BEFORE THE ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF	)	
OKLAHOMA GAS AND ELECTRIC COMPANY	)	
FOR APPROVAL OF A GENERAL CHANGE IN	)	DOCKET NO. 16-052-U
ITS RATES, CHARGES AND TARIFFS	)	

Rebuttal Testimony

of

Robert B. Hevert

on behalf of

Oklahoma Gas and Electric Company

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I. INTRODUCTION

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

A. My name is Robert B. Hevert. I am a Partner at ScottMadden, Inc. ("ScottMadden"). My business address is 1900 West Park Drive, Suite 250, Westborough, Massachusetts 01581.

Q. ARE YOU THE SAME ROBERT B. HEVERT WHO FILED DIRECT TESTIMONY IN THIS DOCKET ON AUGUST 26, 2016?

A. Yes.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS TESTIMONY?

A. I am submitting this rebuttal testimony ("Rebuttal Testimony") before the Arkansas Public Service Commission ("Commission") on behalf of Oklahoma Gas and Electric Company, Inc. ("OG&E", or the "Company"), which is a wholly owned subsidiary of OGE Energy Corp.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My Rebuttal Testimony responds to the direct testimonies of Mr. Regis Powell, on behalf of the General Staff of the Commission ("Staff"); Mr. William P. Marcus, on behalf of the Office of the Arkansas Attorney General ("AG"); and Mr. David J. Garrett, on behalf of the Arkansas River Valley Energy Consumers, Wal-Mart Stores Arkansas, LLC, and Sam's West, Inc. ("ARVEC" together "the Opposing ROE Witnesses") as their testimony relates to the Company's Return on Equity ("ROE") and capital structure.

II. SUMMARY AND OVERVIEW

Q. PLEASE PROVIDE AN OVERVIEW OF YOUR RESPONSE TO THE CAPITAL STRUCTURE RECOMMENDATIONS PROVIDED BY THE OPPOSING ROE WITNESSES.

A. The Opposing ROE Witnesses recommend common equity ratios ranging from 48.00 percent to 49.00 percent. Messrs. Powell and Marcus, both of whom include short-term debt in their capital structure recommendations, support their positions by reviewing holding company-level capital structures. Including short-term debt in the capital structure for ratemaking purposes, however, is at odds with the underlying long-term nature of the majority of the rate base assets. By including short-term debt, which typically is used to finance current (rather than long-term) assets, Messrs. Powell and Marcus have overstated the level of short-term debt required to finance utility operations.

Mr. Garrett's recommendation is based on his view that the "optimal" capital structure includes approximately 60.00 percent debt. Under Mr. Garrett's approach, capital structure optimization focuses minimizing the Weighted Average Cost of Capital[1]; it does not consider the many, far more complex objectives that utilities must satisfy, and it ignores the multiple dynamic constraints that utilities face in managing their balance sheets. Operating utilities such as OG&E essentially match the nature of the assets providing utility service with the securities that finance those assets. Because their assets are long-lived, largely irreversible

[1] As discussed in my response to Mr. Garrett, even his approach to calculating the minimum Weighted Average Cost of Capital is wanting.

investments, industry practice is to establish target capital structures that match the long-duration nature of utility assets and operations. Operating utilities such as OG&E therefore maintain their target capital structure by issuing long-term debt, and through periodic equity infusions from the parent, and dividend payments to the parent.

Because their internally generated cash generally is not sufficient to finance capital investments and to provide the financial liquidity needed to fund day-to-day operations (including, for example, restoration activities after major storm events), the definition and realization of an "optimal" utility capital structure is far more complex than Mr. Garrett's method assumes. It is reasonable to assume, however, that because utilities face similar financing requirements and constraints, the industry-standard view of optimality can be observed in the capital structures in place at other operating utilities. As such, operating companies, not holding companies, are the basis of comparison. Rebuttal Exhibit RBH-7 demonstrates that Mr. Garrett's "optimal" capital structure is far out of line with the actual operating utility capital structures in place among the proxy companies.[2]

Even though the Company's actual capital structure is consistent with industry practice, the Opposing ROE Witnesses recommend hypothetical capital structures. Whereas OG&E's current financing practice recognizes the complex and dynamic nature of capital structure management, a hypothetical capital

[2] Of the 136 quarterly observations for the proxy companies in Rebuttal Exhibit RBH-7, none included 60.00 percent debt in the capital structure. The same was true among the 280 quarterly observations of the operating companies.

structure would divest the Company's management of its discretion to effectively manage its balance sheet. Moreover, although an equity ratio of 48.00 percent is within the range of those observed at the proxy companies (*see* Rebuttal Exhibit RBH-7), it is near the low end. The Company's 53.11 percent recommendation, on the other hand, is only somewhat above the mean (*i.e.*, 52.00 percent).

Q. PLEASE NOW PROVIDE AN OVERVIEW OF YOUR RESPONSE TO THE ROE RECOMMENDATIONS PROVIDED BY THE OPPOSING ROE WITNESSES, AND THE PRINCIPAL ANALYSES ON WHICH THEIR RECOMMENDATIONS ARE BASED.

A. As discussed throughout my Rebuttal Testimony, there are several methodological, theoretical, and practical reasons why I believe the Opposing ROE Witnesses' recommendations are unduly low. For example, although certain of the Opposing ROE Witnesses discount authorized returns in other jurisdictions as a consideration in establishing the Company's Cost of Equity, that position is contrary to the Legislative directive in State of Arkansas, 90th General Assembly, Regular Session 2015, Act 725 ("Act 725" or the "Act"), which provides for the Commission to consider such evidence in establishing the Company's ROE. As discussed in my response to Mr. Powell, considering those returns indicates a Cost of Equity in the range of 9.90 percent to 10.10 percent which although below my specific ROE recommendation, overlaps my recommended range.

In some cases, the Opposing ROE Witnesses' recommendations stem from low Discounted Cash Flow ("DCF") estimates, which themselves are the result of tenuous assumptions. For example, the low end of Mr. Powell's recommended

ROE range (8.90 percent) is driven by historically high valuations. As discussed in my Direct Testimony, the Federal Reserve's market intervention has been associated with periods of unusually high valuations for electric utilities.[3] Because the Constant Growth DCF assumes that valuation levels (in particular, the Price to Earnings, or "P/E", ratio) and the calculated Cost of Equity will remain constant in perpetuity, it assumes that the Federal monetary policy initiatives and market conditions that support its results also will remain in place, forever. We know, however, that the Federal Reserve has begun, but has not completed its policy normalization. Because Mr. Marcus relies on Staff's analyses, the basis of his ROE recommendation is tenuous, as well.[4]

Table 1: Summary of ROE Recommendations

WITNESS	ROE RANGE		ROE RECOMMENDATION
	LOW	HIGH	
Staff Witness Powell	8.90%	10.10%	9.50%
AG Witness Marcus	8.70%	9.50%	9.30%
ARVEC Witness Garrett	7.50%	9.00%	9.00%
Mr. Hevert (OG&E)	10.00%	10.75%	10.25%

Lastly, throughout his testimony Mr. Garrett argues that the Company's "true" Cost of Equity is in the range of 7.50 percent. Nonetheless, Mr. Garrett recommends an ROE of 9.00 percent - 150 basis points above the return that he believes is the actual Cost of Equity – as a means of avoiding the imposition of "too

[3] Direct Testimony of Robert B. Hevert, at 61.

[4] Testimony of William P. Marcus, at 79.

much market risk."[5] Mr. Garrett concludes that having been so wrong for so long[6], it is time for regulatory commissions to move toward the "true" Cost of Equity, but at gradual pace. Aside from his view that regulatory commissions consistently have been wrong, and his concern that moving too quickly to the "true" Cost of Equity creates a market risk, he has no firm basis for his 9.00 percent ROE recommendation. That is, there is no empirical foundation for Mr. Garrett's recommendation. Putting aside the many methodological concerns with his approach, Mr. Garrett's conclusion is without merit, and should be given no weight.

Q. ARE RECENT CAPITAL MARKET CHANGES ALSO IMPORTANT CONSIDERATIONS IN ASSESSING ROE RECOMMENDATIONS?

A. Yes, they are. For example, the change in interest rates in response to Federal Reserve monetary policy normalization is particularly important in the current market environment. As the Federal Reserve increased the Federal Funds target rate by 25 basis points (from 0.25 percent to 0.50 percent, to 0.50 percent to 0.75 percent) in December 2016, short-term interest rates increased by a corresponding amount (since July 15, 2016, which is the date of the analysis used in my Direct Testimony).[7] Long-term yields increased by wider margins, with the 10-year and 30-year Treasury yields increasing by 85 basis points and 75 basis points, respectively (*see* Chart 1 below).

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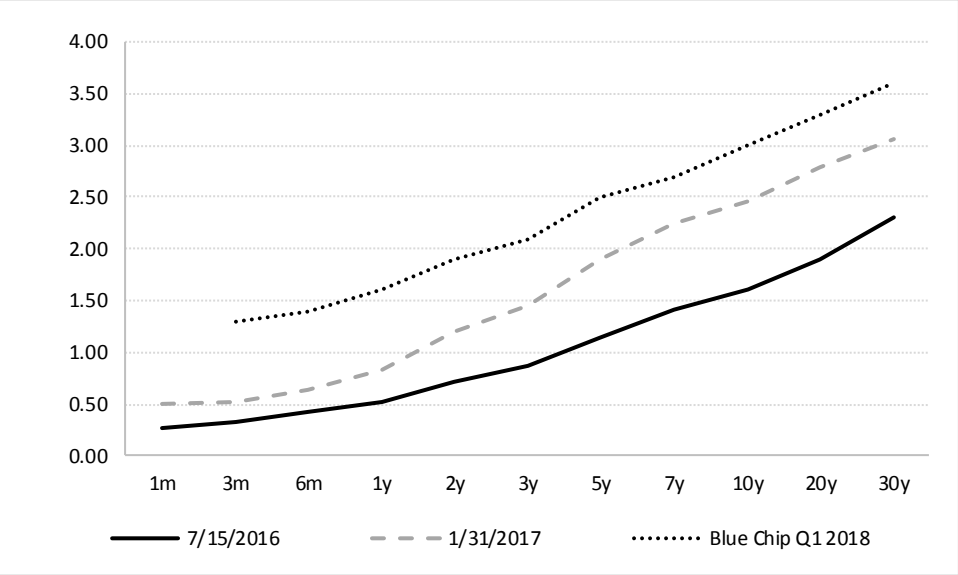
5 Direct Testimony of David J. Garrett, at 92.

6 *Ibid*., at 19 – 20.

7 Federal Reserve Board Schedule H.15. 6-month and 1-year Treasury yields increased by 22 and 32 basis points, respectively.

Chart 1: Treasury Yield Curve: 7/15/2016, 1/31/2017 and Projected Q1 2018[8]



The increase in the ten- and 30-year Treasury yields from July 15, 2016 to January 31, 2017 is among the highest increase in at least 25 years.[9] That increase is highly related to increasing expected inflation. To that point, leading up to and following the November 2016 Presidential election expected inflation, as measured by the difference between nominal Treasury yields and Treasury Inflation Protected Securities (that difference often is referred to as the "TIPS spread") also increased, such that it now stands somewhat above the Federal Reserve's 2.00 percent inflation target (*see* Chart 2, below).

[8] Federal Reserve Board Schedule H.15.; Blue Chip Financial Forecasts, Vol. 36, No.1, January 1, 2017, at 2. 3-year, 7-year and 20-year projected Treasury yields interpolated.

[9] Source: Federal Reserve Schedule H.15. The increases fall in the top 95th percentiles for both the 10 and 30-year Treasury yields, respectively.

Chart 2: Forward Inflation Estimates 7/15/2016 – 1/31/2017[10]

The increase in both long-term interest rates and inflation, particularly considering the magnitude of the changes over an abbreviated period, suggest higher investor return requirements.

Q. DOES MARKET-BASED DATA INDICATE THAT INVESTORS SEE A PROBABILITY OF FURTHER INCREASING INTEREST RATES?

A. Yes. Forward Treasury yields implied by the slope of the yield curve and published projections by sources such as *Blue Chip Financial Forecasts* (which provides consensus estimates from approximately 50 professional economists) indicate investors expect long-term interest rates to increase. Similarly, investors' expectations for increased long-term Treasury yields are apparent in the prices investors are willing to pay today for the option to buy or sell long-term

[10] Forward inflation estimates calculated as the difference between implied nominal and inflation protected 20-year Treasury yields in 10 years.

Government bonds, at today's price, in the future. Because the value of bonds falls as interest rates increase, the option to sell bonds at today's price becomes more valuable when interest rates are expected to increase.[11] Currently option prices show that investors are willing to pay about 50.00 percent more for the option to sell bonds in the future (at today's price) than they are willing to pay for the option to buy those bonds.[12] That market-based data tells us that investors consider an increase in interest rates as likely.

Looking to short-term interest rates, data compiled by CME Groups indicates that investors see a high likelihood of further Federal Funds rate increases, even after the December 14, 2016 increase. As shown in Table 2 (below), the market is now anticipating at least one additional rate hike (95.90 percent probability) and possibly two or three (77.60 percent and 45.70 percent probability, respectively) by December 2017.

[11] In other words, if there is a high probability that interest rates will increase and bond prices will fall, there is value in the option to sell those bonds in the future at today's price. Conversely, if there is a strong probability that interest rates will decrease (price of bonds will increase), there is value in the option to buy those bonds in the future at today's price.

[12] The option to sell the TLT index in January 2018 at today's price is approximately one and a half times the value of the option to buy the fund. Source: http://www.nasdaq.com/symbol/tlt/option-chain?dateindex=7.

Table 2: Probability of Federal Funds Rate Increase[13]

Target Rate (bps)	Federal Reserve Meeting Date							
	3/15/17	5/3/17	6/14/17	7/26/17	9/20/17	11/1/17	12/13/17	1/31/18
50-75	73.4%	49.9%	24.6%	19.7%	12.2%	10.7%	4.1%	3.7%
75-100	26.2%	41.6%	45.8%	41.6%	33.2%	30.7%	18.3%	17.1%
100-125		8.5%	25.3%	29.4%	34.0%	33.9%	31.9%	30.8%
125-150			4.3%	8.5%	16.5%	18.6%	28.1%	28.4%
150-175				0.9%	3.8%	5.3%	13.5%	14.7%
175-200					0.3%	0.7%	3.6%	4.4%
200-225							0.5%	0.7%
225-250								0.1%

In fact, the implied probability of no increase in the coming year is only 3.70 percent, whereas the likelihood of at least a 50-basis point increase is almost 80.00 percent. Importantly, the potential for rising rates represents risk for utility investors.

Q. WHAT DO YOU CONCLUDE FROM THOSE ANALYSES?

A. First, it is clear that interest rates have increased from the low levels experienced in 2015 and 2016. Second, it is clear that market-based data indicate investors' expectations of rising interest rates in the near- and longer-term. The observation that interest rates and inflation have increased, and are expected to continue to increase, indicates that the financial community sees the strong prospect of increased growth throughout the economy. As that occurs, and as interest rates continue to rise, it would be reasonable to expect lower utility valuations, higher dividend yields, and increasing growth rates. In the context of the Discounted Cash

[13] Source: http://www.cmegroup.com/trading/interest-rates/countdown-to-fomc.html, accessed February 21, 2017.

Flow model, those variables would combine to indicate increases in the Cost of Equity.

Q. HAVE THERE BEEN RECENT PERIODS DURING WHICH UTILITY VALUATION LEVELS WERE HIGH RELATIVE TO BOTH THEIR LONG-TERM AVERAGE AND THE OVERALL MARKET?

A. Yes. Between July and December 2016, the S&P Electric Utility Index lost approximately 9.00 percent of its value. At the same time, the S&P 500 increased approximately by 7.00 percent, indicating that the utility sector under-performed the market by about 16.00 percent.[14] Also during that time, the 30-year Treasury yield increased by over 90 basis points (an increase of over 40.00 percent). The point simply is that as interest rates increased, utility valuations fell. Because (as noted above) investors see the strong likelihood of further interest rate increases, there is a continuing risk of further losses in the utility sector.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM THOSE ANALYSES?

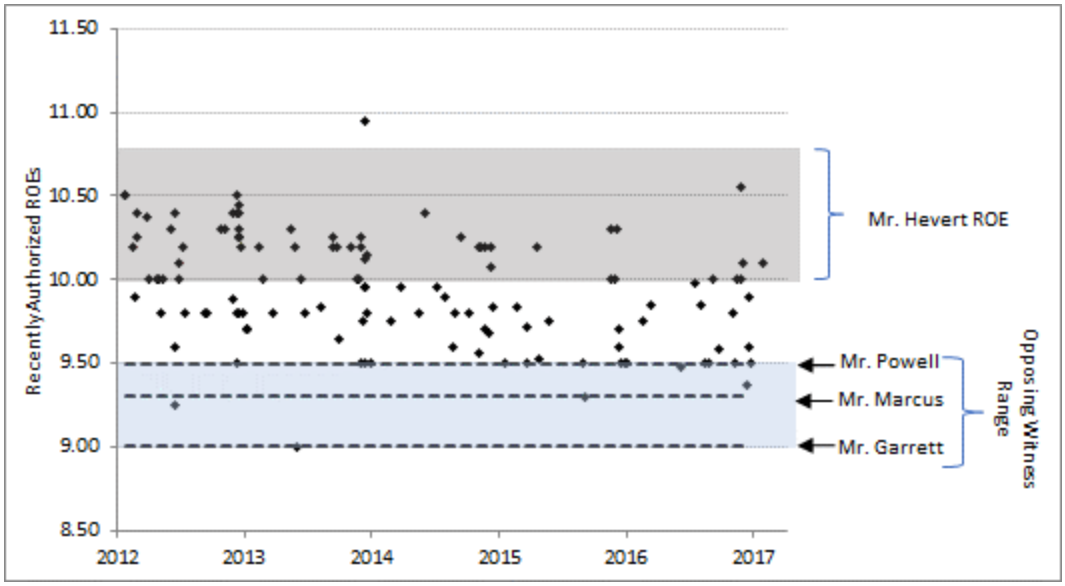
A. We cannot conclude that the recent levels of utility valuations are due to a fundamental and permanent change in the risk perceptions of utility investors, as Opposing ROE Witnesses have suggested. Rather, the valuation levels are related to the "reach for yield" that sometimes occurs during periods of low Treasury yields.[15] That position is consistent with the observation that 13 of 20 authorized

[14] Source: Bloomberg Professional

[15] *See*, for example, Value Line's Electric Utility (Central) Industry report, June 17, 2016.

vertically integrated utility ROEs in 2016 were above the highest of the Opposing ROE Witnesses ROE recommendations (9.50 percent), and none were as low as 9.30 percent (Mr. Marcus's recommendation).[16] As Chart 3 demonstrates, Messrs. Marcus and Garrett's recommendations, in particular, diverge so far from the range of recently authorized ROEs that they should be considered outliers. Mr. Powell's ROE recommendation also is low relative to recently authorized returns, which recently have averaged approximately 9.80 percent. The shortfall in their recommendations is especially acute considering the increases in long-term interest rates discussed above.

Chart 3: ROE Witness Recommendations vs. Authorized Vertically Integrated Electric ROEs[17]



Lastly, although Mr. Marcus suggests that the Cost of Equity has fallen to

16 Source: Regulatory Research Associates, excluding limited-issue riders. I also note a number of authorized returns were 10.00 percent or above: Wisconsin Power and Light Co. in WI (10.00 percent), Florida Power & Light Co. in FL (10.55 percent), Liberty Utilities CalPeco Electric in CA (10.00 percent), and Duke Energy Progress LLC in SC (10.10 percent).

17 Source: SNL Financial. Excludes limited-issue riders.

a level that supports his recommendation,[18] observable data (as shown in Chart 3, above) does not support his position. I therefore disagree that the Company's Cost of Equity is 9.50 percent, or lower, as the Opposing ROE Witnesses propose.

Q. HAVE YOU UPDATED THE ANALYSES INCLUDED IN YOUR DIRECT TESTIMONY?

A. Yes, I have. In particular, I have updated my Constant Growth and Multi-Stage Growth DCF, Capital Asset Pricing Model ("CAPM"), and Bond Yield Plus Risk Premium analyses as of January 31, 2017.

Q. HAVE YOU MADE ANY CHANGES TO YOUR PROXY GROUP CONTAINED IN YOUR DIRECT TESTIMONY?

A. Yes, I have. In my Direct Testimony I excluded Black Hills Corporation ("BKH") and Wisconsin Energy Corporation ("WEC") from my proxy group due to their acquisitions of SourceGas Holdings LLC, and Integrys Energy Group, Inc., respectively.[19] Because enough time has passed to ensure that the analytical results are not affected by those acquisitions, I now have included BKH and WEC in my updated proxy group.

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

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

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18 Direct Testimony of William P. Marcus, at 29.

19 Black Hills Corporation, SEC Form 8-K, February 12, 2016. Wisconsin Energy Corporation, *Wisconsin Energy completes acquisition of Integrys to form WEC Energy Group*, Press Release, June 29, 2015. The combined company is now called WEC Energy Group, Inc.

- Section III – Contains my response to Mr. Powell;
- Section IV – Contains my response to Mr. Marcus;
- Section V – Contains my response to Mr. Garrett;
- Section VI – Provides my updated analyses,[20] and summarizes my conclusions and recommendations.

[20] *See* Rebuttal Exhibits RBH-1 to RBH-20.

