC | GAS | 5,598.01 | 0.03\% | 3.99\% | 8.00\% | 12.15\% | 0.00\% |
| GANNETT CO | GCl | 6,679.54 | 0.04\% | 2.76\% | 4.00\% | 6.82\% | 0.00\% |
| GENERAL DYNAMICS CORP | GD | 33,131.12 | 0.19\% | 2.36\% | 3.50\% | 5.90\% | 0.01\% |
| GENERAL ELECTRIC CO | GE | 281,566.40 | 1.65\% | 3.16\% | 12.00\% | 15.35\% | 0.25\% |
| GENERAL GROWTH PROPERTIES | GGP |  | 0.00\% | 2.77\% | 0.00\% | 2.77\% | 0.00\% |
| GRAHAM HOLDINGS CO-CLASS B | GHC | 4,873.35 | 0.03\% | 1.49\% | 5.00\% | 6.53\% | 0.00\% |
| GILEAD SCIENCES INC | GILD | 115,358.90 | 0.68\% | 0.00\% | 9.50\% | 9.50\% | 0.06\% |
| GENERAL MILLS INC | GIS | 31,132.08 | 0.18\% | 3.08\% | 7.00\% | 10.19\% | 0.02\% |
| CORNING INC | GLW | 25,655.31 | 0.15\% | 2.26\% | 2.50\% | 4.79\% | 0.01\% |
| GENERAL MOTORS CO | GM | 58,128.00 | 0.34\% | 0.00\% | 11.00\% | 11.00\% | 0.04\% |
| GAMESTOP CORP-CLASS A | GME | 5,851.83 | 0.03\% | 2.42\% | 10.00\% | 12.54\% | 0.00\% |
| GENWORTH FINANCIAL INC-CL A | GNW | 7,691.58 | 0.05\% | 0.00\% | 28.00\% | 28.00\% | 0.01\% |
| GOOGLE INC-CLA | GOOG | 373,407.10 | 2.19\% | 0.00\% | 13.50\% | 13.50\% | 0.30\% |
| GENUINE PARTS CO | GPC | 12,816.26 | 0.08\% | 2.59\% | 10.00\% | 12.72\% | 0.01\% |
| GAP INC/THE | GPS | 17,497.53 | 0.10\% | 2.05\% | 12.50\% | 14.68\% | 0.02\% |
| GARMIN LTD | GRMN | 8,999.69 | 0.05\% | 4.23\% | 1.50\% | 5.76\% | 0.00\% |
| GOLDMAN SACHS GROUP INC | GS | 80,902.33 | 0.47\% | 1.25\% | 13.00\% | 14.33\% | 0.07\% |
| GOODYEAR TIRE \& RUBBER CO | GT | 5,794.67 | 0.03\% | 0.85\% | 19.00\% | 19.93\% | 0.01\% |
| WW GRAINGER INC | GWW | 17,728.96 | 0.10\% | 1.46\% | 15.00\% | 16.57\% | 0.02\% |
| HALLIBURTON CO | HAL | 43,374.87 | 0.25\% | 1.17\% | 11.50\% | 12.74\% | 0.03\% |
| HARMAN INTERNATIONAL | HAR | 5,777.94 | 0.03\% | 1.42\% | 15.50\% | 17.03\% | 0.01\% |
| HASBRO INC | HAS | 7,032.08 | 0.04\% | 2.95\% | 7.00\% | 10.05\% | 0.00\% |
| HUNTINGTON BANCSHARES INC | HBAN | 8,010.89 | 0.05\% | 2.07\% | 10.50\% | 12.68\% | 0.01\% |
| HUDSON CITY BANCORP INC | HCBK | 4,660.85 | 0.03\% | 1.71\% | 68.00\% | 70.29\% | 0.02\% |
| HEALTH CARE REIT INC | HCN | - | 0.00\% | 5.99\% | 94.50\% | 103.32\% | 0.00\% |
| HCP INC | HCP | - | 0.00\% | 5.98\% | 0.00\% | 5.98\% | 0.00\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | $\begin{aligned} & \text { Long-Term } \\ & \text { Growth Est. } \end{aligned}$ | DCF Result | Weighted DCF Result |
| HOME DEPOT INC | HD | 114,822.40 | 0.67\% | 1.91\% | 15.00\% | 17.05\% | 0.11\% |
| HESS CORP | HES | 28,001.40 | 0.16\% | 1.21\% | 3.50\% | 4.73\% | 0.01\% |
| HARTFORD FINANCIAL SVCS GRP | HIG | 16,401.39 | 0.10\% | 1.64\% | 13.50\% | 15.25\% | 0.01\% |
| HARLEY-DAVIDSON INC | HOG | 15,371.29 | 0.09\% | 1.21\% | 16.00\% | 17.31\% | 0.02\% |
| HONEYWELL INTERNATIONALINC | HON | 71,483.63 | 0.42\% | 1.98\% | 11.00\% | 13.09\% | 0.05\% |
| STARWOOD HOTELS \& RESORTS | HOT | 15,271.62 | 0.09\% | 1.70\% | 14.00\% | 15.82\% | 0.01\% |
| HELMERICH \& PAYNE | HP | 8,850.67 | 0.05\% | 3.01\% | 12.50\% | 15.70\% | 0.01\% |
| HEWLETT-PACKARD CO | HPQ | 54,609.99 | 0.32\% | 2.16\% | 58.50\% | 61.29\% | 0.20\% |
| H\&R BLOCK INC | HRB | 7,930.89 | 0.05\% | 3.11\% | 9.00\% | 12.25\% | 0.01\% |
| HORMEL FOODS CORP | HRL | 11,837.54 | 0.07\% | 1.79\% | 10.00\% | 11.88\% | 0.01\% |
| HARRIS CORP | HRS | 7,438.11 | 0.04\% | 2.50\% | 1.00\% | 3.51\% | 0.00\% |
| HOSPIRA INC | HSP | 6,840.06 | 0.04\% | 0.00\% | 4.50\% | 4.50\% | 0.00\% |
| HOST HOTELS \& RESORTS INC | HST | - | 0.00\% | 2.68\% | 0.00\% | 2.68\% | 0.00\% |
| HERSHEY COTHE | HSY | 21,566.63 | 0.13\% | 2.01\% | 12.00\% | 14.13\% | 0.02\% |
| HUMANAINC | HUM | 16,141.67 | 0.09\% | 1.04\% | 9.00\% | 10.09\% | 0.01\% |
| INTL BUSINESS MACHINES CORP | IBM | 201,263.00 | 1.18\% | 2.13\% | 7.50\% | 9.71\% | 0.11\% |
| INTERCONTINENTALEXCHANGE GRO | ICE | 16,388.92 | 0.10\% | 0.00\% | 9.00\% | 9.00\% | 0.01\% |
| INTL FLAVORS \& FRAGRANCES | IFF | 7,026.88 | 0.04\% | 1.85\% | 9.00\% | 10.93\% | 0.00\% |
| INTL GAME TECHNOLOGY | IGT | 4,527.05 | 0.03\% | 2.49\% | 13.50\% | 16.16\% | 0.00\% |
| INTEL CORP | INTC | 127,806.10 | 0.75\% | 3.50\% | 7.50\% | 11.13\% | 0.08\% |
| INTUIT INC | INTU | 21,736.62 | 0.13\% | 1.00\% | 11.00\% | 12.06\% | 0.02\% |
| INTERNATIONAL PAPER CO | 1 P | 21,956.12 | 0.13\% | 2.84\% | 12.00\% | 15.01\% | 0.02\% |
| INTERPUBLIC GROUP OF COS $\operatorname{INC}$ | IPG | 7,213.46 | 0.04\% | 1.79\% | 13.50\% | 15.41\% | 0.01\% |
| INGERSOLL-RAND PLC | IR | 17,656.89 | 0.10\% | 1.37\% | 12.50\% | 13.96\% | 0.01\% |
| IRON MOUNTAIN INC | IRM | 5,849.18 | 0.03\% | 3.53\% | 3.50\% | 7.09\% | 0.00\% |
| INTUITIVE SURGICAL INC | ISRG | 14,279.12 | 0.08\% | 0.00\% | 10.50\% | 10.50\% | 0.01\% |
| ILLINOIS TOOL WORKS | ITW | 37,153.60 | 0.22\% | 2.01\% | 10.50\% | 12.62\% | 0.03\% |
| INVESCO LTD | IVZ | 16,198.96 | 0.09\% | 2.46\% | 17.00\% | 19.67\% | 0.02\% |
| JABIL CIRCUIT INC | JBL | 3,403.00 | 0.02\% | 1.91\% | -1.00\% | 0.90\% | 0.00\% |
| JOHNSON CONTROLS INC | JCl | 34,933.16 | 0.20\% | 1.72\% | 10.50\% | 12.31\% | 0.03\% |
| JACOBS ENGINEERING GROUP INC | JEC | 8,139.24 | 0.05\% | 0.00\% | 13.00\% | 13.00\% | 0.01\% |
| JOHNSON \& JOHNSON | JNJ | 261,023.80 | 1.53\% | 2.85\% | 7.00\% | 9.95\% | 0.15\% |
| JUNIPER NETWORKS INC | JNPR | 11,055.79 | 0.06\% | 0.00\% | 12.50\% | 12.50\% | 0.01\% |
| JOY GLOBAL INC | Joy | 6,030.16 | 0.04\% | 1.23\% | 3.50\% | 4.75\% | 0.00\% |
| JPMORGAN CHASE \& CO | JPM | 218,757.00 | 1.28\% | 2.72\% | 8.00\% | 10.83\% | 0.14\% |
| NORDSTROM INC | Jwn | 11,903.05 | 0.07\% | 2.05\% | 10.00\% | 12.15\% | 0.01\% |
| KELLOGG CO | K | 21,980.64 | 0.13\% | 3.03\% | 7.50\% | 10.64\% | 0.01\% |
| KEYCORP | KEY | 12,066.71 | 0.07\% | 1.79\% | 8.50\% | 10.37\% | 0.01\% |
| KIMCO REALTY CORP | KIM | - | 0.00\% | 4.44\% | 0.00\% | 4.44\% | 0.00\% |
| KLA-TENCOR CORPORATION | KLAC | 10,685.53 | 0.06\% | 2.81\% | 7.50\% | 10.42\% | 0.01\% |
| KIMBERLY-CLARK CORP | KMB | 40,116.68 | 0.24\% | 3.09\% | 9.50\% | 12.74\% | 0.03\% |
| KINDER MORGAN INC | KMI | 36,990.06 | 0.22\% | 4.59\% | 0.00\% | 4.59\% | 0.01\% |
| CARMAXINC | kMX | 10,601.43 | 0.06\% | 0.00\% | 9.50\% | 9.50\% | 0.01\% |
| COCA-COLA CO/THE | KO | 178,803.80 | 1.05\% | 2.99\% | 8.00\% | 11.11\% | 0.12\% |
| MICHAEL KORS HOLDINGS LTD | KORS | 16,445.52 | 0.10\% | 0.00\% | 29.00\% | 29.00\% | 0.03\% |
| KROGER CO | KR | 20,482.90 | 0.12\% | 1.71\% | 10.50\% | 12.30\% | 0.01\% |
| KRAFT FOODS GROUP INC | KRFT | 31,956.61 | 0.19\% | 3.92\% | 0.00\% | 3.92\% | 0.01\% |
| KOHLS CORP | KSS | 11,917.66 | 0.07\% | 2.68\% | 8.00\% | 10.79\% | 0.01\% |
| KANSAS CITY SOUTHERN | kSU | 13,629.42 | 0.08\% | 0.70\% | 16.50\% | 17.26\% | 0.01\% |
| LOEWS CORP | L | 18,595.15 | 0.11\% | 0.52\% | 13.00\% | 13.55\% | 0.01\% |
| L BRANDS INC | LB | 17,945.20 | 0.11\% | 1.94\% | 9.50\% | 11.53\% | 0.01\% |
| LEGGETT \& PLATT INC | LEG | 4,377.54 | 0.03\% | 3.87\% | 14.50\% | 18.65\% | 0.00\% |
| LENNAR CORP-A | LEN | 7,633.01 | 0.04\% | 0.41\% | 38.50\% | 38.99\% | 0.02\% |
| LABORATORY CRP OF AMER HLDGS | LH | 7,963.46 | 0.05\% | 0.00\% | 7.00\% | 7.00\% | 0.00\% |
| LIFE TECHNOLOGIES CORP | LIFE | 13,086.40 | 0.08\% | 0.00\% | 8.50\% | 8.50\% | 0.01\% |
| L-3 COMMUNICATIONS HOLDINGS | LLL | 9,539.61 | 0.06\% | 2.05\% | 3.50\% | 5.59\% | 0.00\% |
| LINEAR TECHNOLOGY CORP | LLTC | 10,599.53 | 0.06\% | 2.34\% | 7.00\% | 9.42\% | 0.01\% |
| ELI LILLY \& CO | LLY | 55,079.39 | 0.32\% | 3.84\% | -4.50\% | -0.75\% | 0.00\% |
| LEGG MASON INC | LM | 5,303.42 | 0.03\% | 1.19\% | 14.00\% | 15.27\% | 0.00\% |
| LOCKHEED MARTIN CORP | LMT | 47,822.29 | 0.28\% | 3.66\% | 5.00\% | 8.75\% | 0.02\% |
| LINCOLN NATIONAL CORP | LNC | 13,623.67 | 0.08\% | 1.23\% | 7.50\% | 8.78\% | 0.01\% |
| LORILLARD ING | LO | 18,604.98 | 0.11\% | 4.36\% | 12.00\% | 16.62\% | 0.02\% |
| LOWE'S COS INC | Low | 51,481.50 | 0.30\% | 1.47\% | 15.50\% | 17.08\% | 0.05\% |
| LAM RESEARCH CORP | LRCX | 8,811.63 | 0.05\% | 0.00\% | 15.50\% | 15.50\% | 0.01\% |
| LSI CORP | LSI | 5,968.98 | 0.04\% | 1.09\% | 31.00\% | 32.26\% | 0.01\% |
| LEUCADIA NATIONAL CORP | LUK | N/A | N/A | N/A | N/A | N/A | N/A |
| SOUTHWEST AIRLINES CO | LUV | 13,188.91 | 0.08\% | 0.85\% | 15.50\% | 16.42\% | 0.01\% |
| LYONDELLBASELL INDU-CL A | LYB | 44,189.91 | 0.26\% | 2.52\% | 11.50\% | 14.16\% | 0.04\% |
| MACY'S INC | M | 19,466.85 | 0.11\% | 1.99\% | 12.50\% | 14.61\% | 0.02\% |
| MASTERCARD INC-CLASS A | MA | 98,934.57 | 0.58\% | 0.54\% | 15.00\% | 15.58\% | 0.09\% |
| MACERICH COITHE | MAC | - | 0.00\% | 4.17\% | 0.00\% | 4.17\% | 0.00\% |
| MARRIOTT INTERNATIONAL -CL A | MAR | 14,692.57 | 0.09\% | 1.39\% | 14.00\% | 15.49\% | 0.01\% |
| MASCO CORP | MAS | 7,896.44 | 0.05\% | 1.33\% | 53.00\% | 54.68\% | 0.03\% |
| MATTEL INC | MAT | 15,766.10 | 0.09\% | 3.11\% | 9.50\% | 12.76\% | 0.01\% |
| MCDONALD'S CORP | MCD | 96,358.70 | 0.57\% | 3.35\% | 8.00\% | 11.48\% | 0.06\% |
| MICROCHIP TECHNOLOGY INC | MCHP | 8,797.35 | 0.05\% | 3.20\% | 9.00\% | 12.34\% | 0.01\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| MCKESSON CORP | MCK | 37,068.30 | 0.22\% | 0.60\% | 14.00\% | 14.64\% | 0.03\% |
| MOODY'S CORP | MCO | 16,708.97 | 0.10\% | 1.44\% | 12.50\% | 14.03\% | 0.01\% |
| MONDELEZ INTERNATIONAL INC-A | MDLZ | 61,224.71 | 0.36\% | 1.60\% | 4.50\% | 6.14\% | 0.02\% |
| MEDTRONIC INC | MDT | 57,375.18 | 0.34\% | 2.02\% | 6.00\% | 8.08\% | 0.03\% |
| METLIFE INC | MET | 60,548.04 | 0.36\% | 2.07\% | 8.00\% | 10.15\% | 0.04\% |
| MCGRAW HILL FINANCIAL INC | MHFI | 20,903.05 | 0.12\% | 1.45\% | 0.00\% | 1.45\% | 0.00\% |
| MOHAWK INDUSTRIES INC | MHK | 10,627.07 | 0.06\% | 0.00\% | 21.50\% | 21.50\% | 0.01\% |
| MEAD JOHNSON NUTRITION CO | MJN | 16,836.70 | 0.10\% | 1.63\% | 11.00\% | 12.72\% | 0.01\% |
| MCCORMICK \& CO-NON VTG SHRS | MKC | 9,104.85 | 0.05\% | 2.15\% | 9.00\% | 11.25\% | 0.01\% |
| MARSH \& MCLENNAN COS | MMC | 26,436.51 | 0.16\% | 2.07\% | 13.00\% | 15.20\% | 0.02\% |
| 3 MCO | MMM | 93,106.38 | 0.55\% | 2.47\% | 7.50\% | 10.06\% | 0.05\% |
| MONSTER BEVERAGE CORP | MNST | 11,309.87 | 0.07\% | 0.00\% | 13.50\% | 13.50\% | 0.01\% |
| ALTRIA GROUP INC | MO | 76,423.50 | 0.45\% | 5.02\% | 11.00\% | 16.30\% | 0.07\% |
| MONSANTO CO | MON | 61,002.33 | 0.36\% | 1.49\% | 12.00\% | 13.58\% | 0.05\% |
| MOSAIC COITHE | MOS | 19,994.85 | 0.12\% | 2.45\% | 11.00\% | 13.58\% | 0.02\% |
| MARATHON PETROLEUM CORP | MPC | 27,130.62 | 0.16\% | 1.90\% | 0.00\% | 1.90\% | 0.00\% |
| MERCK \& CO. INC. | MRK | 145,511.20 | 0.85\% | 3.54\% | 2.00\% | 5.58\% | 0.05\% |
| MARATHON OIL CORP | MRO | 24,554.88 | 0.14\% | 2.15\% | 0.00\% | 2.15\% | 0.00\% |
| MORGAN STANLEY | MS | 60,749.18 | 0.36\% | 0.64\% | 23.50\% | 24.22\% | 0.09\% |
| MICROSOFT CORP | MSFT | 312,474.30 | 1.83\% | 2.99\% | 8.50\% | 11.62\% | 0.21\% |
| MOTOROLA SOLUTIONS INC | MSI | 17,380.27 | 0.10\% | 1.85\% | 12.00\% | 13.96\% | 0.01\% |
| M \& T BANK CORP | MTB | 15,097.54 | 0.09\% | 2.42\% | 7.00\% | 9.50\% | 0.01\% |
| MICRON TECHNOLOGY INC | MU | 22,867.33 | 0.13\% | 0.00\% | 94.00\% | 94.00\% | 0.13\% |
| MURPHY OIL CORP | MUR | 11,989.29 | 0.07\% | 1.95\% | 12.50\% | 14.57\% | 0.01\% |
| MEADWESTVACO CORP | MWV | 6,522.95 | 0.04\% | 2.73\% | 10.00\% | 12.87\% | 0.00\% |
| MYLAN INC | MYL | 16,388.37 | 0.10\% | 0.00\% | 12.00\% | 12.00\% | 0.01\% |
| NOBLE ENERGY INC | NBL | 24,429.95 | 0.14\% | 0.82\% | 17.00\% | 17.89\% | 0.03\% |
| NABORS INDUSTRIES LTD | NBR | 4,837.02 | 0.03\% | 0.98\% | 16.50\% | 17.56\% | 0.00\% |
| NASDAQ OMX GROUP/THE | NDAQ | 6,692.85 | 0.04\% | 1.30\% | 7.50\% | 8.85\% | 0.00\% |
| NOBLE CORP PLC | NE | 9,258.80 | 0.05\% | 2.74\% | 19.50\% | 22.51\% | 0.01\% |
| NEXTERA ENERGY INC | NEE | 36,431.30 | 0.21\% | 3.33\% | 5.50\% | 8.92\% | 0.02\% |
| NEWMONT MINING CORP | NEM | 11,615.31 | 0.07\% | 3.43\% | -16.50\% | -13.35\% | -0.01\% |
| NETFLIXINC | NFLX | 22,335.74 | 0.13\% | 0.00\% | 19.00\% | 19.00\% | 0.02\% |
| NEWFIELD EXPLORATION CO | NFX | 3,203.91 | 0.02\% | 0.00\% | -1.50\% | -1.50\% | 0.00\% |
| NISOURCE INC | NI | 10,167.49 | 0.06\% | 3.08\% | 10.50\% | 13.74\% | 0.01\% |
| NIKE INC -CL B | NKE | 69,510.91 | 0.41\% | 1.23\% | 13.50\% | 14.81\% | 0.06\% |
| NIELSEN HOLDINGS NV | NLSN | 17,347.03 | 0.10\% | 1.74\% | 0.00\% | 1.74\% | 0.00\% |
| NORTHROP GRUMMAN CORP | NOC | 25,805.73 | 0.15\% | 2.12\% | 4.50\% | 6.67\% | 0.01\% |
| NATIONAL OILWELL VARCO INC | NOV | 33,691.43 | 0.20\% | 1.32\% | 11.50\% | 12.90\% | 0.03\% |
| NRG ENERGY INC | NRG | 9,208.35 | 0.05\% | 1.69\% | 5.00\% | 6.73\% | 0.00\% |
| NORFOLK SOUTHERN CORP | NSC | 28,688.47 | 0.17\% | 2.24\% | 9.50\% | 11.85\% | 0.02\% |
| NETAPP INC | NTAP | 13,777.96 | 0.08\% | 1.49\% | 11.00\% | 12.57\% | 0.01\% |
| NORTHERN TRUST CORP | NTRS | 14,747.64 | 0.09\% | 2.01\% | 8.00\% | 10.09\% | 0.01\% |
| NORTHEAST UTILITIES | NU | 13,300.62 | 0.08\% | 3.65\% | 8.00\% | 11.80\% | 0.01\% |
| NUCOR CORP | NUE | 17,072.02 | 0.10\% | 2.80\% | 26.00\% | 29.16\% | 0.03\% |
| NVIDIA CORP | NVDA | 8,908.94 | 0.05\% | 2.17\% | 7.00\% | 9.25\% | 0.00\% |
| NEWELL RUBBERMAID INC | NWL | 9,262.20 | 0.05\% | 1.86\% | 13.50\% | 15.49\% | 0.01\% |
| NEWS CORP - CLASS A | NWSA | N/A | N/A | N/A | N/A | N/A | N/A |
| OWENS-ILLINOIS INC | OI | 5,840.67 | 0.03\% | 0.00\% | 8.50\% | 8.50\% | 0.00\% |
| ONEOKINC | OKE | 12,397.01 | 0.07\% | 2.83\% | 12.00\% | 15.00\% | 0.01\% |
| OMNICOM GROUP | OMC | 18,720.37 | 0.11\% | 2.20\% | 11.50\% | 13.83\% | 0.02\% |
| ORACLE CORP | ORCL | 169,831.20 | 1.00\% | 1.27\% | 9.00\% | 10.33\% | 0.10\% |
| O'REILLY AUTOMOTIVE INC | ORLY | 13,957.95 | 0.08\% | 0.00\% | 13.50\% | 13.50\% | 0.01\% |
| OCCIDENTAL PETROLEUM CORP | OXY | 75,793.73 | 0.44\% | 2.98\% | 7.00\% | 10.08\% | 0.04\% |
| PAYCHEXINC | PAYX | 16,622.63 | 0.10\% | 3.18\% | 7.50\% | 10.80\% | 0.01\% |
| PEOPLE'S UNITED FINANCIAL | PBCT | 4,600.41 | 0.03\% | 4.35\% | 17.50\% | 22.23\% | 0.01\% |
| PITNEY BOWES INC | PBI | 4,798.57 | 0.03\% | 3.16\% | -0.50\% | 2.65\% | 0.00\% |
| PACCAR INC | PCAR | 20,792.75 | 0.12\% | 1.36\% | 13.50\% | 14.95\% | 0.02\% |
| PG\&ECORP | PCG | 18,194.81 | 0.11\% | 4.49\% | 2.50\% | 7.05\% | 0.01\% |
| PLUM CREEK TIMBER CO | PCL | 7,537.12 | 0.04\% | 3.81\% | 11.50\% | 15.53\% | 0.01\% |
| PRICELINE.COMINC | PCLN | 60,753.75 | 0.36\% | 0.00\% | 24.00\% | 24.00\% | 0.09\% |
| PRECISION CASTPARTS CORP | PCP | 39,330.97 | 0.23\% | 0.04\% | 13.50\% | 13.54\% | 0.03\% |
| PATTERSON COS INC | PDCO | 4,132.71 | 0.02\% | 1.71\% | 11.00\% | 12.80\% | 0.00\% |
| PUBLIC SERVICE ENTERPRISE GP | PEG | 16,106.61 | 0.09\% | 4.59\% | -0.50\% | 4.08\% | 0.00\% |
| PEPSICOINC | PEP | 126,725.60 | 0.74\% | 2.78\% | 8.50\% | 11.40\% | 0.08\% |
| PETSMARTINC | PETM | 7,600.08 | 0.04\% | 1.08\% | 14.00\% | 15.16\% | 0.01\% |
| PFIZER INC | PFE | 197,996.70 | 1.16\% | 3.40\% | 12.00\% | 15.60\% | 0.18\% |
| PRINCIPAL FINANCIAL GROUP | PFG | 14,565.68 | 0.09\% | 2.10\% | 9.50\% | 11.70\% | 0.01\% |
| PROCTER \& GAMBLE CO/THE | PG | 222,242.50 | 1.30\% | 2.95\% | 9.00\% | 12.08\% | 0.16\% |
| PROGRESSIVE CORP | PGR | 16,241.89 | 0.10\% | 1.03\% | 15.50\% | 16.61\% | 0.02\% |
| PARKER HANNIFIN CORP | PH | 19,084.17 | 0.11\% | 1.41\% | 8.50\% | 9.97\% | 0.01\% |
| PULTEGROUP INC | PHM | 7,653.50 | 0.04\% | 1.00\% | 0.00\% | 1.00\% | 0.00\% |
| PERKINELMER INC | PKI | 4,616.65 | 0.03\% | 0.68\% | 10.00\% | 10.71\% | 0.00\% |
| PROLOGIS INC | PLD | - | 0.00\% | 3.26\% | 0.00\% | 3.26\% | 0.00\% |
| PALL CORP | PLL | 9,471.44 | 0.06\% | 1.29\% | 10.50\% | 11.86\% | 0.01\% |
| PHILIP MORRIS INTERNATIONAL | PM | 138,138.90 | 0.81\% | 4.37\% | 9.00\% | 13.57\% | 0.11\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| PNC FINANCIAL SERVICES GROUP | PNC | 41,102.32 | 0.24\% | 2.28\% | 7.00\% | 9.36\% | 0.02\% |
| PENTAIR LTD-REGISTERED | PNR | 15,426.38 | 0.09\% | 1.29\% | 17.50\% | 18.90\% | 0.02\% |
| PINNACLE WEST CAPITAL | PNW | 5,832.33 | 0.03\% | 4.28\% | 5.00\% | 9.39\% | 0.00\% |
| PEPCO HOLDINGS INC | POM | 4,732.06 | 0.03\% | 5.70\% | 6.00\% | 11.87\% | 0.00\% |
| PPG INDUSTRIES INC | PPG | 26,711.50 | 0.16\% | 1.30\% | 11.00\% | 12.37\% | 0.02\% |
| PPL CORPORATION | PPL | 18,749.61 | 0.11\% | 5.01\% | 0.00\% | 5.01\% | 0.01\% |
| PERRIGO CO PLC | PRGO | 14,349.63 | 0.08\% | 0.24\% | 12.50\% | 12.76\% | 0.01\% |
| PRUDENTIAL FINANCIAL INC | PRU | 42,878.27 | 0.25\% | 2.29\% | 10.50\% | 12.91\% | 0.03\% |
| PUBLIC STORAGE | PSA | - | 0.00\% | 3.71\% | 0.00\% | 3.71\% | 0.00\% |
| PHILLIPS 66 | PSX | 45,037.14 | 0.26\% | 2.08\% | 0.00\% | 2.08\% | 0.01\% |
| PVH CORP | PVH | 11,012.20 | 0.06\% | 0.11\% | 13.50\% | 13.62\% | 0.01\% |
| QUANTA SERVICES INC | PWR | 6,687.61 | 0.04\% | 0.00\% | 20.50\% | 20.50\% | 0.01\% |
| PRAXAIR INC | PX | 38,140.62 | 0.22\% | 2.07\% | 11.00\% | 13.18\% | 0.03\% |
| PIONEER NATURAL RESOURCES CO | PXD | 25,836.44 | 0.15\% | 0.04\% | 23.00\% | 23.04\% | 0.03\% |
| QUALCOMM INC | QCOM | 126,532.60 | 0.74\% | 1.91\% | 11.50\% | 13.52\% | 0.10\% |
| QEP RESOURCES INC | QEP | 5,462.69 | 0.03\% | 0.39\% | 12.00\% | 12.41\% | 0.00\% |
| RYDER SYSTEM INC | R | 3,855.07 | 0.02\% | 1.86\% | 14.50\% | 16.49\% | 0.00\% |
| REYNOLDS AMERICAN INC | RAI | 26,770.02 | 0.16\% | 5.09\% | 9.50\% | 14.83\% | 0.02\% |
| ROWAN COMPANIES PLC-A | RDC | 4,245.18 | 0.02\% | 0.00\% | 23.00\% | 23.00\% | 0.01\% |
| REGENERON PHARMACEUTICALS | REGN | 27,369.69 | 0.16\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| REGIONS FINANCIAL CORP | RF | 13,614.64 | 0.08\% | 1.22\% | 71.00\% | 72.65\% | 0.06\% |
| ROBERT HALF INTL INC | RHI | 5,714.11 | 0.03\% | 1.57\% | 19.50\% | 21.22\% | 0.01\% |
| RED HAT INC | RHT | 10,587.25 | 0.06\% | 0.00\% | 13.00\% | 13.00\% | 0.01\% |
| TRANSOCEAN LTD | RIG | 17,368.13 | 0.10\% | 4.65\% | 13.50\% | 18.46\% | 0.02\% |
| RALPH LAUREN CORP | RL | 15,907.69 | 0.09\% | 1.02\% | 9.50\% | 10.57\% | 0.01\% |
| ROCKWELL AUTOMATION INC | ROK | 16,363.81 | 0.10\% | 1.97\% | 6.50\% | 8.53\% | 0.01\% |
| ROPER INDUSTRIES INC | ROP | 13,714.57 | 0.08\% | 0.58\% | 14.00\% | 14.62\% | 0.01\% |
| ROSS STORES INC | ROST | 16,011.17 | 0.09\% | 1.03\% | 12.00\% | 13.09\% | 0.01\% |
| RANGE RESOURCES CORP | RRC | 13,360.93 | 0.08\% | 0.19\% | 36.00\% | 36.22\% | 0.03\% |
| REPUBLIC SERVICES INC | RSG | 12,121.20 | 0.07\% | 3.15\% | 10.00\% | 13.31\% | 0.01\% |
| RAYTHEON COMPANY | RTN | 29,078.17 | 0.17\% | 2.42\% | 4.50\% | 6.97\% | 0.01\% |
| STARBUCKS CORP | SBUX | 59,246.77 | 0.35\% | 1.32\% | 19.50\% | 20.95\% | 0.07\% |
| SCANA CORP | SCG | 6,596.41 | 0.04\% | 4.42\% | 4.50\% | 9.02\% | 0.00\% |
| SCHWAB (CHARLES) CORP | SCHW | 33,145.89 | 0.19\% | 0.93\% | 11.50\% | 12.48\% | 0.02\% |
| SPECTRA ENERGY CORP | SE | 23,337.46 | 0.14\% | 3.91\% | 4.50\% | 8.50\% | 0.01\% |
| SEALED AIR CORP | SEE | 6,661.19 | 0.04\% | 1.53\% | 15.00\% | 16.64\% | 0.01\% |
| SHERWIN-WILLIAMS CO/THE | SHW | 18,366.10 | 0.11\% | 1.26\% | 16.50\% | 17.86\% | 0.02\% |
| SIGMA-ALDRICH | SIAL | 11,029.52 | 0.06\% | 0.93\% | 8.50\% | 9.47\% | 0.01\% |
| JM SMUCKER COTTHE | SJM | 10,828.16 | 0.06\% | 2.28\% | 8.50\% | 10.88\% | 0.01\% |
| SCHLUMBERGER LTD | SLB | 117,722.50 | 0.69\% | 1.49\% | 15.00\% | 16.60\% | 0.11\% |
| SLM CORP | SLM | 11,800.65 | 0.07\% | 2.61\% | 8.50\% | 11.22\% | 0.01\% |
| SNAP-ON INC | SNA | 6,331.05 | 0.04\% | 1.62\% | 9.50\% | 11.20\% | 0.00\% |
| SANDISK CORP | SNDK | 15,923.06 | 0.09\% | 1.28\% | 9.50\% | 10.84\% | 0.01\% |
| SCRIPPS NETWORKS INTER-CL A | SNI | 12,402.48 | 0.07\% | 0.71\% | 9.00\% | 9.74\% | 0.01\% |
| SOUTHERN COITHE | SO | 35,930.91 | 0.21\% | 5.10\% | 3.00\% | 8.18\% | 0.02\% |
| SIMON PROPERTY GROUP INC | SPG | - | 0.00\% | 3.24\% | 0.00\% | 3.24\% | 0.00\% |
| STAPLES INC | SPLS | 10,392.71 | 0.06\% | 3.02\% | 3.00\% | 6.07\% | 0.00\% |
| STERICYCLE INC | SRCL | 9,881.14 | 0.06\% | 0.00\% | 12.00\% | 12.00\% | 0.01\% |
| SEMPRA ENERGY | SRE | 21,838.32 | 0.13\% | 2.92\% | 4.50\% | 7.49\% | 0.01\% |
| SUNTRUST BANKS INC | STI | 19,596.86 | 0.11\% | 1.09\% | 26.00\% | 27.23\% | 0.03\% |
| ST JUDE MEDICAL INC | ST.J | 18,129.85 | 0.11\% | 1.59\% | 9.50\% | 11.17\% | 0.01\% |
| STATE STREET CORP | STT | 32,095.60 | 0.19\% | 1.54\% | 10.50\% | 12.12\% | 0.02\% |
| SEAGATE TECHNOLOGY | STX | 20,098.01 | 0.12\% | 3.07\% | 7.00\% | 10.18\% | 0.01\% |
| CONSTELLATION BRANDS INC-A | STZ | 13,272.38 | 0.08\% | 0.00\% | 16.00\% | 16.00\% | 0.01\% |
| STANLEY BLACK \& DECKER INC | SWK | 12,578.79 | 0.07\% | 2.47\% | 11.50\% | 14.11\% | 0.01\% |
| SOUTHWESTERN ENERGY CO | SWN | 13,915.50 | 0.08\% | 0.00\% | 11.50\% | 11.50\% | 0.01\% |
| SAFEWAY INC | SWY | 7,825.99 | 0.05\% | 2.69\% | 6.50\% | 9.28\% | 0.00\% |
| STRYKER CORP | SYK | 28,528.93 | 0.17\% | 1.62\% | 7.00\% | 8.68\% | 0.01\% |
| SYMANTEC CORP | SYMC | 15,973.91 | 0.09\% | 2.61\% | 15.00\% | 17.81\% | 0.02\% |
| SYSCO CORP | SYY | 21,231.71 | 0.12\% | 3.18\% | 10.50\% | 13.85\% | 0.02\% |
| AT\&T INC | T | 185,653.40 | 1.09\% | 5.23\% | 7.00\% | 12.41\% | 0.14\% |
| MOLSON COORS BREWING CO-B | TAP | 10,180.68 | 0.06\% | 2.31\% | 7.50\% | 9.90\% | 0.01\% |
| TERADATA CORP | TDC | 7,302.35 | 0.04\% | 0.00\% | 13.00\% | 13.00\% | 0.01\% |
| TECO ENERGY INC | TE | 3,707.14 | 0.02\% | 5.16\% | 3.00\% | 8.24\% | 0.00\% |
| INTEGRYS ENERGY GROUP INC | TEG | 4,315.70 | 0.03\% | 5.00\% | 4.50\% | 9.61\% | 0.00\% |
| TE CONNECTIVITY LTD | TEL | 22,594.48 | 0.13\% | 1.83\% | 8.00\% | 9.90\% | 0.01\% |
| TARGET CORP | TGT | 39,472.30 | 0.23\% | 2.82\% | 9.50\% | 12.45\% | 0.03\% |
| TENET HEALTHCARE CORP | THC | 4,049.94 | 0.02\% | 0.00\% | 29.00\% | 29.00\% | 0.01\% |
| TIFFANY \& CO | TIF | 11,648.53 | 0.07\% | 1.54\% | 11.50\% | 13.13\% | 0.01\% |
| TJX COMPANIES INC | TJX | 45,267.75 | 0.27\% | 0.91\% | 13.50\% | 14.47\% | 0.04\% |
| TORCHMARK CORP | TMK | 7,126.91 | 0.04\% | 0.87\% | 7.50\% | 8.40\% | 0.00\% |
| THERMO FISHER SCIENTIFIC INC | TMO | 39,847.94 | 0.23\% | 0.54\% | 10.50\% | 11.07\% | 0.03\% |
| TRIPADVISOR INC | TRIP | 11,860.17 | 0.07\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| TROWE PRICE GROUP INC | TROW | 21,806.29 | 0.13\% | 1.93\% | 12.50\% | 14.55\% | 0.02\% |
| TRAVELERS COS INC/THE | TRV | 32,772.64 | 0.19\% | 2.22\% | 9.50\% | 11.83\% | 0.02\% |
| TYSON FOODS INC-CL A | TSN | 11,728.63 | 0.07\% | 0.90\% | 9.50\% | 10.44\% | 0.01\% |


