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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2012-0166

REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

ON

BEHALF OF

Union Electric Company
d/b/a Ameren Missouri

Marlborough, Massachusetts
August, 2012

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REBUTTAL TESTIMONY

OF

ROBERT B. HEVERT

CASE NO. ER-2012-0166

I. INTRODUCTION

Q. Please state your name, affiliation, and business address.

A. My name is Robert B. Hevert. I am Managing Partner of Sussex Economic Advisors, LLC, and an Executive Advisor to Concentric Energy Advisors, Inc., located at 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. Are you the same Robert B. Hevert who submitted direct testimony in this proceeding?

A. Yes, I filed direct testimony on behalf of Union Electric Company d/b/a Ameren Missouri. I use the terms "Ameren Missouri" and the "Company" to refer to Union Electric Company.

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony responds to the Revenue Requirement Cost of Service Report (the "Report") submitted in this proceeding by the Missouri Public Service Commission Utility Services Division ("Staff") as it relates to the recommended Return on Equity ("ROE") for the Company. Mr. David Murray presents Staff's ROE recommendation. I also respond to the direct testimony of Mr. Michael P. Gorman on behalf of the Missouri Industrial Energy Consumers (together, with Mr. Murray, the "Opposing ROE Witnesses") as it relates to his ROE recommendation. I also provide updated

calculations and analytical results with respect to the Company's Cost of Equity.[1] My analyses and recommendations are supported by the data presented in Schedules RBH-ER9 through RBH-ER29, which have been prepared by me or under my direction.

Q. Have you revised the ROE recommendation and range contained in your direct testimony?

A. Yes, I have reduced the lower end of my range from 10.50 percent to 10.25 percent, and my ROE recommendation from 10.75 percent to 10.50 percent.[2] In my view, that 25 basis point reduction appropriately balances analytical results with market information that is critical in arriving at, and assessing, ROE recommendations. My updated analyses fully support my revised 10.50 percent recommendation, as do modest and reasonable changes to certain of the analyses provided by the Opposing ROE Witnesses (in particular, the Multi-Stage Discounted Cash Flow, or "DCF," model).

II. EXECUTIVE SUMMARY

Q. Please provide a summary of your rebuttal testimony.

A. In my direct testimony, I recommended an ROE of 10.75 percent, based on a range of ROE estimates of 10.50 percent to 11.00 percent.[3] As my direct testimony discussed, my recommendation, and the analytical results on which it was based, considered a variety of factors including prevailing capital market conditions and the specific risks faced by Ameren Missouri. Because the application of financial models and interpretation of their results often is the subject of differences among analysts in regulatory proceedings, I believe

[1] Throughout my rebuttal testimony, I alternatively use the terms "ROE" and "Cost of Equity" in discussing the Return on Equity.

[2] I have left the upper end of my range unchanged, at 11.00 percent.

[3] See Direct Testimony of Robert B. Hevert, at 2, 3.

that it is important to review and consider a variety of data points; doing so enables us to put in context both quantitative analyses and the associated recommendations.

In this proceeding, we have a relatively recent and highly relevant benchmark: the 10.20 percent ROE authorized for Ameren Missouri by the Commission in July, 2011. While it is true that my revised range (10.25 percent to 11.00 percent) is somewhat above that return, the Opposing ROE Witnesses have recommended ranges and returns that are substantially and unreasonably below the Commission's recent decision. Viewed from that perspective, the lower end of my recommended range (i.e., 10.25 percent) is five basis points above the Company's currently authorized return. The top ends of Messrs. Murray's and Gorman's ranges, however, are 80 to 120 basis points *below* the Commission's recent decision. While Mr. Murray's recommended 9.00 percent ROE is the top end of his estimated range, Mr. Gorman's 9.30 percent recommendation is not.

At issue, then, is whether there is any reasonable basis to conclude that the return required by equity investors in Ameren Missouri has fallen by 90 to 120 basis points over the past twelve months. That is, on what basis can we reasonably conclude that the Cost of Equity, which was set by the Commission at 10.20 percent in July 2011, is now 9.00 percent to 9.30 percent? Both Mr. Murray and Mr. Gorman point to decreases in long-term interest rates and conclude, by extension, that the Cost of Equity also must have fallen by a similarly dramatic degree. That position, however, is not supported by the returns authorized by other regulatory jurisdictions over the past twelve months, or by the analytical results of the various models used to estimate the Cost of Equity.

As the Commission noted in its Report and Order dated July 13, 2011, because Ameren Missouri must compete for capital with other utilities, returns authorized in other

jurisdictions provide a test of reasonableness for return recommendations.[4] As the Commission also noted, in 2010 the average authorized return for electric utilities nationally was 10.30 percent and among neighboring states was 10.23 percent.[5] From July 1, 2011 through June 30, 2012, the average authorized return (for vertically integrated electric utilities) nationally has been 10.15 percent.[6] That is, while Messrs. Murray and Gorman would have the Company's return decreased by 90 to 120 basis points over the past year, the average authorized return has fallen by only *eight to fifteen* basis points.[7]

In essence, utility commissions have recognized that there are factors beyond interest rates that must be considered in arriving at ROE determinations. As Chart 1 below demonstrates, authorized returns have remained relatively stable even as interest rates have significantly decreased.

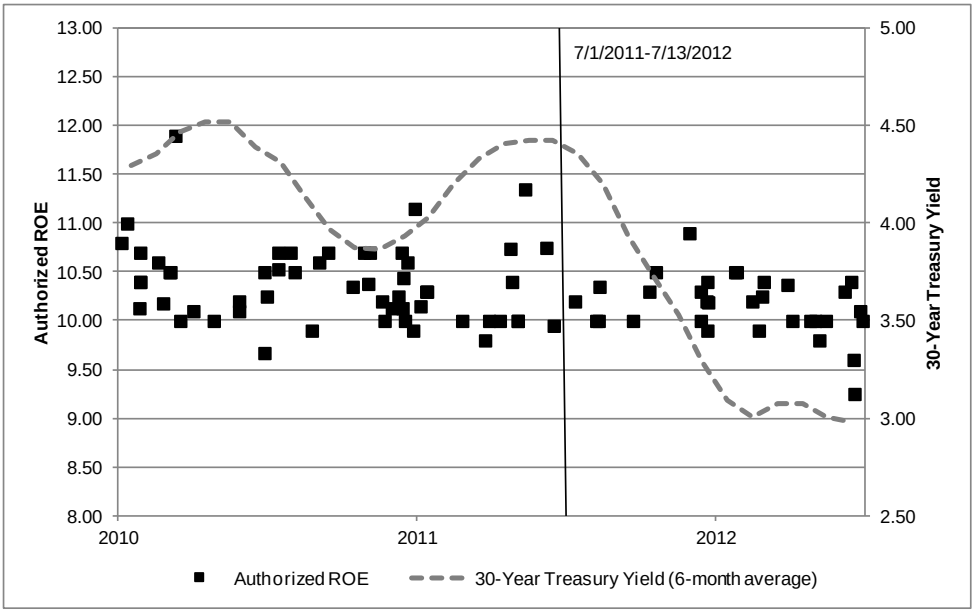
[4] Public Service Commission of the State of Missouri, File No. ER-2011-0028, Report and Order Dated July 13, 2011, at 67.

[5] *Ibid.*

[6] There were no ROE awards for integrated electric utilities in states that are contiguous to Missouri from July 1, 2011 through June 30, 2012. On July 9, 2012, however, Oklahoma Gas and Electric Co. was granted an ROE of 10.20 percent.

[7] It is interesting to note that Mr. Gorman's ROE recommendation has only decreased by 45 basis points (from 9.75 percent to 9.30 percent) since the Company's last rate case, while Mr. Murray's recommendation has actually increased by 25 basis points (from 8.75 percent to 9.00 percent).

CHART 1: Authorized ROEs vs. 30-Year Treasury Yields



The fact that authorized returns have remained stable as interest rates have fallen is not surprising when we consider the circumstances underlying the unprecedented decline in Treasury yields. The fear of taking the risks of equity ownership, for example, has motivated many investors to move their capital into the relative safety of Treasury securities. In doing so, investors have bid down yields to the point that they currently are receiving yields on ten-year Treasury bonds that are below the rate of inflation.[8] In effect, those investors are willing to accept a *negative* real return on Treasury bonds rather than be subject to the risk of owning equity securities. That behavior, of course, is not consistent with the notion that equity investors have decreased their required Return on Equity by 90 to 120 basis points. Nor is it the case that, as with Treasury securities, utility stocks are seen as "safe havens" to the extent that investors have dramatically and knowingly reduced their required returns. Again,

[8] *See*, for example, "Treasurys Slide After Lackluster Sale," The Wall Street Journal, August 8, 2012.

authorized returns have remained relatively constant; they have not fallen by 90 to 120 basis points.

As the Commission has pointed out, no one financial model is any more "correct" than any other method in all circumstances and as such, it is important to consider the results of a variety of methods.[9] That observation is especially important when market conditions are such that financial models produce results that are widely divergent, and highly sensitive to inputs and assumptions. While it is important to understand and vet the assumptions and inputs used to arrive at ROE estimates, the basic question of whether or not ROE recommendations are reasonable also may be considered from a more fundamental perspective: What has changed so significantly over the past twelve months that equity investors now require a dramatically lower rate of return? That is, if it took eleven years for authorized returns to decline by approximately 120 basis points to the 2011 average of 10.32 percent[10], what was so significant about the twelve months ended June 2012 that returns would have fallen by another 120 basis points? As discussed throughout my rebuttal testimony, neither market conditions in general, nor the Company's situation in particular supports the proposition that required the Return on Equity has fallen by such a dramatic degree over such a short period of time.

Although there is no reasonable support for the notion that the Cost of Equity has fallen by 90 to 120 basis points since July 2011, I recognize that certain measures of market conditions have stabilized since the filing of my direct testimony. At the same time, other measures of investor risk aversion and return expectations, such as utility credit spreads and the expected return on the overall market, have remained constant, or even increased over

[9] Public Service Commission of the State of Missouri, Case No. ER-2011-0028, Report and Order Dated July 13, 2011, at 67.

[10] *See*, Schedule RBH-ER-14.

that period. The fact that market indices are somewhat disjointed suggests a continuing degree of instability that could argue for higher equity cost rates. Nonetheless, it is the case that the results of certain models have fallen somewhat since I filed my direct testimony and as such, I believe it is appropriate to lower my recommended range and ROE estimate. Consequently, I have reduced the lower end of my range from 10.50 percent to 10.25 percent, and my ROE recommendation from 10.75 percent to 10.50 percent.[11] In my view, that 25 basis point reduction appropriately balances analytical results with market information that is critical in arriving at, and assessing, ROE recommendations.

Lastly, it is important to recognize that ROE recommendations of 9.00 percent to 9.30 percent represent significant reductions relative to Ameren Missouri's current authorized ROE of 10.20 percent. Neither of those ROE recommendations is comparable to prevailing returns available to equity investors in utilities with commensurate risk, and both would cause investors to question the stability and predictability of the regulatory environment in Missouri.

Q. How is the remainder of your rebuttal testimony organized?

A. The remainder of my rebuttal testimony is organized as follows: in Section III, I provide an overview of my rebuttal testimony, including a summary of my updated analyses; Section IV contains my response to the Opposing ROE Witnesses' assessment of current capital market conditions; Section V contains my response to Staff's Revenue Requirement Cost of Service Report with respect to the Cost of Equity; Section VI contains my response to Mr. Gorman. Section VII provides my updated analyses, and Section VIII summarizes my conclusions and recommendations.

[11] I have left the upper end of my range unchanged, at 11.00 percent.

III. SUMMARY AND OVERVIEW

Q. Please provide a brief overview of your rebuttal testimony.

A. After reviewing the testimony provided by the Opposing ROE Witnesses, updating the analyses contained in my direct testimony, and considering other relevant data, including current and expected capital market conditions, my general observations and conclusions are as follows:

- In July 2011, the Commission awarded Ameren Missouri an ROE of 10.20 percent. Since that time, long-term interest rates have fallen due to increased risk aversion among investors, who have been willing to accept *negative* real returns on Treasury bonds rather than be subject to the risk of owning common equities. In addition, widely recognized measures of capital market risk such as credit spreads, dividend yield spreads, and expected volatility have increased during the past year. Moreover, average returns authorized in other jurisdictions for integrated electric utilities have fallen by only eight to fifteen basis points. None of those data points supports the proposition that the Cost of Equity for Ameren Missouri has fallen by 90 to 120 basis points over the past twelve months.
- Although it is true that many measures of market risk have remained constant, or even increased since the filing of my direct testimony, it also is the case that certain models traditionally relied upon by the Commission now produce results that are somewhat lower than those contained in my direct testimony. Consequently, I have revised my recommended range for the Cost of Equity to 10.25 percent to 11.00 percent and, within that range, I have reduced my recommended ROE by 25 basis points to 10.50 percent. My updated

recommendation is fully supported by the analyses contained in my direct testimony, as updated to include data through July 13, 2012, and expanded to address certain issues raised by the Opposing ROE Witnesses.

- While there are certain methodological issues on which the Opposing ROE Witnesses and I agree, I note a significant number of points of disagreement. Of those points of disagreement, the application of the Multi-Stage DCF Model and, in particular the long-term growth assumption used in the application of that model, is a principal difference. Setting aside other areas of disagreement, simply adjusting the Opposing ROE Witnesses' long-term growth assumptions to reflect expected long-term growth as of the terminal period (that is, the expected long-term GDP growth rate beginning ten years from now) substantially reduces the differences in our analytical results.
- Other analytical models for estimating the Cost of Equity, such as the Constant Growth form of the DCF model and the CAPM, are producing less than reliable results under current market conditions. The Constant Growth DCF model, for example, produces results that are well below the prevailing level of authorized returns, and given the continuing instability in capital markets, it is not clear that the assumptions underlying the Constant Growth DCF are likely to hold. Likewise, the CAPM produces ROE estimates that are substantially lower than authorized returns in other jurisdictions, especially when the components of that model (i.e., the risk-free rate, and market risk premium) are based on historical data rather than forward-looking (*ex-ante*) inputs.

- The Opposing ROE Witnesses fail to properly consider the effect of their ROE recommendations on the Company's financial integrity and its ability to attract capital under a variety of financial and economic conditions. The Commission has recognized that Ameren Missouri must compete for capital with other electric utilities. In order to do so, the authorized ROE must allow the Company to offer investors the opportunity to earn returns that are comparable with those available for other electric utilities with commensurate risk. Return recommendations that are well below not only returns currently authorized in other jurisdictions, but also significantly below the return authorized by the Commission for Ameren Missouri only one year ago, are incompatible with that standard.

Q. Please summarize the Opposing ROE Witnesses' ranges of results and specific recommendations.

A. The Opposing ROE Witnesses have recommended equity returns ranging from 8.00 percent in the case of Mr. Murray to 9.40 percent in the case of Mr. Gorman (*see*, Table 1, below).

Table 1: Recommended ROE Ranges and Point Estimates of the Opposing ROE Witnesses

Witness	Recommended ROE Range	Point Estimate
Mr. Murray	8.00% - 9.00%	9.00%[12]
Mr. Gorman	9.20% - 9.40%	9.30%[13]

Q. Are those recommendations reasonable?

[12] Staff Revenue Requirement Cost of Service Report, at 1, 55.

[13] Direct testimony of Michael P. Gorman, at 2.

A. No, they are not**.** In my experience, investors often frame their return requirements by reference to returns recently authorized in other jurisdictions. Chart 2, below, provides the Return on Equity for vertically-integrated electric utilities[14] across the United States from January 2010 through June 30, 2012. During that period, only *one* of the 87 rate case decisions reported by Regulatory Research Associates ("RRA") resulted in an ROE award of 9.40 percent or lower.[15] That is, the *highest* end of the ranges recommended by either Mr. Murray or Mr. Gorman was *lower* than 86 of the 87 observed ROE awards during that period. Conversely, 45 of those 87 cases resulted in ROE determinations of 10.25 percent or higher. That is, more than one-half of recent ROE awards have fallen within my recommended range, only *one* has fallen within Mr. Gorman's range; there is *no* instance of an authorized ROE as low as Mr. Murray's range or recommendation.

As discussed in my direct testimony, the Commission previously has established a zone of reasonableness by reference to the average authorized ROE for the past year as reported by RRA.[16] From July 1, 2011 through June 30, 2012, RRA reports an average authorized ROE for vertically-integrated electric utility companies of 10.15 percent; the vast majority of those authorizations was 10.00 percent or higher. There were no ROE awards for integrated electric utilities in states that are contiguous to Missouri from July 1, 2011 through June 30, 2012. On July 9, 2012, however, Oklahoma Gas and Electric Co. was granted an ROE of 10.20 percent. Among the operating companies that comprise the Hevert Revised Proxy Group, the average authorized ROE (based on the most recent determination for each

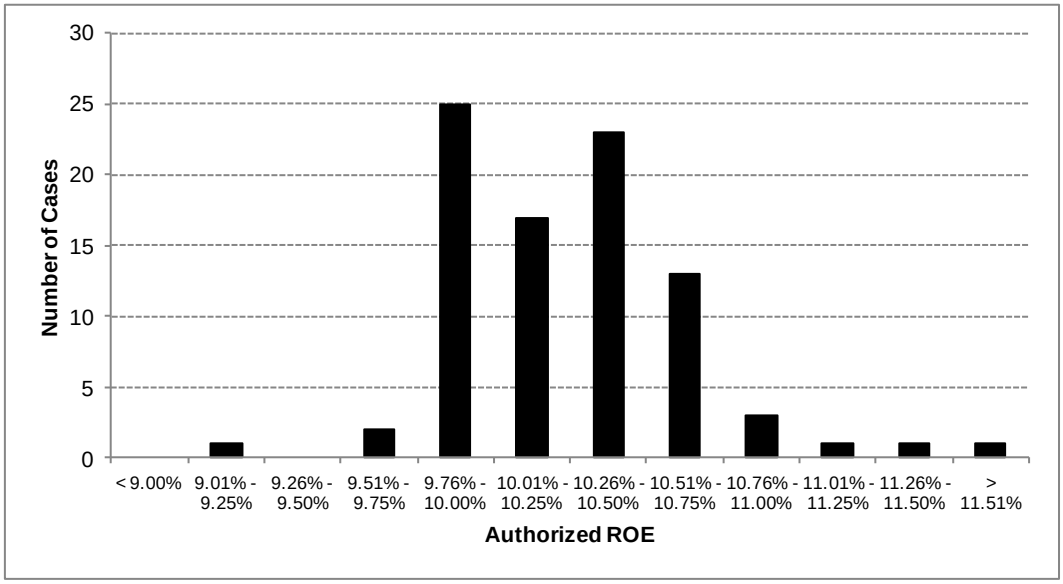
[14] Vertically-integrated electric utilities are involved in the generation, transmission, and distribution of electricity.

[15] While the absolute levels of authorized returns are important and relevant data points, it also is important to analyze those returns over time, relative to fundamental variables such as long-term Treasury yields, and utility bond credit spreads.

[16] *See,* Direct Testimony of Robert B. Hevert, at 39.

company) is 10.50 percent,[17] while the average authorized ROE for the operating companies in the Murray Proxy Group is 10.40 percent.

Chart 2: Mean Authorized ROE for Integrated Electric Utilities (January 2010 – June 30, 2012)[18]



It is difficult to reconcile ROE recommendations of less than 10.00 percent with the instability and uncertainty that continue to prevail in the equity markets. As discussed below in Section IV, practical and observable capital market metrics such as current and expected levels of volatility, the "yield spread" (*i.e.*, the difference between the average proxy group dividend yield and the long-term Treasury yield), and credit spreads associated with income securities (*i.e.*, the difference between yields on bonds of differing credit quality), all indicate that the current environment is far more similar to that which persisted during the 2002-2003 market dislocation (during which the average allowed ROE was 11.07 percent) than to the

17 *See*, Schedule RBH-ER9.

18 Source: Regulatory Research Associates.

pre-financial crisis (*i.e.,* 2006 – Nov 2007) environment, when the average allowed ROE was 10.27 percent.[19]

Q. What are the primary differences between your analytical approach and those used by the Opposing ROE Witnesses?

A. Our respective analyses differ in several ways, but the key differences lie in: (1) the specification and inputs (in particular, the growth rate assumptions) used in our respective Discounted Cash Flow ("DCF") analyses; (2) the criteria upon which we selected our proxy companies; (3) the application of the Capital Asset Pricing Model ("CAPM"), (in particular, the derivation of the market risk premium component of that model in the context of the current volatile financial markets); (4) the application and relevance of the Risk Premium method; (5) the effect of the current capital market environment on the Company's Cost of Equity; and (6) the effect of certain business risks on the Company's financial integrity and Cost of Equity. Putting aside methodological differences, I also strongly disagree with the Opposing ROE Witnesses regarding the relevance of ROE estimates that are lower than any ROE authorized by public utility commissions since at least 1980. As I discuss in more detail throughout my rebuttal testimony, there is no reasonable basis to assume that ROE estimates as low as 5.96 percent,[20] for example, should be given any weight in the determination of the Company's Cost of Equity, yet that is what Staff has done.