III. RESPONSE TO THE ROE DIRECT TESTIMONY OF STAFF WITNESS POWELL

Q. PLEASE PROVIDE A BRIEF SUMMARY OF MR. POWELL'S TESTIMONY AND ROE RECOMMENDATION.

A. Mr. Powell recommends an ROE of 9.50 percent, which is the approximate midpoint of his recommended range of 8.90 percent to 10.10 percent.[21] Although Mr. Powell undertakes both DCF and CAPM analyses, his ROE recommendation relies primarily on his DCF model results.[22]

Q. ARE THERE AREAS IN WHICH YOU AND MR. POWELL AGREE?

A. Yes, there are several such areas: (1) we use projected Earnings Per Share ("EPS") growth rates from Value Line, First Call, and Zacks in our DCF analyses[23]; (2) we use an estimate of projected Treasury yields as the risk-free rate in the CAPM approach[24]; and (3) we each apply a form of Risk Premium analysis, based in part on recently authorized ROEs in other jurisdictions.[25] Although somewhat small in number, those areas of agreement considerably narrow the scope of otherwise-disputed issues.

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21 Direct Testimony of Regis Powell, at 21.

22 *Ibid*., at 30.

23 Direct Testimony of Robert B. Hevert at 24; Direct Testimony of Regis Powell, at 29.

24 Direct Testimony of Robert B. Hevert at 35; Direct Testimony of Regis Powell, at 33-34 and Direct Exhibit RP-29

25 Direct Testimony of Robert B. Hevert at 38; Direct Testimony of Regis Powell, at 35-37 and Direct Exhibit RP-30.

Q. WHAT ARE THE PRINCIPAL AREAS IN WHICH YOU DISAGREE WITH MR. POWELL?

A. There remain several areas in which I disagree with Mr. Powell, including: (1) the significant weight Mr. Powell places on the DCF model to determine his ROE; (2) the application of the CAPM, particularly the estimation of the Beta coefficient and the Market Risk Premium components of the model; (3) the application of the Risk Premium analysis; (4) Mr. Powell's assessment, based on certain credit metrics, of the adequacy of his ROE recommendation; and (5) the reasonableness of the Company's existing capital structure.

A. Implications of Act 725 and Returns Authorized in Nearby Jurisdictions

Q. PLEASE PROVIDE AN OVERVIEW OF ACT 725.

A. As discussed in my Direct Testimony,[26] Act 725 allows the Company to present evidence including returns authorized for electric utilities in similar jurisdictions in the same general part of the country. Act 725 also provides for the consideration of additional evidence regarding the requested ROE:

> The basis for the requested return on common equity, including quantitative analysis based on widely accepted methodologies, current market data, qualitative discussion, and analysis of factors that influence the requested return on common equity…
>
> Evidence of the financial, business, and other risks faced by the utility, including regulatory oversight, numbers and types of customers, rate mechanisms, cost allocation methods, rate levels, rate design, reliability, and quality of service, as compared to those faced by utilities delivering similar services within this state and in other similar regulatory jurisdictions in the same general part of the country; and

[26] Direct Testimony of Robert B. Hevert at 12.

Any other information, including without limitation:
(A) Macroeconomic data;
(B) Relevant commentary from ratings agencies and investment analysts;
(C) Independent analysis of utility industry trends;
(D) Customer impact; and
(E) Any other relevant information.[27]

Q. IS YOUR RECOMMENDATION CONSISTENT WITH ACT 725?

A. Yes. My recommendation and analyses: (1) consider multiple, commonly accepted Cost of Equity estimation methods; (2) reflects current market data; (3) provides a qualitative discussion and analysis of factors that influence the ROE; (4) provides evidence of the financial, business, and other risks faced by OG&E relative to those faced by utilities delivering similar services (*i.e.*, the risk associated with cost recovery for compliance with environmental regulations, planned capital expenditures, flotation costs, and the effect, if any, of OG&E's rate mechanisms on the Company's risk profile); (5) considers macroeconomic data; and (6) considers relevant commentary from ratings agencies and projections from analysts.

Q. DOES MR. POWELL REVIEW RECENTLY AUTHORIZED ROES FOR UTILITIES IN NEARBY JURISDICTIONS?

A. Yes, Mr. Powell performs a Risk Premium analysis based on authorized ROEs from jurisdictions that he considers to be geographically proximate (including Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, and Texas).[28] The data on which Mr.

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27 State of Arkansas, 90th General Assembly, Regular Session 2015, Act 725 (dated 03/27/15).

28 Direct Testimony of Regis Powell, at 36-37 and Direct Exhibit RP-30.

Powell relies to develop his Risk Premium analysis shows that since 2010, the returns authorized in those jurisdictions ranged from 9.50 percent to 10.20 percent.[29] Mr. Powell's 9.50 percent ROE recommendation is at the low end of that range. Moreover, and as discussed in Section III.D (below), Mr. Powell's analysis does not allow for the finding that the Equity Risk Premium is inversely related to interest rates; he instead assumes that the Equity Risk Premium remains constant. That assumption has the effect of understating Mr. Powell's estimate of the Company's Cost of Equity.

B. Application of the DCF Method

Q. PLEASE BRIEFLY SUMMARIZE MR. POWELL'S DCF ANALYSIS AND RESULTS.

A. To calculate the dividend yield portion of his DCF analysis, Mr. Powell uses the average weekly stock price for each proxy company for the thirteen-week period after the publication of the most recent Value Line issue (as reported by Yahoo! Finance), together with the annualized dividend as of the last measured stock price (as reported by SNL Financial).[30] Mr. Powell then calculates his DCF results using five individual growth rates, referred to as "g1" through "g5":

- g1: the average of earnings per share ("EPS") growth rate projections from Value Line, Zacks and Yahoo!;

[29] Mr. Powell's Risk Premium analysis relied on data through 2016.

[30] Direct Testimony of Regis Powell, at 27.

- g2: Value Line's projected five-year annual growth in dividends per share ("DPS");
- g3: Value Line five-year historical EPS growth;
- g4: Value Line ten-year historical DPS growth; and
- g5: Value Line ten-year historical EPS growth.[31]

The results of Mr. Powell's DCF analyses are provided in Table 3, below.

Table 3: Mr. Powell's DCF Results[32]

Scenario	***k1***	***k2***	***k3***	***k4***	***k5***
Average DCF Result	8.90%	9.20%	10.10%	9.20%	10.10%

Q. IS THE WEIGHT THAT MR. POWELL HAS PLACED ON THE CONSTANT GROWTH DCF ANALYSIS REASONABLE UNDER CURRENT MARKET CONDITIONS?

A. I do not believe that it is. Mr. Powell's study period includes a period during which utility stock valuations (as measured by the P/E ratio) well exceeded both their historical average as well as the market in general. As discussed below, those unsustainable valuation levels are incompatible with the assumptions that underlie the Constant Growth DCF model, and produce unreasonably low ROE estimates.

Although I appreciate that in past proceedings the Commission has given the Constant Growth DCF model considerable weight, consideration also should be given to the effect of recent market conditions on the model's current results. As

31 *Ibid.*, at 29.

32 *Ibid.*, Direct Exhibit RP-26.

discussed throughout my Direct and Rebuttal Testimonies, every model used to estimate the Cost of Equity relies on specific assumptions that may become more or less relevant as market conditions change.[33] DCF-based methods, such as the Constant Growth model on which Mr. Powell relies for his recommendation, depend on recent stock prices as a principal input, and (in the case of the Constant Growth model) assume that P/E ratios will remain constant in perpetuity. A significant analytical issue is that utility sector P/E ratios recently have been well above their historical levels, and appear unsustainable relative other benchmarks, such as the overall market P/E ratio. Since the beginning of 2000, the long-term average P/E ratio for the proxy group was 16.64; the average in January 2017 was 21.53.[34] Over Mr. Powell's study period (*i.e.*, August 1, 2016 to December 2, 2016),[35] the P/E ratio averaged 23.05, above both the proxy group long-term average and the S&P 500's P/E ratio of 20.27.

Looking forward, indicators suggest that the industry's current valuation levels may not persist as the Federal Reserve continues the process of monetary policy "normalization." Value Line, for example, expects a decline in the P/E ratio for each of the fifteen companies in Mr. Powell's proxy group over the coming three to five years (*see* Rebuttal Exhibit RBH-10).[36] Because the Constant Growth DCF model's assumptions are incompatible with current and expected market

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33 *See also,* Direct Testimony of Robert B. Hevert, at 48-49.

34 Source: Bloomberg Professional.

35 Due to Duke Energy Corporation's acquisition of Piedmont Natural Gas Mr. Powell relied on the period October 3, 2016 through January 3, 2017 to calculate the average stock price for Duke Energy Corporation.

36 Source: Value Line reports as of December 4, 2015.

conditions, its results should be viewed with considerable caution. To the extent Constant Growth DCF results are considered, I believe the upper end of the range of results should be given more weight, if only to reflect the DCF model's framework, under which higher stock prices would be associated with higher growth rates. In any event, it is prudent and appropriate, and consistent with industry practice, to consider multiple approaches.[37]

Q. IS MR. POWELL'S 8.90 PERCENT DCF RESULT BASED ON EARNINGS GROWTH RATE ESTIMATES A REASONABLE MEASURE OF THE COMPANY'S ROE?

A. No. As discussed above, the Constant Growth DCF model is less reliable in the current market because the model's underlying assumptions are inconsistent with current market conditions. In particular, Federal Reserve monetary policy initiatives have led to utility valuation levels that are well in excess of their historical averages, which is a significant analytical concern for the Constant Growth DCF model because it assumes a stable P/E ratio in perpetuity. However, concerns with current market valuations can be addressed, to some degree, by calculating the terminal value portion of the Multi-Stage DCF model by reference to current P/E ratios. Those updated results are provided in Table 4, and continue to support my recommended ROE range.

[37] In FERC Opinion 531, FERC noted that due to "anomalous" and "unusual" market conditions, it was concerned that "a mechanical application of the DCF methodology…would result in an ROE that does not satisfy the requirements of *Hope* and *Bluefield*." As such, FERC found it "necessary and reasonable to consider additional record evidence, including evidence of alternative methodologies and state-commission approved ROEs."

Table 4: Multi-Stage DCF Results with P/E Terminal Value[38]

	Mean Low	***Mean***	***Mean High***
30-Day Average	9.73%	10.24%	10.71%
90-Day Average	9.89%	10.41%	10.88%
180-Day Average	9.82%	10.33%	10.80%

In addition to the Multi-Stage model, as discussed in my Direct Testimony,[39] I believe the CAPM and Bond Yield Plus Risk Premium approach should be given more weight than the Constant Growth DCF method in the current market environment.

C. Application of the CAPM

Q. PLEASE PROVIDE A BRIEF SUMMARY OF MR. POWELL'S CAPM ANALYSIS AND RESULTS.

A. For the risk-free rate component, Mr. Powell relies on the average anticipated yield on 30-year Treasuries for the 2019-2020 period as reported by Value Line (4.10 percent).[40] Mr. Powell calculates two Market Risk Premium ("MRP") estimates by subtracting the five-year average 30-year Treasury yield from the arithmetic and geometric five-year average total return on the NYSE index. To calculate the NYSE index annual total return, Mr. Powell added the index's median dividend yield to the index's price return.[41] For the Beta coefficient component, Mr. Powell

38 *See* Rebuttal Exhibit RBH-2.
39 *See* Direct Testimony of Robert B. Hevert, at 7.
40 Direct Testimony of Regis Powell, at 34 and Direct Exhibit RP-29.
41 *Ibid*., at 33 and Direct Exhibit RP-29.

relies on the average value reported by Value Line for his proxy group (0.67).[42] Mr. Powell's CAPM results are summarized in Table 5, below.

Table 5: Mr. Powell's CAPM Results[43]

	Risk-Free Rate	***Beta Coefficient***	***MRP***	***ROE***
Arithmetic MRP	4.10%	0.67	7.90%	9.39%
Geometric MRP	4.10%	0.67	7.45%	9.09%

Q. WHAT ARE YOUR CONCERNS WITH MR. POWELL'S CAPM ANALYSIS?

A. My principal concern relates to Mr. Powell's calculation of the Market Risk Premium.

Q. HOW DOES MR. POWELL CALCULATE HIS MRP ESTIMATE?

A. Mr. Powell estimates the historical MRP as the difference between the five-year average annual total return on the NYSE index and the five-year average yield on 30-year Treasury yields.[44] Using a 10.93 percent arithmetic return on the NYSE index, Mr. Powell derives an MRP estimate of 7.90 percent. Using the geometric return, Mr. Powell's calculates an MRP estimate of 7.45 percent.

Q. DO YOU AGREE WITH MR. POWELL'S USE OF AN HISTORICAL ESTIMATE OF THE MRP?

A. No, I do not. The MRP represents the additional return required by equity investors to assume the risks of owning the "market portfolio" of equity relative to long-term

42 *Ibid*.
43 *Ibid*., at Direct Exhibit RP-29.
44 *Ibid*.

Treasury securities. As with other elements of Cost of Equity analyses, the MRP is meant to be a forward-looking parameter. As Morningstar observes:

> It is important to note that the expected equity risk premium, as it is used in discount rates and cost of capital analysis, is a forward-looking concept. That is, the equity risk premium that is used in the discount rate should be reflective of what investors think the risk premium will be going forward.[45]

That is why the MRP estimates used in my CAPM analyses specifically rely on forward-looking, market-based estimates of the expected market return.

The use of historical data is also complicated by the fact that observed returns often deviate, sometimes substantially, from expected returns and therefore may provide inaccurate estimates of required returns. Table 6, below, demonstrates the instability of annual MRP estimates implied by the data Mr. Powell uses to derive his historical MRP estimate. Over a five-year period, observed MRPs ranged from -7.46 percent to 22.74 percent.

Table 6: Annual MRP Estimates Based on Mr. Powell's Data[46]

	2012	***2013***	***2014***	***2015***	***2016***
NYSE Index Return	15.50%	25.77%	6.30%	-4.43%	11.51%
Risk-Free Rate	3.03%	3.03%	3.03%	3.03%	3.03%
Observed MRP	12.47%	22.74%	3.27%	-7.46%	8.48%

Given the variation in observed annual MRPs, it is not possible to have confidence that the arithmetic and geometric averages reported by Mr. Powell provide an accurate estimate of required returns historically, or going forward.

45 Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills, and Inflation Valuation Yearbook, at 53.

46 NYSE index and 30-year Treasury yield data from Direct Exhibit RP-29.

Q. SETTING ASIDE THE APPROPRIATENESS OF USING OF HISTORICAL DATA, DO YOU AGREE WITH MR. POWELL'S USE OF GEOMETRIC AVERAGE MARKET RETURNS TO DERIVE HIS MRP ESTIMATE?

A. No. The important distinction between the arithmetic and geometric averages is that the arithmetic mean assumes that each periodic return is an independent observation and, therefore, incorporates uncertainty into the calculation of the long-term average. The geometric mean, by contrast, is a backward-looking calculation that essentially equates a beginning value to an ending value over a specific period of time. Geometric averages, therefore, provide a standardized basis of review of historical performance across investments or investment managers; they do not, however, reflect forward-looking uncertainty.

Because there is no uncertainty regarding past returns, the use of geometric averages is appropriate when comparing investment performance on a retrospective basis. On a prospective basis, however, uncertainty exists and should be taken into consideration when developing return expectations and requirements. That is why investors and researchers commonly use the arithmetic mean when estimating the risk premium over historical periods for the purpose of estimating equity cost rates. Although the use of historical MRPs is not appropriate under current market conditions, if Mr. Powell were to consider the historical MRP, the arithmetic mean is the appropriate measure.

Moreover, investment risk, or volatility, typically is measured on the basis of the standard deviation. The standard deviation, in turn, is a function of the arithmetic, as opposed to the geometric mean. In that regard, the Beta coefficients

applied in Mr. Powell's CAPM analyses are a function of the standard deviation of returns.[47] In any case, Morningstar notes that:

> The arithmetic average equity risk premium can be demonstrated to be the most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of the stock market returns and riskless rates is the relevant number.[48]

Q. DO YOU HAVE ANY OTHER CONCERNS WITH MR. POWELL'S MRP CALCULATIONS?

A. Yes. Mr. Powell combines the NYSE index's total price appreciation, which is a market-weighted index, with the index's median dividend yield (that is, the median of the dividend yields for the companies in the index). As shown in Rebuttal Exhibit RBH-11, using the median dividend yield understates the actual divided yield of the overall index and reduces the arithmetic average return by 38 basis points. Adjusting the MRP calculations provided in Mr. Powell's Direct Exhibit RP-29 to reflect the NYSE index's actual dividend yield would increase his arithmetic MRP estimate from 7.90 percent to 8.28 percent (*see* Rebuttal Exhibit RBH-11). Adjusting those MRP calculations produces a CAPM result of 9.65 percent.

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47 *See* Direct Testimony of Robert B. Hevert, at 34-35.

48 Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook at 56.

Q. DOES MR. POWELL EXPRESS ANY CONCERNS WITH YOUR CAPM ANALYSIS?

A. Yes. Mr. Powell disagrees with applying Value Line Beta coefficients (which are calculated by reference to the NYSE index) with a market return estimate based on the S&P 500 index. Mr. Powell's concern is based on his observation that NYSE index returns have deviated, to some degree, from perfect correlation with S&P 500 returns. He suggests that the imperfect correlation could present a mismatch between the Beta coefficient, and the market return components of the model.[49]

Q. WHAT IS YOUR RESPONSE TO MR. POWELL ON THAT ISSUE?

A. As noted above, the expected market return used in the application of the CAPM should be a forward-looking return for the overall market. The market-DCF estimates used in my analysis are based on the S&P 500, which reflects approximately 80.00 percent of available market capitalization.[50] Given that broad reach, it is not surprising that the S&P 500 is a commonly referenced measure of market activity.[51] On that basis alone, it is reasonable to measure the expected market return on the basis of the S&P 500.

To test whether Beta coefficients used in my CAPM analyses were significantly different when calculated using the S&P 500 or the NYSE as the comparison index, I used Value Line's Beta calculation methodology (that is, regressing weekly stock returns against market returns over a five-year period),

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49 Direct Testimony of Regis Powell, at 34-35.

50 *See*, for example, https://us.spindices.com/indices/equity/sp-500.

51 By way of example, Yahoo! Finance, which Mr. Powell cites at his Direct Exhibit RP-24, provides updated quotes for the S&P 500 on its home page. *See* finance.yahoo.com.

using each of the S&P 500 index, and the NYSE index as the market index. As shown in Table 7 below, the effect on Beta coefficients was not meaningful (only a 0.001 difference on average which, based on Mr. Powell's convention of rounding to two decimal places is the equivalent of no difference). Interestingly, the average Beta coefficient under both approaches is 0.67, the same as Mr. Powell's estimate.[52]

Table 7: Beta Coefficient Comparison:
Using the NYSE Index vs. S&P 500 Index[53]

Company	Ticker	NYSE Index	S&P 500 Index
ALLETE, Inc.	ALE	0.725	0.716
Alliant Energy Corporation	LNT	0.651	0.654
Ameren Corporation	AEE	0.664	0.665
American Electric Power Co.	AEP	0.645	0.645
Avista Corporation	AVA	0.676	0.676
Black Hills Corporation	BKH	0.734	0.716
CMS Energy Corporation	CMS	0.603	0.604
DTE Energy Company	DTE	0.640	0.642
IDACORP, Inc.	IDA	0.775	0.780
NorthWestern Corporation	NWE	0.663	0.671
Otter Tail Corporation	OTTR	0.845	0.834
Pinnacle West Capital Corp.	PNW	0.685	0.688
PNM Resources, Inc.	PNM	0.704	0.716
Portland General Electric Co.	POR	0.679	0.689
SCANA Corporation	SCG	0.613	0.615
WEC Energy Group Inc.	WEC	0.566	0.566
Xcel Energy Inc.	XEL	0.565	0.564
Average		0.672	0.673

52 *See* Direct Exhibit RP-29.

53 Source: Bloomberg Professional Beta Tool.

D. Application of the Risk Premium Analysis

Q. PLEASE BRIEFLY SUMMARIZE MR. POWELL'S EQUITY RISK PREMIUM ANALYSIS.

A. Mr. Powell states that he used his Risk Premium approach to help assess the reasonableness of his recommended ROE.[54] Mr. Powell obtained authorized ROEs for nearby electric utilities from July 2009 through November 2016, then calculated the implied Equity Risk Premium by reference to (1) daily average 30-year Treasury yields and (2) monthly average Baa public utility bond yields. In both cases, the average interest rate was calculated over the term of the proceeding, from the initial filing to the final order. Mr. Powell estimated an average Equity Risk Premium of 6.50 percent using 30-year Treasury yields, and an average Equity Risk Premium of 4.70 percent using Baa public utility bonds.[55] He then added his Equity Risk Premium estimates to the 30-year Treasury yield (2.70 percent) and Baa public utility debt yield (4.40 percent) to obtain Risk Premium analysis estimates of 9.10 percent and 9.30 percent, respectively. Table 8, below, summarizes Mr. Powell's Risk Premium results.

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54 *See* Direct Testimony of Regis Powell, at 41-42.

55 *Ibid.*, at 44.

Table 8: Mr. Powell's Risk Premium Analysis[56]

	30-Year Treasury Yield	***Baa Public Utility Bond Yield***
Equity Risk Premium (July 2009 to November 2016)	6.50%	4.70%
Recent Yield (Aug. 25, 2016 to Jan. 3, 2017)	2.70%	4.40%
Risk Premium Estimate	9.20%	9.10%

Q. DID MR. POWELL ALSO REVIEW RECENTLY AUTHORIZED ROES FOR UTILITIES IN NEARBY JURISDICTIONS, AS DISCUSSED IN ACT 725?

A. Yes, Mr. Powell's Risk Premium analysis is based on authorized returns from nearby jurisdictions (including Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, and Texas).[57] Mr. Powell's analysis shows that the returns authorized in those jurisdictions ranged from 9.50 percent to 10.20 percent since 2010;[58] his 9.50 percent ROE recommendation is at the low end of that range. As discussed below, however, Mr. Powell's analysis does not allow for the finding that the Equity Risk Premium is inversely related to interest rates. Rather, it assumes that the Equity Risk Premium remains constant. That assumption has the effect of understating Mr. Powell's estimate of the Company's Cost of Equity.