|  |  | [4] | [5] | [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Market Capitalization | Weight in Index | Estimated Dividend Yield | Long-Term Growth Est. | DCF Result | Weighted DCF Result |
| TESORO CORP | TSO | 7,871.41 | 0.05\% | 1.71\% | 18.00\% | 19.86\% | 0.01\% |
| TOTAL SYSTEM SERVICES INC | TSS | 6,335.86 | 0.04\% | 1.20\% | 8.00\% | 9.25\% | 0.00\% |
| TIME WARNER CABLE | TWC | 37,719.05 | 0.22\% | 2.03\% | 11.50\% | 13.65\% | 0.03\% |
| TIME WARNER INC | TWX | 63,630.00 | 0.37\% | 1.64\% | 12.00\% | 13.74\% | 0.05\% |
| TEXAS INSTRUMENTS INC | TXN | 47,712.00 | 0.28\% | 2.75\% | 4.00\% | 6.81\% | 0.02\% |
| TEXTRON INC | TXT | 10,174.77 | 0.06\% | 0.33\% | 16.00\% | 16.36\% | 0.01\% |
| TYCO INTERNATIONAL LTD | TYC | 18,766.44 | 0.11\% | 1.77\% | 0.00\% | 1.77\% | 0.00\% |
| UNITEDHEALTH GROUP INC | UNH | 74,700.30 | 0.44\% | 1.50\% | 10.00\% | 11.58\% | 0.05\% |
| UNUM GROUP | UNM | 9,181.65 | 0.05\% | 1.65\% | 6.50\% | 8.20\% | 0.00\% |
| UNION PACIFIC CORP | UNP | 76,684.84 | 0.45\% | 1.90\% | 12.00\% | 14.01\% | 0.06\% |
| UNITED PARCEL SERVICE-CL B | UPS | 97,343.10 | 0.57\% | 2.37\% | 7.50\% | 9.96\% | 0.06\% |
| URBAN OUTFITTERS INC | URBN | 5,530.25 | 0.03\% | 0.00\% | 14.50\% | 14.50\% | 0.00\% |
| US BANCORP | USB | 74,232.63 | 0.44\% | 2.32\% | 8.00\% | 10.41\% | 0.05\% |
| UNITED TECHNOLOGIES CORP | UTX | 103,402.20 | 0.61\% | 2.09\% | 10.50\% | 12.70\% | 0.08\% |
| VISA INC-CLASS A SHARES | $V$ | 173,297.40 | 1.02\% | 0.73\% | 18.50\% | 19.30\% | 0.20\% |
| VARIAN MEDICAL SYSTEMS INC | VAR | 8,269.50 | 0.05\% | 0.00\% | 7.00\% | 7.00\% | 0.00\% |
| VF CORP | VFC | 27,266.78 | 0.16\% | 1.69\% | 13.00\% | 14.80\% | 0.02\% |
| VIACOM INC-CLASS B | VIAB | 41,048.69 | 0.24\% | 1.40\% | 13.50\% | 14.99\% | 0.04\% |
| VALERO ENERGY CORP | VLO | 26,409.64 | 0.15\% | 1.85\% | 17.00\% | 19.01\% | 0.03\% |
| VULCAN MATERIALS CO | VMC | 7,574.46 | 0.04\% | 0.07\% | 0.00\% | 0.07\% | 0.00\% |
| VORNADO REALTY TRUST | VNO | 16,686.55 | 0.10\% | 3.27\% | 7.00\% | 10.38\% | 0.01\% |
| VERISIGN INC | VRSN | 8,215.19 | 0.05\% | 0.00\% | 20.50\% | 20.50\% | 0.01\% |
| VERTEX PHARMACEUTICALS INC | VRTX | 17,241.43 | 0.10\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| VENTAS INC | VTR | - | 0.00\% | 5.07\% | 0.00\% | 5.07\% | 0.00\% |
| VERIZON COMMUNICATIONS INC | $V Z$ | 140,740.90 | 0.83\% | 4.31\% | 9.50\% | 14.01\% | 0.12\% |
| WALGREEN CO | WAG | 54,498.32 | 0.32\% | 2.19\% | 9.50\% | 11.79\% | 0.04\% |
| WATERS CORP | WAT | 8,459.13 | 0.05\% | 0.00\% | 7.50\% | 7.50\% | 0.00\% |
| WESTERN DIGITAL CORP | WDC | 19,606.88 | 0.11\% | 1.44\% | 8.00\% | 9.50\% | 0.01\% |
| WISCONSIN ENERGY CORP | WEC | 9,337.11 | 0.05\% | 3.79\% | 7.00\% | 10.92\% | 0.01\% |
| WELLS FARGO \& CO | WFC | 240,165.90 | 1.41\% | 2.64\% | 8.00\% | 10.75\% | 0.15\% |
| WHOLE FOODS MARKET INC | WFM | 21,474.26 | 0.13\% | 0.83\% | 19.00\% | 19.91\% | 0.03\% |
| WHIRLPOOL CORP | WHR | 12,466.20 | 0.07\% | 1.58\% | 9.00\% | 10.65\% | 0.01\% |
| WINDSTREAM HOLDINGS INC | WIN | 5,019.16 | 0.03\% | 11.88\% | 8.50\% | 20.88\% | 0.01\% |
| WELLPOINT INC | WLP | 27,293.72 | 0.16\% | 1.63\% | 7.50\% | 9.19\% | 0.01\% |
| WASTE MANAGEMENT INC | WM | 21,104.62 | 0.12\% | 3.36\% | 6.50\% | 9.97\% | 0.01\% |
| WILLIAMS COS INC | WMB | 26,111.09 | 0.15\% | 4.58\% | 7.00\% | 11.74\% | 0.02\% |
| WAL-MART STORES INC | WMT | 254,140.40 | 1.49\% | 2.55\% | 7.50\% | 10.15\% | 0.15\% |
| WPX ENERGY INC | WPX | 4,074.21 | 0.02\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% |
| WESTERN UNION CO | WU | 9,513.03 | 0.06\% | 2.90\% | 5.00\% | 7.97\% | 0.00\% |
| WEYERHAEUSER CO | WY | 18,252.14 | 0.11\% | 2.81\% | 22.00\% | 25.12\% | 0.03\% |
| WYNDHAM WORLDWIDE CORP | WYN | 9,516.00 | 0.06\% | 1.59\% | 13.50\% | 15.20\% | 0.01\% |
| WYNN RESORTS LTD | WYNN | 19,234.86 | 0.11\% | 2.09\% | 14.00\% | 16.24\% | 0.02\% |
| UNITED STATES STEEL CORP | $X$ | 4,257.29 | 0.02\% | 0.68\% | 0.00\% | 0.68\% | 0.00\% |
| XCEL ENERGY INC | XEL | 13,848.91 | 0.08\% | 4.10\% | 4.50\% | 8.69\% | 0.01\% |
| XL GROUP PLC | XL | 9,468.22 | 0.06\% | 1.77\% | 17.00\% | 18.92\% | 0.01\% |
| XILINXINC | XLNX | 12,122.64 | 0.07\% | 2.21\% | 8.00\% | 10.30\% | 0.01\% |
| EXXON MOBIL CORP | XOM | 440,782.90 | 2.58\% | 2.56\% | 6.50\% | 9.14\% | 0.24\% |
| DENTSPLY INTERNATIONAL INC | XRAY | 6,903.81 | 0.04\% | 0.52\% | 9.00\% | 9.54\% | 0.00\% |
| XEROX CORP | XRX | 15,056.52 | 0.09\% | 2.04\% | 6.00\% | 8.10\% | 0.01\% |
| XYLEM INC | XYL | 6,400.31 | 0.04\% | 1.36\% | 0.00\% | 1.36\% | 0.00\% |
| YAHOOI INC | YHOO | 41,180.85 | 0.24\% | 0.00\% | 10.00\% | 10.00\% | 0.02\% |
| YUM! BRANDS INC | YUM | 32,978.95 | 0.19\% | 2.00\% | 9.50\% | 11.60\% | 0.02\% |
| ZIONS BANCORPORATION | ZION | 5,508.46 | 0.03\% | 0.54\% | 0.00\% | 0.54\% | 0.00\% |
| ZIMMER HOLDINGS INC | ZMH | 15,929.81 | 0.09\% | 0.92\% | 10.00\% | 10.97\% | 0.01\% |
| ZOETIS INC | ZTS | 16,295.19 | 0.10\% | 0.89\% | 0.00\% | 0.89\% | 0.00\% |
| Total Market Capitalization: |  | 17,051,688.39 |  |  |  |  | 12.72\% |