While the differences noted above are significant, I recognize that in the Company's three most recent electric rate cases, the Commission placed certain weight on the results of Multi-Stage DCF analyses.[21] And, although I disagree with many aspects of the specific

19 *Ibid.*

20 *See*, Staff Revenue Requirement Cost of Service Report, at 47.

21 Case No. ER-2008-0318, Case No. ER-2010-0036, and Case No. ER-2011-0028.

Multi-Stage DCF Models provided by the Opposing ROE Witnesses, simply adopting their Multi-Stage models and making reasonable adjustments to the inputs and assumptions employed in those models substantially narrows the differences in our respective results (*see* Schedule RBH-ER20, and Schedule RBH-ER26).[22] As shown on Table 2 (below), the Commission's preference for the Multi-Stage DCF approach in past proceedings further supports my revised ROE recommendation of 10.50 percent.

Table 2: Filed and Revised Multi-Stage DCF Results

	Low	Mean	Median	High
Murray - Filed[23]	7.60%	8.84%	8.99%	9.91%
Murray - Adjusted	9.68%	10.21%	10.21%	10.81%
Gorman - Filed[24]	7.51%	9.38%	9.70%	10.71%
Gorman - Adjusted	8.84%	10.21%	10.50%	10.91%

Q. What are the primary differences among the ROE witnesses regarding proxy group composition?

A. Table 3 (below) summarizes the proxy companies used by the ROE Witnesses in this proceeding, and the reasons that I have excluded certain of Staff's companies from my Revised Proxy Group. Differences in the composition of the proxy group account, to some degree, for differences in analytical results as it relates to Staff's ROE recommendation. While I have continued to rely on the same screening criteria to select my proxy group companies, application of those criteria results in the inclusion of Empire District Electric Company, which reinstated its dividend payment in the first quarter of 2012. Setting aside

22 The Multi-Stage DCF models presented by each witness were updated to reflect projected long-term growth in the nominal Gross Domestic Product, the industry average payout ratio, the mid-year convention for discounting, and current stock prices through July 13, 2012. Mr. Gorman's model was also updated to include additional analyst earnings growth estimates and to include EDE in the proxy group.

23 Equals mean and median results from Schedule 13-4.

24 Equals mean and median results from Schedule MPG-9.

these differences, I will present my analytical results using both the Hevert Revised Proxy Group, as well as a group containing all of the companies used by any of the ROE witnesses in this proceeding (the "Combined Proxy Group").

Table 3: Proxy Group Comparison

Company	Ticker	Hevert Original Proxy Group	Hevert Revised Proxy Group	Murray Proxy Group	Gorman Proxy Group	Combined Proxy Group
Alliant Energy Corp. [1]	LNT			√		√
American Electric Power Co., Inc.	AEP	√	√	√	√	√
Cleco Corp.	CNL	√	√	√	√	√
Edison International	EIX	√	√		√	√
Empire District Electric Company	EDE		√			√
Great Plains Energy Inc.	GXP	√	√	√	√	√
IDACORP, Inc.	IDA	√	√	√	√	√
Integrys Energy Group, Inc.	TEG	√	√		√	√
Otter Tail Corp.	OTTR	√	√		√	√
Pinnacle West Capital Corp.	PNW	√	√	√	√	√
Portland General Electric Co.	POR	√	√		√	√
Southern Company	SO	√	√	√	√	√
Westar Energy, Inc.	WR	√	√	√	√	√
Wisconsin Energy Corp. [1]	WEC			√		√
Xcel Energy Inc. [1]	XEL			√		√

Reason company was not included in the Hevert Revised Proxy Group
[1] Percent regulated electric op. income to total regulated op. income less than 90%

Q. Please now summarize the analytical updates contained in your rebuttal testimony.

A. As discussed in Section VII, I updated the Constant Growth DCF, Multi-Stage DCF, CAPM, and Bond Yield Plus Risk Premium analyses included in my direct testimony based on data through July 13, 2012. In response to Mr. Gorman, I also have included an additional Multi-Stage DCF analysis, using historical P/E ratios to calculate the terminal value. Tables 4a and 4b (below) summarize my updated analytical results.

Table 4a: Summary of Results – Hevert Revised Proxy Group[25]

	Mean Low	Mean	Mean High
Constant Growth DCF			
30-Day Average	8.79%	9.81%	10.88%
90-Day Average	8.93%	9.95%	11.03%
180-Day Average	8.97%	9.99%	11.07%
	Low	**Mean**	**High**
Multi-Stage DCF – Gordon Growth Terminal Value			
30-Day Average	9.21%	10.15%	11.22%
90-Day Average	9.33%	10.30%	11.34%
180-Day Average	9.49%	10.35%	11.33%
Multi-Stage DCF – Historical P/E Terminal Value			
30-Day Average	7.96%	10.20%	12.43%
90-Day Average	8.29%	10.53%	12.67%
180-Day Average	8.69%	10.64%	12.65%
Supporting Methodologies			
		Sharpe Ratio Derived Market Risk Premium	**DCF Derived Market Risk Premium**
Capital Asset Pricing Model – Bloomberg Beta			
Current 30-Year Treasury (2.68%)		8.48%	9.74%
Near-Term Projected 30-Year Treasury (3.20%)		9.00%	10.26%
Capital Asset Pricing Model – Value Line Beta			
Current 30-Year Treasury (2.68%)		8.89%	10.24%
Near-Term Projected 30-Year Treasury (3.20%)		9.41%	10.76%
Treasury Yield Plus Risk Premium			
	Low	**Mean**	**High**
Risk Premium	9.96%	10.35%	10.94%

[25] Please note that the mean results for the Constant Growth DCF analysis exclude the projected earnings growth rate of 24.00 percent from Value Line for Otter Tail Corporation and the results for Edison International, which has an average growth rate of less than 1.00 percent.

Table 4b: Summary of Results – Combined Proxy Group[26]

	Mean Low	Mean	Mean High
Constant Growth DCF			
30-Day Average	8.86%	9.73%	10.69%
90-Day Average	9.00%	9.88%	10.84%
180-Day Average	9.06%	9.93%	10.89%
	Low	**Mean**	**High**
Multi-Stage DCF – Gordon Growth Terminal Value			
30-Day Average	9.21%	10.12%	11.22%
90-Day Average	9.33%	10.27%	11.34%
180-Day Average	9.49%	10.33%	11.33%
Multi-Stage DCF – Historical P/E Terminal Value			
30-Day Average	7.90%	10.07%	12.37%
90-Day Average	8.23%	10.41%	12.61%
180-Day Average	8.63%	10.56%	12.59%
Supporting Methodologies			
		Sharpe Ratio Derived Market Risk Premium	**DCF Derived Market Risk Premium**
Capital Asset Pricing Model – Bloomberg Beta			
Current 30-Year Treasury (2.68%)		8.36%	9.60%
Near-Term Projected 30-Year Treasury (3.20%)		8.88%	10.11%
Capital Asset Pricing Model – Value Line Beta			
Current 30-Year Treasury (2.68%)		8.80%	10.13%
Near-Term Projected 30-Year Treasury (3.20%)		9.32%	10.65%
Treasury Yield Plus Risk Premium			
	Low	**Mean**	**High**
Risk Premium	9.96%	10.35%	10.94%

My analyses and recommendations also take into consideration the instability in the capital markets and the need for utilities such as Ameren Missouri to maintain a level of financial integrity that enables access to capital, at reasonable costs, under a variety of economic and financial market conditions. In that regard, I also have analyzed observable measures of investors' risk aversion, including comparatively high levels of expected market volatility, the yield inversion between long-term Treasury bonds and the proxy company

[26] *Ibid.*

dividend yields, and elevated credit spreads especially for lower-rated investment grade debt (*see*, Section IV). All of those measures are directly relevant to the estimation of the Company's Cost of Equity.

IV. CAPITAL MARKET CONDITIONS

Q. Does Staff assess current capital market conditions in its Cost of Service report?

A. Yes. Staff observes that the United States is emerging from the most severe recession since the Great Depression, and while economic growth is expanding, it is doing so at a relatively slow rate.[27] In addition, Staff refers to information from the Congressional Budget Office, the Federal Open Market Committee, the Survey of Professional Forecasters, the Energy Information Administration, and the Livingston Survey, which forecast long-term GDP growth between 4.00 percent and 5.00 percent.[28] Staff further observes that the difference between Treasury Inflation Protected Securities ("TIPS") and nominal Treasury securities implies that investors expect a 2.25 percent to 2.40 percent rate of inflation in the future.[29]

Regarding utility debt markets, Staff suggests that if one were to assume a constant risk premium between utility stocks and utility bonds, lower utility bond yields directly translate into a lower ROE.[30] Staff also observes that long-term utility bond yields have continued to closely track changes in the 30-year U.S. Treasury bond since the recession of 2008 and 2009, and that yields on investment grade and non-investment grade utility bonds

27 Staff Revenue Requirement Cost of Service Report, at 16.
28 *Ibid.*, at 17.
29 *Ibid.*, at 18.
30 *Ibid.*

have both declined while the spread between the two has widened since the mid-2000s.[31] Of particular importance, Staff observes that the current spread between utility bonds and the 30-year Treasury yield is 1.91 percent, as compared to the average of 1.55 percent since 1980.[32]

In terms of utility equity markets, Staff notes the strong returns produced by utility stocks relative to the broader market in 2011 and suggests that returns have been driven by the continued decline in utility bond yields.[33] Staff observes higher P/E ratios for eight utilities that were also included in Staff's proxy group in Ameren Missouri's prior electric rate case and suggests that because earnings growth projections have declined, P/E ratios have been driven higher by a lower Cost of Equity. Mr. Murray concludes that the current macroeconomic environment supports and expects authorized ROEs below 10.00 percent.[34]

Q. Does Mr. Gorman assess current capital market conditions in his direct testimony?

A. Yes. Mr. Gorman compares current A-rated and Baa-rated utility bond yields to yields at the time of the Company's last order (*i.e.*, July 13, 2011). Mr. Gorman observes a 70 basis point to 110 basis point decline in utility bond yields and concludes that Ameren Missouri's cost of capital is lower.[35] Mr. Gorman also compares annual returns of the Edison Electric Institute Index to annual returns of the S&P 500 and concludes that utilities have

31 *Ibid.*
32 *Ibid.*, at 18.
33 *Ibid.*, at 19.
34 *Ibid.*, at 20.
35 *See*, Direct Testimony of Michael P. Gorman, at 5.

outperformed the broad market with a few exceptions as a consequence of the recent economic environment.[36]

Q. What is your general response to the Opposing ROE Witnesses on these points?

A. Although I agree that capital market conditions have begun to moderate over the past several months, an ROE of 9.00 percent to 9.30 percent is not reasonable in the context of current or expected market conditions. Likewise, while I agree that there is a historical correlation between interest rates and utility dividend yields, it is not reasonable to assume that lower utility debt yields correspond to an equally lower Cost of Equity, or that there is a constant risk premium between utility stocks and utility bonds; as noted in my direct testimony (and as discussed in more detail in my response to Mr. Gorman), there is a well-established inverse relationship between interest rates and the equity risk premium. Further, while Mr. Murray points to recent data regarding credit spreads, he fails to consider other very visible and relevant measures of investor risk aversion, including: (1) market volatility; (2) the current yield inversion between U.S. Treasury bonds and utility dividend yields; and (3) incremental credit spreads. As discussed below, those metrics objectively demonstrate that the Opposing ROE Witnesses' conclusions and ROE recommendations are not consistent with current capital market conditions.

Q. What is your response to the Opposing ROE Witnesses' suggestion that declining utility bond yields imply a declining Cost of Equity?

A. The Opposing ROE Witnesses fail to take into consideration the well-established inverse relationship between interest rates and the equity risk premium, which is

[36] *Ibid.*, at 8.

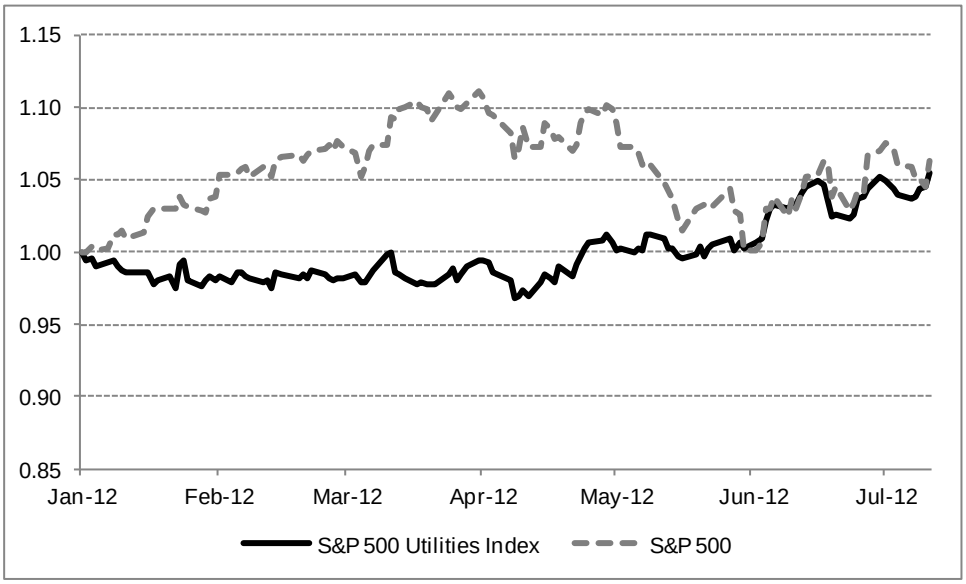
demonstrated by the Bond Yield Plus Risk Premium analysis presented in my direct testimony.[37] As discussed later in my rebuttal testimony, I have modified that analysis to assess the relationship between the equity risk premium and the Moody's Baa-rated utility bond index. That analysis continues to indicate a negative relationship between utility bond yields and the equity risk premium. That is, declining utility bond yields are offset by an increasing equity risk premium. As such, it is not reasonable to assume that declining utility bond yields imply a materially lower Cost of Equity, especially given ongoing market volatility and the elevated credit spreads for lower rated investment grade debt.

Q. What is your response to the Opposing ROE Witnesses' observation that utility stocks outperformed the broad market in 2011?

A. While that may have been the case in 2011, a review of more recent data indicates a much different trend. Chart 3 (below) presents the relative price performance of the S&P 500 Utilities Index and the S&P 500 since January 1, 2012.

[37] *See*, Direct Testimony of Robert B. Hevert, at 36-38.

Chart 3: Relative Price Performance (January 1, 2012 – July 13, 2012)[38]



The chart clearly shows that the S&P 500 Utilities Index underperformed the S&P 500 Index for the first five months of 2012, and the performance of the two indices has generally converged since then. The more recent performance of utility stocks as compared to the broader market indicates that whatever inferences the Opposing ROE Witnesses are drawing about the Cost of Equity for utilities based on 2011 market data are no longer valid.

Q. Have you updated the risk sentiment indicators that were presented in your direct testimony?

A. Yes. As noted above, I have considered several widely-recognized measures of investor risk sentiment, including: (1) incremental credit spreads; (2) equity market volatility; and (3) the relationship between the proxy group average dividend yield and Treasury yields. In each case, I compared current market conditions to the two-year period prior to the 2007-2009 recession (*i.e.*, January 2006 through November 2007), and to the capital market contraction period of 2002-2003. I also have provided data as of the date of

[38] Source: Bloomberg Professional.

the Commission's order in Ameren Missouri's last electric rate proceeding (*i.e.*, Case No. ER-2011-0028, dated July 13, 2011). As shown on Table 5 (below), those metrics continue to indicate that current levels of instability and risk aversion are significantly higher than the levels observed prior to the recent recession, higher than levels experienced during the 2002-2003 capital market contraction, and even higher than prevailing levels as of the Company's prior ROE authorization.

Table 5: Risk Sentiment Indicators[39]

	July 13, 2012[40]	**July 13, 2011[41]**	**Pre-recession (Jan-2006 through Nov-2007)**	**Jan-2002 through Dec-2003 Period**
Credit Spreads (Moody's Utility Bond Index)				
Baa-rated bond to A-rated bond	0.76%	0.42%	0.25%	0.46%
Market Volatility				
CBOE VXV and CBOE VIX Futures	25.90%[42]	18.19%[43]	14.90%[44]	24.64%[45]
Dividend Yield Spreads				
Proxy Group to 10-year Treasury[46]	2.38%	1.23%	-0.62%	1.51%

As shown in Table 5, as of July 13, 2012, the 90-trading day average credit spread between the Moody's Baa-rated utility bond index and the Moody's A-rated utility bond index increased by 51 basis points relative to the pre-recession period of January 2006 through November 2007. Those higher credit spreads, especially among lower-rated utility

39 Source: Bloomberg Professional.

40 Represents the 90-trading day average as of July 13, 2012, except as noted otherwise.

41 Represents the 90-trading day average as of July 13, 2011.

42 Represents the 30-trading day average pricing of six-month forward volatility. Please note that the VIX is a one-month measure of volatility, while the VXV is a three-month measure. *See*, Schedule RBH-ER13.

43 Represents the 90-trading average VIX as of July 13, 2011.

44 Represents the average VIX measured from January 2006 to November 2007.

45 Represents the average VIX measured from January 2002 to December 2003.

46 Based on Hevert Revised Proxy Group.

bonds, suggest that investors continue to be more risk averse today than they were in the period immediately preceding the recent recession. To the extent that credit spreads have increased, it is an observable measure of the capital market's increased risk aversion, which suggests that the Cost of Equity has increased since the last rate case decision for Ameren Missouri.

In that regard, since July 13, 2011 (*i.e.*, the date of the Company's last order), the average yield on Baa-rated utility bonds has decreased from 5.82 percent to 5.02 percent, while the spread between Baa-rated utility bonds and A-rated utility bonds has increased from 0.42 percent to 0.76 percent (*see* Table 5). While credit spreads have increased on an absolute basis, on a relative basis the increase has been even more acute. Specifically, while the spread between Baa-rated utility bonds and A-rated utility bonds represented 7.22 percent[47] of the Baa index on July 13, 2011, as of July 13, 2012, that relative spread had increased to 15.14 percent.[48] The increases in both absolute and relative credit spreads indicate that simply observing that absolute bond yields have fallen, as the Opposing ROE Witnesses have done, does not give a complete assessment of capital market conditions and the degree of investor risk aversion.

Q. Have you updated your analysis of the relationship between dividend yields for the proxy companies and Treasury yields?

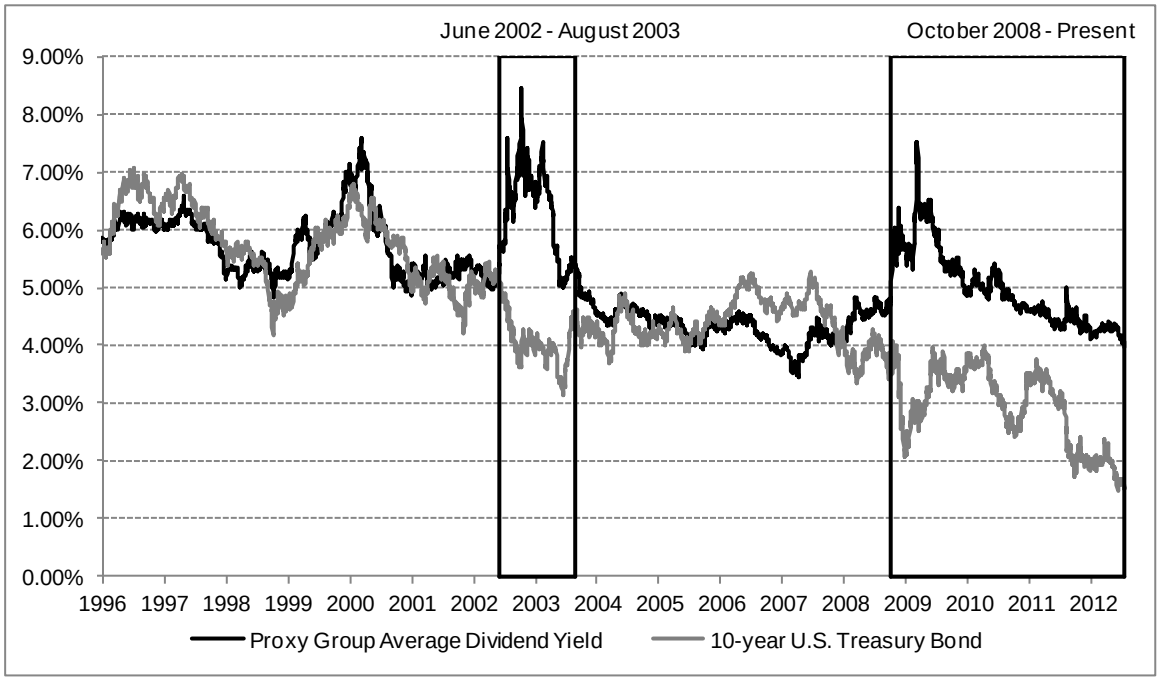
A. Yes, I have. Chart 4, below, demonstrates that the average dividend yield for the Hevert Revised Proxy Group has continued to exceed the ten-year Treasury yield since the beginning of the financial crisis in late 2008. As shown on Chart 4, the average dividend yield spread has increased from 1.23 percent (as of July 2011) to 2.38 percent (as of July

[47] Calculation: 0.42 percent divided by 5.82 percent = 7.22 percent.