56 *See* Direct Testimony of Regis Powell, at 44-45, and Table 4 to Mr. Powell's Direct Testimony.
57 Direct Testimony of Regis Powell, at 36-37 and Direct Exhibit RP-30.
58 Mr. Powell's Risk Premium analysis relied on data through 2016.

Q. PLEASE EXPLAIN THE RELATIONSHIP BETWEEN THE EQUITY RISK PREMIUM AND INTEREST RATES, AND HOW IT IS REVEALED IN MR. POWELL'S RISK PREMIUM DATA.

A. As noted in my Direct Testimony, prior research has shown that the Equity Risk Premium is inversely related to the level of interest rates.[59] That is, as interest rates fall, the Equity Risk Premium increases (the converse also is true). Because his Risk Premium analysis assumes a 30-year Treasury yield that is below the average included in his analysis, Mr. Powell's Equity Risk Premium estimates (*i.e.,* 6.50 percent and 4.70 percent) understate the current risk premium. As shown in Charts 4 and 5 (below), the data from Mr. Powell's Risk Premium analysis (Direct Exhibit RP-30) confirm the statistically significant inverse relationship between long-term interest rates and the Equity Risk Premium. Those charts also confirm that based on his own data, Mr. Powell's approach understates the Company's Cost of Equity.

[59] Direct Testimony of Robert B. Hevert, at 35-36.

Chart 4: 30-Year Treasury Yield vs. Equity Risk Premium[60]

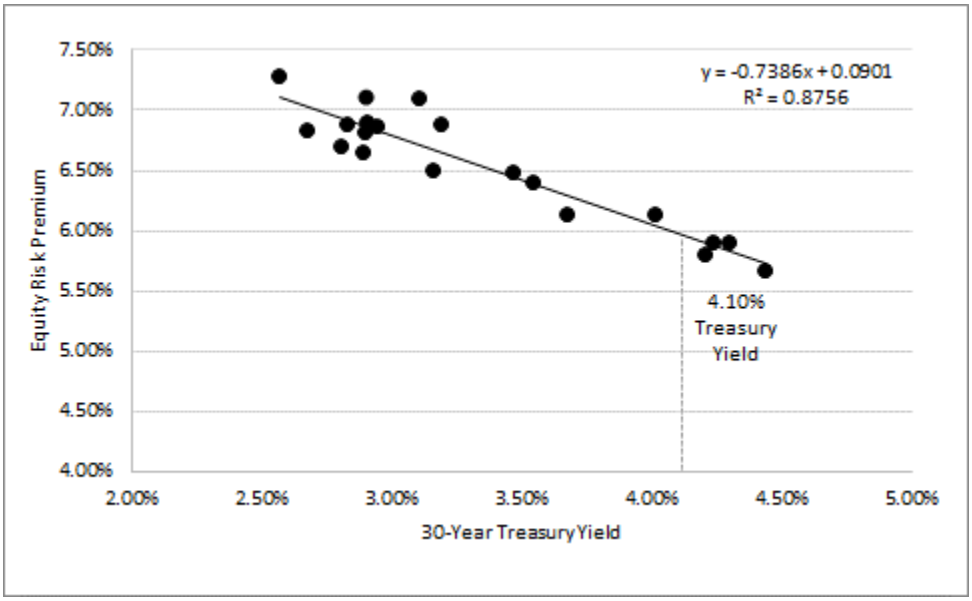
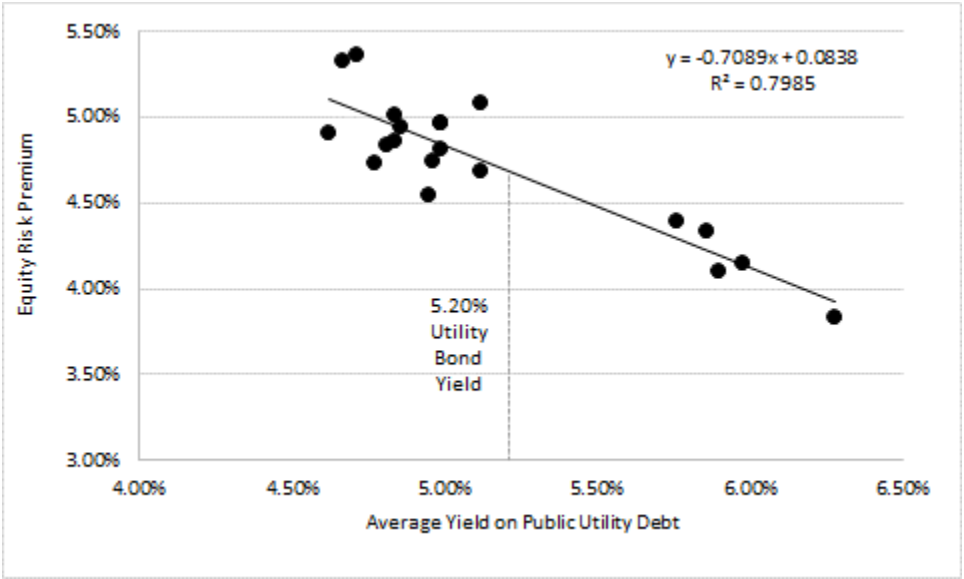


Chart 5: Baa-Rated Public Utility Bond Yield vs. Equity Risk Premium[61]



60 Source: Direct Exhibit RP-30.2. *See also* Rebuttal Exhibit RBH-12.

61 Source: Direct Exhibit RP-30.2. *See also* Rebuttal Exhibit RBH-12.

Further, rather than using "appropriately forward looking" yields as he does in his CAPM analysis, Mr. Powell chose to use somewhat dated historical interest rates in his Risk Premium analysis.[62] As of January 3, 2017 (the date of Mr. Powell's analysis), the 30-day average 30-year Treasury yield, and Baa public utility bond yield both were more than 35 basis points higher than the longer historical yield average included in Mr. Powell analysis (August 25, 2016 through January 3, 2017). Value Line projections, which Mr. Powell relies on his CAPM analysis, indicate 30-year Treasury yield and Baa public bond yield are expected to increase further over the 2019-2020 period.

As shown in Table 9 (below), adjusting Mr. Powell's analysis to include the inverse relationship between interest rates and the Equity Risk Premium, and to reflect more recent measures of long-term interest rates, produces ROE estimates of 9.89 percent to 10.08 percent, which overlaps my recommended range, but is 39 to 58 basis points above Mr. Powell's ROE recommendation (*see also* Rebuttal Exhibit RBH-12).

62 Direct Exhibit RP-30.1.

Table 9: Mr. Powell's Risk Premium - Revised[63]

	30-Year Treasury			*Baa Public Utility Bond*		
	Yield	***Risk Premium***	***ROE***	***Yield***	***Risk Premium***	***ROE***
As Filed (Direct Exhibit RP-30)	2.70%	6.54%	9.24%	4.40%	4.73%	9.13%
Updated to 30-day Average yields	3.08%	6.54%	9.62%	4.78%	4.73%	9.51%
Updated to Projected Yields	4.10%	6.54%	10.64%	5.20%	4.73%	9.93%
Updated to Projected Yields, Revised Risk Prem.	4.10%	5.98%	10.08%	5.20%	4.69%	9.89%

Q. DOES MR. POWELL HAVE ANY CONCERNS WITH YOUR BOND YIELD PLUS RISK PREMIUM APPROACH?

A. Although Mr. Powell agrees that there is an inverse relationship between the Equity Risk Premium and nominal interest rates, he argues that there are factors beyond interest rates that affect the Equity Risk Premium (*i.e.*, inflation and its volatility).[64]

Q. WHAT IS YOUR RESPONSE TO MR. POWELL ON THAT POINT?

A. Even if other factors are at play, it is very clear that interest rates have a significant, and negative relationship with the Equity Risk Premium. As shown in Figure 1 in my Direct Testimony and Direct Exhibit RBH-7, the R^2 is approximately 0.71 (0.72 in my updated analysis in Rebuttal Exhibit RBH-6). That is, Treasury yields explain approximately 71.00 percent of the variation in the Equity Risk Premium. The explanatory value is even higher using Mr. Powell's data; Charts 4 and 5

63 *See* Rebuttal Exhibit RBH-12. Projected Baa utility bond yields calculated as current yield plus Value Line's projected increase in corporate AAA bond yields from 2016 to average of 2019-2020. *See* Value Line Selection & Opinion, Dec. 2, 2016, at 3251.

64 Direct Testimony of Regis Powell, at 36.

indicate R^2 values of approximately 0.88 and 0.80, respectively. Because Treasury yields explain much of the variation in the Equity Risk Premium, I do not believe my Bond Yield Plus Risk Premium approach is lacking.

Lastly, looking back over the rate cases included in his analysis, the standard deviation in the authorized returns using Mr. Powell's approach was 0.46 percent and 0.39 percent, respectively, for his Treasury yield, and Utility Bond Yield approaches. The standard deviation for the regression-based approach was 0.16 percent, and 0.17 percent, respectively. The difference between the observed authorized return and the implied ROEs are shown in Table 10, below.

Table 10: Difference Between Observed Authorized ROE and Implied ROE[65]

	Powell Approach		Regression Approach	
	30-Year Treasury	Utility Bond Yield	30-Year Treasury	Utility Bond Yield
Low	-0.88%	-0.91%	-0.24%	-0.32%
High	0.74%	0.63%	0.38%	0.33%
Standard Deviation	0.46%	0.39%	0.16%	0.17%

Again, regardless of Mr. Powell's view regarding other variables, the regression-based approach produces far more reliable estimates which are more tightly clustered around the actual observed returns than does his method.

Q. AFTER ADJUSTING THE CAPM AND RISK PREMIUM ANALYSES AS DISCUSSED ABOVE, WHAT ARE MR. POWELL'S ROE RESULTS?

A. As shown below in Table 11, Mr. Powell's adjusted results range from 8.90 percent to 10.10 percent, which overlaps my recommended range.

65 *See* Rebuttal Exhibit RBH-12.

Table 11: Mr. Powell's Adjusted Model Results[66]

Model	***Implied ROE***
Discounted Cash Flow	8.90% - 10.10%
Capital Asset Pricing Model	9.65%
Risk Premium Model	9.89% - 10.08%

E. Financial Integrity

Q. PLEASE BRIEFLY SUMMARIZE MR. POWELL'S ASSESSMENT OF HIS RECOMMENDATION AS IT AFFECTS MEASURES OF THE COMPANY'S FINANCIAL INTEGRITY.

A. Mr. Powell evaluates the reasonableness of his ROE recommendation by reference to the *pro forma* effect that his recommended ROE would have on certain financial ratios, to determine whether those ratios would fall within the proxy group average. To do so, Mr. Powell develops the following *pro forma* ratios: (1) Earnings Before Interest, Taxes, Depreciation, and Amortization ("EBITDA") to Interest; (2) Times Interest Earned; and (3) Debt to EBITDA. Mr. Powell suggests that his ROE recommendation produces *pro forma* credit metrics that are reasonable relative to the proxy group average.[67] An obvious and important point is that Mr. Powell's analysis assumes that the Company actually is able to earn the entirety of its authorized ROE on a going-forward basis.

66 *See* Rebuttal Exhibit RBH-12.

67 *See* Direct Testimony of Regis Powell, at 42-43, and Table 1.

Q. DO YOU AGREE WITH MR. POWELL'S ANALYSIS AND CONCLUSION?

A. No, I do not. First, Mr. Powell's analysis does not demonstrate that his recommendation is the only ROE that produces credit metrics that are reasonable relative to the proxy group. As shown in Rebuttal Exhibit RBH-13, ROEs as low as 5.10 percent produce certain credit metrics equal to the proxy group average (*see* Table 12 below). It is unlikely that credit rating agencies would view an ROE of 5.10 percent as similarly credit supportive as the low end of my recommended range (10.00 percent). Given that returns as low as 5.10 percent produce credit metrics in the same range as the proxy company average, Mr. Powell's analysis provides little insight as to how the financial community would view his recommendation, if adopted by the Commission. Rather, the issue is directional; Staff's 9.50 percent ROE recommendation clearly is less supportive of the Company's financial integrity than my 10.25 percent ROE recommendation.

Table 12: *Pro forma* Credit Metric Sensitivity Analysis[68]

	EBITDA/ Interest	***Times Interest Earned***	***Debt/ EBITDA***
Mr. Powell's Recommendation - 9.50%	6.8x	3.6x	3.2x
Mr. Powell's Low End of Range - 8.90%	6.6x	3.5x	3.3x
10.00% ROE	6.9x	3.8x	3.1x
6.59% ROE	**5.9x**	2.8x	3.7x
8.97% ROE	6.6x	**3.5x**	3.3x
5.10% ROE	5.5x	2.4x	**4.0x**
Proxy Group Average	5.9x	3.5x	4.0x
Proxy Group Range	3.0x – 8.7x	1.2x – 6.0x	2.8x – 6.8x

F. Capital Structure

Q. WHAT IS MR. POWELL'S RECOMMENDATION CONCERNING CAPITAL STRUCTURE?

A. Mr. Powell imputes a Debt to Equity ratio of 52.00 percent to 48.00 percent based on his comparable group.[69] Mr. Powell also uses the end-of-year capital structure, with certain adjustments to estimate equity ratio and as noted earlier, includes short-term debt.[70] Mr. Powell disagrees with my review of operating utilities (as opposed to holding companies) and the exclusion of short-term debt from the capital structure; he believes it is inconsistent to use proxy companies for estimating the ROE and operating companies for determining the reasonableness of the Company's capital structure.[71]

68 *See* Rebuttal Exhibit RBH-13.
69 Direct Testimony of Regis Powell, at 17-18.
70 *Ibid*., at 18-19.
71 *Ibid*., at 16.

Q. DO YOU HAVE ANY CONCERNS WITH MR. POWELL'S USE OF SHORT-TERM DEBT IN HIS RECOMMENDED CAPITAL STRUCTURE?

A. Yes, I do. In my experience, utilities generally do not use short-term debt to fund the long-lived assets included in rate base. By including short-term debt, which typically is used to finance current assets in the capital structure, Mr. Powell has overstated the level of short-term debt required to finance utility operations. 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 of the securities issued to finance those assets, such that exposure to changes in the cost of capital is minimized. In non-financial institutions, such as utilities, the practice involves matching the overall source of funding with the lives of the assets being financed.[72] In essence, the overall term structure of the subject company's long-term liabilities – including both debt and equity – should correspond to the life of its permanent assets. As noted by Brigham and Houston, "[t]his strategy minimizes the risk that the firm will be unable to pay off its maturing obligations."[73]

Because equity is perpetual in nature, adding it to the capital structure extends the weighted average life of long-term liabilities, and mitigates incremental refinancing risk. Conversely, relying more heavily on debt as the means of

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72 This is not to say that an individual dollar may be traced from its source to its use.

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

financing long-lived assets increases the risk of refinancing maturing obligations during less accommodating market environments. Mr. Powell's recommendation to include short-term debt in the capital structure for ratemaking purposes is at odds with the underlying long-term nature of the majority of the rate base assets.

Q. WHAT IS YOUR OPINION ON MR. POWELL'S USE OF AN IMPUTED HYPOTHETICAL CAPITAL STRUCTURE IN THIS DOCKET?

A. I do not think a hypothetical capital structure is appropriate in this case. As shown on Rebuttal Exhibit RBH-7, the average equity ratio of the electric utility operating companies held within the proxy group was 52.00 percent, and ranged from 45.50 percent to 58.48 percent. Because OG&E's actual capital structure is consistent with industry practice (as measured by the proxy group), there is no reason to conclude that it should be abandoned in favor of a hypothetical capital structure.

Q. WHY IS IT REASONABLE TO REVIEW THE CAPITAL STRUCTURES IN PLACE AT OTHER UTILITY OPERATING COMPANIES TO ASSESS THE REASONABLENESS OF OG&E'S PROPOSED CAPITAL STRUCTURE?

A. In a cost of service-based regulatory environment, in exchange for the obligation to serve, equity investors expect utilities to have the opportunity to earn a fair return on prudent investments. The nature of regulation also provides the ability, and creates the obligation for utilities to make large, essentially irreversible, investments that are recovered over decades at a compensatory cost of capital. Unlike unregulated entities, utilities generally do not have the option to delay, defer,

or reject capital investments. And because those investments are capital-intensive, utilities generally do not have the option to avoid raising external funds during periods of capital market distress.

From my practical experience managing a utility balance sheet, I can say that capital-intensive companies are financed in light of the risks and funding requirements associated with their assets and operations. As such, companies operating within a given sector are likely to have comparable financing requirements, face common financing constraints and, therefore, have comparable financing practices. Although no one utility is a perfect substitute for another, they do share certain characteristics that influence their operations; proxy companies used to estimate the Cost of Equity are assembled on that basis. Because they finance long-lived assets and must do so regardless of prevailing market conditions, it is reasonable to expect utilities to have similar financing practices. Consequently, observing capital structures in place at other utility operating companies provides a reasonable view of industry practice.

Q. ALONG THE SAME LINES, DO YOU HAVE ANY CONCERNS WITH THE USE OF HOLDING COMPANY CAPITAL STRUCTURES AS A COMPARATOR FOR AN OPERATING UTILITY COMPANY?

A. Yes. Mr. Powell fails to recognize the fundamental difference that most operating subsidiaries issue debt and have their own credit ratings, but cannot issue publicly traded common equity. Proxy groups of holding companies therefore are used to estimate the Cost of Equity for operating utilities - it is not possible to develop a

proxy group of publicly traded regulated operating utilities for that purpose. However, operating utilities such as OG&E issue debt, and their target capital structures are maintained through periodic equity infusions from the parent and dividend payments by the operating utility to the parent. As such (and for the reasons discussed earlier), operating company capital structures are the proper point of comparison.

IV. RESPONSE TO THE ROE DIRECT TESTIMONY OF WILLIAM P. MARCUS

Q. PLEASE PROVIDE A BRIEF SUMMARY OF MR. MARCUS'S TESTIMONY AND ROE RECOMMENDATION.

A. Mr. Marcus recommends a base ROE of 9.30 percent, within a "range of reasonableness" of 8.70 percent to 9.50 percent.[74] Mr. Marcus reasons that a further 25 basis point ROE reduction is proper if the Commission approves the Company's formula rate plan.[75] Mr. Marcus has not, however, provided independent empirical estimates of the Company's Cost of Equity to support his recommendation.

A. DCF Approach

Q. WHAT ARE MR. MARCUS'S CONCERNS WITH YOUR DCF ANALYSIS?

A. Mr. Marcus argues that my Mean Low and Mean High DCF results should be ignored as they represent "extreme" outliers of the proxy group results. Mr. Marcus further suggests that I would like "the Commission [to] ignore the extreme low results and instead focus on the extreme high, Mean High results."[76] Lastly, Mr. Marcus states that the Company has "given no reasonabl[e] justification" for an ROE above an 8.70 percent to 9.50 percent "reasonable" range.[77]

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74 Direct Testimony of William P. Marcus, at 17.
75 *Ibid.*
76 *Ibid.*, at 16. [clarification added].
77 *Ibid.*, at 59. [clarification added].

Q. WHAT IS YOUR RESPONSE TO MR. MARCUS ON THOSE POINTS?

A. As a preliminary matter, I note that Mr. Marcus has not commented on the fundamental structures of my DCF analyses, nor has he critiqued the inputs to those analyses.

Mr. Marcus's claim that I implicitly ask the Commission to ignore the Mean Low results also is incorrect. As stated in my Direct Testimony, quantitative models produce a range of results from which the market-required ROE must be selected; that selection itself should be based on a comprehensive review of relevant data and information.[78] It has been my consistent practice to present all the results of my ROE analyses. I have not asked the Commission, explicitly or implicitly, to ignore any of them. Rather, I have presented all my results, and have provided empirical evidence and market-based analysis as to where OG&E's ROE appropriately falls within the range of results. An obvious point is that whereas my results were as high as 11.40 percent,[79] my recommended ROE is 10.25 percent.

Moreover, although Mr. Marcus asserts that my use of the Mean High and Mean Low DCF results "only serve to bias the witness's results high,"[80] my 10.25 percent recommendation is within the range of results of my Multi-Stage DCF analysis, CAPM, and Bond Yield Plus Risk Premium approach.[81] Consequently,

78 Direct Testimony of Robert B. Hevert at 14-15.

79 *Ibid*, at 37.

80 Direct Testimony of William P. Marcus, at 54.

81 As noted in my Direct Testimony, current market conditions suggest that the Constant Growth DCF model results should be viewed with considerable caution. *See* Direct Testimony of Robert B. Hevert, at 6.

Mr. Marcus's assertion that I have attempted to "bias" the results to the high end[82] is entirely misplaced.

Mr. Marcus further argues that the Company has "given no reasonabl[e] justification" for an ROE above his subjective 8.70 percent to 9.50 percent "reasonable" range.[83] I disagree. Contrary to Mr. Marcus's assertion, I have provided evidence and market-based analyses, consistent with the type of evidence described in Act 725. As discussed in my Direct Testimony, that evidence includes: (1) analytical results from commonly accepted approaches that support an ROE above the Mean DCF results; (2) evidence of current capital market conditions that call into question the reliability of the DCF results; and (3) an assessment of the Company's business risks.

