Exhibit No.:
Issue: Rate of Return/Capital Structure
Witness: Robert B. Hevert
Sponsoring Party: Liberty Utilities
Case No.: GR-2014-0152
Date Testimony Prepared: August 15, 2014

MISSOURI PUBLIC SERVICE COMMISSION

Case No. GR-2014-0152

SURREBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

SUSSEX ECONOMIC ADVISORS, LLC

Submitted on Behalf Of

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

August 15, 2014

* Denotes Proprietary Information *

NP

TABLE OF CONTENTS

BEFORE THE

MISSOURI PUBLIC SERVICE COMMISSION

CASE No. GR-2014-0152

SURREBUTTAL TESTIMONY

OF

Robert B. Hevert

SUSSEX ECONOMIC ADVISORS, LLC

Submitted on Behalf Of

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. Are you the Robert B. Hevert who submitted Direct Testimony and Rebuttal Testimony in this proceeding?

A. Yes, I filed Direct and Rebuttal Testimony 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 state the purpose of your Surrebuttal Testimony.

A. The purpose of my Surrebuttal Testimony is to respond to the rebuttal testimony of Mr. Zephania Marevangepo on behalf of the Staff of the Missouri Public Service Commission

("Staff") as it relates to the Company's Return on Equity ("ROE"), cost of debt and capital structure. My analyses and recommendations are supported by the data presented in Schedules RBH-S26 through RBH-S29, which have been prepared by me or under my direction.

Q. Have you updated your analyses from those presented in your Rebuttal Testimony?

A. No, I have not. I continue to rely on the analyses provided with my Rebuttal Testimony, which were updated based on market data through June 30, 2014.

Q. How is the remainder of your Surrebuttal Testimony organized?

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

Section II – Provides a summary and overview of my Surrebuttal Testimony;

Section III – Provides my response to Mr. Marevangepo regarding the Company's cost of capital and capital structure; and

Section IV – Summarizes my conclusions and recommendation.

II. SUMMARY AND OVERVIEW OF TESTIMONY

Q. Please summarize the key issues and recommendations addressed in your Surrebuttal Testimony.

A. After reviewing the rebuttal testimony of Mr. Marevangepo and considering other relevant data, including current and expected capital market conditions, my general observations and conclusions are as follows:

- Mr. Marevangepo's recommendation to impute Liberty Utility Company's ("LUCo") capital structure to Liberty Utilities is inconsistent with highly relevant and observable benchmarks, including the capital structures in place

at the proxy companies, and at the Company's ultimate parent, Algonquin Power & Utilities Corp. ("APUC"). In addition, Mr. Marevangepo's suggestion that Liberty Utilities' stand-alone capital structure should include short-term debt, and that that a more leveraged capital structure would be appropriate in the current interest rate environment, ignores the nature of the Company's financing needs and the inherent risk in attempting to time the market.

- Mr. Marevangepo's 8.70 percent ROE estimate (which would be even lower excluding his * * basis point upward adjustment to reflect the increased risk implied by the Company's credit rating)[1] is unduly low and cannot be reconciled with observable, relevant market data. As discussed in my Rebuttal Testimony, Mr. Marevangepo's 8.70 percent ROE estimate is below any authorized ROE for a natural gas utility in at least 30 years.[2]
- Because his ROE estimate is primarily based on the results of his Constant Growth DCF model,[3] Mr. Marevangepo's ROE recommendation is largely influenced by his reliance on a GDP growth estimate that conflicts with both observable trends in long-term economic growth and investor expectations for future growth. Mr. Marevangepo has provided no rationale to support his assumed decline of more than 70 basis points in the structural growth potential

1 *See*, Staff Cost of Service Report, at 7.
2 Rate case data from Regulatory Research Associates.
3 *See*, Staff Cost of Service Report, at 7.

of the economy over the long-term.[4]

- Regarding his CAPM results (which are even lower than his DCF results), Mr. Marevangepo's use of a historical estimate of the MRP fails to consider observable, market based measures of investors' current return requirements. This is particularly important given the well-established finding that the equity risk premium moves inversely with interest rates, and given the current 30-year Treasury yield is below both long-term historical averages and consensus forecasts.[5]
- Mr. Marevangepo's general discussion of Staff's experience with financial advisory and equity analyst material is not based on specific references and, therefore, cannot be assessed. It appears, however, that Mr. Marevangepo conflates valuation analyses and assumptions developed for different purposes and under different market conditions with analyses used to estimate Liberty Utilities' Cost of Equity. The Commission has previously addressed the flaws with using valuation analysis inputs to determine a utility's Cost of Equity.[6]
- Mr. Marevangepo's suggestion that ROEs authorized in other jurisdictions do not reflect the actual Cost of Equity overlooks the fact that most jurisdictions rely on a standard similar to the ones laid out in the *Hope* and *Bluefield* decisions (as the Commission does), and that other commissions consider data

---

4 *See*, Rebuttal Testimony of Robert B. Hevert, at 17, 21.

5 *Ibid*., at 33; *See also* Morningstar, Inc., 2014 Ibbotson Stocks, Bonds, Bills and Inflation Classic Yearbook, Table 6-7 at 91; Blue Chip Financial Forecasts, Vol. 33, No. 6, June 1, 2014 at 2, 14.

6 *See*, Report and Order, Public Service Commission of the State of Missouri, File No. ER-2011-0028, dated July 13, 2011, at 69-70.

similar to the analyses presented by Mr. Marevangepo and me in this proceeding. Moreover, Mr. Marevangepo's position assumes that authorized returns have no bearing on investors' return expectations and requirements, notwithstanding the Commission's prior position to the contrary.

- The appropriate cost of debt for Liberty Utilities is the Company's actual 4.50 percent embedded cost of debt. LUCo's consolidated cost of debt, which Mr. Marevangepo recommends, includes debt issued more than a decade before APUC acquired Liberty Utilities.

III. RESPONSE TO THE REBUTTAL TESTIMONY OF MR. MAREVANGEPO

Q. Please briefly summarize Mr. Marevangepo's rebuttal testimony.

A. Mr. Marevangepo's rebuttal testimony does not update or revise the ROE or capital structure analyses included in Staff's Revenue Requirement Cost of Service Report, although it does update the cost of debt calculation from * * percent to * * percent.[7] Mr. Marevangepo's rebuttal testimony presents six primary areas of disagreement with the analyses and conclusions provided in my Direct Testimony:

- Mr. Marevangepo disagrees with the use of Liberty Utilities' capital structure, and instead recommends the use of LUCo's capital structure.[8]
- Mr. Marevangepo disagrees with the use of Liberty Utilities' actual cost of debt, and recommends the use of LUCo's cost of debt.

[7] *See*, Rebuttal Testimony of Zephania Marevangepo, at 2-3.
[8] *Ibid*., at 3-4.

- Mr. Marevangepo opposes the growth rates used in my DCF analyses, particularly the formulation of my long-term Gross Domestic Product ("GDP") growth estimate and my reliance on analysts' three to five year earnings growth rate estimates.[9]
- Mr. Marevangepo disagrees with the MRP used in my CAPM, suggesting it would be inappropriate to use the same equity risk premium for regulated utility companies and non-regulated companies.[10]
- Mr. Marevangepo disagrees with the use of authorized returns in my Risk Premium analysis, suggesting authorized returns are not the same as the required return on equity.[11]
- Mr. Marevangepo suggests his recommended ROE is reasonable because investors view utility stocks as safe "widow and orphan" investments that are alternatives to bond investments.[12]

Each of these points is discussed in turn, below.

Capital Structure

Q. Please summarize Mr. Marevangepo's position regarding capital structure.

A. Mr. Marevangepo reiterates the recommendation, as stated in Staff's Revenue Requirement Cost of Service Report ("Cost of Service Report"), that Liberty Utilities should be authorized an equity ratio of * * percent based on the capital structure of

[9] *Ibid*., at 12.
[10] *Ibid*., at 13-14.
[11] *Ibid*., at 15.
[12] *Ibid*., at 8-9.

its intermediary parent, LUCo.[13] Mr. Marevangepo makes the following arguments to support his recommendation to use LUCo's capital structure rather than Liberty Utilities' actual capital structure:[14]

(1) Mr. Marevangepo suggests LUCo is the only "investable" capital structure because Liberty Utilities is not rated by credit rating agencies and does not issue its own equity or debt;

(2) Mr. Marevangepo claims Liberty Utilities' capital structure does not affect the cost of capital required by investors; and

(3) Mr. Marevangepo suggests the only logical target capital structure for Liberty Utilities would be LUCo's capital structure, since they have similar business risk.

Mr. Marevangepo also states that Liberty Utilities' equity ratio would be lower if the Company included in its capital structure short-term debt used to support working capital and inventory.[15] Lastly, Mr. Marevangepo reasons that LUCo's capital structure is appropriate given the current, relatively low, interest rate environment.[16]

Q. What are your principal conclusions regarding Mr. Marevangepo's recommended capital structure?

A. As discussed in my Rebuttal Testimony, the range of capital structures in place at the proxy group companies is the appropriate comparison for purposes of assessing the

---

13 *Ibid*., at 1-2.
14 *Ibid*., at 4-5.
15 *Ibid.*
16 *Ibid*., at 5.

reasonableness of the Company's proposed capital structure.[17] As shown in Schedule RBH-R21, Liberty Utilities' 58.34 percent equity ratio is consistent with the proxy group's range of equity ratios (48.97 percent to 68.49 percent) and mean equity ratio (55.77 percent).

In addition, Liberty Utilities' capital structure is consistent with APUC's approximately 57.00 percent equity ratio as of September 30, 2013.[18] While Staff's Cost of Service Report expressed concerns regarding the use of APUC's capital structure as a benchmark for Liberty Utilities' capital structure, those issues were addressed in detail in my Rebuttal Testimony.[19] Moreover, as also discussed in my Rebuttal Testimony, the Commission relied on APUC's capital structure for Algonquin Water Resources of Missouri in Case No. WR-2006-0425.[20]

Q. What is your response to Mr. Marevangepo's claim that Liberty Utilities' capital structure does not affect the cost of capital required by investors?

A. I disagree with Mr. Marevangepo's assertion. As discussed in my Direct Testimony, increasing financial leverage increases the risk that a company may not have adequate cash flow to meet its financial obligations.[21] APUC's aggregate risk level and earnings are the sum of the risk and financial performance of its operating businesses, including Liberty Utilities. Consequently, Liberty Utilities' capital structure will influence the risk level and, therefore, required return of APUC. As noted in Staff's Cost of Service Report, APUC is the ultimate source of Liberty Utilities' equity and influences the credit

17 *See*, Rebuttal Testimony of Robert B. Hevert, at 42.
18 *Ibid.*
19 *Ibid.*, at 43-44.
20 *Ibid.*, at 45.
21 *See*, Direct Testimony of Robert B. Hevert, at 44-45.

rating of LUCo, which is the source of Liberty Utilities' debt.[22] Looked at another way, APUC investors will expect Liberty Utilities to provide an adequate risk-adjusted return as a component of their overall investment in APUC, and Liberty Utilities' risk level will at least partially be based on its capital structure. Consequently, Mr. Marevangepo's suggestion that Liberty Utilities' "capital structure has no bearing on the cost of capital required by investors" is misplaced.

Moreover, if Mr. Marevangepo believes that a subsidiary's capital structure is of no importance to the cost of capital raised at its parent company, APUC's capital structure would be the primary concern. Using Mr. Marevangepo's approach, it would be inappropriate to use LUCo's capital structure since APUC is the ultimate source of LUCo's equity capital and influences LUCo's credit rating.