[48] Calculation: 0.76 percent divided by 5.02 percent = 15.14 percent.

2012), indicating a continuing, if not elevated degree of capital market instability. Taken from that perspective, such instability would suggest an increased, not a decreased Cost of Equity.

Chart 4: Treasury Yield / Dividend Yield Spread



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

A. The capital markets continue to experience levels of risk aversion, volatility, and instability that are well above those observed prior to the financial market dislocation, as well as at the time of Ameren Missouri's last electric rate case order. Those results do not support the dramatic decrease in returns recommended by the Opposing ROE Witnesses. Moreover, while the factors noted above provide important context for the determination and assessment of ROE recommendations, they also are directly (and intuitively) related to ROE estimation methods. Increases in the absolute level of expected volatility reflect increased

investor risk perceptions and, therefore, a higher premium required by investors to take on the risks associated with equity ownership. Similarly, increases in credit spreads from historical levels indicate greater investor risk aversion than has existed in the past and also are indicative of higher relative capital costs.

In essence, while it is instructive to consider measures of market conditions as broad indicators of investor return requirements, it is equally important to understand the relationship among those variables and the Cost of Equity models. To the extent that such measures are inconsistent with model assumptions and results, as is the case with the Opposing ROE Witnesses' analyses, the analytical results and ROE recommendations are further undermined.

V. RESPONSE TO THE STAFF COST OF SERVICE REPORT AS IT RELATES TO THE RETURN ON EQUITY

Q. Please summarize Staff's ROE analyses and recommendations.

A. Staff, through its witness, Mr. Murray, states that the Company's Cost of Equity is within a range of 8.00 percent to 9.00 percent. Staff recommends an ROE for Ameren Missouri of 9.00 percent, based on the results of Mr. Murray's Constant Growth and Multi-Stage DCF analyses, which he tests for reasonableness by reference to his CAPM and Risk Premium analyses.[49]

Mr. Murray considers a variety of growth rates for his DCF analyses, including historical and projected Earnings per Share, Dividends per Share, and Book Value per Share. Mr. Murray observes that analysts' projected EPS growth rates range from 3.00 percent to

[49] As discussed below, Mr. Murray's "Rule of Thumb" is a form of Risk Premium analysis.

8.00 percent, with an average of 5.40 percent, which Staff considers not sustainable.[50] Staff suggests that long-term GDP growth is expected to be in the 4.00 percent to 5.00 percent range,[51] and that electric utility earnings growth rates were less than half of achieved GDP growth for the period from 1947 through 1999.[52] On that basis, Staff gives limited weight to its Constant Growth DCF analysis.

As to its Multi-Stage DCF analysis, Staff devotes a considerable portion of its Report to discussing its view that GDP growth tends to overstate both EPS and DPS growth rates, especially for electric utilities, which Staff notes represent a lower percentage of GDP than they did 20 years ago.[53] Ultimately, however, Staff develops its Multi-Stage DCF analysis based on Mr. Murray's long-term growth estimate of 4.30 percent, which is the lower end of his range of GDP growth estimates of 4.30 percent to 4.90 percent.[54]

Mr. Murray tests the reasonableness of his DCF results by reference to a CAPM analysis and the consideration of other data points. With respect to Staff's CAPM analysis, Mr. Murray's application of that model produces mean results of 5.96 percent (based on the geometric average market risk premium) and 7.06 percent (based on the arithmetic average market risk premium), respectively.[55] In addition, Mr. Murray applies a "Rule of Thumb" estimate based on data that are not specific to the electric utility industry, but establishes the Cost of Equity as 300 to 400 basis points over the cost of long-term debt for A-rated and

50 Staff Revenue Requirement Cost of Service Report, at 28.
51 *Ibid.*, at 17.
52 *Ibid.*, at 33.
53 *Ibid.*, at 36.
54 *Ibid.*, at 45-46.
55 *Ibid.*, at 47.

Baa-rated public utilities. Based on his "Rule of Thumb" estimates, Mr. Murray derives Cost of Equity estimates ranging from 7.92 percent to 9.52 percent.[56]

Q. Are Mr. Murray's analytical results and recommendation reasonable?

A. No, they are not. ROE estimates as low as 5.96 percent have no analytical meaning and in fact highlight the inherent risk of not questioning the applicability of models and assumptions in the current market environment. As a point of reference, of the 546 electric utility rate case decisions reported by RRA from January 1992 through June 30, 2012, there was only one ROE authorization of 9.00 percent or lower;[57] in fact, the average ROE award for electric utilities during that time period was 10.86 percent.

Moreover, several of the ROE estimates derived from Mr. Murray's various analyses do not exceed the recent average yield on Baa-rated long-term utility debt of 4.91 percent by a margin sufficient to enable Ameren Missouri to attract capital at reasonable terms and conditions consistent with its peers.[58] For example, Mr. Murray's CAPM analyses produce average results of 5.96 percent and 7.06 percent. Such returns would not offer equity investors a sufficient premium for the risks associated with equity ownership. As explained in my direct testimony, a fundamental principle of finance is that equity investors bear the residual risk associated with ownership and therefore require a meaningful premium over the return they would earn as a bondholder.[59]

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56 *Ibid*., at 48.

57 The single case in which an ROE below 9.00 percent was observed was in Docket No. D-08-07-04, United Illuminating Company (a transmission and distribution utility), dated February 4, 2009. Regulatory Research Associates in a March 23, 2009 rate case review noted that this was the lowest "non-penalty" ROE determination in the last 30 years for an energy utility.

58 Source: Bloomberg Professional. Average daily yield for Moody's Baa-rated long-term utility debt for June 2012.

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

It also is interesting to note that while Mr. Murray's "Rule of Thumb" (as applied to Baa Utility Bonds) produces a range of returns from 8.52 percent to 9.52 percent, most of his ROE estimates fall below that range; in fact, all 20 of Mr. Murray's CAPM estimates fall substantially below the 8.52 percent lower bound. Similarly, 21 of the 40 results produced by his Multi-Stage DCF analyses[60] do not satisfy his "Rule of Thumb" test. Thus, Mr. Murray's "Rule of Thumb" test does not confirm his primary analytical results.

Q. What are the specific areas in which you disagree with Mr. Murray's analyses and recommendations?

A. There are several areas in which I disagree with Mr. Murray, including: (1) the composition of the proxy group; (2) Mr. Murray's application of the Constant Growth DCF model; (3) the application and structure of Mr. Murray's Multi-Stage DCF Model; (4) Mr. Murray's application of the CAPM and the relevance of those results in estimating the Cost of Equity; (5) Mr. Murray's Risk Premium analysis; and (6) Mr. Murray's failure to consider the effect of his recommendation on Ameren Missouri's financial integrity and ability to attract capital. I discuss each of those issues in turn, below.

A. Proxy Group Composition

Q. Please summarize the differences between your proxy group and the one developed by Mr. Murray.

A. Table 6 (below) provides the composition of my original and revised proxy groups of electric utility companies and the proxy group relied on by Mr. Murray.

[60] *See*, Appendix 2 to Staff Revenue Requirement Cost of Service Report, Schedules 13-1, 13-2, 13-3, and 13-4.

Table 6: Hevert and Murray Proxy Groups

Company	Ticker	Hevert Original Proxy Group	Hevert Revised Proxy Group	Murray Proxy Group
Alliant Energy Corp.	LNT			√
American Electric Power Co., Inc.	AEP	√	√	√
Cleco Corp.	CNL	√	√	√
Edison International	EIX	√	√	
Empire District Electric Company	EDE		√	
Great Plains Energy Inc.	GXP	√	√	√
IDACORP, Inc.	IDA	√	√	√
Integrys Energy Group, Inc.	TEG	√	√	
Otter Tail Corp.	OTTR	√	√	
Pinnacle West Capital Corp.	PNW	√	√	√
Portland General Electric Co.	POR	√	√	
Southern Company	SO	√	√	√
Westar Energy, Inc.	WR	√	√	√
Wisconsin Energy Corp.	WEC			√
Xcel Energy Inc.	XEL			√

Q. Why did you modify your proxy group?

A. First, it is important to note that the Hevert Revised Proxy Group conforms to the screening criteria presented in my direct testimony, as applied to the most recently available information.[61] In that regard, applying the screening criteria contained in my direct testimony results in the addition of one company, EDE, which reinstated its dividend in the first quarter of 2012.[62]

Q. Please briefly summarize Mr. Murray's proxy group selection process.

A. Mr. Murray begins with the companies classified by Value Line as electric utilities. He then applies a series of screening criteria, as follows:[63] (1) publicly traded

61 *See,* Direct Testimony of Robert B. Hevert, at 16-17.

62 EDE temporarily suspended its dividend following the tornadoes in southwestern Missouri**.** *See,* Empire District Electric Company, 2011 SEC Form 10-K, filed February 23, 2012, at 24.

63 *See,* Staff Revenue Requirement Cost of Service Report, at 25-26.

stock; (2) followed by EEI and classified by EEI as a regulated electric utility; (3) followed by AUS and reporting at least 70.00 percent of revenues from electric operations; (4) ten years of Value Line historical growth data available; (5) no reduced dividends since 2009; (6) projected growth available from Value Line and Reuters; (7) at least investment grade credit rating; (8) company-owned generating assets; (9) an "Excellent" Business Risk Profile from S&P; and (10) no significant merger or acquisition announced in the last three years. Mr. Murray notes that he added the ninth screening criteria (*i.e.*, "Excellent" Business Risk Profile by S&P) because Staff believes it is important to "further screen utility companies that may have non-regulated operations that are impacting the parent company's business risk even though they were classified as 'regulated' by EEI."[64]

Q. What accounts for the differences in your respective proxy groups?

A. The differences between my Revised Proxy Group and Mr. Murray's proxy group are primarily attributable to: (1) Mr. Murray's use of three companies (Alliant Energy ("LNT"), Wisconsin Energy Corp. ("WEC") and Xcel Energy ("XEL")) that I had excluded on the basis of business segment operating results; and (2) the exclusion of five companies (Edison International ("EIX"), Empire District Electric ("EDE"), Integrys Energy ("TEG"), Otter Tail Corp. ("OTTR") and Portland General ("POR")) from Mr. Murray's proxy group that are included in my Revised Proxy Group.

Q. Why were the three companies included in Mr. Murray's proxy group excluded from yours?

A. Mr. Murray's screening criteria result in the inclusion of three companies (*i.e.*, LNT, WEC, and XEL), all of which I have excluded because they failed to derive 90.00

64 *Ibid.*, at 25.

percent or more of total regulated operating income from regulated electric utility service. Upon reviewing operating income data for the period from 2009 through 2011 for each of those three companies, I note that two of the three companies (*i.e.*, LNT and XEL) derived more than 86.00 percent of total regulated operating income from regulated electric utility service during that three year period.[65] The third company (*i.e.*, WEC) derived approximately 67.00 percent of total regulated operating income from regulated electric utility service during that period.

Q. Why did Mr. Murray exclude certain companies contained in your proxy group from his recommended proxy group?

A. As noted above, Mr. Murray excluded five companies (*i.e.*, EIX, EDE, TEG, OTTR and POR) that are included in my Revised Proxy Group. Based on Mr. Murray's Schedule 7, which illustrates his screening process, it appears that EIX was excluded because it did not have an "Excellent" business risk profile from S&P; EDE was excluded because it had reduced its dividend since 2009; TEG was excluded because its percentage of electric revenues was less than 70.00 percent; OTTR was excluded because it is not classified as a regulated electric utility by EEI; and POR was excluded because there were not ten years of Value Line historical growth data available for that company.

Q. Why do you disagree with Mr. Murray's exclusion of those five companies from his proxy group?

A. The specific bases of my disagreement with Mr. Murray's proxy companies are provided below:

[65] Specifically, LNT derived 89.83 percent and XEL derived 86.89 percent of total regulated operating income from regulated electric utility service from 2009-2011.

EIX: The company has an investment grade credit rating of BBB- from S&P, which is the same credit rating assigned to Ameren Missouri; as such, I do not believe EIX should be eliminated on the basis of its business risk profile. From an investment risk standpoint, the relevant consideration is the corporate credit rating (which considers both business and financial risk). Since one of Mr. Murray's screening criteria is an investment grade credit rating, his decision to include an additional screen for business risk (which already is considered in the credit rating) essentially double counts that factor.[66]

EDE: The company reinstated its dividend payment after temporarily suspending it to conserve cash in the aftermath of the damage caused by the tornadoes in and around Joplin, Missouri. I did not include EDE in my Original Proxy Group because the dividend payment was suspended at the time of that analyses, but I do believe it is appropriate to include EDE in the Hevert Revised Proxy Group now that the dividend has been reinstated.

TEG: I disagree with Mr. Murray's screening criterion based on the percentage of total revenues derived from electric utility service. To the extent that investors consider the percentage of total revenues from regulated electric utility service, the purpose is to determine the operating income that those regulated revenues might be expected to produce, which, in turn, would contribute to cash flows and earnings. Since equity securities often are valued on the basis of earnings (*i.e.*, the P/E ratio), and many credit metrics are cash flow based, earnings are the more relevant measure of segment performance. Consequently, I

[66] I note that EIX has an average earnings growth rate of less than 1.00 percent, which is lower than the projected inflation rate. This implies negative real growth in earnings per share over the three-to-five year period covered by the analyst forecasts. It is not reasonable to assume that investors would purchase EIX stock if they are assuming constant negative real growth in earnings per share. While I disagree with Mr. Murray's decision to exclude EIX as a proxy company, as a practical matter the company's Constant Growth DCF results are unreasonably low and should be given little, if any, weight.

believe that it is more appropriate to rely on the percentage of operating income rather than the percentage of revenues from regulated electric service.

OTTR: The company is classified by Value Line, a source which Mr. Murray relies upon extensively, as an Electric Utility, and it meets my other screening criteria, including percentage of operating income from regulated electric utility service. The EEI screen which Mr. Murray relies on to exclude OTTR is based on the percentage of utility assets, as opposed to operating income, devoted to regulated electric utility service. Specifically, EEI classifies investor-owned electric utilities as follows: (1) Regulated: 80.00 percent or more of total assets are regulated; (2) Mostly Regulated: 50.00 percent to 80.00 percent of total assets are regulated; and (3) Diversified: less than 50.00 percent of total assets are regulated.[67] As with Mr. Murray's revenue screen, his asset screen fails to consider that to the extent investors consider the percentage of assets used for regulated services, the purpose is to determine the operating income that those regulated assets might be expected to produce, which, in turn, would contribute to cash flows and earnings. Consequently, I believe that it is more appropriate to rely on the percentage of operating income rather than the percentage of regulated assets to develop a risk comparable proxy group.[68]

POR: I disagree that a company should be excluded from the proxy group based on the availability of long-term historical data. As noted in my direct testimony, the estimation of the Cost of Equity is a forward-looking exercise that relies on a group of fundamentally

[67] Edison Electric Institute, 2011 Financial Review, Annual Report of the U.S. Shareholder-Owned Electric Utility Industry, at v.

[68] While EIX's updated Constant Growth DCF result is an outlier to the downside, OTTR's updated Constant Growth DCF result is well above the proxy group average. As noted earlier, such disperse results provide additional support for the use of the Multi-stage DCF analysis.

comparable proxy companies.[69] In my view, the availability of historical Value Line data for a period of ten years does not distinguish suitable from unsuitable proxy companies.

Table 7 (below) provides updated DCF results for both my Revised Proxy Group and Mr. Murray's proxy group (based on the Constant Growth and Multi-Stage DCF Models) as of July 13, 2012.

Table 7: Hevert and Murray DCF Results Comparison

	Hevert Revised Proxy Group	**Murray Proxy Group**
Constant Growth DCF	**Mean**	**Mean**
30-Day Average	9.81%	9.37%
90-Day Average	9.95%	9.51%
180-Day Average	9.99%	9.56%
Multi-Stage DCF	**Mean**	**Mean**
30-Day Average	10.15%	10.13%
90-Day Average	10.30%	10.28%
180-Day Average	10.35%	10.34%

As Table 7 demonstrates, the composition of the proxy group affects, to some degree, the Constant Growth DCF results; however, the selection of proxy group companies has less effect on the Multi-Stage DCF results. I continue to believe that my selection criteria produce a proxy group that is more representative of Ameren Missouri's investment risks than do Mr. Murray's criteria. Nonetheless, for the reasons discussed above, in order to reduce the number of contested issues, I have included Mr. Murray's proxy companies in my analysis of a Combined Proxy Group.

[69] *See*, Direct Testimony of Robert B. Hevert, at 13-15.

B. Application of the Constant Growth DCF Model

Q. Please explain the differences between you and Mr. Murray in the selection of growth rates in your respective Constant Growth DCF analyses.

A. My Constant Growth DCF analysis relies on analysts' earnings growth projections, as provided by Zacks, First Call, and Value Line.[70] Mr. Murray's analysis, on the other hand, reflects projected growth in Dividends per Share ("DPS"), Book Value per Share ("BVPS"), and Earnings per Share ("EPS"), as well as historical growth rates, although he considers the historical data to be "quite volatile."[71] Mr. Murray observes that analyst EPS growth estimates provided by consensus forecasts (*i.e.*, Reuters) and Value Line range from 3.00 percent to 8.00 percent, with an average EPS growth rate of 5.40 percent.[72] He concludes that those estimates are not, in his opinion, a reliable indicator of long-term, sustainable growth expectations, relative to Staff's estimate of long-term GDP growth, which ranges from 4.00 percent to 5.00 percent.[73] Nonetheless, as shown on Schedule 9-4 and Schedule 11, Mr. Murray relies on long-term growth rates of 5.00 percent to 5.50 percent to derive his Constant Growth DCF range of 9.10 percent to 9.60 percent.[74]

Q. Why does Mr. Murray give limited weight to the use of analysts' forecasts of five-year EPS growth in his Constant Growth DCF model?

A. Mr. Murray examines the Value Line and Reuters earnings growth estimates for each of the companies in his proxy group and, based on that review, concludes that there

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70 *Ibid.*

71 Staff Revenue Requirement Cost of Service Report, at 27-28.

72 *Ibid.*, at 28.

73 *Ibid.*

74 It is interesting to note that in Case No. ER-2011-0028, Mr. Murray proposed a range of long-term growth rates from 4.00 percent to 5.00 percent for his electric utility proxy group. *See*, Schedule 9-4 to Appendix 2 in that case.

is a "relatively wide dispersion."[75] Mr. Murray further notes that the "use of equity analysts' forecasts of 5-year EPS growth is not reasonable"[76] because "investors do not assume their utility investments can grow at this rate in perpetuity when estimating a fair price to pay for utility stocks."[77] Moreover, Mr. Murray states that "empirical evidence proves that EPS growth for the electric utility industry has never achieved those lofty growth rates over a long period,"[78] and that "electric utility growth rates have been approximately half of achieved GDP growth for the period from 1947 through 1999."[79] Mr. Murray reasons that since "long-term GDP growth is expected to be in the 4.0 percent to 5.0 percent range…the expected long-term growth rate for electric utilities should be much lower than the projected 5-year EPS growth rate."[80] Mr. Murray explains that for that reason, Staff gave only limited weight to the results of its Constant Growth DCF analysis.

Q. As a preliminary matter, does the Constant Growth DCF model produce reasonable results under current market conditions?