## Notes:

[1] Equals sum of Col. [9]
[2] Source: Bloomberg Professional
[3] Equals [1] - [2]
[4] Source: Value Line
[5] Equals weight in S\&P 500 based on market capitalization
[6] Source: Value Line
[7] Source: Value Line
[8] Equals $([6] \times(1+(0.5 \times[7])))+[7]$
[9] Equals Col. [5] $\times$ Col. [8]

## Bloomberg, Value Line, and Calculated Beta Coefficients

|  |  | [1] | [2] | [3] |
| :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Bloomberg | Value Line | Calculated |
| AGL Resources Inc. | GAS | 0.853 | 0.75 | 0.806 |
| Atmos Energy Corporation | ATO | 0.825 | 0.80 | 0.976 |
| Laclede Group, Inc. (The) | LG | 0.662 | 0.65 | 0.717 |
| New Jersey Resources Corporation | NJR | 0.876 | 0.70 | 0.937 |
| Northwest Natural Gas Company | NWN | 0.742 | 0.65 | 0.764 |
| Piedmont Natural Gas Company, Inc. | PNY | 0.879 | 0.75 | 0.908 |
| South Jersey Industries, Inc. | SJI | 0.761 | 0.70 | 0.864 |
| Southwest Gas Corporation | SWX | 0.828 | 0.80 | 0.879 |
| WGL Holdings, Inc. | WGL | 0.756 | 0.65 | 0.806 |
| Mean |  | 0.798 | 0.717 | 0.851 |

Notes:
[1] Source: Bloomberg Professional Service
[2] Source: Value Line
[3] Source: Bloomberg Professional Service; Beta coefficients calculated over 18-months based on weekly returns

Capital Asset Pricing Model Results
Bloomberg and Value Line Derived Market Risk Premium


Notes:
[1] See Notes [7] and [8]
[2] Source: Schedule RBH-6
[3] Source: Schedule RBH-5
[4] Source: Schedule RBH-5
[5] Equals Col. [1] + (Col. [2] $\times$ Col. [3])
[6] Equals Col. [1] $+($ Col. [2] $\times$ Col. [4])
[7] Source: Bloomberg Professional
[8] Source: Blue Chip Financial Forecasts, Vol. 33, No. 1, January 1, 2014, at 2

Bond Yield Plus Risk Premium

|  | [1] Constant | $[2]$ Slope | [3] 30-Year Treasury Yield | [4] <br> Risk Premium | [5] <br> Return on Equity |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Current | -3.12\% | -2.90\% | 3.87\% | 6.32\% | 10.19\% |
| Near Term Projected | -3.12\% | -2.90\% | 4.15\% | 6.12\% | 10.27\% |
| Long-Term Projected | -3.12\% | -2.90\% | 5.25\% | 5.44\% | 10.69\% |

Notes:
1] Constant of regression equation
2] Slope of regression equation
[3] Source: Current = Bloomberg Professional
3] Near Term Projected = Blue Chip Financial Forecasts, Vol. 33, No. 1, January 1, 2014, at 2
[4] Long Term Projected = Blue Chip Financial Forecasts, Vol. 32, No. 12, December 1, 2013, at 14
[5] Equals [3] + [4]
[6] Source: SNL Financial
[7] Source: SNL Financial
8] Source: Bloomberg Professional, equals 187-trading day average (i.e. lag period) as of December 31, 2013 [9] Equals [7] - [8]


| [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
| Date of |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 1/3/1980 | 12.55\% | 9.39\% | 3.16\% |
| 1/4/1980 | 13.75\% | 9.40\% | 4.35\% |
| 1/14/1980 | 13.20\% | 9.44\% | 3.76\% |
| 1/18/1980 | 14.00\% | 9.47\% | 4.53\% |
| 1/31/1980 | 12.61\% | 9.56\% | 3.05\% |
| 2/8/1980 | 14.50\% | 9.63\% | 4.87\% |
| 2/14/1980 | 13.00\% | 9.67\% | 3.33\% |
| 2/15/1980 | 13.00\% | 9.69\% | 3.31\% |
| 2/29/1980 | 14.00\% | 9.86\% | 4.14\% |
| 3/5/1980 | 14.00\% | 9.91\% | 4.09\% |
| 3/7/1980 | 13.50\% | 9.95\% | 3.55\% |
| 3/14/1980 | 14.00\% | 10.04\% | 3.96\% |
| 3/27/1980 | 12.69\% | 10.20\% | 2.49\% |
| 4/1/1980 | 14.75\% | 10.26\% | 4.49\% |
| 4/29/1980 | 12.50\% | 10.51\% | 1.99\% |
| 5/7/1980 | 14.27\% | 10.56\% | 3.71\% |
| 5/8/1980 | 13.75\% | 10.56\% | 3.19\% |
| 5/19/1980 | 15.50\% | 10.62\% | 4.88\% |
| 5/27/1980 | 14.60\% | 10.65\% | 3.95\% |
| 5/29/1980 | 16.00\% | 10.67\% | 5.33\% |
| 6/10/1980 | 13.78\% | 10.71\% | 3.07\% |
| 6/25/1980 | 14.25\% | 10.74\% | 3.51\% |
| 7/9/1980 | 14.51\% | 10.77\% | 3.74\% |
| 7/17/1980 | 12.90\% | 10.79\% | 2.11\% |
| 7/18/1980 | 13.80\% | 10.79\% | 3.01\% |
| 7/22/1980 | 14.10\% | 10.79\% | 3.31\% |
| 7/23/1980 | 14.19\% | 10.79\% | 3.40\% |
| 8/1/1980 | 12.50\% | 10.80\% | 1.70\% |
| 8/11/1980 | 14.85\% | 10.81\% | 4.04\% |
| 8/21/1980 | 13.03\% | 10.84\% | 2.19\% |
| 8/28/1980 | 13.61\% | 10.87\% | 2.74\% |
| 8/28/1980 | 14.00\% | 10.87\% | 3.13\% |
| 9/4/1980 | 14.00\% | 10.90\% | 3.10\% |
| 9/24/1980 | 15.00\% | 10.98\% | 4.02\% |
| 10/9/1980 | 14.50\% | 11.05\% | 3.45\% |
| 10/9/1980 | 14.50\% | 11.05\% | 3.45\% |
| 10/24/1980 | 14.00\% | 11.09\% | 2.91\% |
| 10/27/1980 | 15.20\% | 11.10\% | 4.10\% |
| 10/27/1980 | 15.20\% | 11.10\% | 4.10\% |
| 10/28/1980 | 12.00\% | 11.10\% | 0.90\% |
| 10/28/1980 | 13.00\% | 11.10\% | 1.90\% |
| 10/31/1980 | 14.50\% | 11.12\% | 3.38\% |
| 11/4/1980 | 15.00\% | 11.12\% | 3.88\% |