B. Application of the CAPM

Q. PLEASE SUMMARIZE MR. MARCUS'S CRITICISMS OF YOUR CAPM APPROACH.

A. Mr. Marcus states that my CAPM approach "suffers from several infirmities, which serve to overstate what a reasonable result would be."[84] He suggests that my forward-looking (*ex-ante*) CAPM approach is "inappropriate",[85] and that the historical, or *ex-post* approach is more conventional.[86] Mr. Marcus further suggests

82 Direct Testimony of William P. Marcus, at 54.
83 *Ibid*, at 59. [clarification added]
84 *Ibid*., at 55.
85 *Ibid*., at 16.
86 *Ibid*, at 56-58.

that my Market Risk Premium estimates are "unreasonable," and provides what he considers to be relevant "information from the real world" to support his unduly low Market Risk Premium estimates.[87]

Q. WHAT IS YOUR RESPONSE TO MR. MARCUS'S CLAIM THAT YOUR *EX-ANTE* CAPM APPROACH IS "INAPPROPRIATE"?

A. Mr. Marcus fails to recognize that the Cost of Equity is a forward-looking concept that focuses on investor expectations regarding future returns. The estimation of such returns, therefore, should be based on forward-looking data.[88] Consequently, my forward-looking, or *ex-ante* CAPM is a conventional, reasonable, and appropriate method of estimating the Company's Cost of Equity. Moreover (as discussed below), my approach is consistent with research cited by Mr. Marcus, himself.

87 *Ibid*, at 31-54.

88 *See* Direct Testimony of Robert B. Hevert, at 60, 69. *See also*, Robert S. Harris and Felicia C. Marston, *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, Journal of Applied Finance, Vol. 11, No. 1, 2001. Morningstar, Inc., 2013 Ibbotson Stocks, Bonds, Bills and Inflation Valuation Yearbook, at 53; Grabowski, Roger J., "Equity Risk Premium: 2006 Update," Business Valuation Review, at 64.

Q. MR. MARCUS REFERS TO A 2008 RATE CASE IN WHICH YOU RELIED ON THE HISTORICAL ARITHMETIC AVERAGE MARKET RISK PREMIUM REPORTED BY MORNINGSTAR.[89] WHY DID YOU RELY ON THE HISTORICAL MRP IN THAT CASE?

A. Although not specified, Mr. Marcus appears to reference my 2008 testimony on behalf of Otter Tail Power, in South Dakota.[90] Under certain market conditions, the historical average MRP may be a reasonable estimate of investors' expected returns. One check on the reasonableness of using a historical MRP at any given time is to consider whether current Treasury yields are similar to the yields that were in place over the period used to calculate the historical MRP.[91] At the time of my analysis in the 2008 Otter Tail rate case, the 30-, 90-, and 180-day average 30-year Treasury yield ranged from 4.22 percent to 4.47 percent.[92] Therefore, the historical MRP was reasonable at that time. Current 30-year Treasury yields, however, are substantially below their long-term average, a direct result of Federal Reserve policies that were not in place in 2008. Consequently, historical averages may not adequately reflect investors' current expectations in the current capital

89 *See* Direct Testimony of William P. Marcus, at 56-57.

90 Direct Testimony of Robert B. Hevert Schedule 4, Docket No. EL08-030 before the South Dakota Public Utilities Commission.

91 Morningstar's calculates the historical MRP as the difference between the average total return on large capitalization stock and the average yield on long-term Treasuries. *See* Morningstar, Inc., 2013 Ibbotson Stocks Bonds Bills and Inflation Valuation Yearbook, at 54.

92 *See* Direct Testimony of Robert B. Hevert at 23, Docket No. EL08-030 before the South Dakota Public Utilities Commission. Note, my 2008 Otter Tail testimony noted that 30-year Treasury yields were conservative compared to long-term average government bond returns. Morningstar reports an arithmetic average income-only return on long-term government bonds of 5.07 percent; *See* Morningstar, Inc., 2015 Ibbotson Classic Yearbook, at 91.

market and as such, it is necessary to consider forward-looking estimates of the MRP.

Further, subsequent to the 2008 market contraction, the historical average MRP fell, even though market volatility (*i.e.*, risk) increased. That relationship suggests that as risk (volatility) increased, the Market Risk Premium (the incremental required return) decreased. Such a result is counter to the fundamental risk/return relationship that underlies the models used to estimate the Cost of Equity. In any case (as discussed below), the *ex-ante* estimates used in my CAPM analysis are well within the range of observed historical MRPs.[93]

Q. PLEASE SUMMARIZE MR. MARCUS'S DISCUSSION OF THE MARKET RISK PREMIUM.

A. Mr. Marcus refers to sources that suggest the MRP is in the range of 3.00 to 6.00 percent, even as low as 1.00 percent.[94] Not only would such estimates produce unrealistic ROE estimates, they also are inconsistent with historical experience.

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93 In fact, my estimates are well within two standard errors of the long-term mean. Based on the lower 10.68 percent Value Line MRP estimate (Direct Exhibit RBH-3), 90 MRP observations, 6.48 percent mean observed MRP, and 20.07 historical standard deviation of observed MRPs (Source: Morningstar, Inc., Morningstar, Inc., Ibbotson SBBI 2016 Appendix A).

94 Direct testimony of William P. Marcus at 39-43.

Q. WHAT IS THE BASIS OF MR. MARCUS'S CLAIM THAT YOUR DCF-DERIVED MARKET RETURN ESTIMATE IS "UNREASONABLE" AND "UNSUSTAINABLE"?[95]

A. Mr. Marcus states that "stock market returns are likely to be less now than in the past" and that "OG&E's risk-premium and market return expectations are well above reasonable."[96] Mr. Marcus further suggests that my forward-looking MRP estimates are "unsustainable over the long term because such a risk premium is considerably higher than the mean over time."[97] Mr. Marcus supports his position by citing several sources that the expected market return is generally in the range of 7.50 percent to 9.50 percent.[98]

Q. TURNING FIRST TO THE EXPECTED TOTAL RETURN ON THE MARKET, DO YOU AGREE WITH MR. MARCUS'S ESTIMATE THAT THE TOTAL MARKET RETURN IS IN THE RANGE OF 7.50 PERCENT TO 9.50 PERCENT?

A. No, I do not. As a practical matter, a market return estimate as low as 7.50 percent would imply an ROE of 6.38 percent based on Staff's CAPM methodology; a market return of 9.50 percent would imply an ROE of 7.72 percent.[99] Results as low as 6.38 percent to 7.72 percent are clearly unreasonable estimates of OG&E's

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95 *Ibid*., at 54, 55.

96 *Ibid*., at 36.

97 *Ibid*., at 54. I note that while Mr. Marcus points to a market returns of 14.46 percent, the market returns included in my Direct Testimony were 13.03 percent and 13.70 percent.

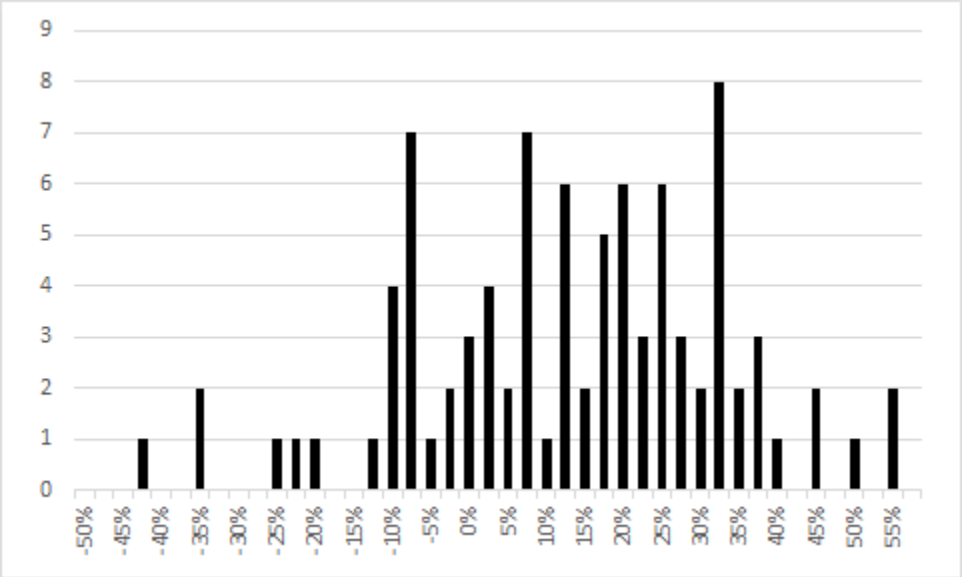
98 *Ibid.,* at 39-45, 53-54.

99 Staff Witness Powell's average risk-free rate is 4.10 percent, with an average Beta coefficient of 0.67. 4.10% + 0.67 x (7.50% - 4.10%) = 6.38%; 4.10% + 0.67 x (9.50% - 4.10%) = 7.72%. As noted earlier, Mr. Marcus does not provide independent analyses.

required return. Putting aside the implausible nature of those results, the credit and financial integrity implications of an authorized return of 7.72 percent cannot be estimated, because it has never occurred.

Mr. Marcus's claim that the market return estimates used in my analyses are "unsustainable" relative to historical levels, is incorrect, as shown by how often various ranges of total returns actually have occurred over the 1926 to 2015 period. To perform that analysis, I gathered the annual return on Large Company Stocks reported by Morningstar, produced a histogram of those observations, and calculated the probability that a given market return estimate would be observed. The results of that analysis, which are presented in Chart 6, demonstrate that returns of 13.03 percent and higher actually occurred quite often (including five of the last seven years).

Chart 6: Frequency Distribution of Observed Market Returns, 1926 - 2015[100]



In fact, the 13.03 percent and 13.70 percent estimates presented in my Direct Testimony, which Mr. Marcus asserts are "considerably higher" than historical standards, represent approximately the 49th percentile of the actual returns observed from 1926 to 2015. In other words, of the 90 annual observations, 46 were 13.03 percent or higher. By that measure, my estimate is not too high; it is entirely consistent with the historical experience that Mr. Marcus considers to be relevant. Moreover, given the historical volatility in market returns (as noted by Morningstar, the long-term standard deviation is 19.99 percent), my total return estimates of 13.03 percent and 13.70 percent are statistically indistinguishable from the long-term arithmetic average of 11.95 percent.[101]

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100 *See* Rebuttal Exhibit RBH-14; Morningstar SBBI Presentation, Morningstar Stocks, Bonds, Bills, and Inflation, 1926-2015.

101 *See* Morningstar SBBI Presentation, Morningstar Stocks, Bonds, Bills, and Inflation, 1926-2015. Rebuttal Exhibit RBH-14.

Lastly, Mr. Marcus argues that had I continued to use historical MRP data (as provided by Ibbotson), my CAPM estimate would be about 8.73 percent.[102] Putting aside the fact that the data underlying his calculation pre-dates the financial crisis, Mr. Marcus does not consider that as interest rates have fallen, the Market Risk Premium has increased. For example, in 2007 the average risk-free rate (as provided by Ibbotson) was about 4.90 percent, nearly twice the 2.50 percent average in 2015 (*see* Rebuttal Exhibit RBH-14). Because the MRP increases as the risk-free rate falls, the 2007 estimate that Mr. Marcus applies has no practical meaning in the current market, and his suggestion that 8.73 percent is a relevant measure of the Company's Cost of Equity is misplaced.

Q. MR. MARCUS ALSO CITES TO SURVEYS BY DUKE UNIVERSITY, AND PROFESSOR IVO WELCH IN SUPPORT OF HIS POSITION THAT THE EXPECTED MARKET RETURN INCLUDED IN YOUR CAPM ANALYSIS IS OVERSTATED.[103] WHAT IS YOUR RESPONSE TO MR. MARCUS ON THOSE POINTS?

A. As an initial matter, Mr. Marcus's 9.30 percent ROE recommendation, which applies to a company that is less risky than the overall market,[104] is 347 basis points above the expected market return suggested by the Duke Chief Financial Officers ("CFO") survey. If the survey result is a reasonable estimate of the expected market

102 Direct Testimony of William P. Marcus, at 54.
103 *See* Direct Testimony of William P. Marcus, at 42-43.
104 Mr. Marcus and I agree that Beta coefficients for our proxy companies are less than 1.0.

return, Mr. Marcus's ROE recommendation would be no higher than 5.83 percent.[105]

Further, the Duke CFO survey authors have noted a distinction between the expected market return on one hand, and the hurdle rate on the other. In prior surveys, the hurdle rate was significantly higher than the expected market return. For example, the authors' survey showed that the reported average hurdle rate, which is the return required for capital investments, was above 13.00 percent.[106] Mr. Marcus's reference to a survey that contains a 5.83 percent expected market return therefore should be given little weight.

In a similar fashion, Mr. Marcus refers to a 2008 survey by Ivo Welch of Brown University in support of his position that the Market Risk Premium does not support my ROE recommendation.[107] Professor Welch's 2008 survey was an update to a 2000 study, which was published in 2001. In the earlier article, Professor Welch observed that the survey was intended to be a consensus in the academic profession, and went on to note that:

> [t]he consensus estimate can be a number of some relevance in classroom, courtroom, and boardroom discussions, even if it may not be the best estimate of the equity premium itself. Then again, if there was agreement on how to calculate the best estimate, there would be no need for a survey of

105 5.83 percent equals the expected total market return forecast suggested by the Duke CFO survey, as of June 2016.

106 Graham, John R. and Harvey, Campbell R, "The Equity Risk Premium in 2016" (August 2, 2016), at 8-9, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2816603.

107 Direct Testimony of William P. Marcus, at 42.

> financial economists to begin with. Still surveys in general and this survey in particular have shortcomings…[108]

In the 2008 update cited by Mr. Marcus, Professor Welch noted that:

> …I do not advocate that the academic professorial consensus equity premium estimate should be seen as the best available estimate. Instead, this consensus estimate should be seen as the best "common practices" estimate for use in an academic setting.[109]

Given the intent and "shortcomings" associated with the Welch survey, and considering that the surveys related to market conditions in 2007 and earlier, I disagree with Mr. Marcus that those results invalidate my CAPM analysis and ROE estimates.

Q. DO YOU HAVE ANY CONCERNS WITH MR. MARCUS'S USE OF THE DUFF & PHELPS 5.50 PERCENT MRP ESTIMATE TO CHECK THE REASONABLENESS OF HIS OWN MRP ESTIMATE?

A. Yes, I do. As shown in Table 13, below, it is not clear that the rate developed by Duff & Phelps is comparable to the Cost of Equity analyses we are performing for OG&E in this proceeding. As discussed in my response to Mr. Marcus's pension fund analysis (*see* Section IV.D., below), returns developed for different purposes are not necessarily interchangeable. To that point, and as shown in Table 13 below, CAPM results produced using MRP estimates historically reported by Duff & Phelps are consistently below electric utility authorized ROEs.

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108 Ivo Welch, *Views of Financial Economists on the Equity Risk Premium and on Professional Controversies*, Journal of Business, 2000, Vol. 73, No. 4, at 502.

109 Ivo Welch, *The Consensus Estimate for the Equity Premium by Academic Financial Economists in December 2007*, January 18, 2008, at 2.

Table 13: CAPM Results Using Duff & Phelps MRP[110]

	Average Authorized Electric ROE	*Average Implied ROE Using Duff & Phelps MRP[111]*	*Difference*
2016	9.60%	6.21%	-3.38%
2015	9.60%	6.18%	-3.42%
2014	9.75%	6.74%	-3.02%
2013	9.81%	6.81%	-3.00%
2012	10.01%	6.62%	-3.38%
2011	10.19%	7.82%	-2.37%
2010	10.29%	7.95%	-2.34%
2009	10.52%	7.86%	-2.66%
2008	10.37%	7.95%	-2.42%

Because the CAPM results based on the Duff & Phelps MRP are so far removed from authorized returns, the Duff & Phelps MRP estimate is not an appropriate input for determining the authorized ROE for a utility, such as OG&E. Consequently, Duff & Phelps' MRP estimate does not support the reasonableness of Mr. Marcus's MRP estimates. Lastly, Duff & Phelps notes the CAPM formula can be adjusted to compensate for the incremental risk associated with small size;[112] the "Micro-Cap" risk premium associated with OG&E's size would be 3.58 percent.[113]

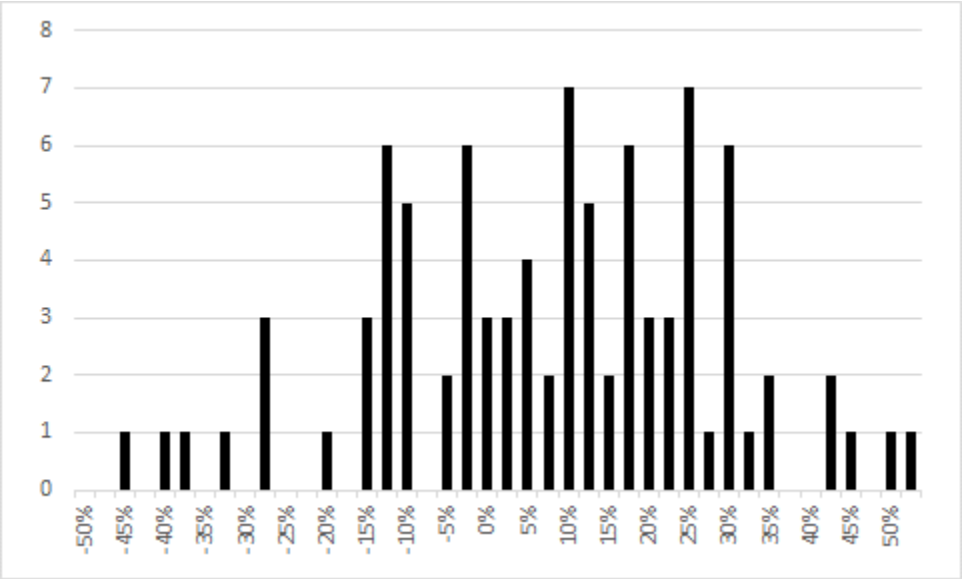
110 *See* Rebuttal Exhibit RBH-15.
111 Calculated as three-month average 30-year Treasury yield + (0.67 x Duff & Phelps most recent MRP). Data as of each rate case decision date.
112 *See* Duff & Phelps, 2016 Valuation Handbook, Appendix 3.
113 *Ibid.*

Q. TURNING NOW TO MR. MARCUS'S POSITION THAT YOUR MRP ESTIMATE IS TOO HIGH, DID YOU ALSO CONSIDER WHERE YOUR ESTIMATES FALL WITHIN THE RANGE OF HISTORICAL OBSERVATIONS?

A. Yes, I did. Mr. Marcus states "[i]t should be understood without any explanation that risk premiums in the range of 10.68% to 11.35% are unreasonable on their face."[114] Similar to my review of observed market returns, 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 7, demonstrate that MRPs of at least 11.35 percent occurred frequently (the high end of the range of the MRP estimates in my Direct Testimony), including three of the last seven years.

[114] Direct Testimony of William P. Marcus, at 55.

Chart 7: MRP Frequency Distribution, 1926 - 2015[115]



Consequently, when considered in the context of observed outcomes, Market Risk Premium estimates in the range of 10.68 percent to 11.35 percent are quite reasonable.

Q. DO ANY OF THE AUTHORS CITED IN MR. MARCUS'S EQUITY RISK PREMIUM SURVEY PROVIDE SUPPORT FOR YOUR APPROACH TO ESTIMATING THE CURRENT MRP?

A. Yes. Mr. Marcus cites to a 2016 survey by Pablo Fernandez, *et.al*. The study by Pablo Fernandez published in 2012 discusses how the required Equity Risk Premium is commonly calculated using the Constant Growth DCF approach:[116]

> [t]he [implied equity premium] is the implicit [required equity premium] used in the valuation of a stock (or market index) that matches the current market price. The most widely used model to

[115] *See* Rebuttal Exhibit RBH-14; Morningstar SBBI Presentation, Morningstar Stocks, Bonds, Bills, and Inflation, 1926-2015. Chart 7 shows that MRPs of 10.68 percent and 11.35 percent fall approximately in the middle of the historical observations.

[116] Mr. Marcus cites Pablo Fernandez's research; *see* Direct Testimony of William P. Marcus, at 42.

> calculate the [implied equity premium] is the dividend discount model: the current price per share (P_0) is the present value of expected dividends discounted at the required rate of return (Ke). If d_1 is the dividend per share expected to be received in year 1, and g the expected long term growth rate in dividends per share:
>
> $P_0 = d_1 / (Ke - g)$, which implies:
>
> [implied equity premium] = $d_1/P_0 + g - R_f$[117]

As discussed in my Direct Testimony, I calculated the *ex-ante* MRP in a similar manner, using a market capitalization weighted Constant Growth DCF calculation on the individual companies in the S&P 500 Index.

C. Reasonableness of the Bond Yield Plus Risk Premium Approach

Q. PLEASE SUMMARIZE MR. MARCUS'S CRITICISMS OF YOUR BOND YIELD PLUS RISK PREMIUM APPROACH.

A. Mr. Marcus argues that my Bond Yield Plus Risk Premium is not an appropriate method because using authorized returns from other state commissions is "circular" and "requires the Commission to abdicate its responsibility."[118] He further reasons that my regression estimation is "suspect" because my approach relates regulatory commission actions and Treasury bond yields when state commissions are slow and conservative.[119]

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117 Pablo Fernandez, Javier Aguierreamalloa, and Luis Corres, *Market Risk Premium used in 82 countries in 2012: a survey with 7,192 answers*, IESE Business School, at 13.