Q. What is your response to Mr. Marevangepo's suggestion that LUCo is the only reasonable target capital structure for Liberty Utilities since the two entities have similar business risk?[23]

A. I disagree. The proxy group and APUC are also reasonable risk-comparable benchmarks for assessing the capital structure of Liberty Utilities. With respect to the proxy companies, both Mr. Marevangepo and I applied screening criteria that were designed to select companies that reflect Liberty Utilities' risk profile. Regarding APUC, as discussed in my Rebuttal Testimony, there is no reason to believe APUC's business risk is materially different than Liberty Utilities' business risk given that APUC's business

[22] *See*, Staff Cost of Service Report, at 19-20. Note, LUCo's S&P credit rating is primarily based on S&P's rating of APUC.

[23] *See* Rebuttal Testimony of Zephania Marevangepo, at 4-5.

operations consist of regulated utility service and long-term contracted renewable power generation (with more than 88.00 percent of counterparties to the renewable power sales being regulated utilities with credit ratings of BBB or better).[24]

The important point is that Liberty Utilities, APUC and the proxy group's capital structures are generally consistent, while LUCo's capital structure does not appear to provide an appropriate target capital structure relative to those benchmarks.

Q. What is your response to Mr. Marevangepo's suggestion that the Company's capital structure should include short-term debt, which would lower its equity ratio?

A. As a preliminary matter, it is important to keep in mind that utilities primarily invest in, and therefore must finance, long-term assets such as property, plant, and equipment. A common financing practice, sometimes referred to as "maturity matching", involves matching the lives of the assets being financed with the maturity (or duration) of the securities issued to finance those assets. In general, the weighted average maturity of outstanding long-term capital is matched with the expected life of the underlying assets, such that the income produced from the assets over their life can cover the debt service payments used to finance the assets, and both interest rate and refinancing risks are minimized.[25] As noted by Brigham and Houston, "[t]his strategy minimizes the risk that the firm will be unable to pay off its maturing obligations."[26] In this proceeding, we are concerned with establishing the return on Liberty Utilities' rate base. Mr. Marevangepo's

---

24 *See* Rebuttal Testimony of Robert B. Hevert, at 43.

25 A variant of this approach is to match the "duration" of the debt with the life of the long-term assets being financed. While this approach is computationally different, the intent is the same; matching the tenor of the financing with the life of the asset being financed reduces interest rate risk.

26 Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, Concise 4th Ed., Thomson South-Western, 2004, at 574.

suggestion that the capital structure should include short-term debt for ratemaking purposes is thus at odds with the underlying long-term nature of the majority of the rate base assets.

I also note that the Commission has not required short-term debt to be included in companies' capital structures in past rate cases. For example, the final order in Case No. ER-2010-0036 for Ameren Missouri approved a capital structure with no short-term debt, noting all parties agreed to the use of the company's actual capital structure.[27] Previous orders in Ameren Missouri Case Nos. ER-2011-0028 and ER-2012-0166 also noted that no party raised an issue regarding the use of the companies' actual capital structure (which included no short-term debt). As noted in Staff's Cost of Service Report, Atmos' witness Mr. Robert J. Smith also excluded short-term debt from the requested capital structure when Atmos owned the Missouri natural gas assets subsequently purchased by Liberty Utilities, stating:

> I excluded from this calculation any impact from short-term debt because the Company's use of short-term debt is seasonal in nature and is intended to be used to finance additions to utility plant.[28]

The settlement approved by the Commission in that case, however, did not specify a capital structure.

---

[27] *See*, for example, Report and Order, Public Service Commission of the State of Missouri, Case No. ER-2010-0036, at 13-14. Note, the Order was for Union Electric Company, d/b/a AmerenUE.

[28] Staff Cost of Service Report, at 18.

Q. What is your response to Mr. Marevangepo's suggestion that LUCo's capital structure is appropriate as a long-term capital structure in the current interest rate environment?

A. Although he has provided no analyses or rationale to support his position, Mr. Marevangepo seems to suggest that Liberty Utilities should use a higher percentage of debt in its capital structure (sometimes referred to as "financial leverage") in the current interest rate environment. Financing decisions, however, must consider many factors in addition to the prevailing level of interest rates. In my practical experience, the factors that must be considered in making both day-to-day, and long-term financing decisions include the availability and cost of different forms of financing at a particular time, existing and expected capital market conditions (including the availability of capital, the terms at which capital may be acquired, and the ability to subsequently "roll over" maturing financings), the level of existing and proposed debt relative to rating agency criteria, cash flow contingencies, planned and existing capital spending plans, and lead times associated with changing from short-term to long-term financing.

Increasing financial leverage will put pressure on the Company's financial integrity,[29] and may increase the cost of both debt and equity. Equally important is that utilities must maintain access to capital markets and preserve liquidity to ensure they are able to fund necessary investments during unexpected market downturns or credit market contractions. In practice, financing constraints are dynamic in nature, in that they

[29] For a more detailed discussion of the implications of Staff's recommended ROE and capital structure recommendations on Liberty Utilities, *see* my Rebuttal Testimony filed July 30, 2014 on Financial Integrity/Revenue Imputation.

continually change in response to market conditions. A very visible example would be the reaction of utilities to the credit constraints experienced during the 2008 market downturn. As Mr. Marevangepo undoubtedly is aware, the U.S. capital markets experienced significant turmoil in 2008 and 2009, and those companies without preexisting and/or contractually obligated sources of liquidity faced either onerous financing terms, or the potential of not being able to access funds at all. As a result, many utilities drew down their existing credit facilities in order to protect their liquidity positions. In October 2008, for example, AEP borrowed approximately $1.4 billion under its existing credit facilities solely as a means to ensure liquidity in the then-current capital market. As the company noted in an SEC Form 8-K filing:

> AEP took this proactive step to increase its cash position while there are disruptions in the debt markets. The borrowings provide AEP flexibility and will act as a bridge until the capital markets improve.[30]

Had AEP fully drawn its credit lines earlier to take advantage of the comparatively lower level of short-term interest rates, it would not have had that source of liquidity available to it during the 2008 credit contraction.

Under constrained financial market conditions, the commercial terms under which long-term debt may be issued become more onerous; call provisions, make-whole provisions, events of default all may become considerably more difficult to negotiate, and more expensive to acquire. As opposed to taking on short-term debt in an attempt to lower equity costs, the prudent course for the Company would be to ensure that it had substantial un-used borrowing capacity available to it, and that it had strengthened its

[30] American Electric Power Company, Inc., SEC Form 8-K, filed October 8, 2008.

balance sheet in order to ensure market access if and as needed.

Mr. Marevangepo also appears to suggest that it is appropriate for the Company to attempt to time the market, and to make financing decisions by anticipating the direction and extent of interest rate movements. As noted earlier, the fundamental financing strategy for utilities is one of duration matching; it is not market timing. In my view, Mr. Marevangepo's suggestion, and his focus on market timing, is both risky and imprudent.

Q. Did the proxy companies typically decrease their equity ratios as Treasury yields declined significantly in 2011 and 2012?

A. No, they did not. As shown in Table 1 below (see also, Schedule RBH-S26), the average equity ratio for my natural gas proxy group has remained at a generally consistent level over the past five years.[31] It is interesting to note, equity ratios actually trended upward as Treasury yields fell from 2009 to 2012.

Table 1: Trend in Average Proxy Group Equity Ratios and Treasury Yields

Rolling 4 Quarters	***Proxy Group Average Equity Ratio***	***30-Year Treasury Yield***
2013Q2 - 2014Q1	55.41%	3.58%
2012Q2 - 2013Q1	56.14%	2.92%
2011Q2 - 2012Q1	56.77%	3.56%
2010Q2 - 2011Q1	56.00%	4.24%
2009Q2 - 2010Q1	54.91%	4.36%

[31] Source: SEC Filing data as reported by SNL Financial. Capital Structure data was available through Q1 2014 at the time of this analysis. Annual data based on a rolling four quarters.

Q. How does the trend in equity ratios relate to current economic and capital market conditions?

A. That trend of stable to increasing equity ratios indicates that it has generally not been considered prudent for natural gas utilities to increase their financial leverage in response to declining interest rates. The increase in equity ratios also is consistent with the position that it is important to maintain a strong financial profile and capital structure in the current economic environment. As noted by Mr. Marevangepo, current interest rates are not a sign of economic stability, but are the result of continual intervention by the Federal Reserve in the capital markets.[32] As noted in my Direct and Rebuttal Testimonies, access to capital under a variety of market conditions is of paramount importance to capital intensive businesses that provide essential services such as utilities.[33]

Cost of Debt

Q. Please summarize Mr. Marevangepo's position regarding cost of debt.

A. Mr. Marevangepo continues to recommend an imputed cost of debt based on LUCo's consolidated debt, rather than a cost of debt based on the debt issuances supporting Liberty Utilities' rate base. After reviewing the Company's response to Data Request No. 0177.2, Mr. Marevangepo revised his recommendation from ***** ***** percent to ***** ***** percent to reflect debt issuance costs.[34]

---

32 *See* Rebuttal Testimony of Zephania Marevangepo, at 9.

33 *See*, Direct Testimony of Robert B. Hevert, at 44-45; Rebuttal Testimony of Robert B. Hevert, at 44-45.

34 *See* Rebuttal Testimony of Zephania Marevangepo, at 2-3. Debt issuance costs were not included in Mr. Marevangepo's original calculation.

Q. What is your concern with Mr. Marevangepo's position regarding Liberty Utilities' cost of debt?

A. Mr. Marevangepo appears to base his recommendation on the consolidated debt issuances of LUCo, regardless of whether those debt issuances were related to funding Liberty Utilities' investments. For example, a number of LUCo's consolidated debt issuances were issued more than a decade before Algonquin acquired Liberty Utilities from Atmos.[35] Consequently, I continue to recommend that the authorized cost of debt reflect Liberty Utilities' embedded cost of debt of 4.50 percent.[36]

GDP Growth Rate

Q. Please briefly describe the estimate of long-term GDP growth used in the terminal year of your Multi-Stage DCF model?

A. As explained in my Direct Testimony, I have relied on the long-term historical growth rate in real GDP adjusted to reflect long-term forecasts for inflation in order to establish the projected nominal GDP growth rate in the terminal year of my Multi-Stage DCF analysis.[37] The long-term GDP growth rate in my Direct Testimony was based on the historical real GDP growth rate of 3.29 percent from 1929 through 2012 and an inflation rate of 2.35 percent based on the TIPS spread.[38]

Q. What are Mr. Marevangepo's concerns with your estimate of GDP growth?

A. Mr. Marevangepo suggests the real GDP growth rate is overstated in comparison to the

---

35 *See*, response to Staff Data Request No. 0177.

36 *Ibid.*

37 *See*, Direct Testimony of Robert B. Hevert, at 22-23.

38 *Ibid*. Please note, in my Rebuttal Testimony the long-term real GDP growth rate was updated to 3.27% using data through 2013 and the expected inflation rate was updated to 2.36%; *See*, Rebuttal Testimony of Robert B. Hevert, at 20.

2.45 percent real GDP growth rate forecast reported in the U.S. Energy Information Administration's ("EIA") *Annual Energy Outlook 2014* for the 2012 – 2040 time period.[39] He also suggests that most forecasts of inflation are 2.00 percent.