| [6] <br> Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 11/6/1980 | 14.35\% | 11.13\% | 3.22\% |
| 11/10/1980 | 13.25\% | 11.14\% | 2.11\% |
| 11/17/1980 | 15.50\% | 11.15\% | 4.35\% |
| 11/19/1980 | 13.50\% | 11.14\% | 2.36\% |
| 12/5/1980 | 14.60\% | 11.13\% | 3.47\% |
| 12/8/1980 | 16.40\% | 11.13\% | 5.27\% |
| 12/12/1980 | 15.45\% | 11.15\% | 4.30\% |
| 12/17/1980 | 14.20\% | 11.16\% | 3.04\% |
| 12/17/1980 | 14.40\% | 11.16\% | 3.24\% |
| 12/18/1980 | 14.00\% | 11.16\% | 2.84\% |
| 12/22/1980 | 13.45\% | 11.16\% | 2.29\% |
| 12/26/1980 | 14.00\% | 11.15\% | 2.85\% |
| 12/30/1980 | 14.50\% | 11.14\% | 3.36\% |
| 12/31/1980 | 14.56\% | 11.14\% | 3.42\% |
| 1/7/1981 | 14.30\% | 11.13\% | 3.17\% |
| 1/12/1981 | 14.95\% | 11.14\% | 3.81\% |
| 1/26/1981 | 15.25\% | 11.20\% | 4.05\% |
| 1/30/1981 | 13.25\% | 11.23\% | 2.02\% |
| 2/11/1981 | 14.50\% | 11.33\% | 3.17\% |
| 2/20/1981 | 14.50\% | 11.40\% | 3.10\% |
| 3/12/1981 | 15.65\% | 11.60\% | 4.05\% |
| 3/25/1981 | 15.30\% | 11.74\% | 3.56\% |
| 4/1/1981 | 15.30\% | 11.82\% | 3.48\% |
| 4/9/1981 | 15.00\% | 11.91\% | 3.09\% |
| 4/29/1981 | 13.50\% | 12.12\% | 1.38\% |
| 4/29/1981 | 14.25\% | 12.12\% | 2.13\% |
| 4/30/1981 | 13.60\% | 12.14\% | 1.46\% |
| 4/30/1981 | 15.00\% | 12.14\% | 2.86\% |
| 5/21/1981 | 14.00\% | 12.37\% | 1.63\% |
| 6/3/1981 | 14.67\% | 12.46\% | 2.21\% |
| 6/22/1981 | 16.00\% | 12.57\% | 3.43\% |
| 6/25/1981 | 14.75\% | 12.60\% | 2.15\% |
| 7/2/1981 | 14.00\% | 12.64\% | 1.36\% |
| 7/10/1981 | 16.00\% | 12.69\% | 3.31\% |
| 7/14/1981 | 16.90\% | 12.71\% | 4.19\% |
| 7/21/1981 | 15.78\% | 12.78\% | 3.00\% |
| 7/27/1981 | 13.77\% | 12.82\% | 0.95\% |
| 7/27/1981 | 15.50\% | 12.82\% | 2.68\% |
| 7/31/1981 | 13.50\% | 12.86\% | 0.64\% |
| 7/31/1981 | 14.20\% | 12.86\% | 1.34\% |
| 8/12/1981 | 13.72\% | 12.93\% | 0.79\% |
| 8/12/1981 | 13.72\% | 12.93\% | 0.79\% |
| 8/12/1981 | 14.41\% | 12.93\% | 1.48\% |
| 8/25/9981 | 15.45\% | 13.02\% | 2.43\% |
| 8/27/1981 | 14.43\% | 13.04\% | 1.39\% |
| 8/28/1981 | 15.00\% | 13.05\% | 1.95\% |
| 9/23/1981 | 14.34\% | 13.24\% | 1.10\% |
| 9/24/1981 | 16.25\% | 13.26\% | 2.99\% |
| 9/29/1981 | 14.50\% | 13.31\% | 1.19\% |
| 9/30/198 | 15.94\% | 13.32\% | 2.62\% |
| 10/2/1981 | 14.80\% | 13.36\% | 1.44\% |
| 10/12/1981 | 16.25\% | 13.43\% | 2.82\% |
| 10/20/1981 | 15.25\% | 13.50\% | 1.75\% |
| 10/20/1981 | 16.50\% | 13.50\% | 3.00\% |
| 10/20/1981 | 17.00\% | 13.50\% | 3.50\% |
| 10/23/1981 | 15.50\% | 13.54\% | 1.96\% |
| 10/26/1981 | 13.50\% | 13.56\% | -0.06\% |
| 10/29/1981 | 16.50\% | 13.60\% | 2.90\% |
| 11/4/1981 | 15.33\% | 13.62\% | 1.71\% |
| 11/6/1981 | 15.17\% | 13.64\% | 1.53\% |
| 11/12/1981 | 15.00\% | 13.65\% | 1.35\% |
| 11/25/1981 | 15.25\% | 13.66\% | 1.59\% |
| 11/25/1981 | 16.10\% | 13.66\% | 2.44\% |
| 11/25/1981 | 16.10\% | 13.66\% | 2.44\% |
| 11/30/1981 | 16.75\% | 13.66\% | 3.09\% |
| 12/1/1981 | 15.70\% | 13.66\% | 2.04\% |
| 12/1/1981 | 16.00\% | 13.66\% | 2.34\% |
| 12/15/1981 | 15.81\% | 13.69\% | 2.12\% |
| 12/17/1981 | 14.75\% | 13.70\% | 1.05\% |
| 12/22/1981 | 15.70\% | 13.72\% | 1.98\% |
| 12/22/1981 | 16.00\% | 13.72\% | 2.28\% |
| 12/30/1981 | 16.00\% | 13.74\% | 2.26\% |
| 12/30/1981 | 16.25\% | 13.74\% | 2.51\% |
| 1/4/1982 | 15.50\% | 13.75\% | 1.75\% |
| 1/14/1982 | 11.95\% | 13.80\% | -1.85\% |
| 1/25/1982 | 16.25\% | 13.84\% | 2.41\% |
| 1/27/1982 | 16.84\% | 13.85\% | 2.99\% |
| 1/31/1982 | 14.00\% | 13.86\% | 0.14\% |
| 2/2/1982 | 16.24\% | 13.86\% | 2.38\% |
| 2/8/1982 | 15.50\% | 13.87\% | 1.63\% |
| 2/9/1982 | 14.95\% | 13.88\% | 1.07\% |
| 2/9/1982 | 15.75\% | 13.88\% | 1.87\% |
| 2/11/1982 | 16.00\% | 13.89\% | 2.11\% |
| 3/1/1982 | 15.96\% | 13.91\% | 2.05\% |
| 3/8/1982 | 17.10\% | 13.92\% | 3.18\% |
| 3/26/1982 | 16.00\% | 13.97\% | 2.03\% |


| [6] <br> Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 3/31/1982 | 16.25\% | 13.98\% | 2.27\% |
| 4/1/1982 | 16.50\% | 13.98\% | 2.52\% |
| 4/6/1982 | 15.00\% | 13.99\% | 1.01\% |
| 4/9/1982 | 16.50\% | 13.99\% | 2.51\% |
| 4/12/1982 | 15.10\% | 13.99\% | 1.11\% |
| 4/12/1982 | 16.70\% | 13.99\% | 2.71\% |
| 4/18/1982 | 14.70\% | 13.99\% | 0.71\% |
| 4/27/1982 | 15.00\% | 13.97\% | 1.03\% |
| 5/10/1982 | 14.57\% | 13.94\% | 0.63\% |
| 5/14/1982 | 15.80\% | 13.92\% | 1.88\% |
| 5/20/1982 | 15.82\% | 13.91\% | 1.91\% |
| 5/21/1982 | 15.50\% | 13.90\% | 1.60\% |
| 5/25/1982 | 16.25\% | 13.90\% | 2.35\% |
| 6/2/1982 | 14.50\% | 13.87\% | 0.63\% |
| 6/7/1982 | 16.00\% | 13.85\% | 2.15\% |
| 6/23/1982 | 15.50\% | 13.81\% | 1.69\% |
| 6/25/1982 | 16.50\% | 13.81\% | 2.69\% |
| 7/1/1982 | 15.55\% | 13.79\% | 1.76\% |
| 7/1/1982 | 16.00\% | 13.79\% | 2.21\% |
| 7/2/1982 | 15.10\% | 13.79\% | 1.31\% |
| 7/13/1982 | 16.80\% | 13.75\% | 3.05\% |
| 7/22/1982 | 14.50\% | 13.71\% | 0.79\% |
| 7/28/1982 | 16.10\% | 13.68\% | 2.42\% |
| 7/30/1982 | 14.82\% | 13.66\% | 1.16\% |
| 8/4/1982 | 15.58\% | 13.64\% | 1.94\% |
| 8/6/1982 | 16.50\% | 13.63\% | 2.87\% |
| 8/11/1982 | 17.11\% | 13.62\% | 3.49\% |
| 8/25/1982 | 16.00\% | 13.59\% | 2.41\% |
| 8/30/1982 | 16.25\% | 13.58\% | 2.67\% |
| 9/3/1982 | 15.50\% | 13.57\% | 1.93\% |
| 9/9/1982 | 16.04\% | 13.55\% | 2.49\% |
| 9/15/1982 | 16.04\% | 13.52\% | 2.52\% |
| 9/17/1982 | 15.25\% | 13.51\% | 1.74\% |
| 9/29/1982 | 14.50\% | 13.43\% | 1.07\% |
| 9/30/1982 | 14.74\% | 13.42\% | 1.32\% |
| 9/30/1982 | 15.50\% | 13.42\% | 2.08\% |
| 9/30/1982 | 16.50\% | 13.42\% | 3.08\% |
| 9/30/1982 | 16.70\% | 13.42\% | 3.28\% |
| 10/1/1982 | 16.50\% | 13.41\% | 3.09\% |
| 10/8/1982 | 15.00\% | 13.33\% | 1.67\% |
| 10/15/1982 | 15.90\% | 13.26\% | 2.64\% |
| 10/19/1982 | 15.90\% | 13.22\% | 2.68\% |
| 10/27/1982 | 17.00\% | 13.12\% | 3.88\% |
| 10/28/1982 | 14.75\% | 13.11\% | 1.64\% |
| 11/2/1982 | 16.25\% | 13.07\% | 3.18\% |
| 11/4/9982 | 15.75\% | 13.03\% | 2.72\% |
| 11/5/1982 | 14.73\% | 13.01\% | 1.72\% |
| 11/17/1982 | 16.00\% | 12.86\% | 3.14\% |
| 11/23/1982 | 15.50\% | 12.79\% | 2.71\% |
| 11/24/1982 | 14.50\% | 12.77\% | 1.73\% |
| 11/24/1982 | 16.02\% | 12.77\% | 3.25\% |
| 11/30/1982 | 12.98\% | 12.72\% | 0.26\% |
| 11/30/1982 | 15.50\% | 12.72\% | 2.78\% |
| 11/30/1982 | 15.50\% | 12.72\% | 2.78\% |
| 11/30/1982 | 15.65\% | 12.72\% | 2.93\% |
| 11/30/1982 | 16.00\% | 12.72\% | 3.28\% |
| 11/30/1982 | 16.10\% | 12.72\% | 3.38\% |
| 12/3/1982 | 15.33\% | 12.68\% | 2.65\% |
| 12/8/1982 | 15.75\% | 12.63\% | 3.12\% |
| 12/13/1982 | 16.00\% | 12.58\% | 3.42\% |
| 12/14/1982 | 16.40\% | 12.57\% | 3.83\% |
| 12/17/1982 | 16.25\% | 12.52\% | 3.73\% |
| 12/20/1982 | 15.00\% | 12.51\% | 2.49\% |
| 12/21/1982 | 15.70\% | 12.49\% | 3.21\% |
| 12/28/1982 | 15.25\% | 12.42\% | 2.83\% |
| 12/28/1982 | 15.25\% | 12.42\% | 2.83\% |
| 12/29/1982 | 16.25\% | 12.41\% | 3.84\% |
| 12/29/1982 | 16.25\% | 12.41\% | 3.84\% |
| 1/11/1983 | 15.90\% | 12.26\% | 3.64\% |
| 1/12/1983 | 15.50\% | 12.24\% | 3.26\% |
| 1/18/1983 | 15.00\% | 12.18\% | 2.82\% |
| 1/24/1983 | 15.50\% | 12.13\% | 3.37\% |
| 1/24/1983 | 16.00\% | 12.13\% | 3.87\% |
| 1/28/1983 | 14.90\% | 12.08\% | 2.82\% |
| 1/31/1983 | 15.00\% | 12.07\% | 2.93\% |
| 2/10/1983 | 15.00\% | 11.97\% | 3.03\% |
| 2/25/1983 | 15.70\% | 11.84\% | 3.86\% |
| 3/2/1983 | 15.25\% | 11.79\% | 3.46\% |
| 3/16/1983 | 16.00\% | 11.62\% | 4.38\% |
| 3/21/1983 | 14.96\% | 11.57\% | 3.39\% |
| 3/23/1983 | 15.40\% | 11.53\% | 3.87\% |
| 3/23/1983 | 16.10\% | 11.53\% | 4.57\% |
| 3/24/1983 | 15.00\% | 11.51\% | 3.49\% |
| 4/12/1983 | 13.25\% | 11.30\% | 1.95\% |
| 4/29/1983 | 15.05\% | 11.09\% | 3.96\% |
| 5/3/1983 | 15.40\% | 11.06\% | 4.34\% |


| [6] <br> Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural | Return on Equity | 30-Year | Risk |
| Gas Rate |  | Treasury |  |
| Case |  | Yield | Premium |
| 5/9/1983 | 15.50\% | 11.00\% | 4.50\% |
| 5/19/1983 | 14.85\% | 10.90\% | 3.95\% |
| 5/31/1983 | 14.00\% | 10.84\% | 3.16\% |
| 6/2/1983 | 14.50\% | 10.82\% | 3.68\% |
| 6/7/1983 | 14.50\% | 10.80\% | 3.70\% |
| 6/9/1983 | 14.85\% | 10.79\% | 4.06\% |
| 6/20/1983 | 14.15\% | 10.74\% | 3.41\% |
| 6/20/1983 | 16.50\% | 10.74\% | 5.76\% |
| 6/27/1983 | 14.50\% | 10.71\% | 3.79\% |
| 6/30/1983 | 14.80\% | 10.70\% | 4.10\% |
| 6/30/1983 | 15.90\% | 10.70\% | 5.20\% |
| 7/1/1983 | 14.80\% | 10.70\% | 4.10\% |
| 7/5/1983 | 15.00\% | 10.69\% | 4.31\% |
| 7/8/1983 | 15.50\% | 10.69\% | 4.81\% |
| 7/19/1983 | 15.00\% | 10.70\% | 4.30\% |
| 7/19/1983 | 15.10\% | 10.70\% | 4.40\% |
| 8/18/1983 | 15.30\% | 10.81\% | 4.49\% |
| 8/19/1983 | 15.79\% | 10.82\% | 4.97\% |
| 8/29/1983 | 16.00\% | 10.85\% | 5.15\% |
| 8/31/1983 | 14.75\% | 10.87\% | 3.88\% |
| 8/31/1983 | 15.25\% | 10.87\% | 4.38\% |
| 9/8/1983 | 14.75\% | 10.89\% | 3.86\% |
| 9/16/1983 | 15.51\% | 10.93\% | 4.58\% |
| 9/26/1983 | 14.50\% | 10.96\% | 3.54\% |
| 9/28/1983 | 14.25\% | 10.97\% | 3.28\% |
| 9/30/1983 | 16.15\% | 10.98\% | 5.17\% |
| 9/30/1983 | 16.25\% | 10.98\% | 5.27\% |
| 10/1/1983 | 16.25\% | 10.98\% | 5.27\% |
| 10/13/1983 | 15.52\% | 11.02\% | 4.50\% |
| 10/19/1983 | 15.20\% | 11.04\% | 4.16\% |
| 10/26/1983 | 14.75\% | 11.06\% | 3.69\% |
| 10/27/1983 | 14.88\% | 11.07\% | 3.81\% |
| 10/27/1983 | 15.33\% | 11.07\% | 4.26\% |
| 11/9/1983 | 14.82\% | 11.10\% | 3.72\% |
| 11/9/1983 | 16.51\% | 11.10\% | 5.41\% |
| 11/9/1983 | 16.51\% | 11.10\% | 5.41\% |
| 12/1/1983 | 14.50\% | 11.17\% | 3.33\% |
| 12/8/1983 | 15.90\% | 11.20\% | 4.70\% |
| 12/9/1983 | 15.30\% | 11.21\% | 4.09\% |
| 12/12/1983 | 14.50\% | 11.22\% | 3.28\% |
| 12/12/1983 | 15.50\% | 11.22\% | 4.28\% |
| 12/20/1983 | 15.40\% | 11.26\% | 4.14\% |
| 12/20/1983 | 16.00\% | 11.26\% | 4.74\% |
| 12/22/1983 | 15.75\% | 11.27\% | 4.48\% |
| 12/29/1983 | 15.00\% | 11.30\% | 3.70\% |
| 12/30/1983 | 15.00\% | 11.30\% | 3.70\% |
| 1/10/1984 | 15.90\% | 11.34\% | 4.56\% |
| 1/13/1984 | 15.50\% | 11.36\% | 4.14\% |
| 1/18/1984 | 15.53\% | 11.38\% | 4.15\% |
| 1/26/1984 | 15.90\% | 11.42\% | 4.48\% |
| 2/14/1984 | 14.25\% | 11.51\% | 2.74\% |
| 2/28/1984 | 14.50\% | 11.58\% | 2.92\% |
| 3/20/1984 | 16.00\% | 11.70\% | 4.30\% |
| 3/23/1984 | 15.50\% | 11.72\% | 3.78\% |
| 4/9/1984 | 15.20\% | 11.81\% | 3.39\% |
| 4/18/1984 | 16.20\% | 11.86\% | 4.34\% |
| 4/27/1984 | 15.85\% | 11.90\% | 3.95\% |
| 5/15/1984 | 13.35\% | 11.99\% | 1.36\% |
| 5/16/1984 | 15.00\% | 12.00\% | 3.00\% |
| 5/22/1984 | 14.40\% | 12.04\% | 2.36\% |
| 6/13/1984 | 15.50\% | 12.18\% | 3.32\% |
| 7/10/1984 | 16.00\% | 12.37\% | 3.63\% |
| 8/7/1984 | 16.69\% | 12.51\% | 4.18\% |
| 8/9/1984 | 15.33\% | 12.51\% | 2.82\% |
| 8/17/1984 | 14.82\% | 12.54\% | 2.28\% |
| 8/21/1984 | 14.64\% | 12.54\% | 2.10\% |
| 8/27/1984 | 14.52\% | 12.56\% | 1.96\% |
| 8/28/1984 | 14.75\% | 12.57\% | 2.18\% |
| 8/30/1984 | 15.60\% | 12.58\% | 3.02\% |
| 9/12/1984 | 15.60\% | 12.60\% | 3.00\% |
| 9/12/1984 | 15.90\% | 12.60\% | 3.30\% |
| 9/25/1984 | 16.25\% | 12.61\% | 3.64\% |
| 10/2/9984 | 14.80\% | 12.62\% | 2.18\% |
| 10/9/1984 | 14.75\% | 12.63\% | 2.12\% |
| 10/10/1984 | 15.50\% | 12.63\% | 2.87\% |
| 10/18/1984 | 15.00\% | 12.65\% | 2.35\% |
| 10/24/1984 | 15.50\% | 12.65\% | 2.85\% |
| 11/7/1984 | 15.00\% | 12.64\% | 2.36\% |
| 11/20/1984 | 15.92\% | 12.63\% | 3.29\% |
| 11/30/1984 | 15.50\% | 12.60\% | 2.90\% |
| 12/18/1984 | 15.00\% | 12.55\% | 2.45\% |
| 12/20/1984 | 15.00\% | 12.54\% | 2.46\% |
| 12/28/1984 | 15.75\% | 12.51\% | $3.24 \%$ |
| 12/28/1984 | 16.25\% | 12.51\% | $3.74 \%$ |
| 1/2/1985 | 16.00\% | 12.50\% | 3.50\% |
| 1/31/1985 | 14.75\% | 12.37\% | 2.38\% |