A. No, it does not. As a practical matter, Mr. Murray's Constant Growth DCF results are well below the prevailing level of authorized returns. Moreover, as discussed in my direct testimony, the Constant Growth DCF model requires certain assumptions, including: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings multiple; and (4) a discount rate greater than the expected growth rate.[81] To the extent any of those assumptions is violated, considered

75 See, Staff Revenue Requirement Cost of Service Report, at 28.
76 *Ibid.*
77 *Ibid.*
78 *Ibid.*
79 *Ibid.*
80 *Ibid.*
81 *See,* Direct Testimony of Robert B. Hevert, at 22.

judgment and/or specific adjustments should be applied to the results. Given the continuing instability in the capital markets, it is not clear that those assumptions are likely to hold, and as such, I also have placed primary weight on the results of the Multi-Stage DCF analysis.

Q. Do you agree with Mr. Murray's assessment of growth rates for the Constant Growth DCF model?

A. No, I do not. As to Mr. Murray's consideration of dividend and book value growth, it is important to realize that earnings growth enables both.[82] Corporate decisions to manage the dividend payout ratio for the purpose of minimizing future dividend reductions or to signal future earnings prospects can influence dividend growth rates in near-term periods in a manner that is disproportionate to earnings growth. Similarly, book value can increase over time only through the addition of retained earnings, or with the issuance of new equity. Both of those factors are derivative of earnings. Retained earnings increase with the amount of earnings not distributed as dividends, and the price at which new equity is issued is a function of the earnings per share and the then-current P/E ratio.

Mr. Murray's reference to dividend and book value growth rates also is misplaced because the only scenario under which dividend growth rates and book value growth rates are relevant is when the fundamental assumptions underlying the Constant Growth DCF model essentially hold. Under those fundamental assumptions, the Constant Growth DCF model produces the same result whether the stock is held in perpetuity or sold after an assumed holding period, and the assumed growth rate equals the rate of capital appreciation (*i.e.*, the stock price growth rate). Given that investors tend to value common equity on the basis of

82 *Ibid.*, at 24.

P/E ratios, the required ROE is a function of the long-term growth in earnings, not dividends or book value.

Finally, Value Line is the only service noted in Mr. Murray's analyses that provides either DPS or BVPS growth projections. To the extent that the earnings projection services such as Zacks, First Call, and Reuters represent consensus estimates, the results are less likely to be biased in one direction or another than a forecast developed by an individual analyst. In fact, it is for that reason that one of the criteria used to develop my proxy group is that the potential proxy company must have long-term growth rate estimates from at least two utility industry equity analysts.[83]

Q. Why are EPS growth rates the appropriate measure for the Constant Growth DCF model?

A. First, as noted above, it is growth in earnings that enables both dividend and book value growth, a position that is firmly supported by academic research.[84] Moreover, valuation metrics also focus on earnings, as opposed to dividends. As noted over 40 years ago by Charles Phillips in The Economics of Regulation:

> For many years, it was thought that investors bought utility stocks on the basis of dividends. More recently, however, studies indicate that the market is valuing utility stocks with reference to total per share earnings, so that the price-earnings ratio has assumed increased emphasis in rate cases.[85]

Phillips's conclusion continues to hold true. Subsequent academic research has clearly and consistently indicated that measures of earnings and cash flow are strongly related to returns, and that analysts' forecasts of growth are superior to other measures of

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83 *Ibid.*, at 16.

84 *See*, for example, Harris, Robert, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management, Spring 1986.

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

growth in predicting stock prices.[86] For example, Vander Weide and Carleton state that "[o]ur results…are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions."[87] Other research specifically notes the importance of analysts' growth estimates in determining the Cost of Equity, and in the valuation of equity securities. Moreover, Dr. Robert Harris noted that "a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices."[88] Citing Cragg and Malkiel, Dr. Harris notes that those authors "found that the evaluations of companies that analysts make are the sorts of ones on which market valuation is based."[89]

To that point, the research of Carleton and Vander Weide (also discussed below) demonstrates that earnings growth projections have a statistically significant relationship to stock valuation levels, while dividend growth projections do not. Those findings suggest that investors form their investment decisions based on expectations of growth in earnings, not dividends. Consequently, earnings growth not dividend growth is the appropriate estimate for the purpose of the Constant Growth DCF model.[90] While Carleton and Vander Weide's research was based on companies and industries in addition to utilities, my own quantitative analyses demonstrate that the same conclusions hold for electric utility companies.

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86 *See*, for example, Christofi, Christofi, Lori and Moliver, *Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate*, Journal of Investing (Spring 1999); Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*, Financial Management, 21 (Summer 1992); and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988, at 81.

87 Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988.

88 Robert S. Harris, *Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return*, Financial Management, Spring 1986.

89 *Ibid.*

90 As discussed later in my rebuttal testimony, that finding applies specifically to electric utility companies.

Q. Please describe the analyses you conducted to determine which measures of growth are statistically related to the proxy companies' stock valuation levels.

A. My analyses are structured based on a methodological approach used by Professors Carleton and Vander Weide, who conducted a comparison of the predictive capability of historical growth estimates and analysts' consensus forecasts of five-year earnings growth for the stock prices of sixty-five utility companies.[91] While their study addressed the use of historical growth rates, the general methodology established by Carleton and Vander Weide also can be used to determine which growth rate projections have the greatest predictive capability with respect to stock valuation levels. As discussed below, my analyses were structured to assess the ability of various growth estimates to explain changes in stock valuation levels. Essentially, the analysis is structured to determine whether investors use earnings, dividend, or book value growth rates when valuing electric utility stocks.

As shown in Table 8 (*see also,* Schedule RBH-ER15), my analysis examines the relationship between the P/E ratios of the Value Line universe of electric utility companies, and the projected EPS, DPS, and BVPS growth rates reported by Value Line as of May 4, 2012, May 24, 2012, and June 22, 2012. I also eliminated any observations wherein Value Line did not report EPS, DPS, and BVPS projections.

I then performed a series of regression analyses in which the projected growth rates were included as explanatory variables, with the P/E ratio as the dependent variable. The

[91] Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management, Spring 1988, at 81. Please note that while the original study was published in 1988, it was updated in 2004 under the direction of Dr. Vander Weide. The results of this updated study are consistent with Vander Weide and Carlton's original conclusions.

intent of those analyses was to determine which, if any, of the growth rates are statistically related to the proxy company stock valuation levels.

Table 8: Regression Results - Price to Earnings v. Growth Rates

	Intercept	Coefficient	Standard Error	T-Stat	F-Stat
Scenario 1- Projected EPS	13.008	68.699	12.671	5.422	29.393
Scenario 2- Projected DPS	15.880	16.135	15.610	1.034	1.068
Scenario 3- Projected BVPS	17.839	-29.809	27.450	-1.086	1.179
Scenario 4-	14.965				12.104
Projected EPS		77.519	13.844	5.600	
Projected DPS		-13.233	13.747	-0.963	
Projected BVPS		-40.417	21.736	-1.859	

In the first set of analyses (*see* Table 8, Scenarios 1-3), I considered each independent variable separately (*i.e.*, performed three separate regressions with P/E as the dependent variable and projected EPS, DPS, and BVPS as the independent variable). To ensure that those separate analyses did not somehow bias my results, I then performed a single regression that included all three variables as potential explanatory variables (Scenario 4). To determine whether the variables and equations are statistically significant, I also reviewed the T- and F-Statistics. In general, a T-Statistic of 2.00 or greater indicates that the variable is likely to be different than zero, or "statistically significant". The F-Statistic is used to determine whether the model as a whole has statistically significant predictive capability.

Q. What did those analyses reveal?

A. In all four scenarios, the only theoretically meaningful and statistically significant variable was the projected EPS growth rate; neither projected DPS growth nor projected BVPS growth provided any meaningful explanatory value.

Q. What conclusions do you draw from those analyses?

A. Since my analyses demonstrate that only EPS growth has a meaningful and statistically significant level of explanatory value with respect to the proxy companies' stock valuations, I conclude that investors consider expected EPS growth rates, and not expected DPS or BVPS growth rates, in establishing market prices for those companies. Therefore, I have continued to rely on projected EPS growth rates from Value Line, Zacks, and First Call in developing my DCF results.

Q. Please comment on Mr. Murray's use of certain historical data in evaluating the reasonableness of analysts' projected EPS growth rates.

A. Mr. Murray considers two analyses of historical growth rates, the first of which is based on data published in the *2003 Mergent Public Utility and Transportation Manual,* while the second is focused on Value Line data.[92] Since Mr. Murray relies on Value Line data in light of concerns with Staff's inability to replicate the Mergent data,[93] my assessment focuses on the Value Line information.

Mr. Murray's Value Line analysis uses data relating to *Central* region electric utilities for the period 1968 through 1999. He does not use information after 1999 because of concerns related to the quality of the data due to the consolidation of the electric utility industry, utility diversification, and the potential effects of the Enron bankruptcy and deregulation on investors' growth expectations.[94] Mr. Murray notes that he did not apply rigid selection criteria for assembling his study group, stating instead that "Staff did eliminate companies that generally did not have at least 70 percent of revenues from electric utility

92 *See*, Staff Revenue Requirement Cost of Service Report, at 28-29.
93 *Ibid.*, at 33.
94 *Ibid.*, at 32.

operations in the late 1990s,"[95] as well as companies that appeared to be affected by restructuring of electric utility markets and companies that were affected by major mergers/acquisitions.[96] That selection process produced a ten-company study group.

Using that group, Mr. Murray calculates rolling average ten-year growth rates over the study period of 3.62 percent (EPS), 3.99 percent (DPS), and 3.18 percent (BVPS), respectively, with an overall average of 3.59 percent.[97] Mr. Murray suggests that those growth rates were realized over a much more robust economic environment than the U.S. is expected to achieve in the foreseeable future.[98] Mr. Murray then reasons that because the Constant Growth DCF model provides accurate results only when the growth rate is within 1.00 percent to 2.00 percent of the long-term sustainable growth rate for the industry, Staff's analysis of historical growth in the electric utility industry could only marginally support a growth rate range of 5.00 percent to 5.50 percent.[99]

Q. Do you agree with Mr. Murray's conclusion?

A. No, I do not. As a preliminary matter, aside from Mr. Murray's broad assertion that the 32 year period from 1968 through 1999 somehow is representative of investors' current expectations, he has provided no basis for the use of that particular data set. In any event, as noted earlier, academic research has shown that analysts' forecasted growth rates are superior to historical growth rates in terms of projecting future stock prices. Further, academic research and my growth-rate regression analyses demonstrate the superiority of analysts' EPS growth projections over DPS and BVPS growth projections in

95 *Ibid.*, at 32.
96 *Ibid.*, at 32-33.
97 *Ibid.*, at 33.
98 *Ibid.*, at 33.
99 *Ibid.*, at 29.

the utility stock valuation process. Moreover, Mr. Murray's position that DCF "accuracy" is achieved only when growth rates are within one to two percentage points of "sustainable" growth rates assumes that historical data ending in 1999 for a ten company group that does not have a single company in common with the proxy group used in Staff's DCF and CAPM analyses somehow is relevant to the estimation of Ameren Missouri's Cost of Equity.[100] Given the acknowledged importance of developing a risk-comparable proxy group, it is unclear why Mr. Murray would assume that to be the case. Finally, I note that regardless of whether historical data for a separate proxy group is a relevant measure of expected growth for Ameren Missouri, Mr. Murray has not demonstrated why a range of 1.00 percent to 2.00 percent above or below his estimated range is applicable in this case.

C. Application of the Multi-Stage DCF Model

Q. Does Staff apply a Multi-Stage DCF Model to estimate the ROE for Ameren Missouri?

A. Yes, according to Mr. Murray, Staff places primary weight on its Multi-Stage DCF analysis in this case "because a multi-stage DCF analysis allows investors to address non-constant growth expectations."[101] In that regard, I agree with Mr. Murray that the Multi-Stage form of the DCF model enables the analyst to address many of the shortcomings of the Constant Growth form of the DCF model. Of particular relevance, the Multi-Stage model: (1) sets long-term growth rates at a level that is sustainable based on long-term growth in the economy; (2) allows for the dividend payout ratio to change and revert toward the long-term historical industry average over time; (3) addresses concerns with growth rate estimates that (in the context of the constant growth form of the model) may be too low or too high to be

[100] I recognize that companies such as XEL are the successor companies to certain of the utilities contained in Schedule 14-1 through 14-4.

[101] Staff Revenue Requirement Cost of Service Report, at 29.

considered sustainable in perpetuity; and (4) allows for the calculation of the expected P/E ratio in the terminal stage to ensure that the results are consistent with expected valuation levels.

Q. Please describe Mr. Murray's Multi-Stage DCF Model.

A. Similar to my multi-period model, Mr. Murray's analysis includes three stages, the first two of which have five-year horizons, while the third assumes cash flows in perpetuity. In the first stage, Mr. Murray relies on analyst growth projections, while his second stage assumes a linear transition from analysts' growth projections to the 3.00 percent to 4.00 percent range that Mr. Murray has concluded is more "normal/sustainable."[102] Since Mr. Murray's final stage assumes his long-term growth rate in perpetuity, it essentially is equivalent to the "Gordon Growth" form of the Constant Growth DCF model. As discussed later in my rebuttal testimony, that structure is the functional equivalent of a "terminal value," or the expected price at which the stock may be sold at the end of the forecast horizon. Based on a long-term growth rate from 3.00 percent to 4.00 percent, Staff's Multi-Stage DCF analysis produces a range of results for the proxy group between 7.80 percent and 8.60 percent, with a mid-point of 8.20 percent.[103] Mr. Murray, however, acknowledges that even ROE witnesses for customer groups have used estimated nominal GDP growth as the terminal growth rate in the Multi-Stage DCF Model.[104] Under that scenario, Staff has used a long-term growth rate of 4.30 percent, which produces a Multi-Stage DCF result of 8.84 percent.[105]

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102 *Ibid.*, at 31. Please also note that, as discussed in my direct testimony at page 29, my Multi-Stage model assumes varying payout ratios over time, while Mr. Murray's model implicitly assumes a constant payout ratio.

103 Staff Revenue Requirement Cost of Service Report, at 30.

104 *Ibid.*, at 45-46.

105 *Ibid.*, Appendix 2 to Staff Report Revenue Requirement Cost of Service Report, Schedule 13-4.

Q. How did Staff develop its terminal growth estimate?

A. Mr. Murray states that although Staff is confident that investors do not expect utilities' per share growth rates can grow at the same rate as nominal GDP in the long-run, Staff recognizes that ROE witnesses in general have been willing to accept that assumption for purposes of estimating the Cost of Equity.[106] As such, Mr. Murray relies on estimates of long-term GDP growth from various sources of 4.30 percent to 4.90 percent, and then selects the lower end of that range (*i.e.*, 4.30 percent) as his terminal growth based on "evidence that shows that rational investors would not expect utility per share figures to grow at the same rate as GDP."[107] Staff relies on GDP estimates from the Congressional Budget Office ("CBO") through 2022, the EIA from 2010 through 2035; the ten-year annual compound growth rate from the Survey of Professional Forecasters published by the Philadelphia Federal Reserve; the ten-year average annual compound growth rate from the Livingston Survey; and the Federal Open Market Committee's projection of a central tendency long-term growth rate for an unspecified time period. Staff converts real GDP growth rates to nominal growth rates by assuming a GDP price deflator of 2.00 percent.

Q. Do you agree with Staff's estimate of long-term GDP growth?

A. No, I do not. The important distinction between Staff's estimate of long-term GDP growth and mine is the timing of that estimate. In my view, the terminal growth rate in the Multi-Stage DCF Model should reflect the long-term projected GDP growth rate *as of* 2023, not a *current* estimate of what that long-term GDP growth rate will be in 2023. In that regard, the projected GDP growth rate from the CBO, the Survey of Professional Forecasters, and the Livingston Survey covers a ten year period from 2013 through 2022, while the

106 *Ibid.*, at 45.
107 *Ibid.*, at 45-46.

terminal growth rate in Mr. Murray's Multi-Stage DCF Model does not begin until 2023. Therefore, the vast majority of growth projections that Mr. Murray relies on do not provide an estimate of the long-term growth rate that should be assumed in the terminal stage beginning in 2023. As explained in my direct testimony, I have relied on the long-term historical growth rate in real GDP adjusted to reflect long-term forecasts for inflation in order to establish the projected nominal GDP growth rate in the terminal year of my analysis.[108]

Moreover, the 4.30 percent nominal GDP growth rate that Mr. Murray assumes will persist in perpetuity is at odds with market measures cited elsewhere in Staff's Report. For example, the Staff Report notes that long-term GDP growth is estimated to be in the range of 4.00 percent to 5.00 percent.[109] Further, the Staff Report points out that the difference between the yield on TIPS and nominal Treasury yields (for a given maturity) often is seen as a measure of expected inflation.[110] As of July 13, 2012, the 30-day average TIPS spread for 30-year securities was approximately 2.20 percent.[111] Based on Mr. Murray's 4.30 percent long-term nominal GDP growth rate, the projected real GDP growth rate using the TIPS spread as the measure of expected inflation would be 2.05 percent.[112] In contrast, the long-term real GDP growth rate reported by the Bureau of Economic Analysis was approximately 3.24 percent,[113] or almost 1.60 times Mr. Murray's implied real growth rate. Given that Mr. Murray's terminal growth rate begins in the eleventh year of his analysis, there is no factor of which I am aware that could explain such a substantial difference. Moreover, since Mr. Murray relies on long-term historical data for the purposes of his CAPM analysis, it is

108 *See*, Direct Testimony of Robert B. Hevert, at 28-29.
109 *See*, Staff Revenue Requirement Cost of Service Report, at 17.
110 *Ibid.*, at 17-18.
111 Source: http://www.federalreserve.gov/releases/h15/data.htm and Bloomberg.
112 2.05% = (1.043/1.022)-1.
113 Source: Bureau of Economic Analysis, National Economic Accounts, June 28, 2012.

unclear why he would not consider the use of long-term historical data for the purpose of developing his terminal growth rate. In that regard, according to the 2012 Ibbotson study, the arithmetic average capital appreciation rate is 7.40 percent, which is substantially higher than Mr. Murray's estimate of long-term GDP growth. As such, the assumptions used in Mr. Murray's DCF analysis and his CAPM analysis are highly inconsistent.[114]

Lastly, some analysts assume that the risk free rate (*i.e.*, the yield on 30-year Treasuries) is a reasonable proxy for the projected long-term growth rate for nominal GDP. While I do not necessarily agree that the long-term Treasury yield is a consistent proxy for expected long-term macroeconomic growth, Blue Chip Financial Forecast reports that the consensus projected 30-year Treasury yield for the period from 2019-2023 is 5.50 percent.[115] This is particularly relevant because the projected 30-year Treasury yield is forward-looking as of 2023, which coincides with the long-term GDP forecast as of 2023. The projected Treasury yield of 5.50 percent is 120 basis points higher than Mr. Murray's estimate of long-term growth, but only 17 basis points lower than my revised estimate of nominal GDP growth.

Q. Please describe the analysis you conducted to evaluate the reasonableness of Staff's terminal growth rate in the Multi-Stage DCF Model.

A. As Mr. Murray correctly notes, "cost of equity estimates using multi-stage DCF methodologies are extremely sensitive to the assumed perpetual growth rate."[116] In order to assess the reasonableness of Staff's terminal growth rate in the Multi-Stage DCF Model, I calculated the implied long-term growth rate based on the current average

114 Mr. Gorman is similarly inconsistent in his assumptions, and I explain this issue in more detail in my discussion of Mr. Gorman below.

115 Source: Blue Chip Financial Forecast, Vol. 31, No. 6, June 1, 2012, at 14.

116 Staff Revenue Requirement Cost of Service Report, at 31.

authorized returns for integrated electric utilities from July 1, 2011 through June 30, 2012. As shown on Schedule RBH-ER-17, the implied long-term growth rate based on a 10.15 percent authorized ROE is 5.97 percent.

Q. Please summarize Mr. Murray's position with respect to the relationship between nominal GDP growth rates and EPS growth rates for electric utilities.

A. Mr. Murray states that investors do not expect earnings per share growth for electric utilities to approximate nominal GDP growth in the long run.[117] As support for this position, Mr. Murray compares nominal GDP growth rates and EPS growth rates for electric utilities from 1947 to 1999, and concludes that EPS growth rates have been less than 50.00 percent of nominal GDP growth over that period of time.[118] Based on that analysis, Mr. Murray reasons that it is not appropriate to rely on nominal GDP growth rates as the long-term growth rate in the Multi-Stage DCF Model.