118 Direct Testimony of William P. Marcus, at 58.

119 *Ibid.*

Q. IS THE BOND YIELD PLUS RISK PREMIUM MODEL A COMMON APPROACH TO ESTIMATING THE COST OF EQUITY?

A. Yes, it is. First, as explained in my Direct Testimony and earlier my Rebuttal Testimony, academic research supports the inverse relationship between the Equity Risk Premium and interest rates. My Bond Yield Plus Risk Premium results clearly are consistent with those findings.[120] Second, the Bond Yield Plus Risk Premium model is a common approach to estimating the Cost of Equity, and is referenced in both academic and industry practitioner literature.[121] Brigham and Ehrhardt, for example, discuss the estimation of required return on equity in Financial Management: Theory and Practice, and note:

> However, we can employ the principles described in Chapters 6, 7, and 8 to produce reasonably good cost of equity estimates. Three methods typically are used: (1) the Capital Asset Pricing Model (CAPM), (2) the discounted cash flow (DCF) method, and (3) the bond-yield-plus-risk-premium approach. These methods are not mutually exclusive. When faced with the task of estimating a company's cost of equity, we generally use all three methods and then choose among them on the basis of our confidence in the input data available for the specific case at hand.[122]

In my experience, Risk Premium approaches are used by parties representing various interests. For example, although I disagree with his approach, Mr. Powell also includes a Bond Yield Plus Risk Premium-based method. As such, I continue to believe that my analyses appropriately provide an additional, and proper, perspective regarding the Company's Cost of Equity.

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120 Direct Testimony of Robert B. Hevert at 38-40.

121 *See*, for example, CFA Level I Program Curriculum, Volume 4, at 57; and *See* Morin, Roger A., New Regulatory Finance, Public Utilities Report, Inc., 2006, at 123-124.

122 Eugene Brigham and Michael Ehrhardt, Financial Management: Theory and Practice, 12th Ed. (Mason, OH: South-Western Cengage Learning, 2008), at 346.

Q. WHAT IS YOUR RESPONSE TO MR. MARCUS'S ARGUMENT THAT YOUR BOND YIELD PLUS RISK PREMIUM APPROACH IS CIRCULAR AND REQUIRES THE COMMISSION TO "ABDICATE ITS RESPONSIBILITY"?

A. I disagree on both points. Although it is the case that my analysis uses previously authorized returns, those cases, and the associated decisions, reflect the same type of market-based analyses at issue in this proceeding. Moreover, given that authorized returns are publicly available to investors, it is difficult to imagine that such data is not reflected, at least to some degree, in investors' return expectations and requirements. Consequently, it is reasonable to assume that over time, authorized returns represent a reasonable and observable (although not the only) measure of investor-required returns.

Second, my analysis does not ask the Commission to "abdicate its responsibility." It simply uses authorized returns to estimate the relationship between the Equity Risk Premium and the prevailing interest rates over time. The Commission is not bound by decisions in other regulatory jurisdictions, and in my experience, regulatory commissions set the ROE based on the specific market based-data presented to them.

Further, Act 725 specifically refers to authorized returns in other jurisdictions as additional evidence that utilities may present, and that the Commission may consider:

> Evidence that the requested return on common equity is comparable to values that have recently been approved for public utilities that are delivering similar services with corresponding risks within this

> state and in other similar regulatory jurisdictions in the same general part of the country…[123]

Consequently, Mr. Marcus's view that my Risk Premium analysis somehow is asking the Commission to "abdicate its responsibility" is misplaced.

Q. WHAT IS YOUR RESPONSE TO MR. MARCUS'S ASSERTION THAT YOUR BOND YIELD PLUS RISK PREMIUM APPROACH IS "SUSPECT" BECAUSE OF THE TIMING BETWEEN REPORTED TREASURY BOND YIELDS AND SLOW-ACTING REGULATORY COMMISSION ACTIONS.

A. As stated in my Direct Testimony, 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 200 days), which is the average period between the filing of the case and the date of the final order. As such, my approach addresses Mr. Marcus's concern.

D. Use of Pension Funds to Analyze the Cost of Equity

Q. PLEASE BRIEFLY SUMMARIZE MR. MARCUS'S POSITION REGARDING THE USE OF PENSION FUNDING ASSUMPTIONS IN ESTIMATING THE COMPANY'S COST OF EQUITY.

A. Mr. Marcus calculated the implied expected market return proxy companies' pension assets by setting the expected bond return equal to the discount rate that the pension actuary uses to calculate annual pension costs (*i.e.*, the corporate bond rate), and solving for the equity return that provides the total expected return on

[123] State of Arkansas, 90th General Assembly, Regular Session 2015, Act 725 (dated 03/27/15), Section (1) (c) (2).

fund assets. Mr. Marcus suggests that his analysis implies that the estimates of the proxy companies' pension assumptions include an average return for the broad equity market of 8.91 percent, with an implied risk premium (relative to corporate bonds) of 4.68 percent.[124]

Q. WHAT IS YOUR RESPONSE TO MR. MARCUS ON THAT POINT?

A. I disagree with Mr. Marcus that pension funding assumptions should be used as a means of estimating the Company's Cost of Equity. Although Mr. Marcus discusses the distinction between expected and required returns,[125] it is important to recognize that a pension fund asset manager will match the expected returns available from various asset classes to the expected liabilities that must be funded. An individual investor seeking to maximize their risk-adjusted return will only invest in a security if the expected return is equal to or greater than the required return. If it is not, the investor will look to alternative investments for which the expected return is compensatory relative to the expected risks. Since expected returns may or may not equal required returns, and given the specific timing requirements included in pension fund investment decisions, the use of pension fund expected returns is not an appropriate input to estimation of the market-required return on investments in companies comparable to OG&E.

From the perspective of a pension asset manager, investment decisions are made based on expected risks and returns for various asset classes, and subject to

124 Direct Testimony of William P. Marcus, at 33.

125 *Ibid.*, at 34-35.

investment objectives and guidelines, and to the expected timing and nature of the liabilities being funded by those investments. In doing so, they must consider: (1) the diversification of the portfolio; (2) the liquidity and current return of the portfolio relative to the expected cash flow requirements under the plan; (3) the portfolio's projected return relative to the plan's funding objective; and (4) the return expected on alternative investments with similar risks.[126]

An individual investor, on the other hand, decides whether to commit capital to a given security based on the return that they require in order to be compensated for the risks associated with the ownership of that security. As noted earlier, if the expected return is less than the required return, the investor would not commit capital, but instead look to alternative investments with appropriate risk-adjusted returns.

Q. HAVE REGULATORY COMMISSIONS NOTED THE PITFALLS OF COMPARING PENSION FUND EXPECTED RETURNS TO THE MARKET-REQUIRED ROE FOR A UTILITY?

A. Yes. In prior Orders the Commission has rejected Mr. Marcus's pension fund analysis:

> AG witness Marcus considered expected returns on equity investments in pension plans by utilities as determined from utility annual reports. (T. 1366, 1456-1458). There are two major problems

[126] 29 CFR 2509.908-1, *Interpretive bulletin relating to the fiduciary standard under ERISA in consider economically targeted investments,* October 17, 2008. Given the need to consider portfolio diversification, it is unclear why pension fund managers would theoretically shift to a portfolio of 100.00 percent fixed income "if they did not like the "expected return for the market as a whole", as Mr. Marcus suggests. *See* Direct Testimony of William P. Marcus, at 34.

> with this sort of analysis: (1) it is unclear how long the time horizon is; and (2) these returns are expected, not required. It is well-established that expected returns may be less than, equal to, or greater than required returns. For that reason, expected returns cannot be used directly as a proxy for required returns, which is the information sought in a general rate case.[127]

Similarly, the California Public Utilities Commission in Application 07-05-003 stated that, "[p]ension return assumptions are not comparable to the ROE used in utility ratemaking,"[128] because the objectives of pensions funds and equity investors are not aligned, and pension fund returns are based on the market value of the assets and a utility's ROE is applied to its rate base.[129]

Q. DO FINANCE TEXTS SUGGEST THAT A COMPANY'S COST OF EQUITY CAN BE ASSESSED FROM EXPECTED RETURNS ON PENSION ASSETS?

A. No, they do not. Widely used finance texts recommend the use of multiple models in estimating the Cost of Equity, in particular the DCF, CAPM, Risk Premium, and Arbitrage Pricing Theory approaches. To determine whether Mr. Marcus's use of broad market expected returns used for the purposes of pension asset management also is an approach recommended by finance texts, I reviewed articles published in financial journals that speak to the methods used by analysts to estimate the Cost of Equity.

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127 Docket no. 04-121; Order No. 16, Arkansas Public Service Commission, September 19, 2005 at 46.

128 Decision 07-12-049, Application 07-05-003, California Public Utilities Commission, December 21, 2007, at 43.

129 *Ibid.*, at 44.

As early as 1985 Brigham, Shome, and Vinson addressed methods used to estimate the Cost of Equity for regulated utilities. In their introduction, the authors noted that:

> In the mid-1960s, Myron Gordon and others began applying the theory of finance to help estimate utilities' costs of capital. Previously, the standard approach in cost of equity studies was the "comparable earnings method," which involved selecting a sample of unregulated companies whose investment risk was judged to be comparable to that of the utility in question, calculating the average return on book equity (ROE) of these sample companies, and setting the utility's service rates at a level that would permit the utility to achieve the same ROE as comparable companies. This procedure has now been thoroughly discredited...and it has been replaced by three market-oriented oriented (as opposed to accounting-oriented) approaches: (i) the DCF method, (ii) the bond-yield-plus-risk-premium method, and (iii) the CAPM, which is a specific version of the generalized bond-yield-plus-risk-premium approach.[130]

Similarly, an article published in Financial Analysts Journal surveyed financial analysts to determine the analytical techniques that are used in practice.[131] Regarding stock price valuation and cost of capital estimation, the author asked respondents to comment only on the DCF, CAPM, and Economic Value Added models. The article did not, however, include surveys of expected returns or pension fund assumptions.

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130 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, at 33.

131 *See* Stanley B. Block, *A Study of Financial Analysts: Practice and Theory*, Financial Analysts Journal, July/August, 1999.

E. Flotation Costs

Q. PLEASE SUMMARIZE MR. MARCUS'S ARGUMENT THAT THE COMMISSION SHOULD GIVE NO WEIGHT TO YOUR FLOTATION COST RECOMMENDATION.

A. Mr. Marcus suggests that because the flotation cost adjustment was calculated "based on past costs incurred by companies that were not even the target company," flotation costs cannot be considered "valid, sustainable, measurable, [or] material".[132] He further suggests that the Commission has stated that recovery of "prior 'unrecovered' costs" is inappropriate.[133]

Q. DO YOU AGREE WITH MR. MARCUS IN THAT REGARD?

A. No, I do not. Just as common equity has an indefinite life, the effect of flotation costs (which are a reduction to common equity) likewise is indefinite. In that sense, flotation costs are borne by the utility in each year after the issuance of equity. Consequently, it is inappropriate to think of flotation costs as non-recurring when their effect is permanent. Dr. Roger Morin notes that "[t]he costs of issuing [common stock] are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit the recovery of these costs."[134] Dr. Morin further notes that "equity capital raised in a given stock issue remains on the utility's common equity account and continues to

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132 Direct Testimony of William P. Marcus, at 27.

133 *Ibid.*

134 Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 321.

provide benefits to ratepayers indefinitely."[135] As noted in my Direct Testimony, flotation costs are part of capital costs, which are properly reflected on the balance sheet rather than as current expenses on the income statement.[136]

As shown in Direct Exhibit RBH-8 of my Direct Testimony (updated based on my revised proxy group in Rebuttal Exhibit RBH-8), an adjustment of 0.11 percent (*i.e.*, 11 basis points) reasonably represents flotation costs for the Company. To the extent that the Company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby diminishing its ability to attract adequate capital on reasonable terms.

F. Effect of the Regulatory Structure on the Cost of Equity

Q. DOES MR. MARCUS RECOMMEND ANY ADJUSTMENTS TO THE COMPANY'S ROE?

A. Yes, Mr. Marcus recommends an ROE of "9.05% with the formula rate plan because of the significant reduction of risk and regulatory lag that it would provide."[137]

135 *Ibid.*, at 327.
136 Direct Testimony of Robert B. Hevert, at 50-51.
137 Direct Testimony of William P. Marcus, at 60.

Q. ARE FORMULA RATE PLANS AND OTHER REVENUE STABILIZATION MECHANISMS COMMON AMONG ELECTRIC UTILITIES?

A. Yes, they are. Direct Exhibit RBH-9 demonstrates that all the proxy companies employ revenue stabilization mechanisms, including formula rate plans, decoupling mechanisms, new capital investment mechanism, and earnings sharing mechanisms. Further, the relevant analytical issue is whether the Company is less risky than its peers as a direct result of its rate riders such that investors would specifically and measurably reduce their return requirement. Mr. Marcus has provided no analytical or other support suggesting the use of a formula rate plan would reduce the Company's required return. As such, and in light of the evidence to the contrary, Mr. Marcus's conclusions regarding the effect of the Company's proposed riders on its Cost of Equity are misplaced.

Lastly, the position that a reduction in revenue volatility necessarily requires a reduction in the Cost of Equity runs counter to Modern Portfolio Theory, which is the fundamental basis of the Capital Asset Pricing Model. Under Modern Portfolio Theory, total risk is separated into two distinct components: non-diversifiable risk, which is that portion of risk that can be attributed to the market as a whole; and non-systematic (or diversifiable) risk, which is attributable to the idiosyncratic nature of the subject company itself and, therefore, can be diversified away. Any reduction in the Cost of Equity depends on the type of risk that is reduced.

If the risk assumed to be mitigated by rate mechanisms is diversifiable, there would be no reduction in the Cost of Equity because investors could otherwise mitigate the risk through portfolio diversification. If, on the other hand, the risk is non-diversifiable (that is, systematic), it may be that the factors that drove the need to implement the mechanisms also are systematic. That is, if the factors that drove the implementation of rate structures reflected increased systematic risk, those structures would offset that incremental risk and there would be no reduction in the Cost of Equity. Either way, Mr. Marcus has not addressed that crucial issue.

G. Recently Authorized Returns

Q. WHAT ARE MR. MARCUS'S CONCERNS WITH YOUR ANALYSIS OF AUTHORIZED RETURNS IN ARKANSAS AND SURROUNDING JURISDICTIONS?

A. Mr. Marcus cites to an order from the Missouri Public Service Commission to suggest that authorized returns in other jurisdictions are not relevant. Mr. Marcus further argues that the data presented in Direct Exhibit RBH-11 suggests a downward trend in authorized returns.[138]

Q. WHAT IS YOUR RESPONSE TO THOSE POINTS?

A. Although Mr. Marcus believes that it is not useful to review authorized returns in other jurisdictions, given that authorized returns are publicly available, it is difficult to imagine that such data is not reflected, at least to some degree, in investors' return

[138] Direct Testimony of William P. Marcus, at 28-29.

expectations and requirements. For example, American Electric Power ("AEP"), disclosed authorized returns, by jurisdiction, in its 2015 SEC Form 10-K. AEP therefore finds authorized returns to be of sufficient importance to investors that it merits disclosure. Given that disclosure, it is difficult to imagine that authorized returns are not a factor considered by investors as they develop their return requirements. I therefore continue to believe that authorized returns are a reasonable (although not the only) measure of investor-required returns.

Further, as noted in my Direct Testimony and Section IV.C, regardless of Mr. Marcus's opinion, Act 725 clearly states that it is reasonable to consider authorized returns in Arkansas and "regulatory jurisdictions in the same general part of the country."[139]

In addition, I have updated Direct Exhibit RBH-11 in my Direct Testimony. Based on that updated data, I disagree with Mr. Marcus's conclusion that there has been a downward trend in authorized returns. For example, as shown in Table 14, the average authorized returns in Arkansas and the surrounding jurisdictions, except for 2015, have been approximately 10.00 percent.

Table 14: Annual Average Authorized Returns in Arkansas and Surrounding Jurisdictions[140]

Year	Average Authorized Return
2011	10.05%
2012	10.17%
2013	10.01%
2014	10.02%
2015	9.51%
2016	9.96%

139 Direct Testimony of Robert B. Hevert, at 12.

140 *See* Rebuttal Exhibit RBH-9.

Lastly, although Mr. Marcus points to an Order by the Missouri Public Service Commission (the "MPSC") to support his view that returns authorized in other jurisdictions are of limited value, he neglects to note the MPSC's decision in File No. GR-2014-0152, stating that:

> The Commission has described a "zone of reasonableness" extending from 100 basis points above to 100 basis points below the recent national average of awarded ROEs to help the Commission evaluate ROE recommendations. Because the evidence shows the recent national average ROE for gas utilities is 9.69%, that "zone of reasonableness" for this case is 8.69% to 10.69%.[141]

The MPSC, therefore, has looked to returns elsewhere as a means of determining the reasonableness of ROE recommendations.

Q. DOES MR. MARCUS CONSIDER RECENTLY AUTHORIZED RETURNS IN DETERMINING HIS RECOMMENDED ROE?

A. Yes, he does. Specifically, Mr. Marcus states that "The December authorizations for electric and gas utilities ranged from 8.64% to 10.10%."[142] As a result, Mr. Marcus concludes that his 9.30 percent recommendation is reasonable.

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141 Missouri Public Service Commission, *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*, File No. GR-2014-0152, Effective Date January 2, 2015, at para. 26.

142 Direct Testimony of William P. Marcus, at 17.

Q. IS A RANGE OF AUTHORIZED RETURNS INCLUDING NATURAL GAS AND DISTRIBUTION-ONLY ELECTRIC UTILITIES A REASONABLE COMPARISON TO OG&E'S ROE?

A. No, it is not. Vertically integrated utilities, such as OG&E, that own and operate electric generating plants face significant regulatory risk and additional potential capital investment needs relative to natural gas and distribution-only electric utilities. In my view, natural gas and distribution-only electric utilities do not face similar challenges, and therefore are less comparable to OG&E. Authorized returns for vertically integrated utilities, in December 2016, ranged from 9.37 percent to 10.10 percent, with an average of 9.75 percent.[143] That is, Mr. Marcus's recommendation is seven basis points below the lowest authorized ROE over the period in which he reviews to confirm the reasonableness of his recommendation.

H. Capital Structure

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF MR. MARCUS'S ANALYSES AND CONCLUSIONS REGARDING THE COMPANY'S CAPITAL STRUCTURE.

A. Mr. Marcus recommends a hypothetical capital structure of 49.00 percent equity, 48.21 percent long-term debt and 2.79 percent short-term debt.[144] Mr. Marcus's recommendation is based on his review of the capital structures of the proxy

143 Source: SNL Financial.

144 Direct Testimony of William P. Marcus, at 13-14.

companies in my Direct Testimony, at the holding company level, including short-term debt and preferred equity.

Q. WHAT IS YOUR RESPONSE TO MR. MARCUS'S RECOMMENDATION?

A. As noted in my response to Mr. Powell, including short-term debt in the capital structure for ratemaking purposes is at odds with the underlying long-term nature of the majority of the rate base assets. By including short-term debt that is commonly used to finance current assets in the capital structure, Mr. Marcus has overstated the level of short-term debt required to finance utility operations.

As also noted in my response to Mr. Powell, operating utilities such as OG&E issue debt, and their target capital structures are maintained through periodic equity infusions from the parent and dividend payments by the operating utility to the parent. As such, operating company capital structures are the proper point of comparison, not holding companies as Mr. Marcus has done.

As shown on Rebuttal Exhibit RBH-7, the average equity ratio of the electric utility operating companies held within the proxy group was 52.00 percent, and ranged from 45.50 percent to 58.48 percent. Because OG&E's actual capital structure is consistent with industry practice (as measured by the proxy group), there is no reason to conclude that it should be abandoned in favor of a hypothetical capital structure. I therefore do not agree with Mr. Marcus's analyses or conclusions as they relate to OG&E's capital structure.

V. RESPONSE TO THE ROE DIRECT TESTIMONY OF DAVID J. GARRETT

Q. PLEASE PROVIDE A BRIEF SUMMARY OF MR. GARRETT'S ANALYSES AND RECOMMENDATIONS REGARDING THE COMPANY'S COST OF EQUITY AND CAPITAL STRUCTURE.

A. Although Mr. Garrett makes clear that he believes the Company's "true" Cost of Equity is 7.50 percent, he recommends a range of 7.50 to 9.00 percent, with a specific recommendation of 9.00 percent.[145] Mr. Garrett estimates the Cost of Equity using the Quarterly DCF model and the CAPM. Applying those methods to a group of seventeen companies, Mr. Garrett develops ROE estimates of 7.60 percent and 7.10 percent, respectively.[146] Mr. Garrett's 9.00 percent recommendation, which is significantly above each his analytical results, is based solely on his concern to avoid "a volatile move in the awarded return."[147] That is, his recommendation is not supported by any of the analyses presented in his direct testimony.

As to the Company's capital structure, relying on his CAPM analysis and making certain assumptions regarding changes in the cost of debt and equity under different financial leverage ratios, Mr. Garrett concludes that the "optimal" capital

145 Direct Testimony of David J. Garrett, at 92 and Direct Exhibit DG 1-2. Mr. Garrett specifically argues the models he applies estimate the "true cost of equity"; the average of his models is 7.30 percent (*see* Direct Testimony of David J. Garrett, Direct Exhibit DG 1-13).

146 *Ibid*., at 75 and Exhibit DG-1-13.

147 *Ibid*., at 78.

structure could include a debt ratio as high as 60.00 percent. However, Mr. Garrett recommends that the Commission impute a debt ratio of 52.00 percent.[148]

Q. ARE MR. GARRETT'S ANALYTICAL RESULTS AND RECOMMENDATION REASONABLE MEASURES OF THE COMPANY'S COST OF EQUITY?

A. No, they are not. Estimates as low as 7.10 percent have little practical value in determining the Company's ROE, and highlight the inherent risk of not questioning the applicability of models and the reasonableness of their underlying assumptions relative to observable benchmarks. For example, Mr. Garrett reviewed quarterly average authorized ROEs, which ranged from 9.57 percent to 10.26 percent in 2016.[149] Even the highest of Mr. Garrett's ROE estimates, however, falls far below those levels.[150] Mr. Garrett's 9.00 percent ROE recommendation, which exceeds his highest analytical result and far exceeds the 7.50 percent return that he finds most likely represents the "true" Cost of Equity, is considerably below that range. That is, it is impossible to reconcile his analytical results and his recommendation. Given its subjective nature, it is unclear how Mr. Garrett arrives at a specific recommendation of 9.00 percent. As such, Mr. Garrett's 9.00 percent recommendation has no basis and should be given little, if any, weight.