| [6] <br> Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury |  |
| Case | Equity | Yield | Premium |
| 2/7/1985 | 14.85\% | 12.33\% | 2.52\% |
| 2/15/1985 | 15.00\% | 12.27\% | 2.73\% |
| 2/20/1985 | 14.50\% | 12.25\% | 2.25\% |
| 2/22/1985 | 14.86\% | 12.25\% | 2.61\% |
| 3/14/1985 | 15.50\% | 12.16\% | 3.34\% |
| 3/28/1985 | 14.80\% | 12.08\% | 2.72\% |
| 4/9/1985 | 15.50\% | 12.02\% | 3.48\% |
| 4/16/1985 | 15.70\% | 11.96\% | 3.74\% |
| 6/10/1985 | 15.75\% | 11.58\% | 4.17\% |
| 6/26/1985 | 14.82\% | 11.46\% | 3.36\% |
| 7/9/1985 | 15.00\% | 11.38\% | 3.62\% |
| 7/26/1985 | 14.50\% | 11.26\% | 3.24\% |
| 8/29/1985 | 14.50\% | 11.11\% | 3.39\% |
| 8/30/1985 | 14.38\% | 11.11\% | 3.27\% |
| 9/12/1985 | 15.25\% | 11.07\% | 4.18\% |
| 9/23/1985 | 15.30\% | 11.03\% | 4.27\% |
| 9/25/1985 | 14.50\% | 11.02\% | 3.48\% |
| 9/26/1985 | 13.80\% | 11.02\% | 2.78\% |
| 9/26/1985 | 14.50\% | 11.02\% | 3.48\% |
| 10/25/1985 | 15.25\% | 10.91\% | 4.34\% |
| 11/8/1985 | 12.94\% | 10.85\% | 2.09\% |
| 11/20/1985 | 14.90\% | 10.81\% | 4.09\% |
| 11/25/1985 | 13.30\% | 10.79\% | 2.51\% |
| 12/6/1985 | 12.00\% | 10.71\% | 1.29\% |
| 12/11/1985 | 14.90\% | 10.68\% | 4.22\% |
| 12/20/1985 | 14.88\% | 10.59\% | 4.29\% |
| 12/20/1985 | 15.00\% | 10.59\% | 4.41\% |
| 12/20/1985 | 15.00\% | 10.59\% | 4.41\% |
| 12/30/1985 | 15.75\% | 10.53\% | 5.22\% |
| 12/31/1985 | 14.00\% | 10.51\% | 3.49\% |
| 12/31/1985 | 14.50\% | 10.51\% | 3.99\% |
| 1/17/1986 | 14.50\% | 10.38\% | 4.12\% |
| 2/11/1986 | 12.50\% | 10.20\% | 2.30\% |
| 2/12/1986 | 15.20\% | 10.19\% | 5.01\% |
| 3/11/1986 | 14.00\% | 9.98\% | 4.02\% |
| 4/2/1986 | 12.90\% | 9.76\% | 3.14\% |
| 4/28/1986 | 13.01\% | 9.47\% | 3.54\% |
| 5/21/1986 | 13.25\% | 9.18\% | 4.07\% |
| 5/28/1986 | 14.00\% | 9.12\% | 4.88\% |
| 5/29/1986 | 13.90\% | 9.10\% | 4.80\% |
| 6/2/1986 | 13.00\% | 9.08\% | 3.92\% |
| 6/11/1986 | 14.00\% | 8.97\% | 5.03\% |
| 6/13/1986 | 13.55\% | 8.94\% | 4.61\% |
| 6/27/1986 | 11.88\% | 8.77\% | 3.11\% |
| 7/14/1986 | 12.60\% | 8.59\% | 4.01\% |
| 7/30/1986 | 13.30\% | 8.38\% | 4.92\% |
| 8/14/1986 | 13.50\% | 8.22\% | 5.28\% |
| 9/5/1986 | 13.30\% | 8.02\% | 5.28\% |
| 9/23/1986 | 12.75\% | 7.91\% | 4.84\% |
| 10/30/1986 | 13.00\% | 7.67\% | 5.33\% |
| 10/31/1986 | 13.75\% | 7.66\% | 6.09\% |
| 11/10/1986 | 14.00\% | 7.61\% | 6.39\% |
| 11/19/1986 | 13.75\% | 7.56\% | 6.19\% |
| 11/25/1986 | 13.15\% | 7.54\% | 5.61\% |
| 12/22/1986 | 13.80\% | 7.47\% | 6.33\% |
| 12/30/1986 | 13.90\% | 7.47\% | 6.43\% |
| 1/20/1987 | 12.75\% | 7.47\% | 5.28\% |
| 1/23/1987 | 13.55\% | 7.47\% | 6.08\% |
| 1/27/1987 | 12.16\% | 7.47\% | 4.69\% |
| 2/13/1987 | 12.60\% | 7.47\% | 5.13\% |
| 2/24/1987 | 12.00\% | 7.47\% | 4.53\% |
| 3/30/1987 | 12.20\% | 7.46\% | 4.74\% |
| 3/31/1987 | 13.00\% | 7.47\% | 5.53\% |
| 5/5/1987 | 12.85\% | 7.60\% | 5.25\% |
| 5/28/1987 | 13.50\% | 7.73\% | 5.77\% |
| 6/15/1987 | 13.20\% | 7.80\% | 5.40\% |
| 6/30/1987 | 12.60\% | 7.85\% | 4.75\% |
| 7/10/1987 | 12.90\% | 7.88\% | 5.02\% |
| 7/27/1987 | 13.50\% | 7.93\% | 5.57\% |
| 8/25/1987 | 11.40\% | 8.09\% | 3.31\% |
| 9/18/1987 | 13.00\% | 8.27\% | 4.73\% |
| 10/20/1987 | 12.60\% | 8.55\% | 4.05\% |
| 10/20/1987 | 12.98\% | 8.55\% | 4.43\% |
| 11/12/1987 | 12.75\% | 8.68\% | 4.07\% |
| 11/13/1987 | 12.75\% | 8.68\% | 4.07\% |
| 11/24/1987 | 12.50\% | 8.73\% | 3.77\% |
| 12/8/1987 | 12.50\% | 8.81\% | 3.69\% |
| 12/22/1987 | 12.00\% | 8.90\% | 3.10\% |
| 12/31/1987 | 12.85\% | 8.94\% | 3.91\% |
| 12/31/1987 | 13.25\% | 8.94\% | 4.31\% |
| 1/15/1988 | 13.15\% | 8.99\% | 4.16\% |
| 1/20/1988 | 12.75\% | 8.99\% | 3.76\% |
| 1/29/1988 | 13.20\% | 8.99\% | 4.21\% |
| 2/4/1988 | 12.60\% | 8.99\% | 3.61\% |
| 3/23/1988 | 13.00\% | 8.95\% | 4.05\% |
| 5/27/1988 | 13.18\% | 9.02\% | 4.16\% |


| [6] | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
| ate of |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 6/14/1988 | 13.50\% | 9.00\% | 4.50\% |
| 6/17/1988 | 11.72\% | 8.99\% | 2.73\% |
| 6/24/1988 | 11.50\% | 8.97\% | 2.53\% |
| 7/1/1988 | 12.75\% | 8.95\% | 3.80\% |
| 7/8/1988 | 12.00\% | 8.93\% | 3.07\% |
| 7/18/1988 | 12.00\% | 8.91\% | 3.09\% |
| 7/20/1988 | 13.40\% | 8.90\% | 4.50\% |
| 8/8/1988 | 12.74\% | 8.90\% | 3.84\% |
| 9/20/1988 | 12.90\% | 8.93\% | 3.97\% |
| 9/26/1988 | 12.40\% | 8.93\% | 3.47\% |
| 9/27/1988 | 13.65\% | 8.93\% | 4.72\% |
| 9/30/1988 | 13.25\% | 8.94\% | 4.31\% |
| 10/13/1988 | 13.10\% | 8.93\% | 4.17\% |
| 10/21/1988 | 12.80\% | 8.94\% | 3.86\% |
| 10/25/1988 | 13.25\% | 8.94\% | 4.31\% |
| 10/26/1988 | 13.50\% | 8.94\% | 4.56\% |
| 10/27/1988 | 12.95\% | 8.94\% | 4.01\% |
| 10/28/1988 | 13.00\% | 8.95\% | 4.05\% |
| 11/15/1988 | 12.00\% | 8.98\% | 3.02\% |
| 11/29/1988 | 12.75\% | 9.01\% | 3.74\% |
| 12/19/1988 | 13.00\% | 9.05\% | 3.95\% |
| 12/21/1988 | 12.90\% | 9.05\% | 3.85\% |
| 12/22/1988 | 13.50\% | 9.05\% | 4.45\% |
| 1/26/1989 | 12.60\% | 9.06\% | 3.54\% |
| 1/27/1989 | 13.00\% | 9.06\% | 3.94\% |
| 2/8/1989 | 13.37\% | 9.05\% | 4.32\% |
| 3/8/1989 | 13.00\% | 9.04\% | 3.96\% |
| 5/4/1989 | 13.00\% | 9.04\% | 3.96\% |
| 6/8/1989 | 13.50\% | 8.96\% | 4.54\% |
| 7/19/1989 | 11.80\% | 8.84\% | 2.96\% |
| 7/25/1989 | 12.80\% | 8.82\% | 3.98\% |
| 7/31/1989 | 13.00\% | 8.81\% | 4.19\% |
| 8/14/1989 | 12.50\% | 8.76\% | 3.74\% |
| 8/22/1989 | 12.80\% | 8.73\% | 4.07\% |
| 8/23/1989 | 12.90\% | 8.72\% | 4.18\% |
| 9/21/1989 | 12.10\% | 8.62\% | 3.48\% |
| 10/6/1989 | 13.00\% | 8.58\% | 4.42\% |
| 10/17/1989 | 12.41\% | 8.54\% | 3.87\% |
| 10/18/1989 | 13.25\% | 8.54\% | 4.71\% |
| 10/20/1989 | 12.90\% | 8.53\% | 4.37\% |
| 10/31/1989 | 13.60\% | 8.50\% | 5.10\% |
| 11/3/1989 | 12.93\% | 8.48\% | 4.45\% |
| 11/5/1989 | 13.20\% | 8.48\% | 4.72\% |
| 11/9/1989 | 12.60\% | 8.45\% | 4.15\% |
| 11/9/1989 | 13.00\% | 8.45\% | 4.55\% |
| 11/28/1989 | 12.75\% | 8.37\% | 4.38\% |
| 12/7/1989 | 13.25\% | 8.32\% | 4.93\% |
| 12/15/1989 | 13.00\% | 8.28\% | 4.72\% |
| 12/20/1989 | 12.90\% | 8.26\% | 4.64\% |
| 12/21/1989 | 12.80\% | 8.25\% | 4.55\% |
| 12/21/1989 | 12.90\% | 8.25\% | 4.65\% |
| 12/27/1989 | 12.50\% | 8.23\% | 4.27\% |
| 1/9/1990 | 13.00\% | 8.19\% | 4.81\% |
| 1/18/9990 | 12.50\% | 8.16\% | 4.34\% |
| 1/26/1990 | 12.10\% | 8.14\% | 3.96\% |
| 3/21/1990 | 12.80\% | 8.15\% | 4.65\% |
| 3/28/1990 | 13.00\% | 8.16\% | 4.84\% |
| 4/5/1990 | 12.20\% | 8.17\% | 4.03\% |
| 4/12/1990 | 13.25\% | 8.19\% | 5.06\% |
| 4/30/1990 | 12.45\% | 8.24\% | 4.21\% |
| 5/31/1990 | 12.40\% | 8.31\% | 4.09\% |
| 6/15/1990 | 13.20\% | 8.33\% | 4.87\% |
| 6/27/1990 | 12.90\% | 8.34\% | 4.56\% |
| 6/29/1990 | 13.25\% | 8.35\% | 4.90\% |
| 7/6/1990 | 12.10\% | 8.36\% | 3.74\% |
| 7/19/1990 | 11.70\% | 8.38\% | 3.32\% |
| 8/31/1990 | 12.50\% | 8.53\% | 3.97\% |
| 8/31/1990 | 12.50\% | 8.53\% | 3.97\% |
| 9/13/1990 | 12.50\% | 8.58\% | 3.92\% |
| 9/18/1990 | 12.75\% | 8.60\% | 4.15\% |
| 9/20/1990 | 12.50\% | 8.61\% | 3.89\% |
| 10/2/1990 | 13.00\% | 8.65\% | 4.35\% |
| 10/17/1990 | 11.90\% | 8.68\% | 3.22\% |
| 10/31/1990 | 12.95\% | 8.70\% | 4.25\% |
| 11/9/1990 | 13.25\% | 8.70\% | 4.55\% |
| 11/19/1990 | 13.00\% | 8.70\% | 4.30\% |
| 11/21/1990 | 12.10\% | 8.70\% | 3.40\% |
| 11/21/1990 | 12.50\% | 8.70\% | 3.80\% |
| 11/28/1990 | 12.75\% | 8.70\% | 4.05\% |
| 11/29/1990 | 12.75\% | 8.70\% | 4.05\% |
| 12/18/1990 | 13.10\% | 8.68\% | 4.42\% |
| 12/20/1990 | 12.50\% | 8.67\% | 3.83\% |
| 12/21/1990 | 12.50\% | 8.67\% | 3.83\% |
| 12/21/1990 | 13.00\% | 8.67\% | 4.33\% |
| 12/21/1990 | 13.60\% | 8.67\% | 4.93\% |
| 1/3/1991 | 13.02\% | 8.66\% | 4.36\% |


| [6] <br> Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural | Return on Equity | 30-Year | Risk |
| Gas Rate |  | Treasury |  |
| Case |  | Yield | Premium |
| 1/16/1991 | 13.25\% | 8.63\% | 4.62\% |
| 1/25/1991 | 11.70\% | 8.61\% | 3.09\% |
| 2/15/1991 | 12.70\% | 8.56\% | 4.14\% |
| 2/15/1991 | 12.80\% | 8.56\% | 4.24\% |
| 4/3/1991 | 13.00\% | 8.51\% | 4.49\% |
| 4/30/1991 | 12.45\% | 8.48\% | 3.97\% |
| 4/30/1991 | 13.00\% | 8.48\% | 4.52\% |
| 6/25/1991 | 11.70\% | 8.34\% | 3.36\% |
| 6/28/1991 | 12.50\% | 8.34\% | 4.16\% |
| 7/1/1991 | 11.70\% | 8.34\% | 3.36\% |
| 7/19/1991 | 12.10\% | 8.31\% | 3.79\% |
| 7/19/1991 | 12.30\% | 8.31\% | 3.99\% |
| 7/22/1991 | 12.90\% | 8.30\% | 4.60\% |
| 8/15/1991 | 12.25\% | 8.28\% | 3.97\% |
| 8/29/1991 | 13.30\% | 8.26\% | 5.04\% |
| 9/27/1991 | 12.50\% | 8.23\% | 4.27\% |
| 9/30/1991 | 12.40\% | 8.23\% | 4.17\% |
| 10/3/1991 | 11.30\% | 8.22\% | 3.08\% |
| 10/9/1991 | 11.70\% | 8.21\% | 3.49\% |
| 10/15/1991 | 13.40\% | 8.20\% | 5.20\% |
| 11/1/1991 | 12.90\% | 8.20\% | 4.70\% |
| 11/8/1991 | 12.75\% | 8.20\% | 4.55\% |
| 11/26/1991 | 11.60\% | 8.18\% | 3.42\% |
| 11/26/1991 | 12.00\% | 8.18\% | 3.82\% |
| 11/27/1991 | 12.70\% | 8.18\% | 4.52\% |
| 12/6/1991 | 12.70\% | 8.16\% | 4.54\% |
| 12/10/1991 | 11.75\% | 8.15\% | 3.60\% |
| 12/19/1991 | 12.60\% | 8.14\% | 4.46\% |
| 12/19/1991 | 12.80\% | 8.14\% | 4.66\% |
| 12/30/1991 | 12.10\% | 8.11\% | 3.99\% |
| 1/22/1992 | 12.84\% | 8.05\% | 4.79\% |
| 1/31/1992 | 12.00\% | 8.03\% | 3.97\% |
| 2/20/1992 | 13.00\% | 8.00\% | 5.00\% |
| 2/27/1992 | 11.75\% | 7.98\% | 3.77\% |
| 3/18/1992 | 12.50\% | 7.94\% | 4.56\% |
| 5/15/1992 | 12.75\% | 7.86\% | 4.89\% |
| 6/24/1992 | 12.20\% | 7.85\% | 4.35\% |
| 6/29/1992 | 11.00\% | 7.85\% | 3.15\% |
| 7/14/1992 | 12.00\% | 7.83\% | 4.17\% |
| 7/22/1992 | 11.20\% | 7.82\% | 3.38\% |
| 8/10/1992 | 12.10\% | 7.79\% | 4.31\% |
| 8/26/1992 | 12.43\% | 7.75\% | 4.68\% |
| 9/30/1992 | 11.60\% | 7.72\% | 3.88\% |
| 10/6/1992 | 12.25\% | 7.72\% | 4.53\% |
| 10/13/1992 | 12.75\% | 7.71\% | 5.04\% |
| 10/23/1992 | 11.65\% | 7.71\% | 3.94\% |
| 10/28/1992 | 12.25\% | 7.7\%\% | 4.54\% |
| 10/29/1992 | 12.75\% | 7.70\% | 5.05\% |
| 10/30/1992 | 11.40\% | 7.70\% | 3.70\% |
| 11/9/4992 | 10.60\% | 7.70\% | 2.90\% |
| 11/25/1992 | 11.00\% | 7.68\% | 3.32\% |
| 11/25/1992 | 12.00\% | 7.68\% | 4.32\% |
| 12/3/1992 | 11.85\% | 7.66\% | 4.19\% |
| 12/16/1992 | 11.90\% | 7.64\% | 4.26\% |
| 12/22/1992 | 12.30\% | 7.62\% | 4.68\% |
| 12/22/1992 | 12.40\% | 7.62\% | 4.78\% |
| 12/30/1992 | 12.00\% | 7.61\% | 4.39\% |
| 12/31/1992 | 12.00\% | 7.61\% | 4.39\% |
| 1/12/1993 | 12.00\% | 7.59\% | 4.41\% |
| 1/12/1993 | 12.00\% | 7.59\% | 4.41\% |
| 2/2/1993 | 11.40\% | 7.53\% | 3.87\% |
| 2/22/1993 | 11.60\% | 7.48\% | 4.12\% |
| 4/23/1993 | 11.75\% | 7.27\% | 4.48\% |
| 5/3/1993 | 11.50\% | 7.25\% | 4.25\% |
| 5/3/1993 | 11.75\% | 7.25\% | 4.50\% |
| 6/3/1993 | 12.00\% | 7.20\% | 4.80\% |
| 67/71993 | 11.50\% | 7.20\% | 4.30\% |
| 6/22/1993 | 11.75\% | 7.16\% | 4.59\% |
| 7/21/1993 | 11.78\% | 7.06\% | 4.72\% |
| 7/21/1993 | 11.90\% | 7.06\% | 4.84\% |
| 7/23/1993 | 11.50\% | 7.05\% | 4.45\% |
| 7/29/1993 | 11.50\% | 7.03\% | 4.47\% |
| 8/12/1993 | 10.75\% | 6.97\% | 3.78\% |
| 8/24/1993 | 11.50\% | 6.92\% | 4.58\% |
| 8/31/1993 | 11.90\% | 6.88\% | 5.02\% |
| 9/1/1993 | 11.25\% | 6.87\% | 4.38\% |
| 9/1/1993 | 11.47\% | 6.87\% | 4.60\% |
| 9/27/1993 | 10.50\% | 6.74\% | 3.76\% |
| 9/29/1993 | 11.00\% | 6.72\% | 4.28\% |
| 9/30/1993 | 11.60\% | 6.72\% | 4.88\% |
| 10/8/1993 | 11.50\% | 6.67\% | 4.83\% |
| 10/14/1993 | 11.20\% | 6.65\% | 4.55\% |
| 10/15/1993 | 11.75\% | 6.64\% | 5.11\% |
| 10/25/1993 | 11.55\% | 6.60\% | 4.95\% |
| 10/28/1993 | 11.50\% | 6.58\% | 4.92\% |
| 10/29/1993 | 10.10\% | 6.57\% | 3.53\% |