Q. What is your response to Mr. Marevangepo with respect to long-term real GDP growth?

A. As discussed in detail in my Rebuttal Testimony,[40] the *Annual Energy Outlook 2014* forecast period is not sufficiently long to represent a perpetual growth rate and ignores the fact that, up until the recent recession and continuing slow recovery, real GDP growth has cyclically fluctuated around its long-term historical average of 3.27 percent.[41] It also is important to note that EIA's *Annual Energy Outlook 2014* (the source of Mr. Marevangepo's real GDP growth forecasts) also reports long-term historical real GDP growth. Updating their calculation of historical growth to reflect recent Bureau of Economic Analysis revisions and updates to the National Income and Product Accounts ("NIPA"), EIA estimates a long-term historical average real GDP growth rate very similar to mine:

> Although the 2013 comprehensive NIPA revision did not lead to changes in broad economic trends or in the general patterns of past business cycles, it did increase gross domestic product (GDP) in every year back to 1929. The average annual growth rate of real GDP from 1929 to 2012 was revised upward to 3.3%, as compared with the previous estimate of 3.2%.[42]

---

39 *See*, Rebuttal Testimony of Zephania Marevangepo, at 11-12. *See also*, U.S. Energy Information Administration, *Annual Energy Outlook 2014*, April 2014, at CP-2. Note, 2.45% is the average of the 2012-2040 forecasts in Table CP1.

40 *See*, Rebuttal Testimony of Robert B. Hevert, at 13, 20-21.

41 *Ibid.*, at 21, Chart 3.

42 U.S. Energy Information Administration, *Annual Energy Outlook 2014*, April 2014, at IF-29.

Given that Mr. Marevangepo relies on long-term historical data for the purposes of his CAPM analysis, it is unclear why he would not consider the use of long-term historical data for the purpose of developing a long-term GDP growth rate. In that regard, the arithmetic average capital appreciation rate for large-capitalization stocks from 1926 - 2013 has been 7.74 percent (the geometric average has been 5.82 percent),[43] which is substantially higher than Mr. Marevangepo's estimate of long-term GDP growth. As such, the assumptions used in Mr. Marevangepo's DCF analysis and his CAPM analysis are highly inconsistent.

Q. Have you examined the relationship between earnings per share growth and GDP growth?

A. Yes, I have. Using data published by Dr. Robert J. Shiller, I calculated the capital appreciation rate of the S&P 500 Index from 1948 to 2013 and compared the results to the average GDP growth rate over the same period.[44] As shown on Schedule RBH-S27, the geometric average growth in earnings from 1948 to 2013 was 5.99 percent, while the geometric average growth in nominal GDP was 6.53 percent over the same period. That analysis demonstrates that there has been a strong correlation between earnings per share growth for companies in the S&P 500 and nominal GDP growth since at least the post-World War II era. I also note that those growth rates are reasonably consistent with the geometric average capital appreciation rates reported by Morningstar for large-

---

43 *See*, Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2014 Classic Yearbook, at 234-235, Table B2. Calculated from beginning and ending index values.

44 Note, I reported the average real GDP growth rate over the 1948 – 2013 period in my Rebuttal Testimony. For comparison purposes, I now calculate the nominal GDP growth rate over that same period.

capitalization companies of 7.67 percent over the same period.[45] In addition, those growth rates also are consistent with the 6.23 percent nominal GDP growth rate for the period from 1929-2013, which is the period covered by my calculation of long-term real GDP growth.[46]

Further, industry practice has been to assume that nominal GDP growth is a reasonable surrogate for long-term earnings per share growth. In that regard, the Commission has accepted that practice in prior decisions in which it relied on nominal GDP growth as the appropriate growth rate for the terminal stage of the Multi-Stage DCF Model.[47] As noted in my Rebuttal Testimony, even a brief survey of finance texts speaks to the use of long-term GDP growth as a reasonable estimate for the terminal period.[48]

Q. What is your response to Mr. Marevangepo with respect to long-term inflation?

A. Mr. Marevangepo asserts "most projections for inflation for GDP are approximately 2.0 percent", but he does not provide any specific sources to support his claim.[49] However, it is interesting to note that Duff & Phelps (the data source Mr. Marevangepo references for the MRP component of his CAPM) reports five surveys of long-term expected inflation, with four of the five estimates 2.30 percent or higher.[50] Regardless, the 2.35 percent inflation rate used in my Direct Testimony (updated to 2.36 percent in my Rebuttal Testimony) is based on the ten-year forward long-term TIPS spread which is a directly

---

45 *See*, Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2014 Classic Yearbook, at 234-235, Table B2.

46 Source: Bureau of Economic Analysis, National Economic Accounts, June 30, 2014.

47 *See*, for example, Report and Order in Case No. ER-2008-0318, January 27, 2009, at 21-22; and Report and Order in Case No. ER-2010-0036, May 28, 2010, at 18-19.

48 *See*, Rebuttal Testimony of Robert B. Hevert, at 22.

49 *See* Rebuttal Testimony of Zephania Marevangepo, at 11.

50 *See* Duff & Phelps, 2014 Valuation Handbook, at 3-7.

measurable market-based indicator of investors' expectations for future inflation starting at the time of the terminal stage of my Multi-Stage DCF model. While, as discussed by Mr. Marevangepo, the Federal Reserve currently has a 2.00 percent target for inflation,[51] it is instructive to note inflation has averaged nearly 3.00 percent from 1929 - 2013.[52] And, as discussed below, some investors, such as Baron Funds' CEO and Chief Investment Officer, expect future inflation will approach its historical average.

Q. Is your GDP calculation methodology consistent with financial literature?

A. Yes, it is. For example, Morningstar describes a three-stage DCF approach (generally consistent with the model included in my Direct & Rebuttal Testimonies) in which the final stage assumes that long-run growth moves toward that of the overall economy. Morningstar describes an approach to calculating the long-term growth estimate that is similar to that which is included in my model in that Morningstar's method also combines historical average real GDP growth rate with a measure of inflation calculated using the TIPS spread.[53]

Q. Is there industry literature indicating investors expect companies to grow at or above your long-term 5.71 percent GDP growth rate?

A. Yes, there is. For example, Baron Fund's recent quarterly report included an introduction from the CEO and Chief Investment Officer, Ron Baron, discussing his general expectation for future long-term stock growth:[54]

---

51 *See*, Staff Cost of Service Report, at 11.

52 Source: Bureau of Economic Analysis. Geometric average nominal GDP growth of 6.23% minus geometric average real GDP growth of 3.27% = 2.96%.

53 *See* Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2013 Valuation Yearbook, at, at 52.

54 Baron Funds, founded in 1982, provides a range of different mutual funds for retail and institutional investors. *See* http://www.baronfunds.com/ .

> Although we believe it is not possible to predict markets in the short term, we think long-term prospects for publicly owned businesses are quite favorable. This is since we think they will continue to double their earnings and their value from present levels about every ten years. That represents a 7% compounded annual growth rate. This is while the purchasing power of our money will continue to fall by half every twenty years. That represents, as has been the case for the past hundred years, about a 3.5% annual decline in the dollar's purchasing power.[55]

In addition, as noted in my Rebuttal Testimony, in Financial Management: Theory and Practice Eugene F. Brigham and Michael C. Ehrhardt explain:[56]

> Expected growth rates vary somewhat among companies, but dividend growth for most mature firms is generally expected to continue in the future at about the same rate as nominal gross domestic product (real GDP plus inflation). On that basis, one might expect the dividends of an average, or "normal," company to growth at a rate of 5% to 8% a year.[57]

Q. What is your response to Mr. Marevangepo's assertion that Staff has reviewed confidential asset and equity valuation reports in the context of mergers, acquisitions and other financial/investment advisor roles and never seen a growth rate greater than 4.00 percent?[58]

A. Mr. Marevangepo has expressed Staff's opinion, but has provided no specific references that can be reviewed and assessed. For example, it is unclear whether the growth rates referred to by Mr. Marevangepo are real or nominal growth rates.[59] In general, however,

---

55 Baron Funds, Quarterly Report, June 30, 2014 at 1.

56 *See* Rebuttal Testimony of Robert B. Hevert, at 22.

57 Eugene Brigham and Michael Ehrhardt, Financial Management: Theory and Practice, 12th Ed. (Mason, OH: South-Western Cengage Learning, 2008), at 291.

58 *See* Rebuttal Testimony of Zephania Marevangepo, at 12.

59 I note in Case No. 2011-0028, the Staff witness cited a long-term real terminal growth rate reported by Goldman Sachs as a benchmark for Staff's expected long-term growth rate. The Commission's order in that case noted the flaw with using a *real* growth rate to develop a *nominal* estimate for investor's required return. *See*, Report and Order, Public Service Commission of the State of Missouri, File No. ER-2011-0028, dated July 13, 2011, at 69.

it appears that Mr. Marevangepo is conflating discount rates developed for the purpose of mergers and acquisitions or asset valuations with the Cost of Equity of an equity market investor. The former may reflect a valuation premium associated with the benefit of gaining a controlling interest in a company (often referred to as a "control premium") which would not be reflected in an individual equity investors' required return. Consequently, the fair value of a company to a prospective buyer purchasing the entire company will often be higher than the market value to minority investors in the subject company's debt and equity. This fact can be observed in Exelon's offer to acquire Pepco Holdings in an all-cash transaction on April 29, 2014 with an upfront premium of approximately 24.70 percent over the previous day's stock price.[60]

To that point, I note the Commission's order in Case No. 2011-0028 addressed the use of discount rates developed by financial advisors or equity analysts for purposes other than determining the appropriate ROE for the subject utility, finding that the former should not be used as a measure of the latter.

Q. Are you aware of any recent statements by utility executives that would indicate they use a required return for merger and acquisition investments that is higher than the 7.80 percent to 8.80 percent ROE range calculated by Mr. Marevangepo using his 4.00 percent to 5.00 percent perpetual growth rate?[61]

A. Yes, I am. American Electric Power's ("AEP") Chairman President and CEO, Nicholas Akin, stated on the company's July 25, 2014 quarterly financial earnings call that AEP's

---

60 *See*, Exelon Investor Presentation, *Exelon Announces Acquisition of Pepco Holdings, Inc.*, April 30, 2014, at 7.

61 *See*, Staff Cost of Service Report, at 31.

merger and acquisition spending would be assessed relative to the return available on its transmission investment spending.[62] A review of AEP's most recent annual Form 10-K filed with the Securities Exchange Commission indicates AEP's authorized rates of return on equity for transmission investments range from 9.96 percent to 12.80 percent, with only one authorized return below 11.00 percent.[63]

Earnings Growth Rate

Q. What are Mr. Marevangepo's concerns with the earnings growth rates used in your DCF analyses?

A. Mr. Marevangepo suggests (1) utility stock valuations are largely determined by stable dividends rather than earnings growth estimates; and (2) three to five year earnings growth estimates are above expected long-term GDP growth and therefore "inflate" the Quarterly Growth and Constant Growth DCF results when used as estimates of perpetual growth.[64]

Q. What is your response to Mr. Marevangepo regarding investors' use of dividends to value stocks?

A. First, the analyses presented in my Rebuttal Testimony demonstrated that EPS growth is the *only* statistically significant predictor of the proxy companies' Price/Earnings ratios.[65] Consequently, even if Mr. Marevangepo is of the view that the earnings growth

---

62 *See*, FactSet CallStreet, Corrected Transcript: American Electric Power Co., Inc., Q2 2014 Earnings call, July 25, 2014, at 6.

63 *See*, American Electric Power, SEC Form 10-K for the fiscal year ended December 31, 2013, at 28 - 29. Note, AEP reports internal (the "Transcos" segment) projects' have rates from 11.20% to 11.49% while joint ventures have approved ROEs ranging from 9.96% to 12.80%.

64 *See*, Rebuttal Testimony of Zephania Marevangepo, at 10-11.

65 *See*, Rebuttal Testimony of Robert B. Hevert, at 14-16.

projections are too high, empirical evidence and academic research demonstrate that investors rely on earnings growth projections in arriving at their investment decisions.