148 *Ibid*., at 91-92.

149 *Ibid*., at Exhibit DG-1-15.

150 All 17 of Mr. Garrett's CAPM estimates and his DCF estimate fall below the low end of the 9.57 percent to 10.26 percent range of authorized ROEs for electric utilities since January 2015 presented in Exhibits DG-1-7, DG-1-14 and DG-1-16.

Q. PLEASE SUMMARIZE THE KEY AREAS IN WHICH YOU DISAGREE WITH MR. GARRETT'S ROE AND CAPITAL STRUCTURE ANALYSES AND CONCLUSIONS.

A. The principal areas in which I disagree with Mr. Garrett include: (1) the composition of the proxy group; (2) the growth rate assumptions used in his DCF analyses; (3) application of the CAPM; (4) the relevance and interpretation of the Bond Yield Plus Risk Premium approach; (5) the effect of certain business risks on OG&E's Cost of Equity; (6) the relevance of flotation costs in determining the Company's Cost of Equity; and (7) the reasonableness of the Company's requested capital structure. Each of those points is discussed in more detail, below.

A. Proxy Group Composition

Q. PLEASE DESCRIBE THE SCREENING CRITERIA BY WHICH MR. GARRETT DEVELOPED HIS COMPARABLE GROUP.

A. Mr. Garrett began with the companies classified by Value Line as electric utilities, and applied the following screening criteria: (1) at least 50.00 percent of assets from are regulated; (2) an investment grade long-term bond rating by Moody's and S&P; and (3) a Value Line Financial Strength Rating of "B" or better.[151] With those criteria, Mr. Garrett arrived at the 22 company group included in his Exhibit-DG-C-3. Although there is some overlap between our proxy groups, there remain significant differences (*see* Table 15, below).

Table 15: Hevert and Garrett Proxy Groups

[151] *See* Mr. Garrett's response to OG&E's Fourth DR to ARVEC.

Company	Ticker	Hevert Original Proxy Group	Hevert Revised Proxy Group	Garrett Proxy Group
ALLETE, Inc.	ALE	√	√	
Alliant Energy Corp.	LNT	√	√	√
Ameren Corp.	AEE	√	√	√
American Electric Power Company	AEP	√	√	
Avista Corporation	AVA	√	√	
Black Hills Corporation	BKH	[2]	√	
CenterPoint Energy	CNP	[1]	[1]	√
Consolidated Edison Co.	ED	[1]	[1]	√
CMS Energy Corporation	CMS	√	√	√
DTE Energy Corporation	DTE	√	√	√
Edison International	EIX	[2]	[2]	√
Entergy Corporation	ETR	[3,4]	[3,4]	√
Great Plains Energy Inc.	GXP	[2]	[2]	√
IDACORP, Inc.	IDA	√	√	√
NorthWestern Corporation	NWE	√	√	
Otter Tail Corp.	OTTR	√	√	
Pinnacle West Capital Corp.	PNW	√	√	
PNM Resources, Inc.	PNM	√	√	
Portland General Electric Co.	POR	√	√	√
Public Service Enterprise Group	PEG	[1]	[1]	√
SCANA Corporation	SCG	√	√	√
Sempra Energy	SRE	[4]	[4]	√
Vectren Corporation	VVC	[5]	[5]	√
Westar Energy, Inc.	WR	[2]	[2]	√
WEC Energy Group Inc.	WEC	[2]	√	
Xcel Energy Inc.	XEL	√	√	√
√ Included in proxy group				
[1] Removed because company does not own significant regulated generation				
[2] Removed because company is party to a merger or other significant transaction				
[3] Removed because the company did not have positive consensus earnings growth rates from at least two equity analysts				
[4] Removed because coal is less than 10.00 percent of generating resources				
[5] Removed because company does not derive more than 60.00 percent of its regulated operating income from electric operations				

Q. WHY IS IT APPROPRIATE TO EXCLUDE COMPANIES THAT ARE NOT VERTICALLY INTEGRATED ELECTRIC UTILITIES, SUCH AS CONSOLIDATED EDISON?

A. As discussed in my Direct Testimony, companies that own and operate coal-fired electric generating plants face significant regulatory risk and potential capital investment needs due to Environmental Protection Agency ("EPA") regulations such as the Regional Haze Rule and the Mercury and Air Toxics Standards Rule.[152] In my view, distribution-only electric utilities do not face similar challenges, and therefore are less comparable to OG&E.

Q. WHY IS IT IMPORTANT TO EXCLUDE COMPANIES SUCH AS GREAT PLAINS ENERGY INC. ("GREAT PLAINS"), AND WESTAR ENERGY, INC. ("WESTAR") THAT ARE PARTY TO MERGERS OR OTHER SIGNIFICANT TRANSACTIONS?

A. Mergers and other significant transactions may affect the market data used to estimate the Cost of Equity. For example, the acquiring company often pays a premium above the target company's current market value such that it may not reflect retail investors' required return. By way of example, the stock price of Westar, which is included in Mr. Garrett's proxy group, increased by nearly 28.00 percent after its announced acquisition by Great Plains Energy.[153]

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152 *See* Direct Testimony of Robert B. Hevert, at 41-42.

153 Westar's closing stock price increased from $44.08 on March 9, 2016 to $56.33 on May 31, 2016 (the next trading day). Great Plains notes March 9, 2016 as a measure of the "undisturbed" price. Source: Great Plains Energy, Inc. SEC Form S-4 filed July 13, 2016, at 77; Yahoo! Finance.

Other transactions or events also may temporarily distort financial results. For example, Edison International's ("EIX") merchant generation business unit was placed into Chapter 11 bankruptcy and subsequently sold to NRG Energy.[154] Although the sale of that segment was completed in April 2014,[155] there are continuing effects on the company's near-term financial outlook associated with a settlement agreement related to the business units' bankruptcy, including required payments of $204 million in 2015, and $214 million in 2016.

Q. WHY DO YOU EXCLUDE ENTERGY CORPORATION FROM YOUR PROXY GROUP?

A. I excluded Entergy due to its negative projected earnings growth rates. As noted in my Direct Testimony, the Constant Growth DCF model assumes that the subject company will grow at the same, constant rate in perpetuity.[156] Although a given company may be able to sustain a negative growth rate in the short term, a perpetual negative growth rate violates the assumption that the company will be a going concern and continue to pay dividends over the long term. In this context, therefore, I do not believe that it is appropriate to include negative growth rates in the DCF analysis.

154 *See* Edison International, SEC Form 10-K, for the Fiscal Year Ended December 31, 2013, at 35-36.
155 *See* Edison International, SEC Form 10-K, for the Fiscal Year Ended December 31, 2014, at 104.
156 *See* Direct Testimony of Robert B. Hevert, at 19-20.

Q. WHAT IS YOUR CONCERN WITH THE USE OF ASSETS, RATHER THAN INCOME, AS A SCREENING CRITERION?

A. Measures of income are far more likely to be considered by the financial community in making credit assessments and investment decisions than are measures of assets. From the perspective of credit markets, measures of financial strength and liquidity are focused on cash from operations, which is directly derivative of earnings, as opposed to assets. For example, Moody's assigns a 40.00 percent weight to measures of financial strength and liquidity, of which 32.50 percent specifically relates to the ability to cover debt obligations with cash from operations.[157]

Just as rating agencies focus on measures of cash from operations, equity investors prefer measures of income in assessing equity valuation levels; common measures of relative equity valuation include the Price/Earnings ratio, and the ratio of Enterprise Value/EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization). Here, we are considering whether the underlying utility is the principal source of long-term growth and as such, it could be misleading to focus on assets rather than earnings for the purpose of identifying proxy companies.

Q. DOES PROXY GROUP COMPOSITION ACCOUNT FOR THE DIFFERENCES IN YOUR RECOMMENDATIONS?

A. No, it does not. Although Mr. Garrett's use of companies that are distribution-only utilities (e.g., Consolidated Edison), are party to significant transactions (e.g.

Westar), or have negative expected growth rates (e.g., Entergy) call into question the basis of his recommendation, the differences in our conclusions are driven more by the application of models than by the selection of proxy companies.

B. Application of the Constant Growth and Quarterly DCF Models

Q. PLEASE BRIEFLY DESCRIBE MR. GARRETT'S CONSTANT GROWTH DCF ANALYSES AND RESULTS.

A. Mr. Garrett applies a Quarterly form of the Constant Growth DCF Model, which produces an ROE estimate of 7.60 percent. For the dividend yield component, Mr. Garrett relies on recently announced quarterly dividend payments, and 30-day average stock prices as of December 2, 2016. To estimate expected growth, Mr. Garrett looks to five measures, including (1) real GDP, (2) nominal GDP, (3) inflation, (4) the maximum percentage revenue increase in each rate class allowed by Act 725, and (5) projected load growth demand in the Company's 2015 Integrated Resource Plan.[158]

Q. WHAT ARE YOUR SPECIFIC CONCERNS WITH THE GROWTH RATES ON WHICH MR. GARRETT'S DCF ANALYSES RELY?

A. First, Mr. Garrett assumes a single, perpetual growth rate of 4.00 percent for all his proxy companies.[159] By reference to the Federal Reserve's target inflation rate of 2.00 percent, Mr. Garrett's model assumes that all his proxy companies will grow at real rates of approximately 2.00 percent, or less, in perpetuity. In fact, Mr.

158 Direct Testimony of David J. Garrett, at 45 and Direct Exhibit DG-1-6.

159 Direct Testimony of David J. Garrett, Exhibit DG 1-7.

Garrett's load growth estimate (0.94 percent) is well below the Federal Reserve's target inflation rate. In my experience, it is unlikely that an investor would be willing to take on equity risk in exchange for growth only modestly greater than expected inflation. Under those conditions, it is quite likely that an investor would prefer debt securities, with their higher yield and considerably less risk of capital loss (if held to maturity) than common equity, with a lower yield, higher volatility, and little prospect of meaningful capital appreciation.

As to Mr. Garrett's other growth rate estimates (presented in his Direct Exhibit DG-1-6), I do not agree that any are appropriate measures of growth for his DCF analysis. As a practical matter, because they are generic in nature, they fail to account for the risks and prospects faced by the proxy companies.

Q. DO YOU HAVE ANY CONCERNS WITH MR. GARRETT'S CONSIDERATION OF GDP AND INFLATION AS GROWTH RATES IN HIS DCF MODEL?

A. Yes, I do. As a preliminary matter, reviewing projected nominal GDP, real GDP, and inflation is unnecessary. Nominal GDP growth includes both real GDP growth and inflation. Creating a range of estimates based on a growth rate and its components, and assuming it represents a meaningful measure of perpetual earnings growth provides little, if any practical value.

Although I rely on a terminal growth rate based on the expected growth in GDP in my Multi-Stage DCF analysis, that growth rate is applied starting eleven years in the future. The first stage of that analysis is based on analyst EPS growth

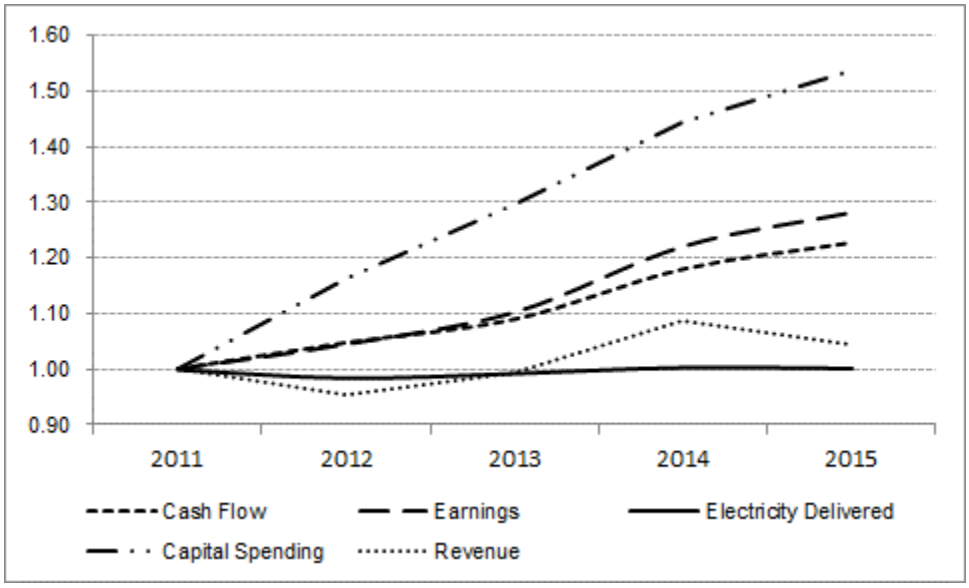
rate projections for each proxy group. In that context, the nominal GDP growth rate is appropriate. Mr. Garrett's application, however, does not account for the various expected growth rates for the proxy companies.

Q. DO YOU AGREE WITH MR. GARRETT THAT LOAD GROWTH IS A REASONABLE MEASURE OF THE COMPANY'S EXPECTED GROWTH IN THE DCF MODEL?

A. No, I do not. Mr. Garrett assumes there is a direct relationship between electric retail sales on the one hand, and utility revenue, capital expenditures, and earnings on the other. As a practical matter, however, many variables enter that relationship. Rate design, for example, may affect the relationship between retail sales and revenues. The relationship between revenue and earnings likewise is a function of operating margins, which in turn, are influenced by a variety of operating factors, such as productivity improvements.

Based on data from the Energy Information Administration ("EIA") and Value Line, it is clear that over the past five years (from 2011 through 2015) my proxy group's average growth in revenues, earnings, cash flow and capital expenditures far exceeded the growth in retail electric sales (as shown in Chart 8, below). Consequently, I strongly disagree with Mr. Garrett's suggestion that electric retail sales growth somehow should be viewed as indicative of long-term growth.

Chart 8: Percent Annual Growth in Retail Sales of Electricity, Revenue, Earnings, Cash Flow and Capital Spending 2011 – 2015



Lastly, the U.S. Energy Information Administration's 2017 Annual Energy Outlook reports expected annual electricity sales use to grow approximately 0.51 percent per year over the next five years,[160] whereas the average electric proxy company earnings growth estimate reported in Rebuttal Exhibit RBH-1 is approximately 5.56 percent. In that regard, analysts' expectations for earnings growth are not limited by retail electric sales growth.

Q. DO YOU AGREE WITH MR. GARRETT THAT ACT 725 SUGGESTS THAT THE GROWTH RATE COMPONENT IN THE DCF ANALYSIS CANNOT BE HIGHER THAN 4.00 PERCENT?[161]

A. No, I do not. As noted in my Direct Testimony, to reduce the long-term growth rate to a single measure, one must assume a fixed payout ratio, and the same

160 Source: U.S. Energy Information Administration (for the years 2016-2021).

161 Direct Testimony of David J. Garrett, at 47.

constant growth rate for earnings per share, dividends per share, and book value per share. Given that dividend growth can only be sustained by earnings growth, long-term measures of earnings growth are the appropriate growth rates for use in the DCF analysis. As such, Mr. Garrett's contention that Act 725 limits the growth rate in the DCF model because it limits revenue growth to 4.00 percent is entirely unfounded and provides no meaningful value.

Further, and as noted in Section V.A., measures of earnings are more appropriate for the purpose of identifying proxy companies. That same principle is applicable to the use of earnings growth in the DCF model. That is, investors prefer measures of income in assessing equity valuation levels. Revenue, however, is several steps removed from the earnings and cash flows that are the basis of equity valuations. To that point, as shown in Chart 8, above, earnings and cash flow have outpaced revenue growth over the last five years.

Q. WHAT IS YOUR RESPONSE TO MR. GARRETT'S 4.00 PERCENT GROWTH RATE IN HIS DCF ANALYSIS?

A. Mr. Garrett's 4.00 percent growth rate is not based on any measure of the Company's growth, the proxy companies' growth, or even the utility industry in general. Consequently, his proxy group only serves the purpose of calculating the dividend yield component of his DCF analysis. Based on that assumption, the proxy group and various risks associated with them are not reflected in the growth rate, and as such, the composition of the proxy group has no bearing on the expected growth. Mr. Garrett confirms that assumption by "correcting" my DCF results in

my Direct Testimony to rely solely on a 4.00 percent growth rate.[162] That assumption has no basis in theory or practice; there is no reason to assume that investors believe every company will grow at the same rate from now through perpetuity.[163]

C. Application of the CAPM

Q. PLEASE SUMMARIZE MR. GARRETT'S CAPM ANALYSIS AND RESULTS.

A. Mr. Garrett's CAPM estimate relies on a risk-free rate of 2.79 percent, an average Market Risk Premium of 6.10 percent, and Beta coefficients as reported by Value Line. Those assumptions combine to produce an average CAPM estimate of 7.10 percent.[164]

Q. DO YOU AGREE WITH MR. GARRETT'S CAPM ANALYSIS?

A. No, I disagree with Mr. Garrett's sole reliance on historical Treasury yields to estimate the risk-free rate and the various methods he uses to estimate the Market Risk Premium. Just as important as our methodological differences, however, is our difference regarding the reasonableness and reliability of an analysis that produces ROE estimates of 7.10 percent. As noted earlier, there are no market data of which I am aware that can justify such a low estimate of the Company's Cost of Equity.

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162 *See*, Direct Exhibit DG 1-20.

163 I note that I rely on a terminal growth rate based on the expected growth in GDP in my Multi-Stage DCF analysis. That terminal growth rate, however, is applied starting eleven years in the future.

164 Direct Testimony of David J. Garrett, Exhibit DG 1-12.

Q. TURNING TO THE RISK-FREE RATE COMPONENT OF THE CAPM, DO YOU AGREE WITH MR. GARRETT'S USE OF THE AVERAGE 30-YEAR TREASURY YIELD?

A. Although I agree it is appropriate to consider the current average 30-year Treasury yield, because the Cost of Equity is forward-looking it also is important to reflect forward-looking expectations of the risk-free rate. For that reason, I relied on both the current 30-day average 30-year Treasury yield and the projected near-term 30-year Treasury yield as reported by *Blue Chip Financial Forecast.*[165]

Q. TURNING NOW TO THE MARKET RISK PREMIUM, HOW DID MR. GARRETT DERIVE HIS ESTIMATE?

A. Mr. Garrett estimates the MRP by reviewing: (1) surveys of expected returns from Graham and Harvey and IESE Business School; (2) historical returns reported by Dr. Damodaran and Duff and Phelps; and (3) an "Implied Equity Risk Premium" calculation.[166] Based on those results, Mr. Garrett concludes that an MRP at the top of the range of his estimates of 6.10 percent is appropriate.

Q. DO YOU HAVE ANY CONCERNS WITH MR. GARRETT'S USE OF HISTORICAL DATA IN ESTIMATING THE MRP?

A. Yes, I do. As discussed in my response to Mr. Powell, the MRP is meant to be a forward-looking parameter. Relying on the historical MRP therefore may produce results that are not consistent with investor sentiment, current and expected capital

165 *See* Direct Testimony of Robert B. Hevert, at 35 and Direct Exhibit RBH-5.

166 Direct Testimony of David J. Garrett, at 60.

market conditions, or the relationship between interest rates and risk premia. The relevant analytical issue in the application of the CAPM is to ensure that all three components of the model (*i.e.,* the risk-free rate, Beta, and the MRP) are consistent with current market conditions and investor perceptions; the use of historical MRP estimates does not always achieve that objective.

Q. DO YOU HAVE ADDITIONAL CONCERNS WITH MR. GARRETT'S USE OF A HISTORICAL MARKET RISK PREMIUM?

A. Yes, I do. If Mr. Garrett chooses to use the historical market return in his CAPM analysis, it would be reasonable to consider the historical risk-free rate as well. Morningstar reports a 5.00 percent arithmetic average income-only return on long-term bonds from 1926-2015.[167] Combining that risk-free rate with the 6.90 percent arithmetic average historical MRP (*i.e.,* the difference between the 12.00 percent arithmetic average earned return on stocks and the 5.00 percent average income-only return on bonds), and the 0.700 average Beta coefficients used in Mr. Garrett's CAPM analysis produces a result of 9.90 percent (more than 270 basis points higher than his CAPM estimate).

[167] Morningstar SBBI Presentation, Morningstar Stocks, Bonds, Bills, and Inflation, 1926-2015.

Q. DO THE SURVEYS REFERENCED BY MR. GARRETT PROVIDE REASONABLE MRP ESTIMATES FOR THE PURPOSE OF ESTIMATING OG&E'S COST OF EQUITY?

A. No, they do not. For example, the Graham and Harvey survey suggests an expected return on the overall market of 5.83 percent based on a risk-free rate of 1.81 percent and an MRP of 4.02 percent.[168] Combining those estimates with Mr. Garrett's average Beta coefficient estimate of 0.700 would produce a Cost of Equity estimate of 4.62 percent, which is 85 basis points below the Company's cost of debt (which Mr. Garrett accepted), and over 500 basis points below the average authorized ROE for vertically integrated electric utilities in 2016. Moreover, because Mr. Garrett recognizes that utility stocks tend to be somewhat less risky than the broad market,[169] if the Graham and Harvey survey results are meaningful, Mr. Garrett's ROE recommendation would be no more than 5.83 percent. That is not the case; his recommendation exceeds the Graham and Harvey estimate by 317 basis points. Even his estimate of the Company's "true" Cost of Equity, although still unreasonably low, is 167 basis points above that estimate.

As shown in Table 16 below, the Graham and Harvey survey respondents have provided forecasts that are disconnected from actual market results, and significantly underestimate actual market returns. Although there is less historical data available to assess the IESE Business School survey, it also appears to provide relatively low results relative to actual market returns.