| [6] Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 10/29/1993 | 10.20\% | 6.57\% | 3.63\% |
| 10/29/1993 | 11.25\% | 6.57\% | 4.68\% |
| 11/2/4993 | 10.80\% | 6.56\% | 4.24\% |
| 11/12/1993 | 11.80\% | 6.53\% | 5.27\% |
| 11/23/1993 | 12.50\% | 6.51\% | 5.99\% |
| 11/26/1993 | 11.00\% | 6.50\% | 4.50\% |
| 12/1/1993 | 11.45\% | 6.49\% | 4.96\% |
| 12/16/1993 | 10.60\% | 6.45\% | 4.15\% |
| 12/16/1993 | 11.20\% | 6.45\% | 4.75\% |
| 12/21/1993 | 11.30\% | 6.44\% | 4.86\% |
| 12/22/1993 | 11.00\% | 6.44\% | 4.56\% |
| 12/23/1993 | 10.10\% | 6.44\% | 3.66\% |
| 1/5/1994 | 11.50\% | 6.41\% | 5.09\% |
| 1/10/1994 | 11.00\% | 6.40\% | 4.60\% |
| 1/25/1994 | 12.00\% | 6.37\% | 5.63\% |
| 2/2/1994 | 10.40\% | 6.35\% | 4.05\% |
| 2/9/1994 | 10.70\% | 6.34\% | 4.36\% |
| 4/6/1994 | 11.24\% | 6.35\% | 4.89\% |
| 4/25/1994 | 11.00\% | 6.39\% | 4.61\% |
| 6/16/1994 | 10.50\% | 6.63\% | 3.87\% |
| 6/23/1994 | 10.60\% | 6.67\% | 3.93\% |
| 7/19/1994 | 10.70\% | 6.83\% | 3.87\% |
| 9/29/1994 | 10.90\% | 7.20\% | 3.70\% |
| 9/29/1994 | 11.00\% | 7.20\% | 3.80\% |
| 10/7/1994 | 11.87\% | 7.26\% | 4.61\% |
| 10/18/1994 | 11.50\% | 7.32\% | 4.18\% |
| 10/18/1994 | 11.50\% | 7.32\% | 4.18\% |
| 10/24/1994 | 11.00\% | 7.35\% | 3.65\% |
| 11/22/1994 | 12.12\% | 7.52\% | 4.60\% |
| 11/29/1994 | 11.30\% | 7.55\% | 3.75\% |
| 12/1/1994 | 11.00\% | 7.56\% | 3.44\% |
| 12/8/1994 | 11.50\% | 7.59\% | 3.91\% |
| 12/8/1994 | 11.70\% | 7.59\% | 4.11\% |
| 12/12/1994 | 11.82\% | 7.60\% | 4.22\% |
| 12/14/1994 | 11.50\% | 7.61\% | 3.89\% |
| 12/19/1994 | 11.50\% | 7.62\% | 3.88\% |
| 4/19/1995 | 11.00\% | 7.72\% | 3.28\% |
| 9/11/1995 | 11.30\% | 7.16\% | 4.14\% |
| 9/15/1995 | 10.40\% | 7.13\% | 3.27\% |
| 9/29/1995 | 11.50\% | 7.06\% | 4.44\% |
| 10/13/1995 | 10.76\% | 6.98\% | 3.78\% |
| 11/7/1995 | 12.50\% | 6.86\% | 5.64\% |
| 11/8/1995 | 11.10\% | 6.85\% | 4.25\% |
| 11/8/1995 | 11.30\% | 6.85\% | 4.45\% |
| 11/17/1995 | 10.90\% | 6.81\% | 4.09\% |
| 11/20/1995 | 11.40\% | 6.80\% | 4.60\% |
| 11/27/1995 | 13.60\% | 6.77\% | 6.83\% |
| 12/14/1995 | 11.30\% | 6.68\% | 4.62\% |
| 12/20/1995 | 11.60\% | 6.65\% | 4.95\% |
| 1/31/1996 | 11.30\% | 6.45\% | 4.85\% |
| 3/11/1996 | 11.60\% | 5.40\% | 5.20\% |
| 4/3/1996 | 11.13\% | 6.41\% | 4.72\% |
| 4/15/1996 | 10.50\% | 6.41\% | 4.09\% |
| 4/17/1996 | 10.77\% | 6.40\% | 4.37\% |
| 4/26/1996 | 10.60\% | 6.40\% | 4.20\% |
| 5/10/1996 | 11.00\% | 6.40\% | 4.60\% |
| 5/13/1996 | 11.25\% | 6.41\% | 4.84\% |
| 7/3/1996 | 11.25\% | 6.49\% | 4.76\% |
| 7/22/1996 | 11.25\% | 6.54\% | 4.71\% |
| 10/3/1996 | 10.00\% | 6.77\% | 3.23\% |
| 10/29/1996 | 11.30\% | 6.84\% | 4.46\% |
| 11/26/1996 | 11.30\% | 6.86\% | 4.44\% |
| 11/27/1996 | 11.30\% | 6.86\% | 4.44\% |
| 11/29/1996 | 11.00\% | 6.86\% | 4.14\% |
| 12/12/1996 | 11.96\% | 6.85\% | 5.11\% |
| 12/17/1996 | 11.50\% | 6.85\% | 4.65\% |
| 1/22/1997 | 11.30\% | 6.83\% | 4.47\% |
| 1/27/1997 | 11.25\% | 6.83\% | 4.42\% |
| 1/31/1997 | 11.25\% | 6.83\% | 4.42\% |
| 2/13/1997 | 11.00\% | 6.82\% | 4.18\% |
| 2/13/1997 | 11.80\% | 6.82\% | 4.98\% |
| 2/20/1997 | 11.80\% | $6.81 \%$ | 4.99\% |
| 3/27/1997 | 10.75\% | 6.79\% | 3.96\% |
| 4/29/1997 | 11.70\% | 6.81\% | 4.89\% |
| 7/17/1997 | 12.00\% | 6.77\% | 5.23\% |
| 10/29/1997 | 10.75\% | 6.70\% | 4.05\% |
| 10/31/1997 | 11.25\% | 6.70\% | 4.55\% |
| 12/24/1997 | 10.75\% | 6.53\% | 4.22\% |
| 4/28/1998 | 10.90\% | 6.11\% | 4.79\% |
| 4/30/1998 | 12.20\% | 6.10\% | 6.10\% |
| 6/30/1998 | 11.00\% | 5.94\% | 5.06\% |
| 8/26/1998 | 10.93\% | 5.82\% | 5.11\% |
| 9/3/1998 | 11.40\% | 5.80\% | 5.60\% |
| 9/15/1998 | 11.90\% | 5.77\% | 6.13\% |
| 10/7/1998 | 11.06\% | 5.70\% | 5.36\% |
| 10/30/1998 | 11.40\% | 5.63\% | 5.77\% |


| [6] Date of | [7] | [8] | [9], |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 12/10/1998 | 12.20\% | 5.52\% | 6.68\% |
| 12/17/1998 | 12.10\% | 5.49\% | 6.61\% |
| 2/19/1999 | 11.15\% | 5.32\% | 5.83\% |
| 3/1/1999 | 10.65\% | $5.31 \%$ | 5.34\% |
| 3/1/1999 | 10.65\% | 5.31\% | 5.34\% |
| 6/8/1999 | 11.25\% | 5.35\% | 5.90\% |
| 11/12/1999 | 10.25\% | 5.92\% | 4.33\% |
| 12/14/1999 | 10.50\% | 5.99\% | 4.51\% |
| 1/28/2000 | 10.71\% | 6.16\% | 4.55\% |
| 2/17/2000 | 10.60\% | 6.20\% | 4.40\% |
| 5/25/2000 | 10.80\% | 6.19\% | 4.61\% |
| 6/19/2000 | 11.05\% | 6.18\% | 4.87\% |
| 6/22/2000 | 11.25\% | 6.18\% | 5.07\% |
| 7/17/2000 | 11.06\% | 6.15\% | 4.91\% |
| 7/20/2000 | 12.20\% | 6.14\% | 6.06\% |
| 8/11/2000 | 11.00\% | 6.11\% | 4.89\% |
| 9/27/2000 | 11.25\% | 6.00\% | 5.25\% |
| 9/29/2000 | 11.16\% | 6.00\% | 5.16\% |
| 10/5/2000 | 11.30\% | 5.98\% | 5.32\% |
| 11/28/2000 | 12.90\% | 5.87\% | 7.03\% |
| 11/30/2000 | 12.10\% | 5.86\% | 6.24\% |
| 2/5/2001 | 11.50\% | 5.75\% | 5.75\% |
| 3/15/2001 | 11.25\% | 5.66\% | 5.59\% |
| 5/8/2001 | 10.75\% | 5.61\% | 5.14\% |
| 10/24/2001 | 10.30\% | 5.54\% | 4.76\% |
| 10/24/2001 | 11.00\% | 5.54\% | 5.46\% |
| 1/9/2002 | 10.00\% | 5.50\% | 4.50\% |
| 1/30/2002 | 11.00\% | 5.47\% | 5.53\% |
| 1/31/2002 | 11.00\% | 5.47\% | 5.53\% |
| 4/17/2002 | 11.50\% | 5.44\% | 6.06\% |
| 4/29/2002 | 11.00\% | 5.45\% | 5.55\% |
| 6/11/2002 | 11.77\% | 5.48\% | 6.29\% |
| 6/20/2002 | 12.30\% | 5.48\% | 6.82\% |
| 8/28/2002 | 11.00\% | 5.49\% | 5.51\% |
| 9/11/2002 | 11.20\% | 5.45\% | 5.75\% |
| 9/12/2002 | 12.30\% | 5.45\% | 6.85\% |
| 10/28/2002 | 11.30\% | 5.35\% | 5.95\% |
| 10/30/2002 | 10.60\% | 5.34\% | 5.26\% |
| 11/1/2002 | 12.60\% | 5.34\% | 7.26\% |
| 11/7/2002 | 11.40\% | 5.33\% | 6.07\% |
| 11/8/2002 | 10.75\% | 5.33\% | 5.42\% |
| 11/20/2002 | 10.00\% | 5.30\% | 4.70\% |
| 11/20/2002 | 10.50\% | 5.30\% | 5.20\% |
| 12/4/2002 | 10.75\% | 5.27\% | 5.48\% |
| 12/30/2002 | 11.20\% | 5.19\% | 6.01\% |
| 1/6/2003 | 11.25\% | 5.16\% | 6.09\% |
| 2/28/2003 | 12.30\% | 5.01\% | 7.29\% |
| 3/7/2003 | 9.96\% | 4.99\% | 4.97\% |
| 3/12/2003 | 11.40\% | 4.97\% | 6.43\% |
| 3/20/2003 | 12.00\% | 4.95\% | 7.05\% |
| 4/3/2003 | 12.00\% | 4.92\% | 7.08\% |
| 5/2/2003 | 11.40\% | 4.88\% | 6.52\% |
| 5/15/2003 | 11.05\% | 4.87\% | 6.18\% |
| 6/26/2003 | 11.00\% | 4.80\% | 6.20\% |
| 7/1/2003 | 11.00\% | 4.80\% | 6.20\% |
| 7/29/2003 | 11.71\% | 4.78\% | 6.93\% |
| 8/22/2003 | 10.20\% | 4.81\% | 5.39\% |
| 9/17/2003 | 9.90\% | 4.85\% | 5.05\% |
| 9/25/2003 | 10.25\% | 4.85\% | 5.40\% |
| 10/17/2003 | 10.54\% | 4.87\% | 5.67\% |
| 10/22/2003 | 10.46\% | 4.87\% | 5.59\% |
| 10/22/2003 | 10.71\% | 4.87\% | 5.84\% |
| 10/30/2003 | 11.00\% | 4.88\% | 6.12\% |
| 10/31/2003 | 10.20\% | 4.88\% | 5.32\% |
| 10/31/2003 | 10.75\% | 4.88\% | 5.87\% |
| 11/10/2003 | 10.60\% | 4.89\% | 5.71\% |
| 12/9/2003 | 10.50\% | 4.93\% | 5.57\% |
| 12/18/2003 | 10.50\% | 4.94\% | 5.56\% |
| 12/19/2003 | 12.00\% | 4.94\% | 7.06\% |
| 12/19/2003 | 12.00\% | 4.94\% | 7.06\% |
| 1/13/2004 | 10.25\% | 4.95\% | 5.30\% |
| 1/13/2004 | 12.00\% | 4.95\% | 7.05\% |
| 2/9/2004 | 11.25\% | 4.98\% | 6.27\% |
| 3/16/2004 | 10.90\% | 5.05\% | 5.85\% |
| 3/16/2004 | 10.90\% | 5.05\% | 5.85\% |
| 5/25/2004 | 10.00\% | 5.06\% | 4.94\% |
| 6/2/2004 | 11.22\% | 5.07\% | 6.15\% |
| 6/30/2004 | 10.50\% | 5.10\% | 5.40\% |
| 7/8/2004 | 10.00\% | 5.10\% | 4.90\% |
| 7/22/2004 | 10.25\% | 5.10\% | 5.15\% |
| 8/26/2004 | 10.50\% | 5.10\% | 5.40\% |
| 8/26/2004 | 10.50\% | 5.10\% | 5.40\% |
| 9/9/2004 | 10.40\% | 5.10\% | 5.30\% |
| 9/21/2004 | 10.50\% | 5.09\% | 5.41\% |
| 9/27/2004 | 10.30\% | 5.09\% | 5.21\% |
| 9/27/2004 | 10.50\% | 5.09\% | 5.41\% |