Q. Do you agree with Mr. Marevangepo's concern regarding the sustainability of three to five year earnings growth estimates in the DCF model?

A. No, I do not. First, Mr. Marevangepo's position is premised on his observation that the three to five year earnings growth estimates in my Quarterly DCF and Constant Growth DCF models are below his estimate of perpetual GDP growth. However, as discussed above, as well as in my Rebuttal Testimony, Mr. Marevangepo's GDP growth estimate is unreasonably low and inconsistent with historical experience and market expectations.[66] In contrast, the 5.34 percent average earnings growth rate used in the DCF analyses presented in my Direct Testimony (updated to 5.45 percent in the analyses accompanying my Rebuttal Testimony) is well below the 5.71 percent long-term GDP growth estimate discussed in my Direct and Rebuttal Testimonies.

Second, regardless of whether Mr. Marevangepo believes that analysts' growth rate projections are too high, the relevant analytical question is whether investors rely on those estimates in making their investment decisions. As discussed in my Direct and Rebuttal Testimonies, there is a substantial body of research showing investors are primarily concerned with earnings and cash flow growth.[67] That finding is corroborated by the analyses presented in my Rebuttal Testimony comparing earnings, dividend and book value per share growth measures.

Lastly, while Mr. Marevangepo criticizes the use of analyst growth rates, those

---

66 *Ibid.*, at 17-24.

67 *See*, Direct Testimony of Robert B. Hevert, at 13-15; Rebuttal Testimony of Robert B. Hevert, at 13-17.

rates are observable and have a demonstrated empirical relationship to utility valuation multiples. The growth rates included in Mr. Marevangepo's analysis, on the other hand, are based on his subjective opinion as to those which "investors are likely using."[68] That is, rather than rely on an independent, observable, and verifiable source of growth rate projections, Mr. Marevangepo provides a discussion of GDP growth and each proxy company's historical and projected growth rates, and in the context of that narrative, applies his subjective judgment to arrive at what he considers to be a suitable growth rate. Because it is substantially a function of his judgment, Mr. Marevangepo's analysis cannot be replicated; it is quite likely that other analysts looking at the same information would arrive at entirely different conclusions. Given the empirical support for using published, observable, and verifiable analysts' growth rate projections, Mr. Marevangepo's approach essentially substitutes his judgment for that of the market.

Q. Does Mr. Marevangepo acknowledge that some of the proxy group companies may grow at a rate faster than expected long-term GDP growth in the near-term?

A. Yes, Mr. Marevangepo believes it would be acceptable to include three to five year earnings growth estimates that are greater than the expected growth of the overall economy in the first stage of a multi-stage DCF model. Mr. Marevangepo, however, did not use a multi-stage model. Rather, he developed a generic range of growth rates, which he determined must be at or below his estimate of long-term GDP growth.[69] Consequently, aside from our differences regarding the appropriate terminal growth rate, Mr. Marevangepo's analysis understates expected investor return by ignoring shareholder

[68] Staff Cost of Service Report, at 31.
[69] *Ibid.*, at 24-26.

returns expected from above-average near-term growth (that is, before growth converges toward a more steady-state long-term average rate).

Capital Asset Pricing Model

Q. What are Mr. Marevangepo's concerns with your CAPM analyses?

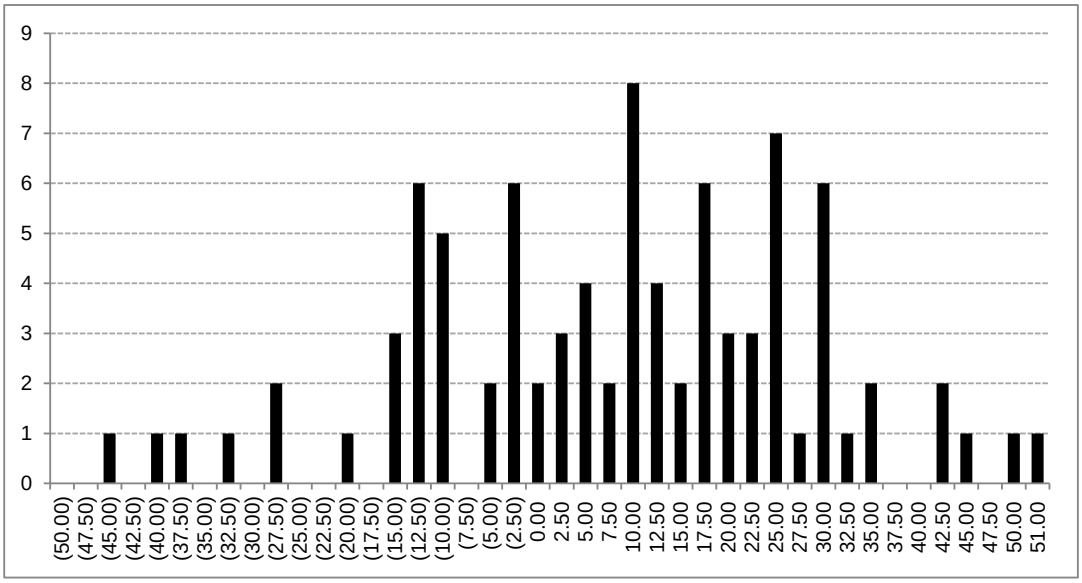
A. Mr. Marevangepo suggests that the Market Risk Premium ("MRP") estimates in my Direct Testimony are "inflated" because they are based on market returns calculated using three to five year earnings growth projections. Mr. Marevangepo also notes that regulated utilities should not have the same equity risk premium as non-regulated utilities.[70]

Q. Did you consider where your MRP estimates fall within the range of historical observations?

A. Yes, I did. Because Mr. Marevangepo concludes that the MRP estimates used in my analyses are "inflated", it is instructive to understand how often various ranges of MRPs actually occurred over the 1926 to 2013 period. To perform that analysis, I gathered the annual Market Risk Premia reported by Morningstar and produced a histogram of the observations. The results of that analysis, which are presented in Chart 1 below, demonstrate that MRPs of at least 8.63 percent (the high end of the range of MRP estimates in my Direct Testimony) have occurred nearly half of the time.

[70] Rebuttal Testimony of Zephania Marevangepo, at 13-14.

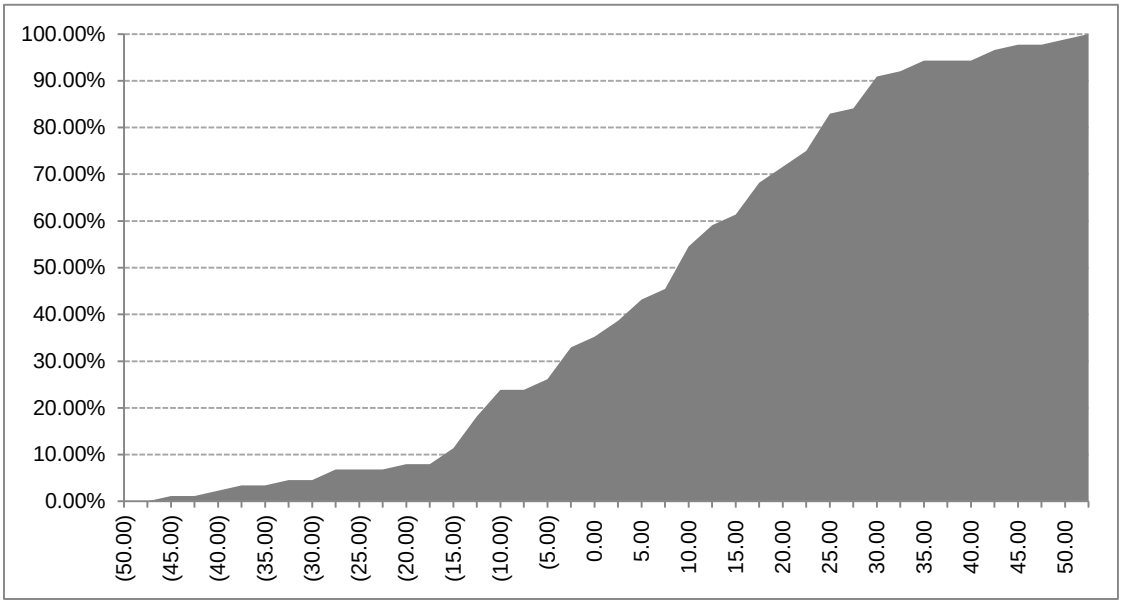
Chart 1: Frequency Distribution of Market Risk Premia, 1926 - 2013[71]



I then considered a different perspective, calculating the cumulative probability of the same ranges of MRP estimates. Those results, which are provided in Chart 2 (below) demonstrate that an MRP of at least 8.63 percent will occur approximately half of the time.

[71] Source: Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2014 Classic Yearbook, at 196-197.

Chart 2: Cumulative Probability of Market Risk Premia, 1926 - 2013[72]

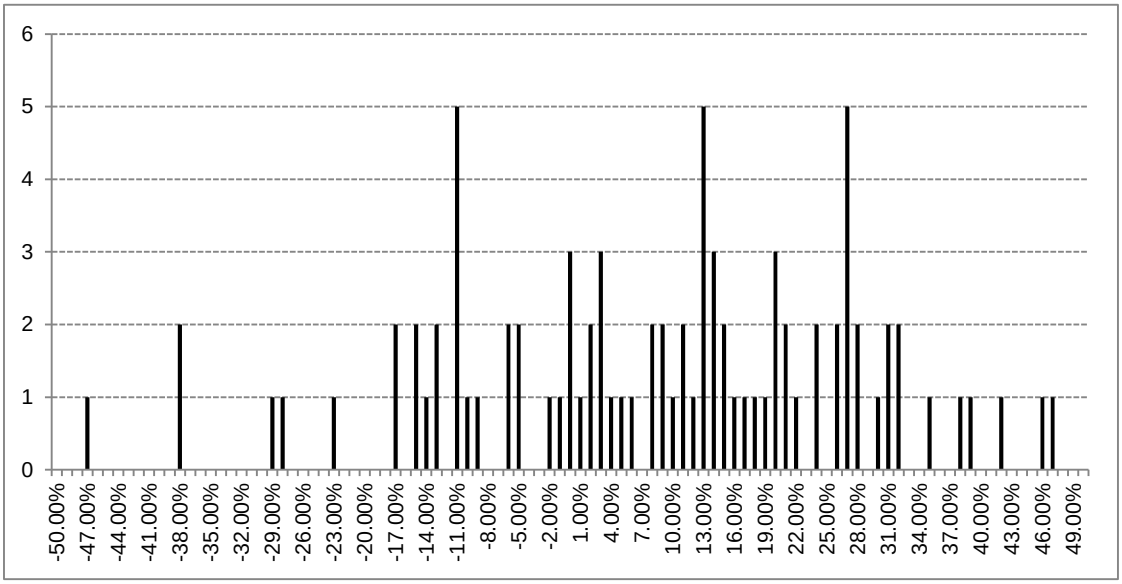


Q. Turning to Mr. Marevangepo's position that the EPS growth rates used to develop your estimated market return are too high, did you consider where your estimates fall within the range of historical observations?

A. Yes. I gathered the annual capital appreciation return on Large Company Stocks reported by Morningstar for the years 1926 through 2013, produced a histogram of those observations, and calculated the probability that a given capital appreciation return estimate would be observed. The results of that analysis, which are presented in Chart 3 (below), demonstrate that capital appreciation rates of 10.00 percent and higher occurred quite often.