Q. Do you agree with Mr. Murray's position with respect to the relationship between nominal GDP growth rates and EPS growth rates?

A. No, I do not. As a preliminary matter, I disagree with Mr. Murray's premise that it is appropriate to test the reasonableness of long-term expected growth rates for the proxy companies in 2012 based on an analysis that compares GDP growth rates and EPS growth rates for electric utilities from 1947 through 1999. To that point, the growth rate regression analysis discussed earlier in my rebuttal testimony demonstrates that expected EPS growth is the only statistically significant predictor of future stock valuations for electric utilities. Further, measures of expected long-term growth that reflect the market's expectations of future price escalation are the relevant source of information. As such, I

117 *Ibid.*, at 45.
118 *Ibid.*, at 33.

disagree with Mr. Murray that it is not appropriate to rely on nominal GDP growth rates in the terminal stage of the Multi-Stage DCF Model.

Q. Have you conducted any analysis to examine the relationship between earnings per share growth and GDP growth?

A. Yes, I have compared EPS growth for the S&P 500 Index to nominal GDP growth from 1960 through 2011. As shown on Schedule RBH-ER18, the compound annual growth rate in earnings per share for the S&P 500 companies over that period was 6.99 percent, while the compound annual growth rate in nominal GDP was 6.80 percent. That analysis demonstrates that there has been a strong correlation between earnings per share growth for companies in the S&P 500 and nominal GDP growth since 1960. I also note that those growth rates are reasonably consistent with the long-term capital appreciation rate as reported by Morningstar for large-cap companies of 7.40 percent (arithmetic average) and 5.50 percent (geometric average), and for mid-cap companies of 6.80 percent (geometric average).[119] In addition, those growth rates also are consistent with the 6.26 percent nominal GDP growth rate for the period from 1926-2011, which is the period covered by my calculation of long-term real GDP growth.[120]

Further, industry practice has been to assume that nominal GDP growth is a reasonable surrogate for long-term earnings per share growth. In that regard, the Commission has accepted that practice in prior decisions where it relied on nominal GDP growth as the appropriate growth rate for the terminal stage of the Multi-Stage DCF

[119] Morningstar, Ibbotson SBBI 2012 Valuation Yearbook, Market Results for Stocks, Bonds, Bill and Inflation 1926-2011, at 23.

[120] Source: Bureau of Economic Analysis, National Economic Accounts, June 28, 2012.

Model.[121] Likewise, even a brief survey of finance texts speaks to the use of long-term GDP growth as a reasonable estimate for the terminal period. For example, Dr. Roger Morin writes: "It is useful to remember that eventually all company growth rates, especially utility services growth rates, converge to a level consistent with the growth rate of the aggregate economy."[122] Similarly, Morningstar notes that "…historically, the growth in corporate earnings has been in line with the growth of overall economic productivity,"[123] and Ibbotson and Chen state: "For the whole period [1926-2000], GDP per capita slightly outgrew earnings and dividends, but all four factors grew at approximately the same rate."[124]

As discussed above, and as supported by academic research and industry practice, there is a relationship between GDP growth and earnings per share growth for the companies in the S&P 500. On that basis, I disagree with Mr. Murray's conclusion that investors do not expect earnings per share growth for electric utilities to approximate nominal GDP growth in the long run.[125]

Q. What is your response to Mr. Murray's position with respect to the relationship between authorized returns, dividend payout ratios, and the implied growth rate?

A. Mr. Murray states:

> Simple mathematics dictates that because electric utilities have higher payout ratios than the S&P 500, even if they earn a similar ROE, their per share growth would have to be lower than the S&P 500. Considering that allowed ROEs have been in the 10 percent to 10.25 percent range, assuming electric

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

122 Morin, Roger A., New Regulatory Finance, Public Utilities Report, Inc., 2006, at 308.

123 Morningstar, Ibbotson SBBI 2012 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation 1926-2011, at 64.

124 Roger G Ibbotson and Peng Chen, "Long-Run Stock Returns: Participating in the Real Economy," Financial Analysts Journal, January/February 2003, at 93.

125 *See*, Staff Revenue Requirement Cost of Service Report, at 45.

> utilities continue to pay out 65 percent of their earnings in dividends, this would translate into a growth rate of approximately 3.5 percent.[126]

Based on the information contained in Schedule 14-4 to Appendix 2 of the Staff Report, the long-term historical growth in EPS, DPS and BVPS from 1968-1999 has been 3.59 percent. Using Mr. Murray's payout ratio of 65.00 percent, this growth rate would imply an authorized ROE of 10.26 percent, which is at the low end of my range for Ameren Missouri, and consistent with the authorized returns for integrated electric utilities in other jurisdictions from July 1, 2011 through June 30, 2012.

Q. What are the implications of Mr. Murray's analysis suggesting that investors expect long-term EPS growth for electric utilities to be less than 50.00 percent of nominal GDP growth?

A. If Mr. Murray is correct that investors expect long-term EPS growth to be less than 50.00 percent of nominal GDP growth, then as shown in Schedule RBH-ER19, the Multi-Stage DCF Model would produce results of 7.23 percent for Mr. Murray's proxy group companies, based on a terminal growth rate of 2.15 percent, which is 50.00 percent of the nominal GDP growth estimate of 4.30 percent that Mr. Murray relies on in the Staff Report. That result is not reasonable in the context of other observable, market-based indicators of the Cost of Equity, including returns for integrated electric utilities in other jurisdictions from July 1, 2011 through June 30, 2012 (*i.e.*, 10.15 percent), the average yield on Moody's Baa-rated utility bonds from January 1, 2012, through June 30, 2012, (*i.e.*, 5.03 percent), and the current authorized ROE for Ameren Missouri's electric operations of 10.20 percent, which was approved by the Commission in July 2011.

126 *Ibid.*, at 43-44.

Q. Do you agree with Mr. Murray that it is logical to assume that most utilities should not grow much faster than the rate of inflation in the long-term?[127]

A. No, I do not. Mr. Murray's statement implies that investors do not expect any real growth from electric utility companies over the long-term. This view ignores the fact that electric utility earnings may grow over the long-term due to several factors, including: (1) capital investments that are eventually included in rate base; (2) new customer additions; and (3) increases in customer demand as the economy slowly recovers from the severe recession. Electric utilities would face significant difficulty competing for capital if investors believed that the long-term real growth rate for those companies was negligible. In addition, since earnings growth supports dividend growth, if Mr. Murray is correct that long-term growth does not exceed the expected inflation rate, electric utilities would not be able to offer investors any prospects for dividend growth. Under that scenario, the industry would not be able to attract equity capital, and would not be able to generate the cash flow needed to maintain appropriate credit metrics or liquidity, yet would have to fund increasing amounts of its utility plant with long-term debt. That scenario, of course, would create a downward spiral in which leverage increases, creditworthiness decreases, and access to either debt or equity becomes increasingly constrained. In the long-term, then, utilities would not be able to fund the investments needed to provide safe and reliable utility service.

Nonetheless, if Mr. Murray is correct that most investors expect long-term growth equivalent to the inflation rate, then as shown on Schedule RBH-ER19, the Multi-Stage DCF Model would produce results of 7.12 percent for Mr. Murray's proxy group companies, based on an inflation rate of 2.00 percent, which is the GDP price deflator that Mr. Murray

127 *Ibid.*, at 42.

relies on. Once again, that result is not reasonable in the context of other observable, market-based indicators of the Cost of Equity, including returns in other jurisdictions and yields on Moody's Baa-rated utility bonds, and would be highly detrimental to the Company's ability to access capital markets.

Q. Is there an alternative method of estimating the terminal value component of the Multi-Stage DCF Model?

A. Yes. As noted above, an alternative method of estimating the terminal value component of the Multi-Stage DCF analysis is to estimate the price based on the product of the terminal year's Earnings Per Share and the expected P/E ratio. That approach obviates the need to develop a long-term growth rate projection. I also note that even though the P/E ratio is applied in the fifteenth year of the analyses, no expansion in the P/E ratio itself is assumed over that period. As such, analyses based on terminal P/E ratios are biased downward.[128] Nonetheless, I have considered those analyses in my recommendation.

Q. Please describe each step in your analysis to revise Mr. Murray's application of the Multi-Stage DCF Model for his proxy group.

A. I began with Mr. Murray's Multi-Stage DCF Model, and made the following five adjustments:

- In Step 1, I updated the inputs to Mr. Murray's model through July 13, 2012.
- In Step 2, I adjusted the timing of cash flows in Mr. Murray's model to reflect the fact that, on average, dividend payments are received at mid-year, not year-end, which is consistent with the notion that dividends are increased by

[128] As noted by Morningstar, between 1926 and 2011, the P/E ratio of the broad market has expanded at a rate of approximately 0.33 percent annually. *See*, Morningstar, Ibbotson SBBI 2012 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation 1926-2011, at 66.

0.5X the expected growth rate in the Constant Growth DCF model to account for future increases in dividends.

- In Step 3, I adjusted the dividend payout ratio to converge toward 65.00 percent, which Mr. Murray indicates is the long-term average for the electric utility industry.[129]
- In Step 4, I adjusted the long-term growth rate used in the final stage of Mr. Murray's Multi-Stage DCF Model to reflect the upper boundary of his long-term nominal GDP growth of 4.90 percent; and
- Lastly, I adjusted the long-term growth rate used in the final stage to reflect my updated estimate of long-term nominal GDP growth of 5.67 percent.

Q. How do the changes you propose to Mr. Murray's assumptions and inputs to the Multi-Stage DCF Model contribute to the difference between his results and yours?

A. Table 9 (below, *see also*, Schedule RBH-ER20) presents the effect that each assumption and input correction to Mr. Murray's Multi-Stage DCF Model has on the results for his proxy group.

[129] *See*, Staff Revenue Requirement Cost of Service Report, at 43.

Table 9: Modifications to Mr. Murray's Multi-Stage DCF Model

Step	Mean ROE	Median ROE
As Filed (*see* Schedule 13-4): • Data as of May 31, 2012	8.84%	8.99%
Step 1: Update market data • Data as of July 13, 2012	8.75%	9.01%
Step 2: Adjust timing of cash flows • Mid-year convention for dividend payments	8.94%	9.21%
Step 3: Adjust dividend payout ratio • Convergence to industry average of 65.00%	9.15%	9.15%
Step 5: Adjust long-term GDP growth rate estimate • Projected nominal GDP growth rate of 4.90%	9.61%	9.61%
Step 6: Adjust long-term GDP growth rate estimate • Projected nominal GDP growth rate of 5.67%	10.21%	10.21%
Total increase in ROE result	1.37%	1.22%

Q. How did your revisions to Staff's Multi-Stage DCF Model affect the results?

A. Based on the adjustments described above, the mean and median results for Staff's Multi-Stage DCF Model increase from 8.84 percent to 10.21 percent. That analysis demonstrates that reasonable adjustments to Mr. Murray's assumptions and inputs result in ROE estimates for his proxy group that are reasonably consistent with my updated mean results. It is important to note that changes to the long-term growth rate account for the majority of the difference in our respective Multi-Stage DCF results.

D. Application of the CAPM and Relevance of Results

Q. Please summarize Mr. Murray's CAPM analyses.

A. Mr. Murray's CAPM analyses rely on a risk-free rate of 3.13 percent based on the average 30-year Treasury yield for the three month period ending May 2012, Value Line

Beta coefficients, and historical Market Risk Premia ("MRP") of 4.10 percent (using the geometric mean) and 5.70 percent (using the arithmetic mean).[130]

Q. Do you agree with Mr. Murray's application of the CAPM?

A. No, I do not. In particular, I disagree with Mr. Murray's sole reliance on a historical risk-free rate and his use of historical MRP estimates. More important than our methodological differences, however, are our respective conclusions regarding the reasonableness and reliability of an analysis that produces an ROE estimate of 5.96 percent (using the geometric risk premium) and 7.06 percent (using the arithmetic risk premium). As noted earlier, there are no market data of which I am aware that could rationalize such low results.

Q. Do you have any general observations regarding Mr. Murray's CAPM analysis?

A. Yes, I do. First, it is important to recognize that the low Treasury yields assumed in Mr. Murray's CAPM analysis are due to the high level of risk aversion on the part of equity investors and market intervention on the part of the Federal Reserve. Consequently, the first term in the CAPM (*i.e.*, the risk-free rate) is lower than it would have been absent the elevated degree of risk aversion and the continuing government intervention in the Treasury market. It would be incorrect to assume, as Mr. Murray has done, that the current level of Treasury yields is indicative of a Cost of Equity that is only slightly higher than the 2012 average yield on the Moody's Baa-rated Utility bond index. That is, Mr. Murray's conclusions suggest that investors are willing to accept equity returns that are only modestly greater than the returns they would receive on long-term debt, even though equity

130 *Ibid.*, at 47.

does not have the contractual protections offered by debt investments. Rather, the fact that investors have been willing to accept historically low Treasury yields indicates that they continue to be fearful of the loss of capital associated with equity investments. As a consequence, it is reasonable to conclude that the Cost of Equity is no lower than it was in July 2011, and may well be higher.

I also note that the extraordinary loss in equity values that occurred in 2008 actually resulted in a *decrease* in the historical market risk premium from the prior year (*i.e.*, from 7.10 percent to 6.50 percent), even as other indicators of investment risk, including credit spreads and market volatility, significantly *increased* (*see*, Table 10 below). The notion that the risk premium required by equity investors would decrease at the same time that risk (*i.e.*, volatility) increased is counter-intuitive, and supports the use of a forward-looking (*ex-ante*) MRP estimate.

Q. Turning to the risk-free rate component of the CAPM, do you agree with Mr. Murray's use of the average 30-year Treasury yield?

A. While I agree with Mr. Murray that it is appropriate to use the current average 30-year Treasury yield, I also believe that since the purpose of this proceeding is to establish the Cost of Equity for Ameren Missouri's electric utility operations on a going-forward basis, it is important to develop a CAPM analysis that reflects investor expectations concerning the risk-free rate and the MRP. For that reason, as discussed in my direct testimony, 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.[131]

[131] *See*, Direct Testimony of Robert B. Hevert, at 33.

Q. Is it appropriate to rely exclusively on historical data in estimating the MRP, as Mr. Murray has done?

A. No. Simply relying on the historical MRP may produce results that are not consistent with investor sentiment and current conditions in capital markets. For example, 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.[132]

As shown on Table 10 (below), however, from 2007-2009 the historical MRP decreased even as market volatility (the primary statistical measure of risk) significantly increased.

Table 10: Historical Market Risk Premium and Market Volatility

	Market Volatility	Historical Market Risk Premium[133]
2009	31.48	6.70%
2008	32.69	6.50%
2007	17.54	7.10%

The assumption that investors would expect or require a lower risk premium during periods of increasing volatility is counter-intuitive,[134] and as noted above, leads to unreliable analytical results. As noted earlier, 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. Assuming

132 Morningstar, Ibbotson SBBI 2012 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation 1926-2011, at 53.

133 *Ibid.*, at 129. Historical MRP equals total return on large company stocks less income only return on long-term government securities.

134 *See also*, *Minutes of the Federal Open Market Committee*, June 22-23, 2010, at 6.

a lower MRP during periods of higher volatility is at odds with that premise. The *ex-ante* MRP estimates used in my CAPM analysis specifically address that concern.

Q. What is the difference between the geometric and the arithmetic mean risk premium?

A. Although I do not endorse the use of a historical MRP, especially in periods during which expected market volatility is significantly higher than the long-term average, the arithmetic risk premium best approximates the uncertainty associated with returns from year to year. The arithmetic mean is the simple average of single period rates of return, while the geometric mean is the compound rate that equates a beginning value to its ending value. The important distinction between the two methods 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. By contrast, the geometric mean does not incorporate the same degree of uncertainty because it assumes that returns remain constant from year to year. In his review of literature on the topic, Cooper noted the following rationale for using the arithmetic mean:

> Note that the arithmetic mean, not the geometric mean is the relevant value for this purpose. The quantity desired is the rate of return that investors expect over the next year for the random annual rate of return on the market. The arithmetic mean, or simple average, is the unbiased measure of the expected value of repeated observations of a random variable, not the geometric mean.…[The] geometric mean underestimates the expected annual rate of return.[135]

Q. Putting aside the issue of whether it is more appropriate to use the geometric or arithmetic mean, do you have any concerns with the way in which Mr. Murray derived his recommended MRP?

[135] Ian Cooper, *Arithmetic versus geometric mean estimators: Setting discount rates for capital budgeting*, European Financial Management 2.2, (1996): 158.

A. Yes, I do. According to Morningstar, the historical MRP is appropriately calculated by subtracting the *income only* portion of the government bond return from the total return on large company stocks:

> Another point to keep in mind when calculating the equity risk premium is that the income return on the appropriate-horizon Treasury security, rather than the total return, is used in the calculation. The total return is comprised of three return components: the income return, the capital appreciation return, and the reinvestment return…The income return is thus used in the estimation of the equity risk premium because it represents the truly riskless portion of the return.[136]

By subtracting the total return on government bonds from the total return on large company stocks, Mr. Murray has understated the historical MRP by approximately 90 basis points (using the arithmetic mean).[137] Based on Mr. Murray's average Beta coefficient of 0.69, the effect on his mean CAPM estimate would be approximately 62 basis points. Even that correction, however, renders results that are far too low to be reasonable estimates of the Company's Cost of Equity.

Q. What are your conclusions regarding Mr. Murray's CAPM analysis?

A. As a practical matter, estimates as low as 5.96 percent have little, if any, analytical meaning for the purpose of determining the Company's ROE. The notion that the MRP would decrease at the same time that observable measures of risk aversion were at historically high levels is counter-intuitive, and supports the use of a forward-looking (*ex-ante*) MRP estimate. Consequently, Mr. Murray's view that his 5.96 percent and 7.06 percent CAPM results have any analytical meaning, even if only for the purpose of rationalizing his overall recommendation, is misplaced on its face, but more importantly

136 Morningstar, Ibbotson SBBI 2012 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation 1926-2011, at 55.

137 *Ibid.*, at 23.

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

Q. What is your response to Mr. Murray's suggestion that investors consider utility stocks to be substitutes or surrogates for bonds?[138]

A. While it may be Mr. Murray's opinion that investors consider utility ROEs as equivalent to the cost of debt, he provides no support for his assertion that electric utilities in general (and the Company in particular) essentially have no residual (that is, equity) risk and somehow take on the risk characteristics of debt.

As a preliminary matter, it is important to note that, under any condition, debt investors are the beneficiaries of a contractual obligation to make interest and principal payments, while equity investors bear the "residual risk" associated with ownership. In light of that priority and the incremental security provided by the debt agreements, yields on long-term debt are below returns required by equity investors. For that reason alone, it is difficult to imagine that the Cost of Equity would approach the cost of debt. More importantly, it is clear that investors consider equity to be far more risky than debt.

Q. Is it possible to test the conclusion that the equity risk for utility companies approaches the risk associated with long-term bonds?

A. Yes, it is. One approach is to consider the volatility of each investment relative to the broader market. An important component of the CAPM is the Beta coefficient, which measures the volatility of the underlying security relative to the volatility of the market as a whole.[139] It is possible to calculate the implied Beta coefficient associated with debt yields. To the extent that the implied debt Beta is well below the equity Beta

138 *See*, Staff Revenue Requirement Cost of Service Report, at 19.

139 *See*, Direct Testimony of Robert B. Hevert, at 31-32.

coefficient, Mr. Murray's assertion that utilities are an alternative investment to long-term bonds is called into question. In that regard, since debt holders benefit from the contractual obligation of the debtor to pay both principal and interest, the volatility of debt securities relative to the broad equity market is extremely low; in fact, a common assumption is that debt Beta coefficients are near-zero. In the 1984 edition of their widely-used text, for example, Brealey and Myers note that:

> Debt betas are typically close to zero – close enough that for large blue-chip companies, many financial analysts just assume $\beta_{debt} = 0$.[140]

More recently, in their 2008 text, Ross, Westerfield and Jaffe state that "[t]he beta of debt is very low in practice."[141]

The debt Beta coefficients of Baa-rated utilities can be calculated using the average yield on that debt. The 30-day average of the Moody's Baa-rated Utility Bond Index is 4.92 percent and the average risk-free rate over that same time period is 2.68 percent. For the sake of discussion, using the arithmetic average MRP presented in Mr. Murray's Schedule 22, the Beta coefficient for Moody's Baa-rated Utility Bond Index is 0.39 (4.92 percent = 2.68 percent + (0.39 x 5.70 percent)).[142] The Value Line equity Beta coefficients for Mr. Murray's proxy group presented in Schedule 22 range from 0.55 to 0.75 with an average of 0.69, or nearly twice the implied debt Beta coefficient. Thus, Mr. Murray's data and assumptions do not support the notion that investors consider utility stocks and bonds to be substitutes or surrogates.