| [6] Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 10/20/2004 | 10.20\% | 5.08\% | 5.12\% |
| 11/30/2004 | 10.60\% | 5.08\% | 5.52\% |
| 12/8/2004 | 9.90\% | 5.09\% | 4.81\% |
| 12/21/2004 | 11.50\% | 5.09\% | 6.41\% |
| 12/22/2004 | 11.50\% | 5.09\% | 6.41\% |
| 12/28/2004 | 10.25\% | 5.09\% | 5.16\% |
| 2/18/2005 | 10.30\% | 4.95\% | 5.35\% |
| 3/29/2005 | 11.00\% | 4.86\% | 6.14\% |
| 4/13/2005 | 10.60\% | 4.84\% | 5.76\% |
| 4/28/2005 | 11.00\% | 4.80\% | 6.20\% |
| 5/17/2005 | 10.00\% | 4.77\% | 5.23\% |
| 6/8/2005 | 10.18\% | 4.71\% | 5.47\% |
| 6/10/2005 | 10.90\% | 4.71\% | 6.19\% |
| 7/6/2005 | 10.50\% | 4.65\% | 5.85\% |
| 7/19/2005 | 11.50\% | 4.63\% | 6.87\% |
| 8/11/2005 | 10.40\% | 4.60\% | 5.80\% |
| 9/19/2005 | 9.45\% | 4.53\% | 4.92\% |
| 9/30/2005 | 10.51\% | 4.52\% | 5.99\% |
| 10/4/2005 | 9.90\% | 4.52\% | 5.38\% |
| 10/4/2005 | 10.75\% | 4.52\% | 6.23\% |
| 10/14/2005 | 10.40\% | 4.52\% | 5.88\% |
| 10/31/2005 | 10.25\% | 4.53\% | 5.72\% |
| 11/2/2005 | 9.70\% | 4.53\% | 5.17\% |
| 11/30/2005 | 10.00\% | 4.53\% | 5.47\% |
| 12/9/2005 | 9.70\% | 4.53\% | 5.17\% |
| 12/12/2005 | 11.00\% | 4.53\% | 6.47\% |
| 12/20/2005 | 10.13\% | 4.53\% | 5.60\% |
| 12/21/2005 | 10.40\% | 4.52\% | 5.88\% |
| 12/21/2005 | 11.00\% | 4.52\% | 6.48\% |
| 12/22/2005 | 10.20\% | 4.52\% | 5.68\% |
| 12/22/2005 | 11.00\% | 4.52\% | 6.48\% |
| 12/28/2005 | 10.00\% | 4.52\% | 5.48\% |
| 1/5/2006 | 11.00\% | 4.52\% | 6.48\% |
| 1/25/2006 | 11.20\% | 4.52\% | 6.68\% |
| 1/25/2006 | 11.20\% | 4.52\% | 6.68\% |
| 2/3/2006 | 10.50\% | 4.52\% | 5.98\% |
| 2/15/2006 | 9.50\% | 4.53\% | 4.97\% |
| 4/26/2006 | 10.60\% | 4.65\% | 5.95\% |
| 7/24/2006 | 9.60\% | 4.87\% | 4.73\% |
| 7/24/2006 | 10.00\% | 4.87\% | 5.13\% |
| 9/20/2006 | 11.00\% | 4.93\% | 6.07\% |
| 9/26/2006 | 10.75\% | 4.93\% | 5.82\% |
| 10/20/2006 | 9.80\% | 4.96\% | 4.84\% |
| 11/2/2006 | 9.71\% | 4.97\% | 4.74\% |
| 11/9/2006 | 10.00\% | 4.97\% | 5.03\% |
| 11/21/2006 | 11.00\% | 4.98\% | 6.02\% |
| 12/5/2006 | 10.20\% | 4.97\% | 5.23\% |
| 1/5/2007 | 10.40\% | 4.95\% | 5.45\% |
| 1/9/2007 | 11.00\% | 4.94\% | 6.06\% |
| 1/11/2007 | 10.90\% | 4.94\% | 5.96\% |
| 1/19/2007 | 10.80\% | 4.93\% | 5.87\% |
| 1/26/2007 | 10.00\% | 4.92\% | 5.08\% |
| 2/8/2007 | 10.40\% | 4.91\% | 5.49\% |
| 3/14/2007 | 10.10\% | 4.86\% | 5.24\% |
| 3/20/2007 | 10.25\% | 4.84\% | 5.41\% |
| 3/21/2007 | 11.35\% | 4.84\% | 6.51\% |
| 3/22/2007 | 10.50\% | 4.84\% | 5.66\% |
| 3/29/2007 | 10.00\% | 4.83\% | 5.17\% |
| 6/13/2007 | 10.75\% | 4.81\% | 5.94\% |
| 6/29/2007 | 9.53\% | 4.84\% | 4.69\% |
| 6/29/2007 | 10.10\% | 4.84\% | 5.26\% |
| 7/3/2007 | 10.25\% | 4.85\% | 5.40\% |
| 7/13/2007 | 9.50\% | 4.86\% | 4.64\% |
| 7/24/2007 | 10.40\% | 4.87\% | 5.53\% |
| 8/1/2007 | 10.15\% | 4.88\% | 5.27\% |
| 8/29/2007 | 10.50\% | 4.91\% | 5.59\% |
| 9/10/2007 | 9.71\% | 4.91\% | 4.80\% |
| 9/19/2007 | 10.00\% | 4.91\% | 5.09\% |
| 9/25/2007 | 9.70\% | 4.92\% | 4.78\% |
| 10/8/2007 | 10.48\% | 4.92\% | 5.56\% |
| 10/19/2007 | 10.50\% | 4.91\% | 5.59\% |
| 10/25/2007 | 9.65\% | 4.91\% | 4.74\% |
| 11/15/2007 | 10.00\% | 4.89\% | 5.11\% |
| 11/20/2007 | 9.90\% | 4.89\% | 5.01\% |
| 11/27/2007 | 10.00\% | 4.88\% | 5.12\% |
| 11/29/2007 | 10.90\% | 4.88\% | 6.02\% |
| 12/14/2007 | 10.80\% | 4.87\% | 5.93\% |
| 12/18/2007 | 10.40\% | 4.86\% | 5.54\% |
| 12/19/2007 | 9.80\% | 4.86\% | 4.94\% |
| 12/19/2007 | 9.80\% | 4.86\% | 4.94\% |
| 12/19/2007 | 10.20\% | 4.86\% | 5.34\% |
| 12/21/2007 | 9.10\% | 4.86\% | 4.24\% |
| 1/8/2008 | 10.75\% | 4.83\% | 5.92\% |
| 1/17/2008 | 10.75\% | 4.81\% | 5.94\% |
| 1/17/2008 | 10.75\% | 4.81\% | 5.94\% |
| 2/5/2008 | 9.99\% | 4.78\% | 5.21\% |


| [6] <br> Date of | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Natural |  | 30-Year |  |
| Gas Rate | Return on | Treasury | Risk |
| Case | Equity | Yield | Premium |
| 2/5/2008 | 10.19\% | 4.78\% | 5.41\% |
| 2/13/2008 | 10.20\% | 4.76\% | 5.44\% |
| 3/31/2008 | 10.00\% | 4.63\% | 5.37\% |
| 5/28/2008 | 10.50\% | 4.53\% | 5.97\% |
| 6/24/2008 | 10.00\% | 4.52\% | 5.48\% |
| 6/27/2008 | 10.00\% | 4.52\% | 5.48\% |
| 7/31/2008 | 10.70\% | 4.50\% | 6.20\% |
| 7/31/2008 | 10.82\% | 4.50\% | 6.32\% |
| 8/27/2008 | 10.25\% | 4.50\% | 5.75\% |
| 9/2/2008 | 10.25\% | 4.50\% | 5.75\% |
| 9/19/2008 | 10.70\% | 4.48\% | 6.22\% |
| 9/24/2008 | 10.68\% | 4.48\% | 6.20\% |
| 9/24/2008 | 10.68\% | 4.48\% | 6.20\% |
| 9/24/2008 | 10.68\% | 4.48\% | 6.20\% |
| 9/30/2008 | 10.20\% | 4.48\% | 5.72\% |
| 10/3/2008 | 10.30\% | 4.48\% | 5.82\% |
| 10/8/2008 | 10.15\% | 4.47\% | 5.68\% |
| 10/20/2008 | 10.06\% | 4.47\% | 5.59\% |
| 10/24/2008 | 10.60\% | 4.46\% | 6.14\% |
| 10/24/2008 | 10.60\% | 4.46\% | 6.14\% |
| 11/21/2008 | 10.50\% | 4.42\% | 6.08\% |
| 11/21/2008 | 10.50\% | 4.42\% | 6.08\% |
| 11/21/2008 | 10.50\% | 4.42\% | 6.08\% |
| 11/24/2008 | 10.50\% | 4.41\% | 6.09\% |
| 12/3/2008 | 10.39\% | 4.37\% | 6.02\% |
| 12/24/2008 | 10.00\% | 4.26\% | 5.74\% |
| 12/26/2008 | 10.10\% | 4.24\% | 5.86\% |
| 12/29/2008 | 10.20\% | 4.23\% | 5.97\% |
| 1/13/2009 | 10.45\% | 4.14\% | 6.31\% |
| 2/2/2009 | 10.05\% | 4.04\% | 6.01\% |
| 3/9/2009 | 10.30\% | 3.89\% | 6.41\% |
| 3/25/2009 | 10.17\% | 3.84\% | 6.34\% |
| 4/2/2009 | 10.75\% | 3.81\% | 6.94\% |
| 5/5/2009 | 10.75\% | 3.71\% | 7.04\% |
| 5/15/2009 | 10.20\% | 3.70\% | 6.50\% |
| 5/29/2009 | 9.54\% | 3.70\% | 5.84\% |
| 6/3/2009 | 10.10\% | 3.71\% | 6.39\% |
| 6/22/2009 | 10.00\% | 3.73\% | 6.27\% |
| 6/29/2009 | 10.21\% | 3.74\% | 6.47\% |
| 6/30/2009 | 9.31\% | $3.74 \%$ | 5.57\% |
| 7/17/2009 | 9.26\% | 3.75\% | 5.51\% |
| 7/17/2009 | 10.50\% | 3.75\% | 6.75\% |
| 10/16/2009 | 10.40\% | 4.09\% | 6.31\% |
| 10/26/2009 | 10.10\% | 4.11\% | 5.99\% |
| 10/28/2009 | 10.15\% | 4.12\% | 6.03\% |
| 10/28/2009 | 10.15\% | 4.12\% | 6.03\% |
| 10/30/2009 | 9.95\% | 4.12\% | 5.83\% |
| 11/20/2009 | 9.45\% | 4.18\% | 5.27\% |
| 12/14/2009 | 10.50\% | 4.24\% | 6.26\% |
| 12/16/2009 | 10.75\% | 4.25\% | 6.50\% |
| 12/17/2009 | 10.30\% | 4.26\% | 6.04\% |
| 12/18/2009 | 10.40\% | 4.26\% | 6.14\% |
| 12/18/2009 | 10.40\% | 4.26\% | 6.14\% |
| 12/18/2009 | 10.50\% | 4.26\% | 6.24\% |
| 12/22/2009 | 10.20\% | 4.27\% | 5.93\% |
| 12/22/2009 | 10.40\% | 4.27\% | 6.13\% |
| 12/28/2009 | 10.85\% | 4.29\% | 6.56\% |
| 12/29/2009 | 10.38\% | 4.30\% | 6.08\% |
| 1/11/2010 | 10.24\% | 4.34\% | 5.90\% |
| 1/21/2010 | 10.23\% | 4.37\% | 5.86\% |
| 4/21/2010 | 10.33\% | 4.37\% | 5.96\% |
| 1/26/2010 | 10.40\% | 4.37\% | 6.03\% |
| 2/10/2010 | 10.00\% | 4.39\% | 5.61\% |
| 2/23/2010 | 10.50\% | 4.40\% | 6.10\% |
| 3/9/2010 | 9.60\% | 4.40\% | 5.20\% |
| 3/24/2010 | 10.13\% | 4.42\% | 5.71\% |
| 3/31/2010 | 10.70\% | 4.43\% | 6.27\% |
| 4/1/2010 | 9.50\% | 4.43\% | 5.07\% |
| 4/2/2010 | 10.10\% | 4.44\% | 5.66\% |
| 4/8/2010 | 10.35\% | 4.44\% | 5.91\% |
| 4/29/2010 | 9. $19 \%$ | 4.46\% | 4.73\% |
| 4/29/2010 | 9.40\% | 4.46\% | 4.94\% |
| 4/29/2010 | 9.40\% | 4.46\% | 4.94\% |
| 5/17/2010 | 10.55\% | 4.46\% | 6.09\% |
| 5/24/2010 | 10.05\% | 4.46\% | 5.59\% |
| 6/3/2010 | 11.00\% | 4.46\% | 6.54\% |
| 6/16/2010 | 10.00\% | 4.46\% | 5.54\% |
| 6/18/2010 | 10.30\% | 4.46\% | 5.84\% |
| 8/9/2010 | 12.55\% | 4.41\% | 8.14\% |
| 8/17/2010 | 10.10\% | 4.40\% | 5.70\% |
| 9/16/2010 | 9.60\% | 4.31\% | 5.29\% |
| 9/16/2010 | 10.00\% | 4.31\% | 5.69\% |
| 9/16/2010 | 10.00\% | 4.31\% | 5.69\% |
| 9/16/2010 | 10.30\% | 4.31\% | 5.99\% |
| 10/21/2010 | 10.40\% | 4.20\% | 6.20\% |
| 11/2/2010 | 9.75\% | 4.17\% | 5.58\% |


|  | [7] | [8] | [9] |
| :---: | :---: | :---: | :---: |
|  | Return on Equity |  | Risk |
| Date of Natural |  | 30-Year |  |
| Gas Rate Case |  | Treasury |  |
|  |  | Yield | Premium |
| 11/2/2010 | 9.75\% | 4.17\% | 5.58\% |
| 11/3/2010 | 10.75\% | 4.17\% | 6.58\% |
| 11/19/2010 | 10.20\% | 4.15\% | 6.05\% |
| 12/1/2010 | 10.00\% | 4.13\% | 5.87\% |
| 12/6/2010 | 9.56\% | 4.12\% | 5.44\% |
| 12/6/2010 | 10.09\% | 4.12\% | 5.97\% |
| 12/9/2010 | 10.25\% | 4.12\% | 6.13\% |
| 12/14/2010 | 10.33\% | 4.11\% | 6.22\% |
| 12/17/2010 | 10.10\% | 4.11\% | 5.99\% |
| 12/20/2010 | 10.10\% | 4.11\% | 5.99\% |
| 12/23/2010 | 9.92\% | 4.10\% | 5.82\% |
| 1/6/2011 | 10.35\% | 4.09\% | 6.26\% |
| 1/12/2011 | 10.30\% | 4.09\% | 6.21\% |
| 1/13/2011 | 10.30\% | 4.09\% | 6.21\% |
| 3/10/2011 | 10.10\% | 4.16\% | 5.94\% |
| 3/31/2011 | 9.45\% | 4.20\% | 5.25\% |
| 4/18/2011 | 10.05\% | 4.23\% | 5.82\% |
| 4/21/2011 | 10.00\% | 4.24\% | 5.76\% |
| 5/26/2011 | 10.50\% | 4.32\% | 6.18\% |
| 6/21/2011 | 10.00\% | 4.36\% | 5.64\% |
| 6/29/2011 | 8.83\% | 4.38\% | 4.45\% |
| 8/1/2011 | 9.20\% | 4.41\% | 4.79\% |
| 9/1/2011 | 10.10\% | 4.33\% | 5.77\% |
| 11/14/2011 | 9.60\% | 3.93\% | 5.67\% |
| 12/13/2011 | 9.50\% | 3.76\% | 5.74\% |
| 12/20/2011 | 10.00\% | 3.72\% | 6.28\% |
| 12/22/2011 | 10.40\% | 3.70\% | 6.70\% |
| 1/10/2012 | 9.06\% | 3.59\% | 5.47\% |
| 1/10/2012 | 9.45\% | 3.59\% | 5.86\% |
| 1/10/2012 | 9.45\% | 3.59\% | 5.86\% |
| 1/23/2012 | 10.20\% | 3.53\% | 6.67\% |
| 1/31/2012 | 10.00\% | 3.49\% | 6.51\% |
| 4/24/2012 | 9.50\% | 3.16\% | 6.34\% |
| 4/24/2012 | 9.75\% | 3.16\% | 6.59\% |
| 5/7/2012 | 9.80\% | 3.13\% | 6.67\% |
| 5/22/2012 | 9.60\% | 3.10\% | 6.50\% |
| 5/24/2012 | 9.70\% | 3.09\% | 6.61\% |
| 6/7/2012 | 10.30\% | 3.06\% | 7.24\% |
| 6/15/2012 | 10.40\% | 3.05\% | 7.35\% |
| 6/18/2012 | 9.60\% | 3.05\% | 6.55\% |
| 7/2/2012 | 9.75\% | 3.04\% | 6.71\% |
| 10/24/2012 | 10.30\% | 2.92\% | 7.38\% |
| 10/26/2012 | 9.50\% | 2.92\% | 6.58\% |
| 10/31/2012 | 9.30\% | 2.92\% | 6.38\% |
| 10/31/2012 | 9.90\% | 2.92\% | 6.98\% |
| 10/31/2012 | 10.00\% | 2.92\% | 7.08\% |
| 11/1/2012 | 9.45\% | 2.92\% | 6.53\% |
| 11/8/2012 | 10.10\% | 2.91\% | 7.19\% |
| 11/9/2012 | 10.30\% | 2.91\% | 7.39\% |
| 11/26/2012 | 10.00\% | 2.89\% | 7.11\% |
| 11/28/2012 | 10.40\% | 2.88\% | 7.52\% |
| 11/28/2012 | 10.50\% | 2.88\% | 7.62\% |
| 12/4/2012 | 10.00\% | 2.87\% | 7.13\% |
| 12/4/2012 | 10.50\% | 2.87\% | 7.63\% |
| 12/14/2012 | 10.40\% | 2.85\% | 7.55\% |
| 12/20/2012 | 9.50\% | 2.84\% | 6.66\% |
| 12/20/2012 | 10.10\% | 2.84\% | 7.26\% |
| 12/20/2012 | 10.25\% | 2.84\% | 7.41\% |
| 12/20/2012 | 10.30\% | 2.84\% | 7.46\% |
| 12/20/2012 | 10.40\% | 2.84\% | 7.56\% |
| 12/20/2012 | 10.50\% | 2.84\% | 7.66\% |
| 12/26/2012 | 9.80\% | 2.83\% | 6.97\% |
| 2/22/2013 | 9.60\% | 2.86\% | 6.74\% |
| 3/14/2013 | 9.30\% | 2.89\% | 6.41\% |
| 3/27/2013 | 9.80\% | 2.91\% | 6.89\% |
| 4/23/2013 | 9.80\% | 2.95\% | 6.85\% |
| 5/10/2013 | 9.25\% | 2.96\% | 6.29\% |
| 6/13/2013 | 9.40\% | 3.01\% | 6.39\% |
| 6/18/2013 | 9.28\% | 3.02\% | 6.26\% |
| 6/18/2013 | 9.28\% | 3.02\% | 6.26\% |
| 6/25/2013 | 9.80\% | 3.04\% | 6.76\% |
| 9/23/2013 | 9.60\% | 3.33\% | 6.27\% |
| 11/6/2013 | 10.20\% | 3.42\% | 6.78\% |
| 11/13/2013 | 9.84\% | 3.44\% | 6.40\% |
| 11/14/2013 | 10.25\% | 3.44\% | 6.81\% |
| 11/22/2013 | 9.50\% | 3.47\% | 6.03\% |
| 12/5/2013 | 10.20\% | 3.49\% | 6.71\% |
| 12/13/2013 | 9.60\% | 3.52\% | 6.08\% |
| 12/16/2013 | 9.70\% | 3.52\% | 6.18\% |
| 12/17/2013 | 10.00\% | 3.53\% | 6.47\% |
| 12/18/2013 | 9.08\% | 3.53\% | 5.55\% |
| 12/23/2013 | 9.72\% | 3.54\% | 6.18\% |
|  |  | Average Count | $\begin{array}{r} 4.44 \% \\ 985 \end{array}$ |