[72] *Ibid.*

Chart 3: Frequency Distribution of Observed Capital Appreciation Rates[73]



In fact, the average growth rates in my Bloomberg and Value Line MRP analyses, which Mr. Marevangepo asserts are "inflated" by historical standards represent approximately the 50th percentile of the actual capital appreciation rates observed from 1926 to 2013.

Q. Do you have any other concerns with Mr. Marevangepo's analysis of your MRP estimates?

A. Yes. As noted above in my response to Mr. Marevangepo regarding the growth rate component of the DCF model, there is a significant amount of literature indicating that investors rely on earnings growth rate projections when making investment decisions. In addition, because the Cost of Equity is forward-looking, it is reasonable to rely on forward-looking market return estimates to develop the MRP. Mr. Marevangepo,

[73] Source: Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook, Table A-3, at 200-201.

however, relies on long-term historical data to calculate the MRP and a three-month average of the 30-year Treasury yield to calculate the risk-free rate. Mr. Marevangepo's analysis is not only based on historical data, but it includes a temporal mismatch. As discussed in my Direct and Rebuttal Testimonies, academic research has shown that there is an inverse relationship between interest rates and the equity risk premium, which Mr. Marevangepo fails to consider.[74] Based on that inverse relationship, it is not appropriate to use a historical equity risk premium (*i.e.*, currently 6.96 percent, as reported by Morningstar), as Mr. Marevangepo has done, because that figure is based on an average income-only return on government bonds of 5.10 percent that is substantially higher than the current average yield on government bonds.[75] If Mr. Marevangepo were to use his arithmetic historical MRP of 6.20 percent, the historical risk-free rate of 5.10 percent, and his beta coefficient estimate of 0.80, his CAPM result would increase from 8.55 to 10.06 percent (*i.e.*, increase by 151 basis points).[76] Moreover, using Morningstar's 6.96 percent historical market risk premium estimate instead of Mr. Marevangepo's 6.20 percent would produce a CAPM result of 10.67 percent.

Q. Do you have any concerns with Mr. Marevangepo's use of the Duff & Phelps 5.00 percent MRP estimate to check the reasonableness of his own MRP estimate?

A. Yes, I do. It is not clear that the discount rate developed by Duff & Phelps is comparable to the Cost of Equity analyses we are performing for Liberty Utilities in this proceeding. As discussed earlier, discount rates developed for different purposes are not necessarily

[74] *See*, Direct Testimony of Robert B. Hevert, at 33-34; and Rebuttal Testimony of Robert B. Hevert, at 33.

[75] *See*, Morningstar, Inc., Ibbotson Stocks, Bonds, Bills and Inflation 2014 Classic Yearbook, Table 6-7 at 91, and Table 11-1 at 142.

[76] 5.10% + (0.80 x 6.20%) = 10.06%. Note, the CAPM result does not include Mr. Marevangepo's ** ** basis point upward adjustment for the credit rating differential between LUCo and Staff's proxy group.

interchangeable. To that point, and as shown in Table 2 below, CAPM results produced using MRP estimates historically reported by Duff & Phelps are consistently below actual authorized natural gas utility ROEs.

Table 2: CAPM Results Using Duff & Phelps MRP[77]

	Average Authorized Natural Gas ROE	***Average Implied ROE Using Duff & Phelps MRP[78]***	***Difference***
2014	9.71%	7.67%	-2.04%
2013	9.68%	7.46%	-2.21%
2012	9.94%	7.38%	-2.56%
2011	9.92%	8.57%	-1.35%
2010	10.15%	8.64%	-1.50%
2009	10.22%	8.67%	-1.54%
2008	10.39%	8.65%	-1.74%

It appears, therefore, that the Duff & Phelps MRP estimate is not an appropriate input for determining the required ROE for a utility. Consequently, Duff & Phelps' MRP estimate does not support the reasonableness of Mr. Marevangepo's own MRP estimates.

Setting aside the appropriateness of Duff & Phelps discount rate for use in the estimation of Liberty Utilities' required ROE, I note Duff & Phelps recommends the use of a normalized risk-free rate of 4.00 percent (37 basis points above Mr. Marevangepo's 3.63 risk-free rate). Moreover, as discussed in my Rebuttal Testimony, Duff & Phelps

[77] *See*, Schedule RBH-S28.

[78] Calculated as 3-month average 30-year Treasury yield + (0.80 x Duff & Phelps most recent MRP). Data as of each rate case decision date.

notes the CAPM formula can be adjusted to compensate for the incremental risk associated with small size.[79] Duff & Phelps' "Micro-Cap" risk premium associated with Liberty Utilities' size would be 3.87 percent.[80]

Q. What is your response to Mr. Marevangepo's observation that regulated utilities should not have the same equity risk premium as non-regulated utilities?

A. Mr. Marevangepo's concern is misplaced. Mr. Marevangepo states that if it is assumed "regulated utilities and unregulated corporations require the same equity returns or greater, then their reported implied equity risk premiums will obviously be much higher than what is actually expected by regulated utility common equity investors."[81] The S&P 500 Index used in my estimate of the MRP, however, is not meant to reflect the Company's risk. As explained in my Direct Testimony, the CAPM is based on the principle that investors are compensated for non-diversifiable or "systematic" risk.[82] Systematic risk is represented by the Beta coefficient, which is a measure of the subject company's risk relative to the overall market. Equations [5] and [6] to my Direct Testimony demonstrate that the expected market return is not meant to reflect the risk of the subject company (in this case Liberty Utilities) as Mr. Marevangepo suggests. Rather, the Beta coefficient relates the subject company's risk to that of the overall market.

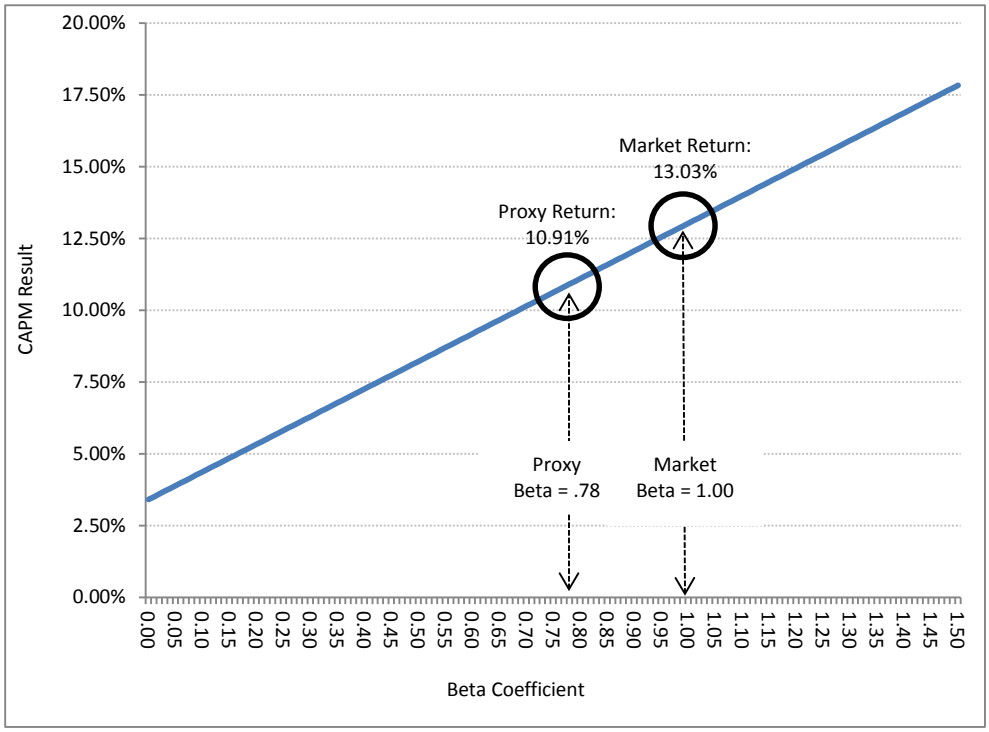
The relationship among the Cost of Equity, the Beta coefficient, and the market risk premium is illustrated by the "Security Market Line". As shown in Chart 4 (below),

---

79 *See*, Rebuttal Testimony of Robert B. Hevert, at 31- 32.
80 *See* Duff & Phelps, 2014 Valuation Handbook, Appendix 3.
81 Rebuttal Testimony of Zephania Marevangepo, at 13-14.
82 *See*, Direct Testimony of Robert B. Hevert, at 25.

only a company with a Beta coefficient of 1.00 would have a risk and return level comparable to the S&P 500 Index.

Chart 4: Security Market Line[83]



Nowhere in my testimony have I suggested that the Company's risk is comparable to the market. It would have been improper to do so. Rather, I have been quite clear in noting that the proxy companies are less risky than the overall market; they have Beta coefficients less than 1.00 and required returns less than that of the overall market. As such, Mr. Marevangepo's concern is unfounded and misplaced.

Bond Yield Plus Risk Premium Approach

Q. What are Mr. Marevangepo's concerns with your Risk Premium analyses?

83 Note, the 13.03% market return is the average of the 13.35% and 12.70% ex-ante market DCF calculations contained in Schedule RBH-R16 and the 0.78 Beta coefficient is the average of the Bloomberg, Value Line and calculated betas provided in Schedule RBH-R17.

A. Mr. Marenvangepo suggests my Bond Yield Plus Risk Premium analysis is inappropriate because he believes public utility commissions have historically authorized ROEs above the actual Cost of Equity.

Q. Do you agree that commissions usually authorize ROEs above the actual Cost of Equity?

A. No, I do not. The process for determining the appropriate ROE in other jurisdictions is similar to that relied on by the Commission, with multiple expert witnesses providing a variety of analyses and recommendations. With that data in hand, the commissioners are well informed and able to determine an appropriate authorized ROE for the subject company based on the available information at the time. In addition to the information available to the commissioners, most jurisdictions rely on a standard similar to those laid out in the *Hope* and *Bluefield* decisions (as the Commission does). As noted in my Direct Testimony, those standards state that the authorized return must be "just and reasonable" and no more than is necessary while allowing investors a reasonable return.[84] Based on the information available from expert witnesses and the *Hope* and *Bluefield* standards, it is unclear why commissions would consistently provide utilities with higher returns than are reasonable.

Q. Has the Commission provided guidance as to the importance of authorized returns in other jurisdictions in determining the ROE for utilities in Missouri?

A. Yes, it has. As stated in my Rebuttal Testimony, Liberty Utilities must compete for

[84] *See*, Direct Testimony of Robert B. Hevert, at 5.

capital with other comparable regulated natural gas distribution utilities.[85] The Commission, in its Report and Order in Ameren Missouri's most recent rate case, provided similar guidance, noting that it is reasonable to review allowed ROEs in other jurisdictions.[86] The Commission further stated that "Ameren Missouri must compete for capital with other utilities" and if it were authorized an ROE well below those of other utilities, it "could cause that available capital to flow away from Ameren Missouri to the detriment of both shareholders and ratepayers."[87] As such, authorized returns provide a reasonable benchmark for determining the ROE for Liberty Utilities.

Q. Have you reviewed the most recent authorized ROEs in place at the operating utility companies within the proxy group?

A. Yes, I have. I calculated the range and average Return on Equity authorized for the utility operating companies in my proxy group. As shown in Schedule RBH-S29, the average authorized ROE is 10.35 percent, or 165 basis points above Mr. Marevangepo's 8.70 percent ROE recommendation (the median is 10.10 percent, or 140 basis points above Mr. Marevangepo's recommendation).

Utility Risk and Capital Market Environment

Q. What is Mr. Marevangepo's position with regard to the risk profile of utilities and the required return for utilities in the current capital market?