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140 Richard Brealey, Stewart Myers, Principles of Corporate Finance, 2nd Ed., 1984, McGraw-Hill, at 175.

141 Stephen Ross, Randolph Westerfield, Jeffery Jaffe, Corporate Finance, 8th Ed., 2008, McGraw-Hill/Irwin, at 351.

142 *See*, Schedule RBH-ER21.

E. Risk Premium Analysis

Q. Did Mr. Murray present a Risk Premium Analysis other than his CAPM analysis?

A. Yes. Mr. Murray presented an additional risk premium analysis, referred to as his "Rule of Thumb" approach, which adds a premium of 3.00 percent to 4.00 percent to the corporate bond yield as represented by the average interest rate on the Moody's A and Baa-rated bond from March through May 2012. Based on that approach, Mr. Murray estimates an ROE range of 7.92 percent to 9.52 percent.[143] Mr. Murray reasons that the equity risk premium for utilities is toward the lower end of that range since investors view utility stocks as similar to utility bonds.[144]

Q. Are Mr. Murray's conclusions valid?

A. No. The principal issue is that Mr. Murray's "Rule of Thumb" approach ignores the well-established finding that the equity risk premium is inversely related to interest rates. That relationship, which was demonstrated with respect to long-term Treasury yields in my direct testimony,[145] also applies to utility bond yields. As Chart 5, below, demonstrates (*See also*, Schedule RBH-ER22), there is a significant, negative relationship between the Moody's Baa Utility Bond Index yield and the equity risk premium (defined by reference to authorized ROEs). That finding also is consistent with substantial academic

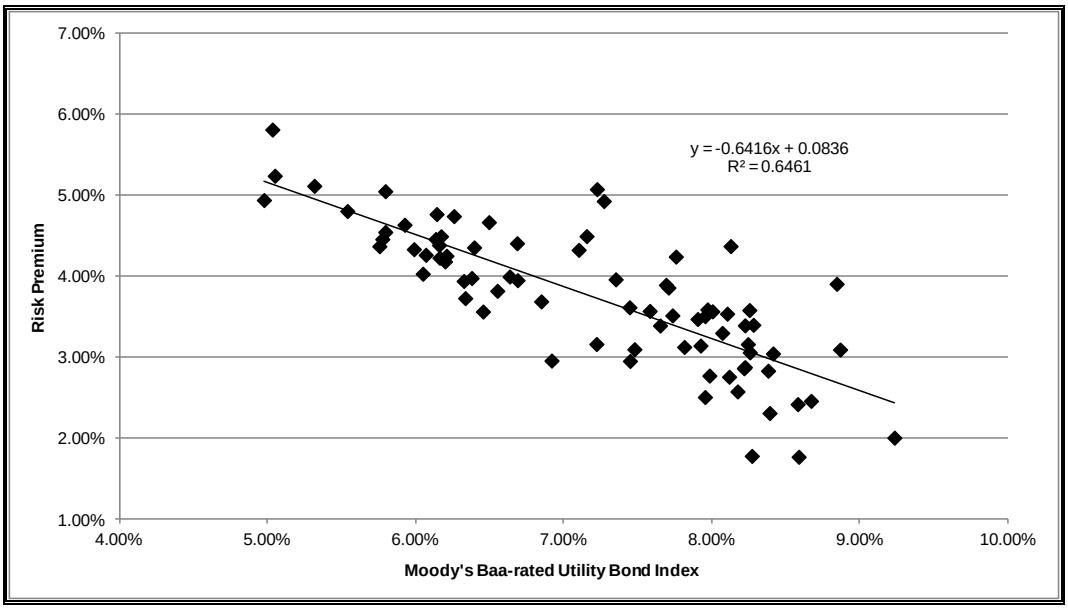
143 Staff Revenue Requirement Cost of Service Report, at 48.

144 *Ibid.*

145 *See*, Direct Testimony of Robert B. Hevert, at 37-38.

research.[146] In fact, applying the 5.52 percent Baa yield noted on page 48 of the Staff Report to the regression equation provided in Chart 5 produces a risk premium estimate of approximately 4.82 percent, well above Mr. Murray's "Rule of Thumb" risk premium. In my response to Mr. Gorman below, I provide more detail on the strongly supported negative relationship between the equity risk premium and interest rates.

Chart 5: Equity Risk Premium vs. Moody's Baa Yield



F. Financial Integrity

Q. Did Mr. Murray quantify the potential effect of his ROE recommendation on Ameren Missouri's financial integrity?

A. No, he did not.

Q. Have you considered how the adoption of Mr. Murray's ROE recommendation would affect the Company's financial profile?

146 Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, Summer 1992, at 63-70; 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 33-45; and Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, *An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry*, Financial Management, Autumn 1995, at 89-95.

A. Yes, I have. Mr. Murray's ROE recommendation of 9.00 percent represents a 120 basis point reduction relative to Ameren Missouri's current authorized ROE of 10.20 percent. If the Commission were to adopt Staff's ROE recommendation, it could place significant pressure on the Company's credit rating. As noted in my direct testimony, Ameren Missouri has a Baa2 credit rating from Moody's and the lowest possible investment grade credit rating of BBB- from S&P. Any deterioration in the Company's credit profile could lead the credit rating agencies to downgrade the Company's credit rating by at least one notch, which would place Ameren Missouri at the lowest possible investment grade rating from Moody's (*i.e.*, Baa3) and at below investment grade from S&P. Such a move would result in Ameren Missouri paying higher interest rates, especially due to the below investment grade rating, and would cause investors to require a higher Cost of Equity for the Company.

G. Other Issues

Q. Do you agree with Mr. Murray that Staff's recommended ROE of 9.00 percent is higher than Ameren Missouri's actual cost of common equity, and that investment analysts do not expect commissions to set the authorized ROE equal to the actual Cost of Equity?

A. No, I do not. While Mr. Murray acknowledges that the Commission has relied on returns in other jurisdictions as a benchmark to assess the reasonableness of allowed ROEs for Ameren Missouri, he asserts that there is a difference between an allowed return and a required return.[147] Further, Mr. Murray states that if the authorized ROE is higher or lower than what investors had expected, the stock price would quickly adjust up or down to

[147] *See*, Staff Revenue Requirement Cost of Service Report, at 48-49.

reflect this new information.[148] Thus, he concludes that the Company will have continued access to capital regardless of the authorized ROE.

By ignoring the immediate and unique losses to Ameren Missouri shareholders that would occur if the Commission adopted his ROE recommendation, Mr. Murray has failed to recognize that the *Hope* and *Bluefield* decisions require a return that allows Ameren Missouri to compete for capital with utilities with commensurate risks. Additionally, the authorized ROE must be comparable to those available from companies with similar business and financial risks. To that point, the Commission has determined that authorized ROEs in other jurisdictions are a relevant benchmark in developing a zone of reasonableness against which the Commission may test the authorized ROE.[149]

Lastly, it is not reasonable to assume that capital-intensive companies such as Ameren Missouri would continue to have access to capital markets regardless of the level of the authorized ROE simply because in an efficient market, the stock price would react to the order. An ROE below the level required by investors will, in fact, cause the stock price to adjust downward, but it will also result in investors being unwilling to purchase shares in a company that offers the opportunity to earn a return that is not commensurate with its risks, or is not comparable to returns available on similar investments. Such an outcome would serve to increase the cost of acquiring capital, diminish the financial integrity and credit profile of Ameren Missouri, and place pressure on the Company's credit rating. Consequently, while the Company may be able to access the capital markets, it only would be able to do so at considerably higher costs that would ultimately be borne by ratepayers.

148 *Ibid.*, at 49.

149 *See*, for example, Report and Order, Case No. ER-2011-0028, at 67.

VI. RESPONSE TO DIRECT TESTIMONY OF MR. GORMAN

Q. Please summarize Mr. Gorman's recommendation regarding the Company's Cost of Equity.

A. Mr. Gorman estimates a range of returns of 9.20 percent to 9.40 percent and recommends a Cost of Equity at the midpoint of his estimated range, *i.e.*, 9.30 percent.[150] Mr. Gorman establishes the upper end of his estimated range (*i.e.*, 9.40 percent) based on his Multi-Stage DCF analysis,[151] and the lower end (*i.e.*, 9.20 percent) by reference to his risk premium analysis.[152] Mr. Gorman's CAPM result (*i.e.*, 8.65 percent) and his Constant Growth DCF result based on the Sustainable Growth model (*i.e.*, 8.63 percent) fall far below the low end of his recommended range.[153] While Mr. Gorman has accepted the Hevert Original Proxy Group contained in my direct testimony, for the reasons discussed in my response to Mr. Murray, my Revised Proxy Group now includes EDE. It is interesting to note that the median ROE result for Mr. Gorman's Multi-Stage DCF Model, which he used to establish the upper end of his recommended ROE range, was 9.70 percent,[154] while the median result for his Constant Growth DCF analysis using analysts' EPS growth rates was 9.90 percent.[155]

Q. What are the major areas of disagreement between you and Mr. Gorman?

A. There are several important areas in which Mr. Gorman and I disagree, including: (1) the effect of capital market conditions and investor risk perceptions on the

150 *See*, Direct Testimony of Michael P. Gorman, at 2.
151 *Ibid.*, at 26.
152 *Ibid.*, at 30, 36.
153 *See*, Schedule MPG-7 and Schedule MPG-16.
154 *See*, Schedule MPG-9.
155 *See*, Schedule MPG-4.

Cost of Equity; (2) the growth rates used in and the application of the Constant Growth DCF models; (3) the growth rates used in and the application of the Multi-Stage DCF Model; (4) the appropriate market risk premium for the CAPM analyses; (5) the approaches used in his respective Risk Premium analyses; and (6) Mr. Gorman's conclusion that a 9.30 percent Cost of Equity recommendation is supportive of Ameren Missouri's financial integrity.

A. Capital Market Conditions and Investor Risk Perceptions

Q. Please briefly summarize Mr. Gorman's position regarding current capital market conditions and their effect on the company's Cost of Equity.

A. Mr. Gorman states that market costs of capital are lower today than at the time of the Company's last rate case decision in July 2011, citing the decline in the yield on A-rated and Baa-rated utility bonds since that time.[156] Mr. Gorman also presents a review of general electric utility industry credit outlooks and stock price performance, and concludes that "the market has again embraced the electric utility industry as a safe-haven investment, and views utility equity and debt investments as low-risk securities."[157]

Q. Do you agree with Mr. Gorman that changes in utility bond yields support a lower authorized ROE for Ameren Missouri?

A. No, I do not. During periods of equity market volatility, as risk aversion increases, investors seek out the relative safety of Treasury securities and other relatively low-risk debt securities, essentially bidding up prices and forcing down yields. Mr. Gorman fails to recognize the inverse relationship between interest rates and the equity risk premium; that is, as interest rates decrease, the equity risk premium increases to reflect the fact that investors are unwilling to invest in more risky assets, such as the common stock of electric

156 *See*, Direct Testimony of Michael P. Gorman, at 4-5.

157 *Ibid.*, at 6.

utilities, and instead prefer the relative safety of debt securities despite their current historically low yields. On that basis alone, I disagree with the proposition that the current low level of utility bond yields indicates that the Cost of Equity for utilities is correspondingly low.

Q. Does the evidence cited by Mr. Gorman regarding electric utilities' credit outlook support his claims?

A. No, it does not. Mr. Gorman's argument regarding investors' perceptions of electric utilities' investment risk rests in large part on several reports from credit rating agencies and the Edison Electric Institute ("EEI"). Rather than suggesting an improved credit outlook and lower financial risk for the electric utility industry, however, the credit ratings agencies and EEI point to a relatively unchanged outlook for the electric utility industry. As Mr. Gorman points out, Fitch states that "Fitch's Outlook for the electric utility sector in 2012 remains stable;"[158] EEI, meanwhile, explains that "[t]here was little change during 2011 in the industry's long-term outlook."[159]

Q. Do Mr. Gorman's claims that electric utilities provide a "safe haven" and that electric utilities' securities are "low risk" justify a reduction in Ameren Missouri's authorized ROE?

A. No, they do not. There is no dispute that utilities are now, and typically have been, relatively lower risk investments than the market overall; that clearly is the case given that the proxy group Beta coefficients all are less than one.[160] However, my discussion of updated capital market conditions and risk sentiment indicators clearly shows that investors

158 *FitchRatings*: "2012 Outlook: Utilities, Power, and Gas," December 5, 2011, at 10, as cited in the Direct Testimony of Michael P. Gorman, at 7.

159 *EEI Q4 2011 Stock Performance*, at 1, as cited in the Direct Testimony of Michael P. Gorman, at 7.

160 *See*, Schedule RBH-ER12.

are facing generally higher risks and that utility stocks, in particular, are not "low risk" investments. Specifically, as I explain in Section IV of my rebuttal testimony, the current yield inversion between U.S. Treasury bonds and proxy group dividend yields, the incremental credit spreads between Baa-rated and A-rated utility bonds, and the relative performance in 2012 of the S&P 500 Utilities Index relative to the S&P 500 Index all contradict Mr. Gorman's claims that electric utilities' equity securities are lower risk investments than one year ago.

Q. Do you agree with Mr. Gorman's comment with respect to your discussion of market sentiments in your direct testimony?

A. No, I do not. Mr. Gorman states that my discussion "ignores market sentiments toward utility companies" and "instead lumps utility investments in with general corporate investments."[161] The risk sentiment indicators discussed in my direct testimony, however, relate specifically to the effect of capital market conditions on utility companies generally and the proxy group in particular. For example, I present the credit spread between Baa-rated and A-rated utility bonds and the yield spread between the average dividend yield for the proxy group and the ten-year Treasury yield. Each of those risk sentiment indicators provides information regarding how capital markets perceive the risk/return relationship for public utilities compared to other observable market indicators.

Moreover, it is important to understand that during periods of market instability, utility stock returns are more highly correlated to overall market returns than during periods of relative stability. Table 11 (below) illustrates the relationship between electric utility stock return correlations and periods of high volatility in equity markets. That is, when

161 *See*, Direct Testimony of Michael P. Gorman, at 56.

overall market risk is higher, as measured by the VIX, return correlations between electric utility companies and the broader market tend to be higher as well.

Table 11: Correlation of Electric Utility Stock Returns to Overall Market Returns During Periods of Higher and Lower Market Volatility (2002 through July 13, 2012)[162]

VIX[163]	Correlation of S&P 500 and S&P Electric Utility Index Returns[164]
< 15%	0.53
< 20%	0.54
> 20%	0.66
> 25%	0.73

I also note that the data relied on by Mr. Gorman in his CAPM analysis suggest that electric utilities have become more risky relative to the overall market since the Company's last rate proceeding. In the Company's last rate case, Mr. Gorman's proxy group had an average Value Line Beta coefficient of 0.67.[165] In the instant case, however, Mr. Gorman's proxy group companies have an average Value Line Beta coefficient of 0.75.[166] Similarly, the average Beta coefficients for electric utilities implied by average authorized ROEs at the time of the Company's last rate case decision (*i.e.*, the second quarter of 2011) was lower than the Beta coefficients implied by currently authorized ROEs. Assuming the inputs to Mr. Gorman's CAPM analyses in the Company's 2011 rate proceeding, the range of implied

162 Source: Bloomberg Professional.

163 90-trading-day average value.

164 Average of 90-trading-day correlation of weekly returns on S&P 500 Index and the S&P Electric Utility Index during periods when the average VIX value fell within the specified range.

165 *See*, Schedule MPG-15 in Case No. ER-2011-0028.

166 *Ibid.*

average Beta coefficients for electric utilities is 0.78 to 0.89.[167] Assuming Mr. Gorman's CAPM inputs from the current case (together with the average authorized ROE from the second quarter of 2012; *see,* Schedule RBH-ER14), the implied average Beta coefficient is 0.94.[168] As discussed in my direct testimony, the increase in the implied electric utility Beta coefficients indicates that the investment risk of electric utilities relative to the broad market has increased, not decreased, since July 2011.

Q. Do you agree with Mr. Gorman's conclusions regarding utility stock valuations and their implications for the Company's Cost of Equity?

A. No, I do not. Mr. Gorman states that certain measures of utility stock valuations, in particular P/E ratios and market price to cash flow ("MP/CF") ratios, "show that stock valuation measures for the proxy group are robust."[169] Mr. Gorman's Schedule MPG-20, however, does not support the conclusion that utility stock valuations now are more robust than they historically have been. In fact, Charts 6 and 7, below, demonstrate that current stock valuations generally are consistent with the historical averages presented in Mr. Gorman's testimony. If anything, the average P/E ratio has declined from 2011 (the year of the Company's last rate case) to the present. Consequently, it does not appear that the valuation multiples are so high as to justify Mr. Gorman's significant reduction to the Company's authorized ROE.

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167 *See,* Schedule MPG-16 in Case No. ER-2011-0028 for Mr. Gorman's CAPM inputs.
[implied beta] = ([ROE] – [risk-free rate]) / [market risk premium]
0.78 = (10.23% – 5.00%) / 6.70%
0.89 = (10.23% – 5.00%) / 5.90%

168 *See,* Schedule MPG-16 for Mr. Gorman's CAPM inputs.

169 *See,* Direct Testimony of Michael P. Gorman, at 58.

Chart 6: Proxy Group Average P/E Ratios[170]

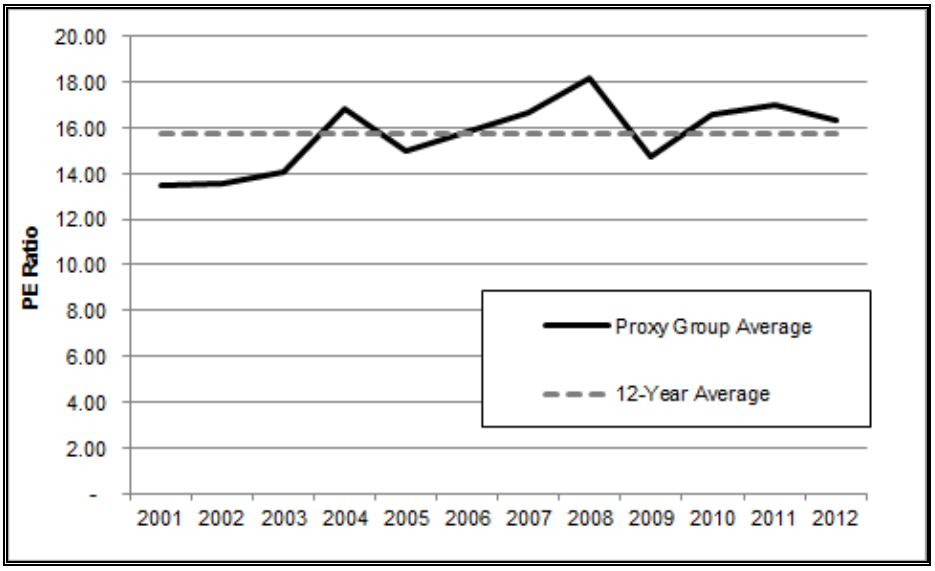
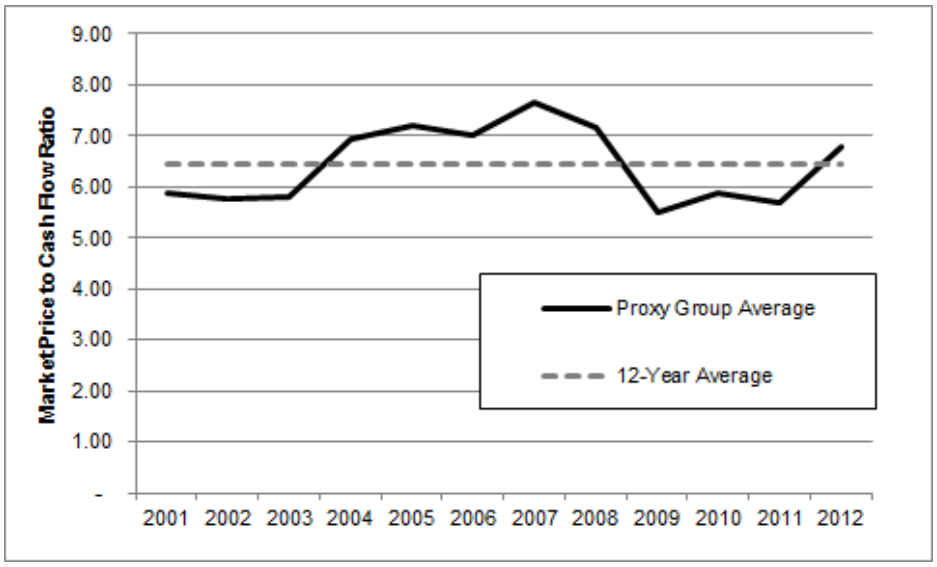


Chart 7: Proxy Group Average MP/CF Ratios[171]



It also is interesting to note that the average authorized ROE for electric utilities during the twelve year period that Mr. Gorman relies upon in Schedule MPG-20 was 10.50 percent.[172]

170 Based on the data presented in Schedule MPG-20.

171 *Ibid.*

172 Source: Regulatory Research Associates.

Q. Does Mr. Gorman comment on Ameren Missouri's specific investment risk?

A. Yes, Mr. Gorman addresses the investment risk specific to the Company by quoting directly from the Company's credit rating reports from S&P and Moody's, emphasizing S&P's statement that Ameren Missouri's "excellent business risk profile reflects its lower-risk, monopolistic rate-regulated utility businesses that provide an essential service."[173]

Q. Does Ameren Missouri's "Excellent" business risk profile demonstrate that the Company is less risky than other electric utilities?