Liberty Utilities (Midstates Natural Gas) Corp. Equity
Median Market to Book for Comp Group
Liberty Utilities Implied Market Cap $\quad \$ 0.082$

|  |  | $[3]$ | $[4]$ | $[5]$ |
| :--- | :---: | :---: | :---: | :---: |
| Company Name | Ticker | Customers (Mil) | Market Cap <br> $(\$ B i l)$ | Market to <br> Book Ratio |
| AGL Resources Inc. | GAS | 4.46 | $\$ 5.52$ | 1.56 |
| Atmos Energy Corporation | ATO | 3.13 | $\$ 4.07$ | 1.57 |
| Laclede Group, Inc. | LG | 0.63 | $\$ 1.49$ | 1.43 |
| New Jersey Resources Corporation | NJR | 0.50 | $\$ 1.89$ | 2.14 |
| Northwest Natural Gas Company | NWN | 0.68 | $\$ 1.14$ | 1.57 |
| Piedmont Natural Gas Company, Inc. | PNY | 0.98 | $\$ 2.49$ | 2.10 |
| South Jersey Industries, Inc. | SJI | 0.35 | $\$ 1.79$ | 2.35 |
| Southwest Gas Corporation | SWX | 1.86 | $\$ 2.47$ | 1.82 |
| WGG Holdings, Inc. | WGL | 1.09 | $\$ 2.04$ | 1.60 |
| Median |  | 0.98 | $\$ 2.04$ | 1.60 |
| Mean |  | 1.52 | $\$ 2.55$ | 1.79 |


| Market Capitalization (\$Mil) [6] |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | :---: |
| Low |  |  |  |  |  |
| Decile | High | Size Premium |  |  |  |
| 2 | $\$$ | $7,747.951$ | $\$$ | $17,541.302$ | $0.76 \%$ |
| 3 | $\$$ | $4,250.360$ | $\$$ | $7,686.611$ | $0.92 \%$ |
| 4 | $\$$ | $2,772.831$ | $\$$ | $4,227.668$ | $1.14 \%$ |
| 5 | $\$$ | $1,912.240$ | $\$$ | $2,759.391$ | $1.70 \%$ |
| 6 | $\$$ | $1,346.619$ | $\$$ | $1,909.051$ | $1.72 \%$ |
| 7 | $\$$ | 822.077 | $\$$ | $1,346.528$ | $1.73 \%$ |
| 8 | $\$$ | 514.459 | $\$$ | 818.065 | $2.46 \%$ |
| 9 | $\$$ | 254.604 | $\$$ | 514.209 | $2.70 \%$ |
| 10 | $\$$ | 1.139 | $\$$ | 253.761 | $6.03 \%$ |

Notes:
[1] Algonquin Power \& Utilities Annual Report December 31, 2012, p. 15 (includes Missouri, Illinois, and lowa)
[2] Requested Rate Base $\times$ Equity Ratio
[3] Source: SNL Financial
[4] Source: Bloomberg, 30-day average
[5] Source: Bloomberg, 30-day average
[6] Source: Ibbotson Associates, 2013 Ibbotson SBBI Risk Premia Over Time Report

Flotation Cost Adjustment

| Company | Date | Shares Issued | Offering Price | Underwriting Discount | Offering Expense | Net Proceeds Per Share | Total Flotation Costs | Gross Equity Issue Before Costs | Net Proceeds | Flotation Cost Percentage |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Algonquin Power \& Utilities Corporation | 10/13/2011 | 16,869,000 | \$5.68 | \$0.2300 | \$1,106,191 | \$5.45 | \$4,986,061 | \$95,846,284 | \$90,860,223 | 5.202\% |
| Algonquin Power \& Utilities Corporation | 11/16/2009 | 6,877,000 | \$3.17 | \$0.1600 | \$473,657 | \$3.01 | \$1,573,977 | \$21,824,160 | \$20,250,183 | 7.212\% |
| AGL Resources inc. | 11/19/2004 | 11,040,000 | \$31.01 | \$0.9300 | \$400,000 | \$30.04 | \$10,667,200 | \$342,350,400 | \$331,683,200 | 3.116\% |
| AGL Resources inc. | 2/11/2003 | 6,440,000 | \$22.00 | \$0.7700 | \$250,000 | \$21.19 | \$5,208,800 | \$141,680,000 | \$136,471,200 | 3.676\% |
| Atmos Energy Corporation | 12/7/2006 | 6,325,000 | \$31.50 | \$1.1025 | \$400,000 | \$30.33 | \$7,373,313 | \$199,237,500 | \$191,864,188 | 3.701\% |
| Atmos Energy Corporation | 10/21/2004 | 16,100,000 | \$24.75 | \$0.9900 | \$400,000 | \$23.74 | \$16,339,000 | \$398,475,000 | \$382,136,000 | 4.100\% |
| Laclede Group, Inc. (The) | 5/23/2013 | 10,005,000 | \$44.50 | \$1.7244 | \$1,000,000 | \$42.68 | \$18,252,372 | \$445,222,500 | \$426,970,128 | 4.100\% |
| Laclede Group, Inc. (The) | 5/25/2004 | 1,725,000 | \$26.80 | \$0.8710 | \$100,000 | \$25.87 | \$1,602,475 | \$46,230,000 | \$44,627,525 | 3.466\% |
| Northwest Natural Gas Company | 3/30/2004 | 1,290,000 | \$31.00 | \$1.0100 | \$175,000 | \$29.85 | \$1,477,900 | \$39,990,000 | \$38,512,100 | 3.696\% |
| Piedmont Natural Gas Company, Inc. | 1/30/2013 | 4,000,000 | \$32.00 | \$1.1200 | \$350,000 | \$30.79 | \$4,830,000 | \$128,000,000 | \$123,170,000 | 3.773\% |
| Piedmont Natural Gas Company, Inc. | 1/20/2004 | 4,887,500 | \$42.50 | \$1.4900 | \$350,000 | \$40.94 | \$7,632,375 | \$207,718,750 | \$200,086,375 | 3.674\% |
| WGL. Holdings, Inc. | 6/20/2001 | 2,058,500 | \$26.73 | \$0.8950 | \$56,218 | \$25.81 | \$1,898,576 | \$55,023,705 | \$53,125,130 | 3.450\% |
| Mean |  |  |  |  |  |  | S6,820,171 | \$176,799,858 |  |  |

Constant Growth Discounted Cash Flow Model Adjusted for Flotation Costs - 30 Day Average Stock Frice

|  |  | [1] | [2] | [3] | (4) | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | Annualized Dividend | Average Stock Price | $\begin{gathered} \text { Dividend } \\ \text { Yield } \\ \hline \end{gathered}$ | Expected | idend Yield Adjusted for Flot Costs | Zacks Earnings Growth | First Call Earnings Growth | $\begin{gathered} \text { Value Line } \\ \text { Earnings } \\ \text { Growth } \\ \hline \end{gathered}$ | Retention Growth | Average Earnings Growth | DCF K(e) | Flotation <br> Adjusted <br> DCF k(e) |
| AGL Resources inc. | GAS | \$1.88 | \$46.44 | 4.05\% | 4.17\% | 4.33\% | 5.00\% | NA | 8.00\% | 4.66\% | 5.89\% | 10.05\% | 10.22\% |
| Atmos Energy Corporation | ATO | \$1.48 | \$44.74 | 3.31\% | 3.42\% | 3.56\% | 6.50\% | 7.75\% | 7.50\% | 6.30\% | 7.01\% | 10.44\% | 10.57\% |
| Laclede Group, Inc. (The) | LG | \$1.76 | \$45.67 | 3.85\% | 3.95\% | 4.11\% | 4.30\% | 4.90\% | 6.00\% | 4.82\% | 5.00\% | 8.95\% | 9.11\% |
| New Jersey Resources Corporation | NJR | \$1.68 | \$45.15 | 3.72\% | 3.81\% | 3.96\% | 4.00\% | 2.50\% | 5.50\% | 7.16\% | 4.79\% | 8.60\% | 8.75\% |
| Northwest Natural Gas Company | NWN | \$1.84 | \$42.38 | 4.34\% | 4.43\% | 4.61\% | 4.00\% | 4.00\% | 4.50\% | 4.46\% | 4.24\% | 8.67\% | 8.85\% |
| Piedmont Natural Gas Company, Inc. | PNY | \$1.24 | \$32.82 | 3.78\% | 3.86\% | 4.01\% | 5.00\% | 4.00\% | 4.00\% | 3.64\% | 4.16\% | 8.02\% | 8.17\% |
| South Jersey Industries, inc. | SJI | \$1.89 | \$55.64 | 3.40\% | 3.52\% | 3.56\% | 6.00\% | 6.00\% | 7.50\% | 9.66\% | 7.29\% | 10.81\% | 10.95\% |
| Southwest Gas Corporation | swx | \$1.32 | \$53.38 | 2.47\% | 2.54\% | 2.64\% | 3.40\% | 2.55\% | 8.00\% | 8.00\% | 5.49\% | 8.03\% | 8.13\% |
| WGL Holdings, Inc. | WGL | \$1.68 | \$39.40 | 4.26\% | 4.35\% | 4.53\% | 4.60\% | 4.60\% | 3.50\% | 3.89\% | 4.15\% | 8.50\% | 8.67\% |
| PROXYGROUP MEAN |  |  |  | 3.69\% | 3.78\% | 3.94\% |  |  |  |  |  | 9.12\% | 9.27\% |

DCF Result Adjusted For Flotation Costs: $\quad 9.27 \%$ DCF Result Unadjusted For Flotation Costs $\qquad$ 9.12\% -12]

Notes:
he proxy group DCF result is adjusted for flotation costs by dividing each company's expected dividend yield by ( 1 - flotation cost). The flotation cost adjustment
The proxy group DCC resut is adjusted for flotation costs by dividing each company's expected dividend yield by
is derived as the difference between the unadiusted $D C F$ result and the DCF result adjusted for fiotation costs.
Stock issuances for Algonquin Power \& Utilities Corporation were provided in Canadian Dollars, and converted to US Dollars by SNL Financial. Overallotment
reflects shares exercised
[1] Source: Bloomberg Professional
[3] Equals [1] / [2]
[4] Equals [3] $\times(1+0.5 \times[10])$
[5] Equals [4]/( $1-0.0386$ )
[6] Source: Zacks
71 Source: Yahoo! Finance
8] Source: Value Line
[10] Equals Average([6], [7], [8], [9])
[11] Equals [4] + [10]
[12] Equals [5] + [10]
[13] Equals average [12] - average [11]

Proxy Group Capital Structure

|  |  |  |  | $\%$ Common Equity |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2013Q3 | 2013Q2 | 2013Q1 | 2012Q4 | 2012Q3 | 2012Q2 | 2012Q1 | 2011Q4 |
| Average |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| AGL Resources Inc. | GAS | $48.02 \%$ | $48.10 \%$ | $49.83 \%$ | $49.00 \%$ | $48.74 \%$ | $48.90 \%$ | $48.82 \%$ | $48.11 \%$ |
| Atmos Energy Corporation | ATO | $51.23 \%$ | $51.25 \%$ | $50.88 \%$ | $55.34 \%$ | $54.66 \%$ | $51.63 \%$ | $51.69 \%$ | $50.69 \%$ |
| Laclede Group, Inc. (The) | LG | $53.40 \%$ | $69.94 \%$ | $57.94 \%$ | $63.00 \%$ | $62.26 \%$ | $62.63 \%$ | $62.78 \%$ | $61.79 \%$ |
| New Jersey Resources Corporation | NJR | $60.41 \%$ | $60.42 \%$ | $62.60 \%$ | $61.57 \%$ | $60.43 \%$ | $65.72 \%$ | $66.34 \%$ | $65.11 \%$ |
| Northwest Natural Gas Company | NWN | $49.61 \%$ | $51.97 \%$ | $52.24 \%$ | $51.30 \%$ | $52.68 \%$ | $53.38 \%$ | $53.67 \%$ | $51.06 \%$ |
| Piedmont Natural Gas Company, Inc. | PNY | $55.41 \%$ | $55.80 \%$ | $52.99 \%$ | $51.30 \%$ | $51.73 \%$ | $52.20 \%$ | $60.41 \%$ | $59.63 \%$ |
| South Jersey Industries, Inc. | SJI | $55.74 \%$ | $55.16 \%$ | $55.39 \%$ | $54.03 \%$ | $54.06 \%$ | $55.41 \%$ | $61.03 \%$ | $59.41 \%$ |
| Southwest Gas Corporation | SWX | $51.34 \%$ | $52.09 \%$ | $52.36 \%$ | $49.84 \%$ | $50.10 \%$ | $51.19 \%$ | $48.19 \%$ | $49.45 \%$ |
| WGL Holdings, Inc. | WGL | $68.32 \%$ | $69.52 \%$ | $69.90 \%$ | $68.81 \%$ | $68.30 \%$ | $68.55 \%$ | $67.90 \%$ | $66.09 \%$ |
|  |  |  |  |  |  |  | $68.57 \%$ |  |  |
|  |  | $54.83 \%$ | $57.14 \%$ | $56.01 \%$ | $56.02 \%$ | $55.88 \%$ | $56.62 \%$ | $57.87 \%$ | $56.81 \%$ |
| Mean |  |  |  |  |  |  |  |  |  |


|  |  |  |  | $\%$ Long-Term Debt |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Company | Ticker | 2013Q3 | 2013Q2 | 2013Q1 | 2012Q4 | 2012Q3 | 2012Q2 | 2012Q1 | 2011Q4 | Average |
|  |  |  |  |  |  |  |  |  |  |  |
| AGL Resources Inc. | GAS | $51.98 \%$ | $51.90 \%$ | $50.17 \%$ | $51.00 \%$ | $51.26 \%$ | $51.10 \%$ | $51.18 \%$ | $51.89 \%$ | $51.31 \%$ |
| Atmos Energy Corporation | ATO | $48.77 \%$ | $48.75 \%$ | $49.12 \%$ | $44.66 \%$ | $45.34 \%$ | $48.37 \%$ | $48.31 \%$ | $49.31 \%$ | $47.83 \%$ |
| Laclede Group, Inc. (The) | LG | $46.60 \%$ | $30.06 \%$ | $42.06 \%$ | $37.00 \%$ | $37.74 \%$ | $37.37 \%$ | $37.22 \%$ | $38.21 \%$ | $38.28 \%$ |
| New Jersey Resources Corporation | NJR | $39.59 \%$ | $39.58 \%$ | $37.40 \%$ | $38.43 \%$ | $39.57 \%$ | $34.28 \%$ | $33.66 \%$ | $34.89 \%$ | $37.18 \%$ |
| Northwest Natural Gas Company | NWN | $50.39 \%$ | $48.03 \%$ | $47.76 \%$ | $48.70 \%$ | $47.32 \%$ | $46.62 \%$ | $46.33 \%$ | $48.94 \%$ | $48.01 \%$ |
| Piedmont Natural Gas Company, Inc. | PNY | $44.59 \%$ | $44.20 \%$ | $47.01 \%$ | $48.70 \%$ | $48.27 \%$ | $47.80 \%$ | $39.59 \%$ | $40.37 \%$ | $45.07 \%$ |
| South Jersey Industries, Inc. | SJI | $44.26 \%$ | $44.84 \%$ | $44.61 \%$ | $45.97 \%$ | $45.94 \%$ | $44.59 \%$ | $38.97 \%$ | $40.59 \%$ | $43.72 \%$ |
| Southwest Gas Corporation | SWX | $48.66 \%$ | $47.91 \%$ | $47.64 \%$ | $50.16 \%$ | $49.90 \%$ | $48.81 \%$ | $51.81 \%$ | $50.55 \%$ | $49.43 \%$ |
| WGL Holdings, Inc. | WGL | $31.68 \%$ | $30.48 \%$ | $30.10 \%$ | $31.19 \%$ | $31.70 \%$ | $31.45 \%$ | $32.10 \%$ | $33.91 \%$ | $31.58 \%$ |
|  |  |  |  |  |  |  |  |  |  |  |
| Mean |  | $45.17 \%$ | $42.86 \%$ | $43.99 \%$ | $43.98 \%$ | $44.12 \%$ | $43.38 \%$ | $42.13 \%$ | $43.19 \%$ | $43.60 \%$ |

[^9]
# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI 

In the Matter of Liberty Utilities )
(Midstates Natural Gas) Corp. d/b/a )
Liberty Utilities' Tariff Revisions Designed )
To Implement a General Rate Increase )
For Natural Gas Service in the Missouri )
Service Areas of the Company. )
Case No. GR-2014-0152

## AFFIDAVIT OF ROBERT B. HEVERT

## COMMONWEALTH OF MASSACHUSETTS )

COUNTY OF MIDDLESEX

Robert B. Hevert, being first duly sworn on his oath, states:

1. My name is Robert B. Hevert. I am Managing Partner of Sussex Economic Advisors, LLC and my business address is 161 Worcester Road, Suite 503, Framingham, Massachusetts 01701.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities consisting of forty-nine (49) pages and Attachment A, Schedules RBH-1 through RBH-11, and Schedule COS-9, all of which having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.


Subscribed and sworn before me this $6^{\text {th }}$ day of February, 2014.

My commission expires:


KiMBERLY H. DAD
Notary Public



[^0]:    I Throughout my Direct Testimony, I interchangeably use the terms "ROE" and "Cost of Equity."

[^1]:    6
    See, for example, Harris, Robert, Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management, Spring 1986.

[^2]:    17 See Bureau of Economic Analysis, December 5, 2013 update.
    18 See Board of Governors of the Federal Reserve System, Table H. 15 Selected Interest Rates.

[^3]:    19 As reported in the Value Line Investment Survey as "All Div'ds to Net Prof."
    20 Source: Bloomberg Professional

[^4]:    23

[^5]:    24
    The regression tendency of Beta coefficients to converge to 1.0 over time is well known and widely discussed in financial literature. (See, e.g., Blume, Marshall E., On the Assessment of Risk, The Journal of Finance, Vol. 26, No. 1, March 1971, at 1-10).
    See Schedule RBH-6

[^6]:    26 See Mario Levis, The record on small companies: A review of the evidence, Journal of Asset Management, March 2002, at 368-397, for a review of literature relating to the size effect.

[^7]:    31
    Source: Federal Reserve Schedule H.4.1. "Securities held outright" include U.S. Treasury securities, Federal agency debt securities, and mortgage-backed securities.
    Sources: Federal Reserve Schedule H.4.1; Bureau of Economic Analysis, 2013 data as of the third calendar quarter.
    Federal Reserve Bank Press Release, July 31, 2013.
    Minutes of the Federal Open Market Committee December 17-18, 2013, at 10.

[^8]:    37 Sources: Federal Reserve Board Schedule H.15.; Blue Chip Financial Forecasts, Vol. 32, No. 12, December 1, 2013, at 14; Blue Chip Financial Forecasts, Vol. 33, No. 1, January 1, 2014, at 2.

[^9]:    Source: SNL Financial