A. Mr. Marevangepo states utilities are viewed as "widow and orphan" investments for risk-averse investors and "flight to safety" investments for those seeking high yields when

85 *See*, Rebuttal Testimony of Robert B. Hevert, at 34.
86 *See*, Report and Order, Public Service Commission of the State of Missouri, File No. ER-2012-0166, dated December 12, 2012, at 67.
87 *Ibid*., at 72.

treasury yields are relatively low due to recessionary and other macro-economic conditions.[88] Mr. Marevangepo further suggests utilities are considered alternatives to bond investments.

Q. What is your response to Mr. Marevangepo regarding capital markets and utility risk levels?

A. First, as noted in my response to Mr. Marevangepo regarding the MRP component of CAPM, I agree that utility stocks are considered to be less risky than the overall market. However, it also is important to recognize there are risks attendant with equity ownership and utility stocks may not be the safe haven Mr. Marevangepo suggests. For example, from its pre-recession peak on December 10, 2007 to its trough on March 9, 2009, the S&P 500 Utility Index lost nearly 50.00 percent of its value during the recent financial crisis. The S&P 500 Utility Index also substantially underperformed the broader market in 2013.

In addition, when market volatility increases the correlation of returns among different asset classes and equity sectors also increases. That is, as conditions more volatile, all sectors (including utilities) trade more in line with the overall market, indicating that there are fewer "safe harbor" sectors for investors to seek. As noted in The Wall Street Journal shortly following the 2008 – 2009 financial crisis when market volatility was at historically high levels, stocks were "trading in lock-step more than at any time since the 1987 crash, and the trend has some analysts concerned."[89] A January

[88] Rebuttal Testimony of Zephania Marevangepo, at 8-9.

[89] *The Herd Instinct Takes Over,* The Wall Street Journal, July 12, 2010. See also *"Macro" Forces in Markets Confound Stock Pickers,* The Wall Street Journal, September 24, 2010.

2012 article in The Wall Street Journal, again following a period of elevated market volatility, noted that "[a] fact of life for investors in recent years, especially in the stock market, has been the dramatic rise in correlations. One surprise of 2011 was the degree to which correlations within and across financial markets returned with a vengeance."[90] As with other asset classes and equity market segments, utility stocks also exhibit increasing correlation with the broad market during periods of market instability (see Table 3, below).

Table 3: Correlation of Natural Gas Utility Stock Returns to Overall Market Returns During Periods of Higher and Lower Market Volatility (2004 through July 31, 2014)

Volatility (as measured by the VIX)[91]	***Correlation of S&P 500 and S&P Natural Gas Utility Index Returns***[92]
< 15	0.47
< 20	0.55
> 20	0.72
> 25	0.84

The practical implication is that as the correlation between natural gas companies and the broad market increases, it is less likely that investors will see utility shares as "defensive" investments that would provide meaningful diversification benefits. Second, as the correlation increases, it is reasonable to expect that the Beta coefficient (which measures the relationship between the return on the broad market and the return on the

90 *High Correlations Could Be Here To Stay*, The Wall Street Journal, WSJ.com, January 4, 2012.
91 Source: Bloomberg Professional. 90-trading-day average value.
92 Average of 90-trading-day correlation of weekly returns on S&P 500 Index and the S&P 500 Natural Gas Utility Index during periods when the average VIX value fell within the specified range.

subject security) also will increase.

Q. Do you have any observations regarding Mr. Marevangepo's characterization of utility stocks as "widow and orphan" investments?

A. Yes, I do. Mr. Marevangepo's characterization is an over simplification of the universe of utility investors given that the proxy group companies are largely held by institutional investors. As shown in Table 4 below, institutional investors own (on average) 62.97 percent of the proxy group companies.

Table 4: Institutional Ownership Percentage of Proxy Group[93]

Company	*Ticker*	*% Institutional Ownership*
AGL Resources	GAS	64.01%
Atmos Energy	ATO	71.44%
Laclede Group	LG	52.63%
New Jersey Resources	NJR	60.17%
Northwest Natural Gas	NWN	61.11%
Piedmont Natural Gas	PNY	51.62%
South Jersey Industries	SJI	61.92%
Southwest Gas	SWX	77.34%
Washington Gas Light	WGL	66.48%
Average:		**62.97%**

While Mr. Marevangepo cites an article titled "It's Time to Abandon Utility Stocks" that states utility stocks are often referred to as "widow and orphan stocks", I note that article suggests utility stock valuations have been influenced by the Federal

[93] Source: SNL Financial.

Reserve's monetary intervention and may now be too risky for risk-averse investors:

> To understand why utilities carry so much risk, we first need to understand the dynamics that have driven the sector higher. A large part of the industry's strength has come as a direct result of the Federal Reserve's actions. For more than five years now, the Fed has pumped liquidity into the market in an effort to prop up the economy and bolster employment. The Fed has done this by setting interest rate targets at historically low levels, and then spending massive amounts to buy Treasury bonds and mortgage-backed securities.
>
> …
>
> The key point here is that the utility sector is no longer a safe place for "widows and orphans" (or any other conservative investor). As the Fed backs off its aggressive asset buying program, capital will continue to flow out of this sector, driving stock prices lower.

Q. Are there other financial articles that suggest utility valuations are unsustainably high in the current interest rate environment?

A. Yes, there are. For example an April 2014 Forbes article cited by Mr. Marevangepo discussed the perceived overvaluation of utility stocks:[94]

> The false equivalency that dividends equal safety has led investors to ignore the significant risks and bloated valuations of the stocks that utilities funds hold. Good utility stocks are hard to find because dividend-seeking investors have bid the prices up well beyond their fair valuations.[95]

And, an article from The Wall Street Journal notes that utility stocks were the worst performing S&P 500 sector in July 2014 and cautions:

> Goldman Sachs recently warned investors that utility stocks are likely to fall as yields on Treasurys rise in anticipation of the Fed lifting rates next year. Utility stocks fell 9.1% in May 2013 when investors began pricing in the possibility that the Fed would pare back bond

[94] *See*, Rebuttal Testimony of Zephania Marevangepo, at 9.
[95] *Dividends Are No Antidote To Overvaluation In Utilities*, Forbes, April 28, 2014.

purchases.[96]

Q. What are the implications of potential changes in the valuation levels of utility stocks?

A. One of the underlying assumptions of the Constant Growth DCF model is that Price/Earnings ("P/E") ratios remain constant in perpetuity. The articles noted above, however, suggest that utility P/E ratios may be unsustainably high. If the constant P/E ratio assumption is not expected to hold, then the results of the Constant Growth DCF model (which Mr. Marevangepo relies on to form his ROE recommendation) may by unreliable.[97]

IV. CONCLUSIONS AND RECOMMENDATION

Q. What are your overall conclusions and recommendation?

A. The differences between Mr. Marevangepo's and my analytical approaches generally remain the same and have been addressed above, as well as in my Rebuttal Testimony. I continue to believe 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. Taking in to consideration the capital environment in which the Company operates and the Company's small size, I continue to recommend an ROE of 10.50 percent.

I also continue to believe the Company's actual embedded cost of debt (4.50

[96] *Natural Gas Prices Dim Utility Stocks*, The Wall Street Journal, August 7, 2014.
[97] *See*, Morin, Roger A., New Regulatory Finance, Public Utilities Report, Inc., 2006, at 433.

percent) and actual capital structure (58.34 percent common equity and 41.66 percent long-term debt) are reasonable and consistent with industry practice.

Q. Does that conclude your Surrebuttal Testimony?

A. Yes, it does.

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	)	Case No. GR-2014-0152
For Natural Gas Service in the Missouri	)	
Service Areas of the Company.	)	

AFFIDAVIT OF ROBERT B. HEVERT

COMMONWEALTH OF MASSACHUSETTS)
) ss
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 Surrebuttal Testimony on behalf of Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities consisting of forty-one (41) pages and Schedules RBH-S26 through RBH-S29, 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.

Robert B. Hevert

Subscribed and sworn before me this 14th day of August, 2014.

Notary Public

My commission expires: April 16, 2015

KIMBERLY H. DAO
Notary Public
Commonwealth of Massachusetts
My Commission Expires
April 16, 2015

KIMBERLY H. DAO NOTARY PUBLIC

Capital Structure and Interest Rates

	[1]	[2]
Rolling 4 Quarters	Proxy Group Average Equity Ratio	30-Year Treasury Yield
2013Q2 - 2014Q1	55.41%	3.58%
2012Q2 - 2013Q1	56.14%	2.92%
2011Q2 - 2012Q1	56.77%	3.56%
2010Q2 - 2011Q1	56.00%	4.24%
2009Q2 - 2010Q1	54.91%	4.36%

		Common Equity Ratio																			
		2014Q1	2013Q4	2013Q3	2013Q2	2013Q1	2012Q4	2012Q3	2012Q2	2012Q1	2011Q4	2011Q3	2011Q2	2011Q1	2010Q4	2010Q3	2010Q2	2010Q1	2009Q4	2009Q3	2009Q2
AGL Resources Inc.	GAS	50.40%	48.78%	48.02%	48.10%	49.83%	49.00%	48.74%	48.90%	48.82%	48.11%	40.81%	46.56%	46.68%	47.90%	49.79%	49.40%	48.15%	47.40%	46.52%	50.82%
Atmos Energy Corporation	ATO	55.99%	52.01%	51.23%	51.25%	50.88%	55.34%	54.66%	51.63%	51.69%	50.69%	50.52%	51.40%	52.36%	51.30%	50.09%	51.61%	51.88%	51.00%	50.07%	50.25%
Laclede Group, Inc. (The)	LG	57.06%	53.88%	53.40%	69.94%	57.94%	63.00%	62.26%	62.63%	62.78%	61.79%	61.12%	61.38%	60.95%	60.07%	57.91%	58.41%	58.71%	57.73%	57.05%	57.70%
New Jersey Resources Corporation	NJR	61.52%	60.02%	60.41%	60.42%	62.60%	61.57%	60.43%	65.72%	66.34%	65.11%	64.12%	64.39%	63.97%	62.39%	61.19%	61.59%	62.38%	60.82%	59.89%	61.33%
Northwest Natural Gas Company	NWN	51.24%	50.32%	49.61%	51.97%	52.24%	51.30%	52.68%	53.38%	53.67%	51.06%	51.98%	54.65%	54.54%	53.49%	51.47%	52.04%	52.13%	50.86%	50.15%	52.82%
Piedmont Natural Gas Company, Inc.	PNY	52.85%	48.25%	55.41%	55.80%	52.99%	51.30%	51.73%	52.20%	60.41%	59.63%	58.17%	58.86%	58.12%	56.87%	55.53%	56.13%	55.61%	53.94%	53.53%	54.08%
South Jersey Industries, Inc.	SJI	54.19%	54.11%	55.74%	55.16%	55.39%	54.03%	54.06%	55.41%	61.03%	59.41%	58.27%	57.32%	57.47%	55.81%	57.78%	57.71%	61.03%	60.98%	59.58%	60.07%
Southwest Gas Corporation	SWX	51.62%	50.39%	51.34%	52.09%	52.36%	49.84%	50.10%	51.19%	48.19%	49.45%	50.65%	51.73%	52.31%	49.32%	50.99%	51.41%	50.85%	46.45%	46.45%	46.80%
WGL Holdings, Inc.	WGL	67.63%	66.92%	68.32%	69.52%	69.90%	68.81%	68.30%	68.55%	67.90%	66.09%	64.42%	65.34%	65.46%	63.36%	64.93%	65.74%	63.23%	61.84%	63.01%	61.55%
4 Quarter Equity Average:		55.41%				56.14%				56.77%				56.00%				54.91%			

Notes:
[1] SNL Financial
[2] Source: Federal Reserve Board Schedule H.15.