168 Graham and Harvey, *The Equity Risk Premium in 2016*, at 4.

169 *See*, for example, Direct Testimony of David J. Garrett, at 74.

Table 16: S&P 500 Market Return: Accuracy of Survey Estimates[170]

	Actual	Graham-Harvey Estimate	IESE Business School Estimate
2015	1.38%	6.07%	N/A
2014	13.69%	5.00%	N/A
2013	32.39%	3.40%	7.90%
2012	16.00%	4.00%	N/A
2011	2.11%	5.30%	N/A
2010	15.06%	6.28%	N/A
Average:	13.44%	5.01%	N/A

Q. DO ANY OF THE SURVEYS CITED BY MR. GARRETT PROVIDE SUPPORT FOR YOUR APPROACH TO ESTIMATING THE CURRENT MRP?

A. Yes. As discussed in my response to Mr. Marcus, I calculated the *ex-ante* MRP in a similar manner to a study by Pablo Fernandez, *et al* (cited by Mr. Garrett), using a market capitalization weighted Constant Growth DCF calculation on the individual companies in the S&P 500 Index.[171]

170 Morningstar SBBI Presentation, Morningstar Stocks, Bonds, Bills, and Inflation, 1926-2015; http://www.cfosurvey.org (1-year return estimates as of fourth quarter of the previous year); Pablo Fernandez, Alberto Ortiz and Isabel F. Acin, *Discount Rate (Risk-Free Rate and Market Risk Premium) used for 41 countries in 2015: a survey*, April 23, 2015.

171 *See* Direct Testimony of Robert B. Hevert, at 36.

Q. PLEASE NOW DESCRIBE THE METHOD BY WHICH MR. GARRETT CALCULATED HIS THIRD ESTIMATE, THE IMPLIED MARKET RISK PREMIUM.

A. As Mr. Garrett points out, his method essentially develops the internal rate of return that sets equal the current value of the market index to the projected value of cash flows associated with owning the market index. Mr. Garrett notes that Dr. Damodaran (a professor at the Stern School of Business) "promotes the implied ERP method."[172] Although there are some differences between the two, Mr. Garrett's approach is quite similar to that which Dr. Damodaran makes available on his website.[173]

The fundamental construct of Mr. Garrett's model is a two-stage form of the DCF approach, which calculates the present value of cash flows over the five-year initial period, together with the terminal price (based on the Gordon Model[174]), to be received in the last (*i.e.*, fifth) year. The model's principal inputs reflect the following assumptions:

- Over the coming five years, the S&P 500 Index (the Index) will appreciate at a rate equal to the compound growth rate in "Operating Earnings" from 2010 through 2015;

172 Direct Testimony of David J. Garrett, at 60.
173 *See* http://pages.stern.nyu.edu/~adamodar
174 *See* Direct Testimony of David J. Garrett, at 57-59.

- Cash flows associated with owning the Index will be equal to the historical average Earnings, Dividends, and Buyback yields, applied to the projected Index value each year; and
- Beginning in the year 2021, the Index will appreciate, in perpetuity, at a rate equal to the 30-day average yield on 30-year Treasury securities, as of December 2, 2016.[175]

As discussed below, reasonable changes to those assumptions produce expected market returns that are far more consistent with historical experience than Mr. Garrett's 8.09 percent projection and, therefore, produce more reasonable ROE estimates.

Q. DO YOU HAVE ANY OTHER OBSERVATIONS REGARDING MR. GARRETT'S ASSUMED FIRST-STAGE GROWTH RATE?

A. Yes. Although Mr. Garrett's model is intended to be a forward-looking measure of the Implied Risk Premium, his first-stage growth rate is based on historical data. An alternative approach would be to use projected earnings growth rates for the companies in the Index, and calculate the market capitalization weighted average; that method would be consistent with the analysts' consensus growth rates included in Mr. Garrett's Constant Growth DCF model. One method of doing so is to apply the weighted average growth rates included in the expected market return component of the CAPM analysis provided in my Direct Testimony. The average

175 Direct Testimony of David J. Garrett, at 65-68. The model also assumes that all payments are received at year-end, rather than during the course of the year. That assumption also tends to understate the Implied Risk Premium.

of the two sources of growth (*i.e.*, Bloomberg and Value Line) is 10.84 percent. Substituting that estimate for Mr. Garrett's first-stage growth produces an expected market return of 10.08 percent, and an Implied Equity Risk Premium of 7.29 percent.[176]

Q. WHY DID THE IMPLIED EQUITY RISK PREMIUM INCREASE BY ONLY 199 BASIS POINTS (FROM 5.30 PERCENT TO 7.29 PERCENT) WHEN THE FIRST-STAGE GROWTH RATE INCREASED BY 771 BASIS POINTS (FROM 3.13 PERCENT TO 10.84 PERCENT)?

A. Because Mr. Garrett's model assumes that the first stage lasts for five years (and the terminal stage is perpetual), the results are quite sensitive to changes in the assumed terminal growth rate. To put that effect in perspective, the terminal value (which is directly related to the terminal growth rate) represents approximately 75.00 percent of the "Intrinsic Value".[177]

Q. HOW DID MR. GARRETT DEVELOP HIS ASSUMED TERMINAL GROWTH RATE?

A. Before discussing his method, it is important to recall that the terminal growth rate represents investors' expectations of the rate at which the broad stock market will grow, in perpetuity, beginning in 2021. Mr. Garrett assumes that terminal growth is best measured by the average yield on thirty-year Treasury securities over the

176 *See* Rebuttal Exhibit RBH-16.

177 *See* Rebuttal Exhibit RBH-16. Please note that regardless of the assumed first and terminal-stage growth rates, the terminal stage consistently represents approximately 75.00 percent of the Intrinsic Value.

thirty days ended December 2, 2016. That is, Mr. Garrett assumes that a sensible measure of expected growth beginning in 2021, and extending indefinitely into the future, is the average thirty-year Treasury yield during November 2016.

Q. DO YOU AGREE WITH MR. GARRETT'S ASSUMPTION?

A. No, I do not. I recognize that Mr. Garrett followed the approach described in Dr. Damodaran's method. But it is important to recognize that Dr. Damodaran refers to that as a "default" assumption.[178] In terms of historical experience, over the long-term the broad economy has grown at a long-term compound average growth rate of approximately 6.10 percent.[179] Considered from another perspective, Morningstar reports the long-term rate of capital appreciation on Large Company stocks to be 7.70 percent.[180]

Mr. Garrett has not explained why growth beginning five years in the future, and extending in perpetuity, will be less than one-half of long-term historical growth. Moreover, assuming long-term inflation will be approximately 2.00 percent,[181] Mr. Garrett assumes that real growth will be approximately 0.77 percent, again in perpetuity.[182] That is, Mr. Garrett assumes that in the long run real growth will be less than one-third of historical real growth. Nowhere in his testimony,

178 In his model, Dr. Damodaran suggests that the assumed terminal growth rate could be lower, still.

179 Source: Bureau of Economic Analysis. Data includes the years 1929 to 2016.

180 Morningstar SBBI Presentation, Morningstar Stocks, Bonds, Bills, and Inflation, 1926-2015.

181 For example, in line with the Federal Reserve's target rate of inflation.

182 0.77% = [(1.0279/1.02)-1]. Please note that the long-term historical average rate of inflation, measured by the difference between real and nominal GDP growth, has been approximately 2.90 percent, which would imply perpetual negative real growth.

however, has Mr. Garrett explained the fundamental, systemic changes that would so dramatically reduce long-term economic growth.

Q. ARE THERE OTHER REASONS WHY THE 30-DAY AVERAGE TREASURY YIELD AS OF DECEMBER 2, 2016 MAY NOT BE A REASONABLE ESTIMATE OF EXPECTED LONG-TERM GROWTH AS OF 2021?

A. Yes. Even if we assume that, fundamentally, the current 30-year Treasury yield is a meaningful estimate of future expected long-term growth, it is important to keep in mind that the value of (and therefore, the yield on) Treasury securities is expected to increase from the levels observed in early December. In fact, as shown in Rebuttal Exhibit RBH-5, for the 30-days ending January 31, 2017 the average 30-year Treasury yield was 3.05 percent, 26 basis points above the 30-day average as of December 2, 2016. Therefore, if Mr. Garrett chooses to establish his long-term growth estimate by reference to long-term Treasury yields, he could instead look to the projected 30-year Treasury yield as of the year 2021. That yield, as provided by Blue Chip Financial Forecasts, is 4.40 percent.[183]

[183] *Blue Chip Financial Forecast*, December 1, 2016, at 14.

Q. HAVE YOU ADJUSTED MR. GARRETT'S IMPLIED EQUITY RISK PREMIUM MODEL TO REFLECT CHANGES TO THE CONCERNS DISCUSSED ABOVE?

A. Yes, I have. As shown in Rebuttal Exhibit RBH-16, I adjusted Mr. Garrett's Implied Equity Risk Premium by (1) changing the first-stage growth rate to reflect analysts' earnings growth rate assumptions for the S&P 500 Index, (2) changing the terminal growth rate to 4.40 percent (that is, equal to the *Blue Chip* projected 30-year Treasury yield as of 2020), and (3) changing both the first-stage growth rate and the terminal growth rate.[184] The cumulative effect of those changes is to increase the expected market return from 8.09 percent to 11.32 percent; the Implied Equity Risk Premium increased from 5.30 percent to 8.53 percent (*see* Table 17, below). Lastly, assuming that the future growth in the Index will equal the long-term historical average capital appreciation rate,[185] the expected market return and Implied Risk Premium increase to 12.17 percent, and 9.38 percent, respectively.

184 Please note that changing the terminal growth required a change to Mr. Garrett's calculation of the terminal value. My change, however, is consistent with the formula provided in Dr. Damodaran's model.

185 That is, the rate of growth in the value of the overall stock market.

Table 17: Adjustments to
Mr. Garrett's Implied Risk Premium Calculation[186]

	Market Return	Implied Equity Risk Premium
As Filed	8.09%	5.30%
First Stage Growth at Analysts' Projections	10.08%	7.29%
Long-Term Growth at Blue Chip Projected Treasury Yield	9.41%	6.62%
First Stage Growth at Analysts' Projections; and Long-Term Growth at Blue Chip Projected Treasury Yield	11.32%	8.53%
Long-Term Growth at Historical Capital Appreciation Rate	12.17%	9.38%

Q. PLEASE BRIEFLY SUMMARIZE YOUR RESPONSE TO MR. GARRETT'S IMPLIED EQUITY RISK PREMIUM CALCULATION.

A. Mr. Garrett's calculation is premised on rather tenuous assumptions. A small set of very reasonable adjustments to Mr. Garrett's model produces a market return estimate that is far more consistent with (although still somewhat below) the historical experience that he considers relevant.

Q. AT PAGE 64 OF HIS TESTIMONY, MR. GARRETT CRITICIZES YOUR METHOD OF CALCULATING THE EXPECTED MARKET RETURN BY POINTING TO A HANDFUL OF INSTANCES IN WHICH THE ACTUAL GROWTH RATE FELL BELOW THE PROJECTED GROWTH RATE. WHAT IS YOUR RESPONSE TO MR. GARRETT ON THAT POINT?

A. The fact that actual growth rates differed from projections for ten specific companies from a group of 500 is not the principal issue.[187] The salient points are

186 *See* Rebuttal Exhibit RBH-16.

187 Mr. Garrett's sample was ten of 500 companies.

twofold: (1) investors rely on analysts' growth rate projections to frame their investment decisions; and (2) because we are estimating the market return, it is the expected return on 500 companies that matters.

As to the first point, Mr. Garrett has not shown that investors do not rely on analysts' projections; he certainly has not shown that they would find his 8.09 percent expected market return (based on his implied equity risk premium analysis) more reliable than the combined estimates of the many analysts that follow the companies comprising the S&P 500. Regarding the second point, Mr. Garrett fails to point out that the expected market return derived from the full analysis of 500 companies was 12.77 percent.[188] According to Morningstar, the average annual total return on large company stocks from 2011 to 2015 was 13.11 percent.[189] If anything, the approach somewhat under-estimated the total market return. But that 34 basis point difference (13.11 percent less 12.77 percent) is considerably smaller than the 502 basis point under-estimation implied by Mr. Garrett's 8.09 percent expected market return.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING MR. GARRETT'S CAPM ANALYSIS?

A. In my view, Mr. Garrett's view that his 7.10 percent CAPM result has any analytical meaning is misplaced on its face, but more importantly points out the difficulty in

188 Cause No. PUD 201100087, Direct Testimony of Robert B. Hevert, Exhibit RBH-4, Page 2 of 7.

189 *Morningstar Stocks, Bonds, Bills, and Inflation 1926-2015*; Morningstar SBBI Appendix A Tables.

applying financial models without giving due consideration to the reasonableness of the inputs, assumptions, and results.

D. Bond Yield Plus Risk Premium Analysis

Q. DOES MR. GARRETT AGREE WITH YOUR APPLICATION OF THE BOND YIELD PLUS RISK PREMIUM ANALYSIS?

A. No, he does not. Mr. Garrett defines the Equity Risk Premium as "the expected return on the market less the risk-free rate."[190] Mr. Garrett disagrees with the use of authorized returns in the Bond Yield Plus Risk Premium analysis because he believes the Equity Risk Premium "has no material connection with the returns awarded to public utility companies in rate cases."[191] Mr. Garrett further argues that the Equity Risk Premium "is a function of market-driven forces," and cannot be "influenced by the decisions of a utility commission" or "by the decisions of any single company."[192]

Q. WHAT IS YOUR RESPONSE TO MR. GARRETT ON THOSE POINTS?

A. I disagree. As an initial matter, Mr. Garrett incorrectly equates the Market Risk Premium with the Equity Risk Premium. As we have applied it in our CAPM analyses, the Market Risk Premium is the difference between the expected market return and the risk-free rate. The Equity Risk Premium, on the other hand, represents the difference between the return on a specific security and a benchmark

190 Direct Testimony of David J. Garrett, at 68.
191 *Ibid*.
192 *Ibid*.

bond yield. As noted in my Direct Testimony, risk premium approaches differ from the CAPM in that they estimate the Cost of Equity as the sum of the Equity Risk Premium and the yield on a particular class of bond.[193] If the Market Risk Premium were used for that purpose, the result would be the estimated market return, not market-required Return on Equity for a given company (such as OG&E). As such, whereas it is appropriate to calculate the Market Risk Premium for use in the CAPM, it would be inappropriate to do so in the Bond Yield Plus Risk Premium approach.

To that point, Mr. Garrett suggests that respondents to the IESE Business School's 2014 survey pointed to several sources, excluding authorized returns, to justify the Equity Risk Premium they relied on in the survey.[194] However, page 7 of that survey clearly states that those sources were "references used to justify the [Market Risk Premium]."[195] As such, it is not surprising that authorized returns in the utility industry were not among the "most cited" sources for determining the risk premium on the overall market.

In addition, and as noted earlier, authorized returns reflect the same type of market-based analyses that are at issue in this proceeding. Given that authorized returns are publicly available, it is difficult to imagine that such data is not reflected, at least to some degree, in investors' return expectations and requirements. Consequently, it is reasonable to assume that over time, authorized returns are a

193 Direct Testimony of Robert B. Hevert, at 38.

194 Direct Testimony of David J. Garrett, at 68-69.

195 Pablo Fernandez, Pablo Linares and Isabel F. Acin, *Market Risk Premium used in 88 countries in 2014: a survey with 8,228 answers*, June 20, 2014.

reasonable (although not the only) measure of investor-required returns. Therefore, I continue to rely on the Bond Yield Plus Risk Premium analysis.

E. Business Risk

Q. DO YOU AGREE WITH MR. GARRETT'S POSITION THAT FIRM-SPECIFIC RISKS SHOULD NOT BE CONSIDERED WHEN DETERMINING THE COMPANY'S REQUIRED RETURN?

A. No, I do not. Mr. Garrett's position is based on his observation that the CAPM assumes that investors are only compensated for the non-diversifiable or "systematic risk". Although I agree with that observation, it is important to recognize that an underlying assumption of the CAPM is that investors are risk-averse and require additional compensation for increased risk. It also is the case that like other methods, the CAPM produces a range of results. To the extent that investors consider factors such as the need to fund substantial future capital expenditures in framing their return requirements, I believe those risks should be taken into account when determining where the required ROE falls within the range of empirical estimates.

Q. DO YOU AGREE WITH MR. GARRETT'S POSITION THAT THE MEAN BETA COEFFICIENT IS A SUFFICIENT MEASURE OF BUSINESS RISK THAT THERE IS NO NEED FOR QUALITATIVE ASSESSMENTS?[196]

196 Direct Testimony of David J. Garrett, at 69.

A. No, I do not. For example, the Beta coefficients included in Mr. Garrett's CAPM analysis range from 0.55 to 0.80.[197] That range implies a 152 basis point difference in Mr. Garrett's CAPM-based Cost of Equity estimates.[198]

Q. WHAT IS YOUR RESPONSE TO MR. GARRETT'S OBSERVATION THAT AS DEFENSIVE FIRMS, UTILITIES "ARE RELATIVELY INSULATED FROM MARKET CONDITIONS"?[199]

A. If Mr. Garrett's point is that in general, utilities are lower-Beta securities than the overall market, I agree. It is important to bear in mind, however, that not even low-Beta securities such as regulated utilities are unaffected by market conditions. From the beginning of 2008 until the financial crisis' market low on March 9, 2009, for example, the overall market lost approximately 53.25 percent of its value, and Mr. Garrett's proxy group (measured as an index) lost 45.68 percent of its value.[200] Although less than the market as a whole, the defensive nature of utilities did not shield the group from losing value; an over 45.00 percent annual loss is significant by any measure.

In a similar vein, in late 2008 when market volatility spiked (the VIX moved toward 60.00 and higher from its historical average of approximately 20.00), the correlation in returns between Mr. Garrett's proxy group and the overall market

197 *Ibid*., at Exhibit DG-1-9.

198 The Equity Risk Premium = Beta x MRP. 0.55 x 6.10% = 3.36%; 0.800 x 6.10% = 4.88%; 4.88% - 3.36% = 1.52%.

199 Direct Testimony of David J. Garrett, at 33-34.

200 Source: SNL Financial.

exceeded 90.00 percent.[201] That is, during that period of heightened market instability, the "defensive" nature of utility stocks did not differentiate them from the market.

F. Flotation Costs

Q. DID MR. GARRETT ADDRESS THE ISSUE OF FLOTATION COSTS IN HIS TESTIMONY?

A. Yes. Mr. Garrett reasons that flotation costs for stock issuances are not out-of-pocket costs, and that investors have already accounted for flotation costs when deciding to invest in a company's shares at a given market price. As such, he does not believe it is appropriate to reflect flotation costs in the ROE.

Q. WHAT IS YOUR RESPONSE TO MR. GARRETT REGARDING THE NEED TO RECOVER FLOTATION COSTS?

A. As to Mr. Garrett's observation that underwriter fees are not "out-of-pocket" expenses,[202] I view that to be a distinction without a meaningful difference. Whether paid directly or indirectly via an underwriting discount, the cost results in net proceeds that are less than the gross proceeds. The salient point is that issuance costs were incurred when raising equity capital. Absent a recovery of those costs, the ROE should be adjusted to reflect that deficiency (which will persist in perpetuity).

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201 Source: SNL Financial.

202 Direct Testimony of David J. Garrett, at 72.

I have provided an illustrative example of the effect of flotation costs on the ROE in Rebuttal Exhibit RBH-17.[203] As shown in that exhibit, due to the effect of flotation costs, an authorized return of 10.39 percent would be required to realize an ROE of 10.25 percent (*i.e.,* a 14 basis point flotation cost adjustment). If flotation costs are not recovered, the growth rate falls and the ROE decreases to 10.11 percent (*i.e.,* below the required return).[204]

Q. IS THE FACT THAT INVESTORS ARE AWARE OF EQUITY ISSUANCE COSTS WHEN THEY DECIDE TO PURCHASE STOCK RELEVANT TO THE DETERMINATION OF THE APPROPRIATE COMPENSATION FOR THOSE COSTS?[205]

A. No, it is not. Although Mr. Garrett suggests that current prices account for flotation costs, he has provided no explanation as to how market prices compensate shareholders for flotation costs or any analyses to support his position. The point is that common stock is closely analogous to long-term debt, both in the sense that its purpose is to provide funding for long-term investments that are part of rate base, and that it remains a part of the utility's operations for long periods of time. Flotation costs are a legitimate part of the costs of the utility each year after the issuance of common stock, just as the issuance expenses of long-term debt are legitimate parts of the utility's costs in succeeding years.

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203 This example is based on an analysis performed by Dr. Roger Morin. *See* Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 330-332.

204 Rebuttal Exhibit RBH-17 is provided for illustrative purposes only. I have not relied on the results of the analysis in determining my recommended ROE or range.

205 Direct Testimony of David J. Garrett, at 72-73.

G. Capital Structure

Q. PLEASE PROVIDE A BRIEF OVERVIEW OF MR. GARRETT'S ANALYSES AND CONCLUSIONS REGARDING THE COMPANY'S CAPITAL STRUCTURE.

A. Mr. Garrett believes that, based on his optimal capital structure analysis, the Company's capital structure should include approximately 40.00 percent equity, and 60.00 percent debt.[206] Mr. Garrett argues that based on his analyses, the Weighted Average Cost of Capital ("WACC") for utilities such as OG&E is minimized when the capital structure includes 58.00 percent debt.[207] Nonetheless, Mr. Garrett recommends an imputed capital structure consisting of 52.00 percent debt and 48.00 percent equity.[208]

Q. BEFORE ADDRESSING HIS ANALYSIS OF THE "OPTIMAL" CAPITAL STRUCTURE, DO YOU AGREE WITH MR. GARRETT'S CONCLUSION THAT THE COMPANY'S PROPOSED 53.11 PERCENT EQUITY RATIO IS UNREASONABLE?