A. No, it does not. Mr. Gorman notes that Ameren Missouri's "Excellent" business risk profile "is identical to the S&P business risk profile of the proxy group."[174] Moreover, Mr. Gorman refers to S&P's explanation of its ratings methodology and the typical business risk of regulated utilities:

> S&P considers total investment risk in assigning bond ratings to issuers, including utility companies. In analyzing total investment risk, S&P considers both the business risk and the financial risk of a corporate entity, including a utility company. . . . The business risk of most utility companies falls within the lowest risk category, "Excellent," or the category one notch lower (more risk), "Strong."[175]

A recent review of regulated electric utilities' credit ratings from S&P highlighted the prevalence of an "Excellent" business risk profile among those firms.[176] Of 172 electric utility parent and operating companies, S&P reported that 148 companies (*i.e.*, 86.00 percent) had "Excellent" business risk profiles. Among those with "Excellent" business risk profiles,

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173 S*tandard & Poor's RatingsDirect on the Global Credit Portal*: "Ameren Missouri," March 16, 2012, at 2, as cited in the Direct Testimony of Michael P. Gorman, at 9.

174 *See*, Direct Testimony of Michael P. Gorman, at 12-13.

175 Standard & Poor's: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009, as cited in the direct testimony of Michael P. Gorman, at 13.

176 S&P, *U.S. Regulated Electric Utilities, Strongest To Weakest*, January 5, 2012.

S&P's credit ratings ranged from as high as AA- to as low as BB+ (*i.e.*, below investment grade). As such, Ameren Missouri's "Excellent" business risk profile from S&P does not distinguish the Company as being less risky than other electric utilities.

B. Application of the Constant Growth DCF Model Based on Analyst Earnings Growth Estimates

Q. Please summarize Mr. Gorman's Constant Growth DCF analyses.

A. Mr. Gorman conducts two Constant Growth DCF analyses, assuming analyst consensus earnings growth estimates, and a measure of "Sustainable Growth", respectively.[177] Mr. Gorman's Constant Growth DCF analysis based on analyst consensus earnings growth estimates yields a mean ROE result of 9.30 percent and a median ROE result of 9.90 percent; the Sustainable Growth estimates produce a mean result of 8.63 percent, and a median ROE estimate of 8.47 percent.[178]

Q. Does Mr. Gorman rely upon the results of his Constant Growth DCF analysis based on analyst consensus growth estimates in making his ROE recommendation?

A. No, Mr. Gorman relies on the mean result of his Multi-Stage DCF Model (*i.e.*, 9.40 percent) as his DCF estimate, and to set the high end of his recommended ROE range.[179] Mr. Gorman relies on his Risk Premium analysis to set the low end of his recommended ROE range.[180]

Q. Does Mr. Gorman disagree with the earnings growth estimates that you used in your Constant Growth DCF model?

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177 *See*, Direct Testimony of Michael P. Gorman, at 13-17.

178 *See*, Schedule MPG-4 and Schedule MPG-7.

179 *See*, Direct Testimony of Michael P. Gorman, at 2 and 26.

180 *Ibid.*, at 36.

A. Yes, Mr. Gorman states that the mean and mean-high analyst consensus earnings growth estimates in my Constant Growth DCF analysis could not be sustained indefinitely, as they are higher than the five- and ten-year nominal GDP growth estimates from Blue Chip.[181] Mr. Gorman further suggests that my mean and mean-high analyst consensus earnings growth estimates could not be sustained by the proxy group companies' current earnings retention ratios.[182] On that basis, Mr. Gorman suggests the use of a Multi-Stage DCF analysis.[183]

Q. Do you agree with Mr. Gorman that the growth rates in your Constant Growth DCF model cannot be sustained by current earnings retention rates?

A. No, I do not. Mr. Gorman's assertion stems from his reliance on the Sustainable Growth model, which I discuss in more detail below. It is interesting to note, however, that while Mr. Gorman's concern with my growth rate estimates derives from the "Sustainable Growth" model, he did not rely on his Sustainable Growth DCF results; as discussed below, those estimates are so low as to be of little analytical value.

Q. Have you made any adjustments to Mr. Gorman's Constant Growth DCF analysis using consensus analyst growth rates?

A. Yes, I have. I first recreated Mr. Gorman's Constant Growth DCF analysis (Schedule MPG-4). I then revised that analysis in several steps to quantify the effects of the differences in our respective approaches. Table 12 (below) summarizes the effects of those adjustments. In the first step, I updated the market data to July 13, 2012. In the second step, I added the current earnings growth estimates from Value Line and First Call to those used

181 *Ibid.*, at 44.
182 *Ibid.*
183 *Ibid.*, at 45.

by Mr. Gorman (*i.e.*, Zacks, SNL Financial, and Reuters).[184] In the third step, I included EDE in the proxy group. In the fourth and final step, I excluded the Constant Growth DCF ROE result for EIX and the Value Line EPS growth estimate for OTTR since those values are clearly outliers that ought to be given little if any weight in the Constant Growth DCF model.[185] As shown in Table 12, below, those adjustments increase Mr. Gorman's mean Constant Growth DCF results by approximately 70 basis points.

Table 12: Adjustments to Mr. Gorman's Constant Growth DCF Model Using Analyst Consensus Earnings Growth Estimates

Step	Mean ROE	Median ROE
As Filed (*see* Schedule MPG-4): • Data as of June 15, 2012	9.30%	9.90%
Step 1: Update market data • Data as of July 13, 2012	9.24%	9.77%
Step 2: Include additional consensus earnings growth estimates • Value Line and First Call estimates	9.58%	9.73%
Step 3: Use the Hevert Revised Proxy Group • Include EDE	9.90%	9.92%
Step 4: Exclude outliers • Exclude ROE result for EIX • Exclude Value Line EPS growth estimate for OTTR	10.02%	10.12%
Total increase in ROE result	0.72%	0.22%

C. Application of the "Sustainable Growth" DCF Model

Q. What ROE results does Mr. Gorman obtain from his "Sustainable Growth" DCF model?

184 Expanding the set of analyst earnings growth estimates facilitates the inclusion of EDE in the proxy group, since only Value Line and First Call currently report earnings growth estimates for EDE.

185 As explained above, the average EPS growth rate for EIX of 1.60 percent is unreasonably low for a Constant Growth model, whereas the Value Line EPS growth rate estimate of 24.00 percent for OTTR is unreasonably high and also should be ignored.

A. Mr. Gorman's Sustainable Growth DCF analysis produces mean and median ROE results of 8.63 percent and 8.47 percent, respectively.[186]

Q. Do you agree with Mr. Gorman's "Sustainable Growth" DCF analysis?

A. No, I do not. The underlying premise of the "Sustainable Growth" calculation is that future earnings will increase as the retention ratio (*i.e.*, the portion of earnings not paid out in dividends) increases. There are, however, several reasons why that may not be the case. Management decisions to conserve cash for capital investments, to manage the dividend payout for the purpose of minimizing future dividend reductions, or to signal future earnings prospects can and do influence dividend payout (and therefore earnings retention) decisions in the near-term. Consequently, it is appropriate to determine whether the data relied upon by Mr. Gorman support the assumption that higher earnings retention ratios necessarily are associated with higher future earnings growth rates.

Q. Did you perform any analyses to test that assumption?

A. Yes, I did. Based on Value Line data as of July 13, 2012 for the companies in the Hevert Revised Proxy Group, I calculated (for all years with available data from 1995 through 2011) the dividend payout ratio, the retention ratio, and the subsequent five-year earnings growth rate. I then performed a regression analysis in which the dependent variable was the five-year earnings growth rate and the explanatory variable was the earnings retention ratio. The purpose of that analysis was to determine whether the data source relied upon by Mr. Gorman for his "Sustainable Growth" rate estimates empirically support the assumption that higher retention ratios necessarily produce higher earnings growth rates.

Q. Does your regression analysis support Mr. Gorman's assumption?

186 *See*, Schedule MPG-7.

A. No, it does not. As shown in Table 13 (below),[187] there was a statistically significant *negative* relationship between the five-year earnings growth rate and the earnings retention ratio. That is, based on Value Line (*i.e.*, the source of the majority of the data in Mr. Gorman's "Sustainable Growth" analysis), using historical data, earnings growth, on average, actually decreased as retention ratios increased.

Table 13: Regression Results

	Coefficient	Standard Error	t-Statistic
Intercept	0.089	0.012	7.561
Retention Ratio	-0.181	0.032	-5.705

Q. Is there independent research that supports your findings?

A. Yes, there is. In 2006, for example, two articles appeared in Financial Analysts Journal, which addressed the theory that high dividend payouts (*i.e.*, low retention ratios) are associated with low future earnings growth.[188] Both of those articles cite a 2003 study by Arnott and Asness[189] who found that, over the course of 130 years of data, future earnings growth is associated with high, rather than low payout ratios.[190] In essence, the findings of all three studies are consistent with my findings regarding the relationship between retention ratios and future earnings growth for the Hevert Revised Proxy Group:

187 *See also*, Schedule RBH-ER24. As noted earlier, the T-Statistic measures the statistical significance of the variables, while the F-Statistic measures the predictive capability of the regression equations as a whole.

188 Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, Financial Analysts Journal, Vol. 62, No. 3, 2006. *See* also Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas, *International Evidence on the Payout Ratio, Earnings, Dividends and Returns*, Financial Analysts Journal, Vol. 62, No. 1, 2006.

189 Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

190 Since the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

there is a negative, not a positive relationship between the two. Given the strong statistical results of my analysis, and the corroborating research discussed above, I disagree with Mr. Gorman's emphasis on the Sustainable Growth model.

Q. Are there other concerns with Mr. Gorman's "Sustainable Growth" estimate?

A. Yes. It is important to note that the "Sustainable Growth" model itself requires an estimate of the earned return on common equity and is therefore somewhat circular. By adopting Value Line's earned ROE estimates, Mr. Gorman has effectively pre-supposed the Return on Common Equity projected by Value Line for the proxy group companies.

In addition, the use of the "Sustainable Growth" model requires the assumption that the subject company not only maintains its retention ratio and ROE in perpetuity, but also that the components of "R" (*i.e.*, the earned return on common equity) are reasonably stable over time. In order to assess whether that assumption holds, I used the "DuPont" formula, which decomposes the Return on Common Equity into three components: the Profit Margin (net income/revenues), Asset Turnover (revenues/net plant), and the Equity Multiplier (net plant/equity). As Schedule RBH-ER25 demonstrates, based on the Hevert Revised Proxy Group, the product of those three measures is approximately equal (but for rounding) to Value Line's reported Return on Common Equity, on both an historical and projected basis. That analysis also shows that while all three components are expected to change over time, the Equity Multiplier (*i.e.*, the ratio of assets to equity) is expected to decrease, indicating the expectation that the companies in the Hevert Revised Proxy Group will finance an increasing amount of their net plant with common equity, and the profit margin (the ratio of net income

to revenue) is projected to increase. That finding is consistent with the general observation that since the 2008 capital market dislocation, capital-intensive companies such as utilities have been focused on financial integrity and the ability to access the capital markets during turbulent conditions. Given that the fundamental elements of the "R" component of the "Sustainable Growth" model are expected to change over time, I believe it is inappropriate to use that model as the estimate of growth in perpetuity.

Lastly, it is worth noting that in the Company's last rate case, the Commission found Mr. Gorman's Sustainable Growth DCF result to be "unreasonably low."[191] That finding appears to be consistent with Mr. Gorman's assessment of his 8.47 percent and 8.63 percent estimates in this case; as noted above, he discarded those results in developing his ROE recommendation. Rather, Mr. Gorman relied on his Multi-Stage DCF Model as the basis of his DCF-based estimate.[192]

D. Application of the Multi-Stage DCF Model

Q. Do you agree with Mr. Gorman's decision, as noted above, to give greater weight to the results of the Multi-Stage DCF Model?

A. Yes, I do. As I explained in my direct testimony, the Multi-Stage form of the DCF model addresses some of the limiting assumptions underlying the Constant Growth form of the DCF model.[193] Moreover, the Commission has recently given certain weight to the Multi-Stage form of the DCF model.[194] As such, even putting aside his unreasonably low Sustainable Growth estimates, I agree with the emphasis Mr. Gorman has placed on the Multi-Stage DCF approach.

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191 Report and Order, Case No. ER-2011-0028, at 71.

192 *See*, Direct Testimony of Michael P. Gorman, at 2 and 26.

193 *See*, Direct Testimony of Robert B. Hevert, at 25-27.

194 Report and Order, Case No. ER-2011-0028, at 68-72.

Q. Do you agree with Mr. Gorman's application of the Multi-Stage DCF Model?

A. No, I do not. Mr. Gorman's Multi-Stage DCF Model contains several assumptions that individually and in aggregate produce inappropriately low ROE estimates. In particular, Mr. Gorman's model assumes a year-end cash flow convention and a constant payout ratio based upon the current level of dividends for his proxy group, over the model's 200 year horizon. In addition, Mr. Gorman's model assumes a terminal growth rate *beginning* in year eleven based on a GDP growth rate projection that actually *ends* in the eleventh year of his study period.

Q. How does Mr. Gorman's assumption with regard to the timing of dividend payments affect his Multi-Stage DCF results?

A. Mr. Gorman notes that quarterly dividends in his Multi-Stage model were "annualized (multiplied by 4)."[195] Considering that Mr. Gorman's proxy group company dividend payments are paid on a quarterly basis, assuming (as Mr. Gorman has done) that the entire dividend is paid at the end of that year essentially defers the timing of those cash flows until year-end, even though they are paid throughout the year. Since Mr. Gorman uses a model with annual dividend payments, a reasonable approach would be to assume that cash flows are received in the middle of the year, such that half the quarterly dividend payments occur prior to the assumed dividend payment date (*i.e.*, the "mid-year convention"). That approach is consistent with the common practice in the Constant Growth DCF model of accounting for periodic growth in dividends by applying one-half of the expected annual

[195] *See*, Direct Testimony of Michael P. Gorman, at 14.

dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model.

Q. How would the use of the mid-year convention for dividend payments affect the results of Mr. Gorman's Multi-Stage DCF analysis?

A. Table 15 (discussed in more detail below) shows that, all else equal, simply changing Mr. Gorman's methodology to reflect the mid-year convention increases the mean and median results by approximately 20 basis points.

Q. Does Mr. Gorman address your use of the mid-year convention for dividend payments in the Multi-Stage DCF Model?

A. Yes. With regard to my use of the mid-year convention for discounting dividend payments, Mr. Gorman incorrectly asserts that I misstated dividend cash flows in my model by assuming that "utilities will accelerate the payment of dividends to investors."[196]

Q. What is your response to Mr. Gorman's position that you have "misstated" the cash flows in your Multi-Stage DCF Model?

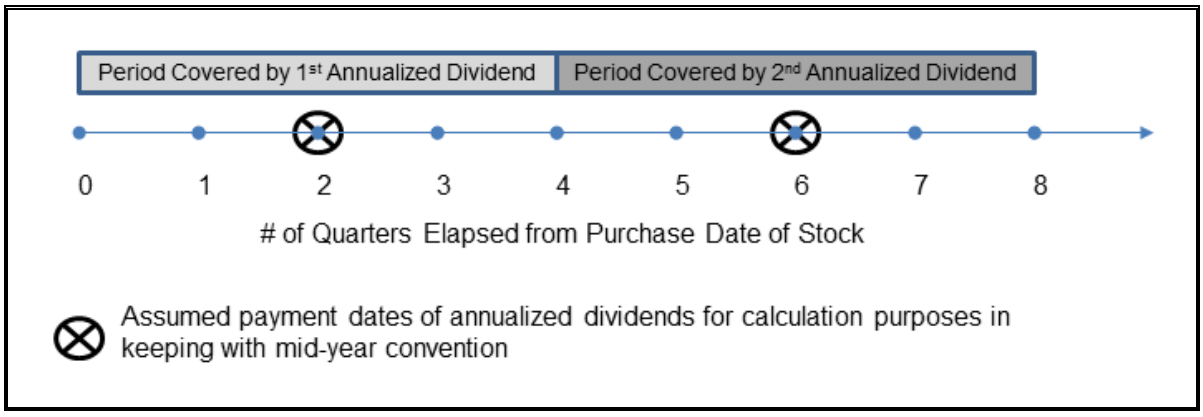
A. As explained above, Mr. Gorman's Multi-Stage DCF Model incorrectly assumes that quarterly dividends are all received at the end of the year, thus reducing their present value and downwardly biasing Mr. Gorman's ROE results. In contrast, in my Multi-Stage DCF Model I have adopted the mid-year convention, which assumes that an annualized dividend payment is received mid-year in order to more accurately approximate the actual quarterly cash flows that stockholders receive. Consistent with the mid-year convention, my Multi-Stage DCF Model assumes that six months after the purchase of a stock, the

196 *Ibid.*, at 48.

stockholder will receive an annualized dividend payment that represents the quarterly dividends for the two quarters during which the stockholder has owned the stock, as well as the next two quarters. The model discounts the first year's annualized dividend payment as if it had been received by the stockholder at mid-year. One year later, for calculation purposes, the model assumes that the stockholder receives another annualized dividend payment, also in keeping with the mid-year convention.

Chart 8 illustrates the assumed timing of the receipt of annualized dividend payments under the mid-year convention. As shown on that Chart and as explained above, the mid-year convention does not lead to any extra dividend payments; moreover, this approach does not actually assume that utilities will accelerate any quarterly dividend payments. Rather, the mid-year approach simply recognizes that dividends are paid quarterly and that assuming, falsely, that all dividends are received at year end, as Mr. Gorman has done, will downwardly bias the ROE results.

Chart 8: Illustration of Mid-Year Convention Timing of Annualized Dividend Payments Assumed in the Multi-Stage DCF Model



Q. How does Mr. Gorman's assumption regarding the payout ratio differ from the assumptions included in your Multi-Stage DCF Model?

A. My Multi-Stage DCF Model allows for payout ratios to change over time. I assume that payout ratios for the proxy group companies will, on average, initially decrease from current levels per Value Line's projections for payout ratios in the 2016 timeframe and then increase during the transitional second stage of the model until they reach and remain at the long-term industry average payout ratio (*i.e.*, 66.40 percent) in the final stage of the model. Mr. Gorman, however, assumes that the current level of payout ratios for the proxy group will remain unchanged over the entire study period. In addition, Mr. Gorman takes issue with my assumption that the proxy group companies' payout ratios will converge to the long-term industry average payout ratio (*i.e.*, 66.40 percent) by the third and final stage of the Multi-Stage DCF Model.[197] In effect, Mr. Gorman's position is that an increase in the payout ratio during the transitional stage of my Multi-Stage model should be coupled with lower earnings growth rates.

Q. Do you agree with Mr. Gorman's position with regard to the payout ratio assumption in your Multi-Stage DCF Model?

A. No, I do not. Mr. Gorman's position is based on his reliance on the "Sustainable Growth" model and its implication that there must be a direct positive relationship between retention ratios and earnings growth. As I explained above, both my own statistical analyses and academic research demonstrate that quite the opposite has been true. In fact, there is a statistically significant *negative* relationship between retention ratios and earnings growth for the proxy group companies.

Q. What is the basis of your assumption that the payout ratios converge to the long-term industry average for the final stage of the Multi-Stage DCF Model?

197 *Ibid.*, at 48-49.