Nominal Growth in U.S. GDP and S&P 500 Earnings: 1948 - 2013

	[1]	[2]
Year	GDP in Current Dollars ($ Billions)	S&P 500 Earnings
1948	274.80	2.29
1949	272.80	2.32
1950	300.20	2.84
1951	347.30	2.44
1952	367.70	2.40
1953	389.70	2.51
1954	391.10	2.77
1955	426.20	3.62
1956	450.10	3.41
1957	474.90	3.37
1958	482.00	2.89
1959	522.50	3.39
1960	543.30	3.27
1961	563.30	3.19
1962	605.10	3.67
1963	638.60	4.02
1964	685.80	4.55
1965	743.70	5.19
1966	815.00	5.55
1967	861.70	5.33
1968	942.50	5.76
1969	1,019.90	5.78
1970	1,075.90	5.13
1971	1,167.80	5.70
1972	1,282.40	6.42
1973	1,428.50	8.16
1974	1,548.80	8.89
1975	1,688.90	7.96
1976	1,877.60	9.91
1977	2,086.00	10.89
1978	2,356.60	12.33
1979	2,632.10	14.86
1980	2,862.50	14.82
1981	3,210.90	15.36
1982	3,345.00	12.64
1983	3,638.10	14.03
1984	4,040.70	16.64
1985	4,346.70	14.61
1986	4,590.10	14.48
1987	4,870.20	17.50
1988	5,252.60	23.76
1989	5,657.70	22.90
1990	5,979.60	21.34
1991	6,174.00	15.97
1992	6,539.30	19.09
1993	6,878.70	21.88
1994	7,308.70	30.60
1995	7,664.00	33.96

Year	GDP in Current Dollars ($ Billions)	S&P 500 Earnings
1996	8,100.20	38.73
1997	8,608.50	39.72
1998	9,089.10	37.71
1999	9,665.70	48.17
2000	10,289.70	50.00
2001	10,625.30	24.69
2002	10,980.20	27.59
2003	11,512.20	48.74
2004	12,277.00	58.55
2005	13,095.40	69.93
2006	13,857.90	81.51
2007	14,480.30	66.18
2008	14,720.30	14.88
2009	14,417.90	50.97
2010	14,958.30	77.35
2011	15,533.80	86.95
2012	16,244.60	86.51
2013	16,799.70	100.20
Compound Annual Average:	6.53%	5.99%

Notes:
[1] Source: Federal Reserve Board Schedule H.15.
[2] Source: http://www.econ.yale.edu/~shiller/data.htm. Data through July, 2014.

Difference Between Actual Authorized ROE and Implied ROE Using Duff & Phelps Market Risk Premium

	[1]	[2]	[3]
Date	Average Authorized Natural Gas ROE	Average ROE Using Duff & Phelps MRP	Difference
2014	9.71%	7.67%	-2.04%
2013	9.68%	7.46%	-2.21%
2012	9.94%	7.38%	-2.56%
2011	9.92%	8.57%	-1.35%
2010	10.15%	8.64%	-1.50%
2009	10.22%	8.67%	-1.54%
2008	10.39%	8.65%	-1.74%

	[4]	[5]	[6]	[7]	[8]	[9]
Year	Date of Natural Gas Rate Case	Authorized Return on Equity	Duff & Phelps MRP	3-Month Treasury Yield	Marevangepo Beta	CAPM Result (w/ Duff & Phelps MRP)
2008	1/8/2008	10.75%	5.00%	4.61%	0.80	8.61%
2008	1/17/2008	10.75%	5.00%	4.61%	0.80	8.61%
2008	1/17/2008	10.75%	5.00%	4.61%	0.80	8.61%
2008	2/5/2008	9.99%	5.00%	4.46%	0.80	8.46%
2008	2/5/2008	10.19%	5.00%	4.46%	0.80	8.46%
2008	2/13/2008	10.20%	5.00%	4.46%	0.80	8.46%
2008	3/31/2008	10.00%	5.00%	4.41%	0.80	8.41%
2008	5/28/2008	10.50%	5.00%	4.45%	0.80	8.45%
2008	6/24/2008	10.00%	5.00%	4.48%	0.80	8.48%
2008	6/27/2008	10.00%	5.00%	4.48%	0.80	8.48%
2008	7/31/2008	10.70%	5.00%	4.62%	0.80	8.62%
2008	7/31/2008	10.82%	5.00%	4.62%	0.80	8.62%
2008	8/27/2008	10.25%	5.00%	4.62%	0.80	8.62%
2008	9/2/2008	10.25%	5.00%	4.59%	0.80	8.59%
2008	9/19/2008	10.70%	5.00%	4.59%	0.80	8.59%
2008	9/24/2008	10.68%	5.00%	4.59%	0.80	8.59%
2008	9/24/2008	10.68%	5.00%	4.59%	0.80	8.59%
2008	9/24/2008	10.68%	5.00%	4.59%	0.80	8.59%
2008	9/30/2008	10.20%	5.00%	4.45%	0.80	8.45%
2008	10/3/2008	10.30%	5.00%	4.45%	0.80	8.45%
2008	10/8/2008	10.15%	5.00%	4.45%	0.80	8.45%
2008	10/20/2008	10.06%	5.00%	4.45%	0.80	8.45%
2008	10/24/2008	10.60%	5.00%	4.45%	0.80	8.45%
2008	10/24/2008	10.60%	5.00%	4.45%	0.80	8.45%
2008	11/21/2008	10.50%	6.00%	4.31%	0.80	9.11%
2008	11/21/2008	10.50%	6.00%	4.31%	0.80	9.11%
2008	11/21/2008	10.50%	6.00%	4.31%	0.80	9.11%
2008	11/24/2008	10.50%	6.00%	4.31%	0.80	9.11%
2008	12/3/2008	10.39%	6.00%	4.15%	0.80	8.95%
2008	12/24/2008	10.00%	6.00%	4.15%	0.80	8.95%
2008	12/26/2008	10.10%	6.00%	4.15%	0.80	8.95%
2008	12/29/2008	10.20%	6.00%	4.15%	0.80	8.95%
2009	1/13/2009	10.45%	6.00%	3.68%	0.80	8.48%
2009	2/2/2009	10.05%	6.00%	3.33%	0.80	8.13%
2009	3/9/2009	10.30%	6.00%	3.20%	0.80	8.00%
2009	3/25/2009	10.17%	6.00%	3.20%	0.80	8.00%
2009	4/2/2009	10.75%	6.00%	3.45%	0.80	8.25%
2009	5/5/2009	10.75%	6.00%	3.66%	0.80	8.46%
2009	5/15/2009	10.20%	6.00%	3.66%	0.80	8.46%

Year	Date of Natural Gas Rate Case	Authorized Return on Equity	Duff & Phelps MRP	3-Month Treasury Yield	Marevangepo Beta	CAPM Result (w/ Duff & Phelps MRP)
2009	5/29/2009	9.54%	6.00%	3.66%	0.80	8.46%
2009	6/3/2009	10.10%	6.00%	3.88%	0.80	8.68%
2009	6/22/2009	10.00%	6.00%	3.88%	0.80	8.68%
2009	6/29/2009	10.21%	6.00%	3.88%	0.80	8.68%
2009	6/30/2009	9.31%	6.00%	4.17%	0.80	8.97%
2009	7/17/2009	9.26%	6.00%	4.17%	0.80	8.97%
2009	7/17/2009	10.50%	6.00%	4.17%	0.80	8.97%
2009	10/16/2009	10.40%	6.00%	4.32%	0.80	9.12%
2009	10/26/2009	10.10%	6.00%	4.32%	0.80	9.12%
2009	10/28/2009	10.15%	6.00%	4.32%	0.80	9.12%
2009	10/28/2009	10.15%	6.00%	4.32%	0.80	9.12%
2009	10/30/2009	9.95%	6.00%	4.32%	0.80	9.12%
2009	11/20/2009	9.45%	6.00%	4.25%	0.80	9.05%
2009	12/14/2009	10.50%	5.50%	4.23%	0.80	8.63%
2009	12/16/2009	10.75%	5.50%	4.23%	0.80	8.63%
2009	12/17/2009	10.30%	5.50%	4.23%	0.80	8.63%
2009	12/18/2009	10.40%	5.50%	4.23%	0.80	8.63%
2009	12/18/2009	10.40%	5.50%	4.23%	0.80	8.63%
2009	12/18/2009	10.50%	5.50%	4.23%	0.80	8.63%
2009	12/22/2009	10.20%	5.50%	4.23%	0.80	8.63%
2009	12/22/2009	10.40%	5.50%	4.23%	0.80	8.63%
2009	12/28/2009	10.85%	5.50%	4.23%	0.80	8.63%
2009	12/29/2009	10.38%	5.50%	4.23%	0.80	8.63%
2010	1/11/2010	10.24%	5.50%	4.33%	0.80	8.73%
2010	1/21/2010	10.23%	5.50%	4.33%	0.80	8.73%
2010	1/21/2010	10.33%	5.50%	4.33%	0.80	8.73%
2010	1/26/2010	10.40%	5.50%	4.33%	0.80	8.73%
2010	2/10/2010	10.00%	5.50%	4.47%	0.80	8.87%
2010	2/23/2010	10.50%	5.50%	4.47%	0.80	8.87%
2010	3/9/2010	9.60%	5.50%	4.57%	0.80	8.97%
2010	3/24/2010	10.13%	5.50%	4.57%	0.80	8.97%
2010	3/31/2010	10.70%	5.50%	4.62%	0.80	9.02%
2010	4/1/2010	9.50%	5.50%	4.62%	0.80	9.02%
2010	4/2/2010	10.10%	5.50%	4.62%	0.80	9.02%
2010	4/8/2010	10.35%	5.50%	4.62%	0.80	9.02%
2010	4/29/2010	9.19%	5.50%	4.62%	0.80	9.02%
2010	4/29/2010	9.40%	5.50%	4.62%	0.80	9.02%
2010	4/29/2010	9.40%	5.50%	4.62%	0.80	9.02%
2010	5/17/2010	10.55%	5.50%	4.65%	0.80	9.05%
2010	5/24/2010	10.05%	5.50%	4.65%	0.80	9.05%
2010	6/3/2010	11.00%	5.50%	4.54%	0.80	8.94%
2010	6/16/2010	10.00%	5.50%	4.54%	0.80	8.94%
2010	6/18/2010	10.30%	5.50%	4.54%	0.80	8.94%
2010	8/9/2010	12.55%	5.50%	4.14%	0.80	8.54%
2010	8/17/2010	10.10%	5.50%	4.14%	0.80	8.54%
2010	9/16/2010	9.60%	5.50%	3.97%	0.80	8.37%
2010	9/16/2010	10.00%	5.50%	3.97%	0.80	8.37%
2010	9/16/2010	10.00%	5.50%	3.97%	0.80	8.37%
2010	9/16/2010	10.30%	5.50%	3.97%	0.80	8.37%
2010	10/21/2010	10.40%	5.50%	3.85%	0.80	8.25%
2010	11/2/2010	9.75%	5.50%	3.81%	0.80	8.21%
2010	11/2/2010	9.75%	5.50%	3.81%	0.80	8.21%
2010	11/3/2010	10.75%	5.50%	3.81%	0.80	8.21%
2010	11/19/2010	10.20%	5.50%	3.81%	0.80	8.21%
2010	12/1/2010	10.00%	5.50%	3.94%	0.80	8.34%
2010	12/6/2010	9.56%	5.50%	3.94%	0.80	8.34%
2010	12/6/2010	10.09%	5.50%	3.94%	0.80	8.34%
2010	12/9/2010	10.25%	5.50%	3.94%	0.80	8.34%
2010	12/14/2010	10.33%	5.50%	3.94%	0.80	8.34%