A. No, I do not. One reasonable means of assessing the Company's proposed capital structure is to consider observable and relevant benchmarks such as the capital structures in place at the proxy companies, or the equity ratios authorized for similar utilities. As noted in my Direct Testimony, the proposed 53.11 percent equity ratio

206 *Ibid.*, at 91-92.
207 *Ibid.*, at 89.
208 *Ibid.*, at 92.

is consistent with the range of equity ratios in place at the electric operating utility subsidiaries held within the proxy group.[209] Consequently, I believe the Company's proposed 53.11 percent equity ratio is reasonable. Mr. Garrett's "optimal" capital structure, on the other hand, would significantly increase the Company's financial risk relative to its peers.

Q. PLEASE BRIEFLY EXPLAIN THE CONCEPT OF "FINANCIAL RISK", AND HOW IT RELATES TO THE CAPITAL STRUCTURE.

A. In general, "financial risk" represents the risk that a company may not have adequate cash flows to meet its financial obligations, and is a function of the percentage of debt (or financial leverage) in its capital structure. In that regard, as the percentage of debt in the capital structure increases, so do the fixed obligations for the repayment of that debt. Consequently, as the degree of financial leverage increases, the risk of financial distress (*i.e.,* financial risk) also increases. Because the capital structure can affect the subject company's overall level of risk, it is an important consideration in establishing a just and reasonable Return on Equity.

Q. IS FINANCIAL RISK, AND THE IMPLICATIONS OF THAT RISK, WELL UNDERSTOOD BY THE FINANCIAL COMMUNITY?

A. Yes, it is. As part of its rating methodology, Moody's assigns a 40.00 percent weight to measures of financial strength and liquidity.[210] Specifically, Moody's notes:

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209 *See* Direct Testimony of Robert B. Hevert, at 66 and Rebuttal Exhibit RBH-7.

210 *See Rating Methodology, Regulated Electric and Gas Utilities,* Moody's Investors Service, December 23, 2013, at 6.

> Financial strength, including the ability to service debt and provide a return to shareholders, is necessary for a utility to attract capital at a reasonable cost in order to invest in its generation, transmission and distribution assets, so that the utility can fulfill its service obligations at a reasonable cost to rate-payers.[211]

Similarly, S&P considers both business and financial risk in determining a company's credit rating. S&P assesses a company's financial risk using the following criteria:

> The financial risk profile is the outcome of decisions that management makes in the context of its business risk profile and its financial risk tolerances. This includes decisions about the manner in which management seeks funding for the company and how it constructs its balance sheet. It also reflects the relationship of the cash flows the organization can achieve, given its business risk profile, to the company's financial obligations. The criteria use cash flow/leverage analysis to determine a corporate issuer's financial risk profile assessment.[212]

Q. DID MR. GARRETT REVIEW ACTUAL CAPITAL STRUCTURES FOR UTILITIES SUCH AS OG&E?

A. No, he did not. He concludes that such a review is "oversimplified and insufficient" because: (1) utilities do not have a financial incentive to operate at the optimal capital structure; (2) the optimal capital structure is unique to each firm; and (3) the actual capital structures may not have been approved by the presiding regulatory commission. Mr. Garrett argues that comparisons to the practices of similarly situated utilities – such as the proxy companies – therefore are inappropriate, and that his own analysis is the better alternative.[213] In effect, Mr. Garrett substitutes

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211 *Ibid.*, at 22.

212 *Corporate Methodology*, Standard & Poor's, November 19, 2013, at 3.

213 Direct Testimony of David J. Garrett, at 82-84.

his judgment for those of the experienced professionals who raise and invest capital for utility companies.

Q. BEFORE TURNING TO HIS PARTICULAR ANALYSIS, WHAT IS YOUR RESPONSE TO MR. GARRETT'S POSITION THAT THE ACTUAL CAPITAL STRUCTURES IN PLACE AT OTHER UTILITIES ARE OF LIMITED VALUE IN ASSESSING OG&E'S PROPOSED CAPITAL STRUCTURE?

A. I disagree. From my practical experience raising capital for a publicly traded utility, companies are financed in light of the risks and funding requirements associated with their operations. Although no one utility is a perfect substitute for another, they do share certain characteristics that influence their capitalization. Because vertically integrated electric utilities finance similar types of assets (electric generation, transmission and distribution infrastructure), and must do so regardless of prevailing market conditions, it is reasonable to expect those companies to have very comparable financing practices.

A common utility financing practice, sometimes referred to as "maturity matching", involves matching the lives of the assets being financed with the maturity of the securities issued to finance those assets. In practice, 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 its life can cover the debt service payments used to finance the asset. As noted by Brigham

and Houston, "[t]his strategy minimizes the risk that the firm will be unable to pay off its maturing obligations."[214]

A variant to maturity matching calls for matching the duration of assets being funded with the weighted average duration of the financing securities. As with maturity matching, failure to do so exposes the company and its customers to significant interest rate and refinancing risk. Because common equity is perpetual, it has a relatively long duration.[215] Rebuttal Exhibit RBH-18 demonstrates that for Mr. Garrett's proxy group, the average equity duration is approximately 30.87 years. Because the duration of debt typically is less than that of common equity, it is important to have a meaningful proportion of equity in the capital structure to extend the duration of the capital structure. Mr. Garrett's proposed "optimal" capital structure, however, would shorten the average duration, frustrate the ability to match durations, and increase the Company's financing, and financial, risk.

Given the long-lived nature of utility assets, and their need to access capital when and as needed, it is not surprising that vertically integrated electric utilities are financed in a similar manner. Nor is it surprising that authorized equity ratios exceed Mr. Garrett's view of what is "optimal", or that Moody's considers utility equity ratios of 40.00 percent to be associated with below investment grade credits.

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

215 In finance, "duration" (whether for bonds or equity) typically refers to the present value weighted time to receive the security's cash flows. In terms of its practical application, duration is a measure of the percentage change in the market price of a given security in response to a change in the implied long-term return of that security. A common financing practice is to match the weighted average duration of the securities in the capital structure with the duration of the assets being financed. *See* Cohen, Zinbarg and Zeikel, Investment Analysis and Portfolio Management, Irwin, 5th, Ed., 1987, at 450-452.

Aside from his observation that no two utilities are identical, Mr. Garrett has provided no reason why the Company should so radically depart form the common and prudent financing practices in place among its peers, and expose its investors and ratepayers to significantly greater financial, and financing risk.

Q. IN YOUR VIEW, IS AN "OPTIMAL" CAPITAL STRUCTURE DEFINED ONLY BY REFERENCE TO MINIMIZING FINANCING COSTS?

A. No. In my experience, capital structure optimization recognizes that there are numerous constraints associated with financing decisions and understands that financing costs go beyond coupon rates. As a practical matter, financing constraints are dynamic in nature, in that they 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. Garrett 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. Had those companies maintained a 60.00 percent debt ratio, it is not clear that they would have been able to draw on the credit facilities needed to maintain financial liquidity, or issue the long-term securities needed to fund rate base additions.

In summary, the definition and realization of an "optimal" capital structure is far more complex than Mr. Garrett's method assumes. But, because other utilities face the same requirements and constraints, it is reasonable to assume that we can

observe the industry-standard view of optimality in the context of actual capital structures.

Q. PLEASE BRIEFLY SUMMARIZE THE ANALYSIS BY WHICH MR. GARRETT DEVELOPED HIS "OPTIMAL" CAPITAL STRUCTURE.

A. Mr. Garrett's analysis focuses on the effect of increased proportions of debt on both the Cost of Equity and the cost of debt. His analysis is intended to find the point at which the after-tax Weighted Average Cost of Capital is minimized. To do so, Mr. Garrett relies on (1) the Cost of Equity calculated using the Hamada Equation to adjust the Beta coefficient of the CAPM, and (2) a cost of debt estimated by mapping bond ratings to *pro forma* EBIT/Interest coverage ratios.[216] Importantly, Mr. Garrett calculates EBIT/Interest coverage ratios using the Company's current cost of debt, rather than the implied incremental cost of debt.

Q. DO YOU HAVE ANY CONCERNS WITH MR. GARRETT'S ANALYSIS?

A. Yes, I have several concerns with Mr. Garrett's approach, and with his assumptions. First, Mr. Garrett's analysis assumes changes in bond ratings (and, therefore, debt costs) associated with changes in the capital structure can be estimated based solely on the basis of *pro forma* EBIT/Interest coverage ratios. Neither Moody's nor S&P, however, uses that metric when assigning credit ratings. Nor do they give

[216] Direct Testimony of David J. Garrett, at 84-88. EBIT = Earnings Before Interest and Taxes. The interest rates were based on adding credit spreads (based market data reported by Dr. Damodaran) to the risk-free rate.

significant weight to interest coverage ratios (*i.e.*, ratios with interest as a denominator) in general.[217]

Second, Mr. Garrett's *pro forma* estimate relies on OG&E's current cost of debt to calculate the EBIT/Interest ratio. That is, Mr. Garrett assumes the cost of debt does not significantly increase with increases in financial leverage, because the coupon rate on current debt (which is fixed for the term of the debt security) does not immediately change.[218] Because it largely ignores the fact that higher leverage will lead to incrementally higher interest payments when the Company refinances debt, Mr. Garrett's result is not the hypothetical minimal WACC.[219] In essence, Mr. Garrett's analysis suggests that because the Company has an embedded cost of debt based on the bond rating associated with its historical capital structure, it can benefit in the near-term by adding debt to its balance sheet.

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217 Moody's assigns 7.5% weight to interest coverage ratios; *see* Moody's Investor Service, *Rating Methodology: Regulated Electric and Gas Utilities*, December 23, 2013, at 24. S&P's does not include interest based metrics in the core credit ratios, although FFO/cash interest and EBITDA/interest are used as supplementary ratios, *see* Standard and Poor's, *Corporate Methodology* November 2013, at 335.

218 Because the price of traded debt will fall as it is seem as increasingly risky, the yield on that debt will increase.

219 Mr. Garrett's approach also ignores potential financial harm to existing bond holders from the use of increased leverage. Increased financial leverage would lead to incrementally higher financial risk and therefore a higher required return (yield-to-maturity) which would decrease the value of the Company's current bonds (the value of bonds are inversely related to their required return).

Q. ARE THE BOND RATINGS MR. GARRETT ASSIGNS BASED ON HIS *PRO FORMA* EBIT/INTEREST COVERAGE RATIO CALCULATIONS CONSISTENT WITH MOODY'S RATING ASSIGNMENTS FOR THE ASSUMED DEBT RATIOS?

A. No, they are not. As shown in Table 18, Moody's reports benchmark rating guidelines for debt to capitalization ratios as follows:[220]

Table 18: Moody's Debt/Capitalization Rating Assignment Ranges

Rating:	AAA	Aa	A	Baa	Ba	B	Caa
Standard Grid	<25%	25-35%	35-45%	45-55%	55-65%	65-75%	≥75%
Low Business Risk Grid	<29%	29-40%	40-50%	50-59%	59-67%	67-75%	≥75%

Mr. Garrett's analysis assumes a 58.00 percent debt ratio would be associated with a Baa rating. However, Moody's rating guidelines indicate that a 58.00 percent debt ratio would indicate credit ratings of Ba (that is, two letter grades lower than the Company's current rating), depending on the risk rating assigned to the utility. Importantly, that rating is below investment grade. That assumption directly contradicts Mr. Garrett's screening criterion requiring proxy companies to have an investment grade rating from Moody's.[221]

220 *See* Moody's Investor Service, *Rating Methodology: Regulated Electric and Gas Utilities*, December 23, 2013, at 24.

221 *See* Mr. Garrett's response to OG&E's Fourth DR to ARVEC.

Q. HAVE YOU ESTIMATED THE EFFECT OF ADJUSTING THE BOND RATINGS IN MR. GARRETT'S ANALYSIS TO REFLECT THE RATINGS PROVIDED IN MOODY'S GUIDELINES?

A. Yes, I have. Based on Exhibit DG-1-17, I replaced the interest rate coverage ratio analysis with a direct bond rating assignment using the Moody's credit rating guidelines for debt capitalization in Table 18 (above). I then found the corresponding interest rate for each bond rating using the table Mr. Garrett provided in his exhibit.[222] As shown in Rebuttal Exhibit RBH-19, that analysis results in an optimal capital structure of 50.00 percent debt and 50.00 percent equity, based on Mr. Garrett's data. As also shown in Rebuttal Exhibit RBH-19, making additional adjustments to correct Mr. Garrett's after-tax cost of debt calculation and updating his Equity Risk Premium to 10.52 percent (the average of my updated *ex-ante* MRP estimates) suggests an optimal capital structure of approximately 60.00 percent equity and 40.00 percent debt.

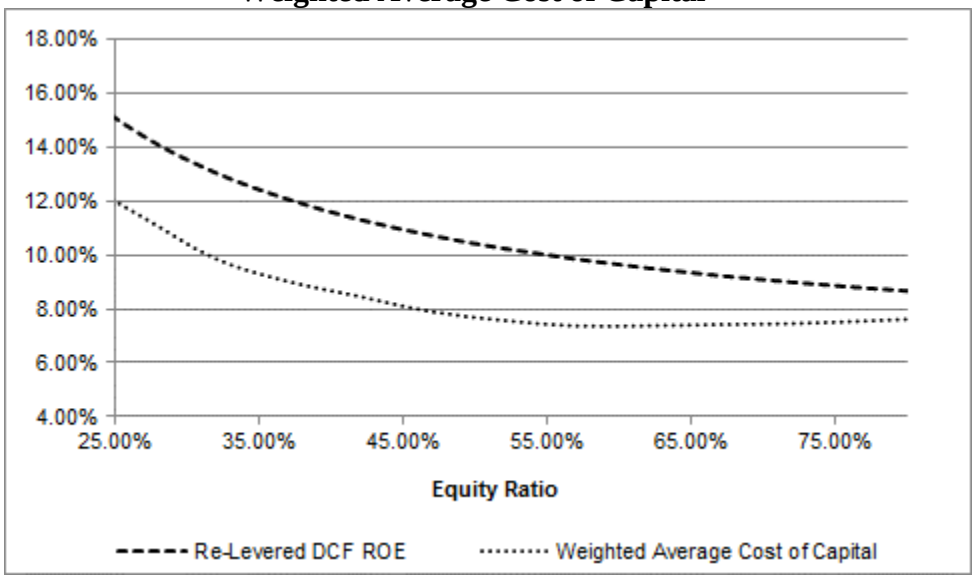
Q. HAVE YOU PERFORMED AN ALTERNATIVE ANALYSIS TO ESTIMATE THE EFFECT OF INCREASING FINANCIAL LEVERAGE ON THE COMPANY'S WEIGHTED AVERAGE COST OF CAPITAL?

A. Yes, I did so using the Modigliani-Miller approach, which adjusts DCF model results for changes in financial leverage. To limit the scope of differences between the two approaches, I relied on the interest rate table provided in Exhibit DG-1-17,

222 When a debt ratio was on the border of two ratings categories, I included both ratings (e.g., a 45.00 percent debt ratio equals a A/Baa rating) and used the average of the two corresponding the interest rates.

and assumed that rates transition in a linear fashion between credit ratings. As shown in Chart 9 below (*see* also Rebuttal Exhibit RBH-20), the results of my analysis indicate the equity ratio that produces the lowest overall weighted cost of capital is approximately 57.00 percent, which is far more in line with industry practice. It also is generally consistent with the results of Mr. Garrett's approach after updating bond rating assignments and the MRP estimate.

Chart 9: Leverage Effect, the Cost of Equity and the Weighted Average Cost of Capital[223]



Please note that although the Modigliani-Miller and Hamada adjustments may be used to generally measure the magnitude of the effect of incremental increases in leverage on the Cost of Equity, it is important to recognize the complexity and the dynamic nature of the relationship. It also is important to keep in mind, as discussed earlier, that an "optimal" capital structure must consider numerous constraints associated with financing decisions. Nonetheless, the analytical results are

223 *See* Rebuttal Exhibit RBH-20.

consistent with the proposition that the financial leverage (that is the capital structure) and the Cost of Equity are inextricably related: As financial leverage continues, so does the Cost of Equity.

VI. SUMMARY AND CONCLUSION

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE COMPANY'S CAPITAL STRUCTURE.

A. I continue to believe that the Company's proposed capital structure is reasonable and is consistent with the capital structures of the proxy group operating companies. Certain of the Opposing ROE Witnesses have included short-term debt in their recommended capital structures, which does not reflect the long-term nature of the Company's assets.

Q. PLEASE SUMMARIZE YOUR RESPONSE TO THE OPPOSING ROE WITNESSES ANALYTICAL MODELS AS IT RELATES TO THE COMPANY'S COST OF EQUITY.

A. Making certain reasonable adjustments to Mr. Powell's analytical models produces results that, although are still somewhat low, overlap with my recommended range. For example, adjusting Mr. Powell's MRP calculation in his CAPM analysis to reflect the NYSE index's actual dividend yield, instead of the median yield, increases his results by 26 basis points. In addition, by accounting for the well-established inverse relationship between the Equity Risk Premium and interest rates, Mr. Powell's risk premium approach overlaps with my results (*see* Tables 19 and 20b, below).

Table 19: Mr. Powell's Adjusted Model Results[224]

Model	***Implied ROE***
Discounted Cash Flow	8.90% - 10.10%
Capital Asset Pricing Model	9.65%
Risk Premium Model	9.89% - 10.08%

Mr. Marcus has not provided independent empirical estimates to support his Cost of Equity recommendation. Mr. Marcus did not comment on the fundamental structure of my DCF analysis and his assertion that the Mean Low and Mean High results only serve to bias my results to the high end is unfounded and without merit. Mr. Marcus's review of various MRPs suggest results which are too low to be reliable and are not consistent with his 9.30 percent recommendation. Further, his review of the implicit equity returns on the pension funds of my proxy companies fails to account for the differences between expected returns and required returns and has no practical value in determining the appropriate ROE for the Company.

Mr. Garrett's DCF analysis relies on inappropriate growth rates, which he caps at 4.00 percent based on a misinterpretation of Act 725. As a result, his DCF results are far below any reasonable measure of the Company's Cost of Equity and 140 basis points below his recommendation. Mr. Garrett's CAPM results are also well below any reasonable measure and are 190 basis points below his recommendation. If Mr. Garrett believes it is reasonable to consider historical estimates of the MRP in the CAPM he should also consider the historical risk-free rate. Doing so results in a CAPM estimate of 9.90 percent. Although that is still

224 *See* Rebuttal Exhibit RBH-12.

somewhat low, it overlaps with my range of CAPM results presented in Table 20b, below, and, unlike his unadjusted analytical model results, is within the range of recently authorized returns for vertically integrated utilities.

Q. PLEASE SUMMARIZE THE ANALYTICAL UPDATES CONTAINED IN YOUR REBUTTAL TESTIMONY.

A. Table 20a and 20b (below) summarizes my updated analytical results (*see* also Rebuttal Exhibits RBH-1 through 6). As also noted in my Direct Testimony, adherence to any single approach, or the results of any one approach, can result in misleading conclusions; a reasonable ROE estimate therefore weighs the individual and collective results of multiple methodologies.[225] Because the capital markets have become increasingly unsettled, with several measures indicating increasing capital costs, it is especially important to consider the breadth of quantitative and qualitative information contained in my Rebuttal Testimony.

[225] Direct Testimony of Robert B. Hevert, at 21.

Table 20a: Summary of Updated DCF Results

	Mean Low	***Mean***	***Mean High***
Constant Growth DCF Results			
30-Day Average	8.12%	8.91%	9.63%
90-Day Average	8.18%	8.97%	9.69%
180-Day Average	8.15%	8.94%	9.66%
Multi-Stage Growth DCF Results			
30-Day Average	8.76%	8.96%	9.16%
90-Day Average	8.82%	9.03%	9.23%
180-Day Average	8.79%	9.00%	9.20%
Multi-Stage Growth with terminal P/E DCF Results			
30-Day Average	9.73%	10.24%	10.71%
90-Day Average	9.89%	10.41%	10.88%
180-Day Average	9.82%	10.33%	10.80%

Table 20b: Summary of Updated Risk Premium Results

	Bloomberg Derived Market Risk Premium	***Value Line Derived Market Risk Premium***
Average Bloomberg Beta Coefficient		
Current 30-Year Treasury (3.05%)	9.22%	9.82%
Near Term Projected 30-Year Treasury (3.42%)	9.59%	10.18%
Average Value Line Beta Coefficient		
Current 30-Year Treasury (3.05%)	10.13%	10.82%
Near Term Projected 30-Year Treasury (3.42%)	10.50%	11.18%
Bond Yield Plus Risk Premium Results		
Current 30-Year Treasury (3.05%)	10.00%	
Near Term Projected 30-Year Treasury (3.42%)	10.06%	
Long Term Projected 30-Year Treasury (4.35%)	10.33%	

Developing and establishing a Cost of Equity recommendation requires an element of judgment. That judgment, however, should consider the reasonableness of model results, and the economic environment in which the analyses were undertaken. As discussed in my Direct Testimony, no model should be applied without considerable judgment in the interpretation of results.[226] The recent trends in the Constant Growth DCF results are difficult to reconcile with observable, prevailing market conditions.

My recommendations therefore take into consideration the results of my Cost of Equity analyses in the context of current and expected capital market conditions, and the need for utilities such as OG&E to maintain a level of financial

226 *Ibid.*, at 21.

integrity that enables access to capital, at reasonable costs, under a variety of economic and financial market conditions. With such considerations in mind, the analyses and data discussed throughout my Rebuttal Testimony continue to support my recommended range of 10.00 percent to 10.75 percent, with a point estimate of 10.25 percent.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.