Year	Date of Natural Gas Rate Case	Authorized Return on Equity	Duff & Phelps MRP	3-Month Treasury Yield	Marevangepo Beta	CAPM Result (w/ Duff & Phelps MRP)
2010	12/17/2010	10.10%	5.50%	3.94%	0.80	8.34%
2010	12/20/2010	10.10%	5.50%	3.94%	0.80	8.34%
2010	12/23/2010	9.92%	5.50%	3.94%	0.80	8.34%
2011	1/6/2011	10.35%	5.50%	4.16%	0.80	8.56%
2011	1/12/2011	10.30%	5.50%	4.16%	0.80	8.56%
2011	1/13/2011	10.30%	5.50%	4.16%	0.80	8.56%
2011	3/10/2011	10.10%	5.50%	4.53%	0.80	8.93%
2011	3/31/2011	9.45%	5.50%	4.56%	0.80	8.96%
2011	4/18/2011	10.05%	5.50%	4.56%	0.80	8.96%
2011	4/21/2011	10.00%	5.50%	4.56%	0.80	8.96%
2011	5/26/2011	10.50%	5.50%	4.55%	0.80	8.95%
2011	6/21/2011	10.00%	5.50%	4.43%	0.80	8.83%
2011	6/29/2011	8.83%	5.50%	4.43%	0.80	8.83%
2011	8/1/2011	9.20%	5.50%	4.26%	0.80	8.66%
2011	9/1/2011	10.10%	5.50%	4.05%	0.80	8.45%
2011	11/14/2011	9.60%	6.00%	3.32%	0.80	8.12%
2011	12/13/2011	9.50%	6.00%	3.11%	0.80	7.91%
2011	12/20/2011	10.00%	6.00%	3.11%	0.80	7.91%
2011	12/22/2011	10.40%	6.00%	3.11%	0.80	7.91%
2012	1/10/2012	9.06%	6.00%	3.04%	0.80	7.84%
2012	1/10/2012	9.45%	6.00%	3.04%	0.80	7.84%
2012	1/10/2012	9.45%	6.00%	3.04%	0.80	7.84%
2012	1/23/2012	10.20%	5.50%	3.04%	0.80	7.44%
2012	1/31/2012	10.00%	5.50%	3.01%	0.80	7.41%
2012	4/24/2012	9.50%	5.50%	3.14%	0.80	7.54%
2012	4/24/2012	9.75%	5.50%	3.14%	0.80	7.54%
2012	5/7/2012	9.80%	5.50%	3.19%	0.80	7.59%
2012	5/22/2012	9.60%	5.50%	3.19%	0.80	7.59%
2012	5/24/2012	9.70%	5.50%	3.19%	0.80	7.59%
2012	6/7/2012	10.30%	5.50%	3.13%	0.80	7.53%
2012	6/15/2012	10.40%	5.50%	3.13%	0.80	7.53%
2012	6/18/2012	9.60%	5.50%	3.13%	0.80	7.53%
2012	7/2/2012	9.75%	5.50%	2.94%	0.80	7.34%
2012	10/24/2012	10.30%	5.50%	2.75%	0.80	7.15%
2012	10/26/2012	9.50%	5.50%	2.75%	0.80	7.15%
2012	10/31/2012	9.30%	5.50%	2.85%	0.80	7.25%
2012	10/31/2012	9.90%	5.50%	2.85%	0.80	7.25%
2012	10/31/2012	10.00%	5.50%	2.85%	0.80	7.25%
2012	11/1/2012	9.45%	5.50%	2.85%	0.80	7.25%
2012	11/8/2012	10.10%	5.50%	2.85%	0.80	7.25%
2012	11/9/2012	10.30%	5.50%	2.85%	0.80	7.25%
2012	11/26/2012	10.00%	5.50%	2.85%	0.80	7.25%
2012	11/28/2012	10.40%	5.50%	2.85%	0.80	7.25%
2012	11/28/2012	10.50%	5.50%	2.85%	0.80	7.25%
2012	12/4/2012	10.00%	5.50%	2.86%	0.80	7.26%
2012	12/4/2012	10.50%	5.50%	2.86%	0.80	7.26%
2012	12/14/2012	10.40%	5.50%	2.86%	0.80	7.26%
2012	12/20/2012	9.50%	5.50%	2.86%	0.80	7.26%
2012	12/20/2012	10.10%	5.50%	2.86%	0.80	7.26%
2012	12/20/2012	10.25%	5.50%	2.86%	0.80	7.26%
2012	12/20/2012	10.30%	5.50%	2.86%	0.80	7.26%
2012	12/20/2012	10.40%	5.50%	2.86%	0.80	7.26%
2012	12/20/2012	10.50%	5.50%	2.86%	0.80	7.26%
2012	12/26/2012	9.80%	5.50%	2.86%	0.80	7.26%
2013	2/22/2013	9.60%	5.50%	2.92%	0.80	7.32%
2013	3/14/2013	9.30%	5.00%	3.04%	0.80	7.04%
2013	3/27/2013	9.80%	5.00%	3.04%	0.80	7.04%
2013	4/23/2013	9.80%	5.00%	3.14%	0.80	7.14%
2013	5/10/2013	9.25%	5.00%	3.09%	0.80	7.09%

Year	Date of Natural Gas Rate Case	Authorized Return on Equity	Duff & Phelps MRP	3-Month Treasury Yield	Marevangepo Beta	CAPM Result (w/ Duff & Phelps MRP)
2013	6/13/2013	9.40%	5.00%	3.07%	0.80	7.07%
2013	6/18/2013	9.28%	5.00%	3.07%	0.80	7.07%
2013	6/18/2013	9.28%	5.00%	3.07%	0.80	7.07%
2013	6/25/2013	9.80%	5.00%	3.07%	0.80	7.07%
2013	9/23/2013	9.60%	5.00%	3.59%	0.80	7.59%
2013	11/6/2013	10.20%	5.00%	3.74%	0.80	7.74%
2013	11/13/2013	9.84%	5.00%	3.74%	0.80	7.74%
2013	11/14/2013	10.25%	5.00%	3.74%	0.80	7.74%
2013	11/22/2013	9.50%	5.00%	3.74%	0.80	7.74%
2013	12/5/2013	10.20%	5.00%	3.76%	0.80	7.76%
2013	12/13/2013	9.60%	5.00%	3.76%	0.80	7.76%
2013	12/16/2013	9.73%	5.00%	3.76%	0.80	7.76%
2013	12/17/2013	10.00%	5.00%	3.76%	0.80	7.76%
2013	12/18/2013	9.08%	5.00%	3.76%	0.80	7.76%
2013	12/23/2013	9.72%	5.00%	3.76%	0.80	7.76%
2013	12/30/2013	10.00%	5.00%	3.76%	0.80	7.76%
2014	1/21/2014	9.65%	5.00%	3.79%	0.80	7.79%
2014	1/22/2014	9.18%	5.00%	3.79%	0.80	7.79%
2014	2/20/2014	9.30%	5.00%	3.82%	0.80	7.82%
2014	2/21/2014	9.85%	5.00%	3.82%	0.80	7.82%
2014	2/28/2014	9.55%	5.00%	3.77%	0.80	7.77%
2014	3/16/2014	9.72%	5.00%	3.77%	0.80	7.77%
2014	4/21/2014	9.50%	5.00%	3.68%	0.80	7.68%
2014	4/22/2014	9.80%	5.00%	3.68%	0.80	7.68%
2014	5/8/2014	9.10%	5.00%	3.60%	0.80	7.60%
2014	5/8/2014	9.59%	5.00%	3.60%	0.80	7.60%
2014	6/6/2014	10.40%	5.00%	3.51%	0.80	7.51%
2014	6/12/2014	10.10%	5.00%	3.51%	0.80	7.51%
2014	6/12/2014	10.10%	5.00%	3.51%	0.80	7.51%
2014	6/12/2014	10.10%	5.00%	3.51%	0.80	7.51%

Notes:
[1] Equals sum of Col. [5]
[2] Equals sum of Col. [9]
[3] Equals [2]-[1]
[4] Regulatory Research Associates
[5] Regulatory Research Associates
[6] Duff & Phelps, 2014 Valuation Handbook, at 3-24
[7] Federal Reserve Board Schedule H.15.
[8] Testimony of Zephania Marevangepo, at 33
[9] Equals Col. [7] + Col. [8] x Col. [6]

Most Recent Authorized Return on Equity - Proxy Group Operating Utilities

Date	Company	Ticker	Docket Number	Jurisdiction	Authorized ROE
3/25/2009	Northern Illinois Gas Company	GAS	D-08-0363	IL	10.17
2/9/2004	Pivotal Utility Holdings, Inc.	GAS	D-030569-GU	FL	11.25
12/17/2009	Pivotal Utility Holdings, Inc.	GAS	D-GR-09030195	NJ	10.30
5/24/2010	Chattanooga Gas Company	GAS	D-09-00183	TN	10.05
11/3/2010	Atlanta Gas Light Company	GAS	D-31647	GA	10.75
12/20/2011	Virginia Natural Gas, Inc.	GAS	C-PUE-2010-00142	VA	10.00
4/17/1996	Atmos Energy Corporation	ATO	D-U-21484 (LGS)	LA	10.77
3/31/2010	Atmos Energy Corporation	ATO	D-30442	GA	10.70
11/8/1985	Atmos Energy Corporation	ATO	C-U-4728	MS	12.94
12/4/2012	Atmos Energy Corporation	ATO	D-GUD-10170 (Mid-Tex)	TX	10.50
10/2/2012	Atmos Energy Corporation	ATO	D-GUD 10174 (West Texas)	TX	NA
11/8/2012	Atmos Energy Corporation	ATO	D-12-00064	TN	10.10
4/22/2014	Atmos Energy Corporation	ATO	C-2013-00148	KY	9.80
3/16/2014	Atmos Energy Corporation	ATO	D-13AL-0496G	CO	9.72
1/28/2014	Atmos Energy Corporation	ATO	D-14-ATMG-221-TAR (GSRS)	KS	NA
4/23/2014	Missouri Gas Energy	LG	C-GR-2014-0007	MO	NA
10/3/2008	New Jersey Natural Gas Company	NJR	D-GR-07110889	NJ	10.3
12/26/2008	Northwest Natural Gas Company	NWN	D-UG-08-0546	WA	10.1
10/26/2012	Northwest Natural Gas Company	NWN	D-UG-221	OR	9.50
11/1/2002	Piedmont Natural Gas Company, Inc.	PNY	D-2002-63-G	SC	12.60
1/23/2012	Piedmont Natural Gas Company, Inc.	PNY	D-11-00144	TN	10.20
12/17/2013	Piedmont Natural Gas Company, Inc.	PNY	D-G-9, Sub 631	NC	10.00
9/16/2010	South Jersey Gas Company	SJI	D-GR-10010035	NJ	10.30
12/13/2011	Southwest Gas Corporation	SWX	D-G-01551A-10-0458	AZ	9.50
10/31/2012	Southwest Gas Corporation	SWX	D-12-04005 (Southern)	NV	10.00
6/12/2014	Southwest Gas Corporation	SWX	A-12-12-024 (SoCal)	CA	10.10
7/2/2012	Washington Gas Light Company	WGL	C-PUE-2010-00139	VA	9.75
5/10/2013	Washington Gas Light Company	WGL	FC-1093	DC	9.25
6/4/2014	Washington Gas Light Company	WGL	C-9335 (STRIDE Rider)	MD	NA
				Mean:	10.35
				Median:	10.10

Notes:

Source: SNL Financial