A. The electric utility industry is in the midst of a large capital spending cycle, which is expected to be financed, at least in part, from internally generated cash. That observation is consistent with Value Line's projection that the average payout ratios for the proxy group companies will decline from 64.18 percent in 2012 to 60.75 percent in the 2016 timeframe.[198] As the capital investment cycle begins to moderate, payout ratios will increase (that is, retention ratios will decrease). Given that the terminal payout ratio is ten years in the future, it is reasonable to assume that the long-term payout ratio will regress to its long-term average. Long-term mean convergence is not an unusual assumption; as discussed below, Mr. Gorman assumes mean convergence in his calculation of the market risk premium component of the CAPM.[199]

Q. Do you agree with the long-term growth rate in Mr. Gorman's Multi-Stage DCF Model?

A. No, I do not. Mr. Gorman assumes a long-term growth rate of 4.90 percent, which is the average of two GDP growth rate estimates as reported by *Blue Chip Financial Forecasts* ("Blue Chip").[200] Those Blue Chip forecasts are the five-year average GDP growth rates projected for the periods 2014-2018 and 2019-2023. It is very important to realize, however, that the Blue Chip forecasts only cover the next eleven years, while the terminal growth rate in Mr. Gorman's Multi-Stage DCF *begins* in year eleven. That is, the end of the longest Blue Chip forecast horizon (*i.e.*, eleven years from now) coincides with the beginning of the period in which Mr. Gorman applies an average of that forecast and the shorter-term Blue Chip forecast for the period 2014-2018. This is true despite Mr. Gorman's

198 *See*, Schedule RBH-ER11.

199 *See*, Direct Testimony of Michael P. Gorman, at 33-34.

200 *Ibid.*, at 23-24, and Schedule MPG-9. Specifically, Mr. Gorman calculates his nominal GDP growth rates based upon separate Blue Chip consensus forecasts for real GDP growth and growth in the GDP Chained Price Index for the periods 2014-2018 and 2019-2023.

characterization of the Blue Chip estimates as forecasting U.S. GDP growth "indefinitely."[201] It is not appropriate to extrapolate GDP growth estimates for periods beyond which those estimates are intended to remain in effect. The Blue Chip projections will not necessarily reflect GDP growth expectations for the extended time period beyond 2023, which actually constitutes the third and final stage of Mr. Gorman's Multi-Stage DCF Model.[202]

By contrast, as explained in my direct testimony, the long-term growth rate used in my Multi-Stage DCF Model reflects a reversion to the long-term average real GDP growth rate, and includes largely market-based projections of the long-term inflation rate.[203]

It is interesting to note that my estimate of long-term nominal GDP growth (*i.e.*, 5.67 percent) is substantially lower than the historical long-term nominal GDP growth rate from 1929 to 2011 of 6.26 percent.[204] My 5.67 percent estimate also is substantially lower than the 7.40 percent long-term average capital appreciation rate for the S&P 500 reported by Morningstar, which is embedded in Mr. Gorman's measure of the MRP used in his CAPM analysis.[205]

Q. Is there reason to expect that the long-term GDP growth rate during the time period covered by the terminal stage of the Multi-Stage DCF Model will be different from the five- and ten-year Blue Chip forecasts used by Mr. Gorman?

A. Yes, there is. The financial crisis and recession that began in 2007 were qualitatively different from most other U.S. economic downturns, which were followed by a rapid return to pre-recession overall output growth levels. In that regard, the current U.S.

201 *Ibid.*, at 44.

202 The same mismatch between the years covered by the third stage of Mr. Gorman's Multi-Stage model and the time period covered by the GDP growth projection applies to Mr. Gorman's corroborating GDP growth projections from the Congressional Budget Office ("CBO"). *Ibid.*, at 24-25.

203 *See*, Direct Testimony of Robert B. Hevert, at 28-29.

204 Source: Bureau of Economic Analysis.

205 *See*, Direct Testimony of Michael P. Gorman, at 33 and 52.

economic growth situation is similar to that following the two most severe economic events in U.S. history, *i.e.*, the 1929 stock market crash and the 1973 oil shock. Economists that have examined the repercussions of those two historical crises (and similar severe financial crises in other countries) have found that GDP growth rates tended to be lower during the decade following such events.[206]

Q. Have you performed an analysis to determine whether real GDP growth is slower in the immediate decade after a severe financial crisis than in the subsequent decades?

A. Yes. I compared the average real GDP growth in the first ten years immediately following the two historical economic crises most comparable to the recent financial crisis (*i.e.*, the 1929 stock market crash and the 1973 oil shock) to the average real GDP growth in the next two decades following each crisis (*i.e.*, eleven to 30 years after the events). I did the same for each of the 20th-century U.S. recessions for which sufficient data are available. My findings are presented in Table 14 (below).

[206] *See*, Reinhart, Carmen M. and Vincent R. Reinhart, "After the Fall," NBER Working Paper 16334, September 2010, in Federal Reserve Bank of Kansas City Economic Policy Symposium Volume, *Macroeconomic Challenges: The Decade Ahead* at Jackson Hole, Wyoming, on August 26-28, 2010, at 2.

Table 14: Real GDP Growth Rates Following U.S. Economic Downturns[207]

Event	Compound Average Real GDP Growth Rate		
	Decade Following Crisis	Next Two Decades	Difference (Basis Points)
Major Economic Crises			
1929 Stock Market Crash	2.06%	4.72%	266
1973 Oil Shock	2.55%	3.39%	83
Other Recessions			
1937	6.68%	4.15%	-253
1945	3.77%	3.59%	-18
1948	3.79%	3.95%	16
1953	3.60%	3.23%	-37
1957	4.84%	3.13%	-170
1960	4.41%	3.28%	-112
1969	3.57%	3.01%	-56
1980	3.32%	2.45%	-88
1981	3.52%	2.62%	-90

Table 14 (above) shows that real GDP growth in the first ten years following the 1929 stock market crash and the 1973 oil shock was substantially lower than real GDP growth in the next two decades following each event. In contrast, eight out of the nine other 20th-century U.S. economic downturns analyzed showed the opposite pattern.

In light of the academic research cited above, the findings presented in Table 14, and the fact that the Blue Chip forecasts specifically do not encompass the period more than ten years from now, the most reasonable means to forecast long-term GDP growth is to assume a return to long-term historical rates of real GDP growth and estimate long-term nominal GDP growth based largely on market-based, long-term inflation estimates.

207 Real GDP data are from the U.S. Bureau of Economic Analysis. The years in which each recession started are from the National Bureau of Economic Research ("NBER"), "US Business Cycle Expansions and Contractions," available at http://www.nber.org/cycles.html. Note that this table excludes the three most recent recessions, which started in 1990, 2001, and 2007 owing to a lack of sufficient data for GDP growth in the following years to calculate comparable long-term GDP growth rates.

Q. Does Mr. Gorman's testimony support the use of long-term historical averages for estimating expected long-term real GDP growth?

A. Yes. Despite Mr. Gorman's concern with my use of the long-term historical real GDP growth rate in combination with market-based estimates of future inflation to arrive at an estimate of long-term nominal GDP growth, Mr. Gorman himself relies on historical real and nominal stock market returns as the basis for his two measures of the forward-looking MRP in his CAPM analysis.[208] It is unclear why Mr. Gorman assumes a reversion to the long-term historical average MRP when calculating his CAPM results, but ignores real long-term historical average GDP growth in the calculation of his Multi-Stage DCF results when those historical averages are calculated over nearly identical time periods.

Q. Did you make adjustments to Mr. Gorman's Multi-Stage DCF analysis to show how the differences between his approach and yours lead to different ROE results?

A. Yes, Table 15 (below) shows the step-by-step results of adjustments that I made to Mr. Gorman's Multi-Stage DCF Model. I initially recreated the Multi-Stage DCF Model filed by Mr. Gorman. My first step in adjusting his model was to update the market data to July 13, 2012. Second, I added the analyst consensus earnings growth estimates used in the first stage of the model to include both the estimates used by Mr. Gorman (*i.e.*, Zacks, Reuters, and SNL Financial) and the two different sources upon which I relied in my testimony (*i.e.*, Value Line and First Call). Third, I added EDE to the proxy group. Fourth, I adjusted Mr. Gorman's Internal Rate of Return calculation to reflect the mid-year convention (as explained above). Fifth, I adjusted the payout ratios implicit in Mr. Gorman's model to

[208] *See*, Direct Testimony of Michael P. Gorman, at 33-34.

converge to the long-term industry average. Lastly, I revised the long-term growth rate used in the final stage of Mr. Gorman's model to the more reasonable estimate of long-term nominal GDP growth that I described above.

Table 15: Adjustments to Mr. Gorman's Multi-Stage DCF Model

Step	Mean ROE	Median ROE
As Filed (*see*, Schedule MPG-9): • Data as of June 15, 2012	9.38%	9.70%
Step 1: Update market data • Data as of July 13, 2012	9.30%	9.55%
Step 2: Include additional consensus earnings growth estimates • Value Line and First Call estimates	9.42%	9.55%
Step 3: Use the Hevert Revised Proxy Group • Include EDE	9.56%	9.60%
Step 4: Adjust timing of cash flows • Mid-year convention for dividend payments	9.78%	9.82%
Step 5: Adjust dividend payout ratio • Convergence industry average of 66.40%	9.61%	9.91%
Step 6: Change long-term GDP growth rate estimate • Projected nominal GDP growth rate of 5.67%	10.21%	10.50%
Total increase in ROE result	0.83%	0.80%

As shown in Table 15, making reasonable adjustments to Mr. Gorman's Multi-Stage DCF Model increases the mean and median ROE results to 10.21 percent and 10.50 percent, respectively. As noted in my response to Mr. Murray, differences in the long-term growth rate account for the majority of the difference in our respective Multi-Stage DCF results.

E. Application of the CAPM

Q. Please summarize Mr. Gorman's CAPM analysis.

A. Mr. Gorman develops a single CAPM estimate, based on an average of two separate estimates of the MRP. Mr. Gorman's first MRP estimate of 7.50 percent is based on the long-term historical arithmetic average real market return over the 1926-2011 period as

reported by Morningstar, which he then adjusts for current inflation forecasts.[209] The second MRP estimate (*i.e.*, 5.70 percent) is based on the historical difference between the return on the S&P 500 and the total return on long-term government bonds.[210] Finally, Mr. Gorman uses the Blue Chip projected yield on 30-year Treasury bonds of 3.70 percent as his risk free rate, together with Beta coefficients provided by Value Line to calculate his CAPM result.[211] Mr. Gorman's CAPM analysis yields an ROE estimate of 8.70 percent.[212]

Q. Do you agree with Mr. Gorman's CAPM specification?

A. No, I do not. In particular, I disagree with Mr. Gorman's estimate of the MRP. Mr. Gorman's CAPM analysis fails to reflect very important capital market dynamics. During periods of capital market instability, equity market volatility increases, causing an increase in required returns and, therefore, the MRP. Moreover, as risk aversion increases, investors seek out the relative safety of Treasury securities, essentially bidding up the price and forcing down the yields. Since the CAPM addresses both of those elements, *i.e.*, the equity market volatility (via the MRP) and Treasury yields (*i.e.*, the risk free rate), both capital market dynamics should be appropriately reflected in the CAPM analysis. Mr. Gorman's historical estimate of the MRP fails to accurately reflect current market conditions.

Q. What is the basis of your view that Mr. Gorman's estimate of the MRP does not properly reflect current capital market dynamics?

A. Mr. Gorman employs an MRP based on the historical relationship between the returns on the S&P 500 and long-term government bonds (*i.e.*, the *ex-post* MRP). As discussed in my response to Mr. Murray (*see*, Table 10), from 2007-2009 the *ex-post* MRP

209 *Ibid.*, at 33.
210 *Ibid.*, at 34.
211 *Ibid.*, at 32-33.
212 *Ibid.*, at 36.

decreased, even as market volatility significantly increased. As noted earlier, the assumption that investors would require a lower risk premium during periods of increasing volatility is counter-intuitive, and leads to unreliable analytical results.

Q. Why are your estimates of the MRP more reflective of the current capital market environment?

A. My first approach is based on the required return on the S&P 500 Index, less the current 30-year Treasury Bond Yield. The required return on the S&P 500 is calculated using the Constant Growth DCF model applied to the companies in the S&P 500 index for which long-term earnings projections are available. The second approach uses the Sharpe Ratio and incorporates forward prices for the VIX. That analysis is forward-looking to the extent that the market is reasonably liquid (typically six to seven months), and is based on observed market data.

Q. Do your MRP estimates also reflect historical information?

A. Yes, they do, but in ways that adjust the data for expected market conditions. The Sharpe Ratio is the ratio of the historical MRP (that is, the 6.60 percent historical MRP reported by Morningstar) to historical market volatility. The *ex-ante* risk premium simply is the product of the Sharpe Ratio and expected volatility.[213] If, for example, expected volatility equaled historical volatility, the Sharpe Ratio approach would yield the historical average MRP (*i.e.*, 6.60 percent). Given that expected volatility remains above historical volatility, it follows that the forward-looking MRP would exceed the historical MRP. Consequently, the fact that the *ex-ante* MRP used in my analysis is greater than the historical

[213] As explained on page 34 of my Direct Testimony, expected market volatility is measured based on the three-month volatility index, and the futures market for the VIX Index. Those indices represent investors' expectation of market volatility. It also is important to note that the historical average of the VIX is nearly identical to the 20.30 percent market volatility calculated based on Morningstar data, *i.e.*, the same source relied upon by Mr. Gorman.

average simply reflects the fact that investors expect volatility to remain above the historical average.

Q. Does Mr. Gorman rely upon his CAPM result in making his ROE recommendation?

A. No, he does not. As noted above, Mr. Gorman uses the result from his Multi-Stage DCF Model (*i.e.*, 9.40 percent) as the high end of the range of his ROE recommendation.[214] The low end of Mr. Gorman's range (*i.e.*, 9.20 percent) is based on his Risk Premium analysis.[215]

Q. Does Mr. Gorman have any objections to your CAPM approach?

A. Yes, Mr. Gorman has two primary objections to my CAPM approach. First, Mr. Gorman asserts that my DCF-derived MRP estimate is based on a growth rate component that is "far too high" to be a "sustainable" growth rate.[216] Second, Mr. Gorman argues that my Sharpe Ratio approach to estimating the expected market return relies on volatility measures that are short-term and inappropriate for utility investors.

Q. What is the basis for Mr. Gorman's claim that your DCF-derived market return estimate is not "sustainable"?

A. Mr. Gorman notes that the earnings growth rate component of my DCF-derived market return (as distinct from the dividend yield component) is higher than estimates of long-term nominal GDP growth and therefore concludes that my market return value is "far too high to be a rational outlook for sustainable growth."[217]

Q. Does Mr. Gorman present any analysis to support that claim?

214 *See,* Direct Testimony of Michael P. Gorman, at 2 and 26.
215 *Ibid.*, at 36.
216 *Ibid.*, at 51.
217 *Ibid.*, at 51-52.

A. No, he does not. Mr. Gorman simply compares nominal GDP growth rate estimates to my DCF-derived market return and expresses his opinion that the latter is not "sustainable." It is worth noting that Mr. Gorman fails to take into consideration very visible and widely available measures of market returns. For example, Mr. Gorman relies on Value Line for much of the data used in his analyses, including the Beta coefficients used in his CAPM analysis. Value Line provides three- to five-year total return projections for over 1,500 companies. Given the number of companies contained in the Value Line universe, in aggregate those projections reasonably could be considered to be measures of projected market returns. As shown in Schedule RBH-ER27, as of July 13, 2012, the market capitalization-weighted average return projected by Value Line for those companies is approximately 14.83 percent. This estimate of the market return is substantially higher than my DCF-derived market return estimate and highlights that Mr. Gorman's unsubstantiated opinion regarding the sustainability of a particular market return is fundamentally different than Value Line's forecasts for overall market total returns.

In any event, as noted earlier, Mr. Gorman's "Sustainable Growth" estimates were so low that he chose not to rely on them in arriving at his ROE recommendation. Given the unreliable nature of that estimate, I disagree with Mr. Gorman that a comparison to "Sustainable Growth" should serve as the basis to assess the reasonableness of long-term growth estimates.

Q. Is Mr. Gorman's position regarding your DCF-derived market return consistent with his own approach to the CAPM analysis?

A. No, it is not. In his own CAPM analysis, Mr. Gorman uses market return estimates of 11.21 percent and 11.80 percent.[218] Assuming that those market return estimates include a dividend yield component equal to the value in my DCF-derived market return (*i.e.*, 2.22 percent), Mr. Gorman's market return estimates imply earnings growth rates of 8.90 to 9.48 percent.[219] Those growth rates are nearly twice the long-term nominal GDP growth rate (*i.e.*, 4.90 percent) that Mr. Gorman uses in his Multi-Stage DCF Model. Mr. Gorman does not explain the inconsistency between his use of a market return growth rate in the CAPM that is materially higher than his long-term GDP growth rate estimate on the one hand, and his rejection of the DCF-derived market return used in my CAPM analysis (based solely on his observation that my value is higher than estimates of long-term GDP growth) on the other.

Q. What concerns does Mr. Gorman have with your Sharpe Ratio approach to estimating the MRP?

A. Mr. Gorman suggests that long-term utility investors would not be concerned with the expected market volatility over the coming six months, noting that my analysis "reflects the short-term investment outlooks of short-term trading investors or speculators looking to react to misvaluations in the marketplace" and that "the entire analysis is based on derivative future valuation data rather than directly on stock price data."[220]

Q. Do you agree with Mr. Gorman's distinction between short- and long-term investors?

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218 *Ibid.*, at 33-34.

219 Note that, based on my DCF-derived market return calculation, the earnings growth rate equals ([market return] – [dividend yield]) / (1 + 0.5 x [dividend yield]).

220 Direct Testimony of Michael P. Gorman, at 53. Note that this reference by Mr. Gorman to a six-month view of volatility contradicts his earlier assertion on the same page of his Direct Testimony that I am "measuring expected market volatility for a relatively short one-month time period in 2012."

A. No, I do not. While the investors that comprise a market exhibit numerous motivations and goals, the purpose of determining the Company's ROE is not to ascribe those motivations and goals to any subset of investors. Rather, the purpose of determining the Company's ROE using market data is to infer the overall market's perception of risk and how that relates to the Company's Cost of Equity. The Sharpe Ratio, in fact, is a direct measure of the overall market's risk/return dynamic and should be considered in defining the general market environment in which the Company's ROE is determined.

F. Application of the Risk Premium Model

Q. Please summarize Mr. Gorman's Risk Premium analyses.

A. In addition to his CAPM analysis, Mr. Gorman includes two additional Risk Premium approaches to estimate the Company's Cost of Equity. Mr. Gorman's first approach calculates the annual risk premium for each year from 1986 through 2011 by taking the difference between regulatory commission-authorized equity returns for electric utilities and a long-term Treasury Bond Yield. Mr. Gorman then discards the three lowest and three highest implied equity risk premia and determines that the range of likely equity risk premia is from 4.41 percent to 6.13 percent.[221,222] Based on the projected 30-year Treasury yield of 3.70 percent, and the equity risk premium range noted above, Mr. Gorman suggests that the range of likely risk premium results is from 8.11 percent (3.70 percent plus 4.41 percent) to 9.83 percent (3.70 percent plus 6.13 percent). Mr. Gorman arrives at his first Risk Premium ROE result of 9.30 percent by giving two-thirds weight to the high end of his range and one-

221 *Ibid.*, at 27.

222 It is worth noting that the three highest annual implied risk premium values that Mr. Gorman discards are all from the last five years (*i.e.*, 2011, 2009, and 2008) whereas the three lowest values that Mr. Gorman discards are all from at least 18 years ago (*i.e.*, 1994, 1990, and 1988).

third weight to the low end, citing as his rationale the "unusually large yield spreads between Treasury bonds and 'Baa' utility bond yields."[223]

Mr. Gorman's second Risk Premium approach calculates the average risk premium for the period 1986 through 2011 as the difference between the average authorized equity returns for electric utility companies and the concurrent A-rated utility bond yields. Here, Mr. Gorman derives his estimate of the equity risk premium by taking the difference between the average authorized ROE and the average A-rated utility bond yield in each year.[224] Mr. Gorman eliminates the three highest and lowest equity risk premia for the period of 1986 through 2011 and establishes a range of equity risk premia of 3.03 percent to 4.62 percent.[225] Mr. Gorman then develops a range of ROE estimates by adding the 3.03 percent and 4.62 percent premia noted above to the 13-week average Baa-rated utility bond yield of 5.01 percent, to arrive at a range of 8.04 percent to 9.63 percent, and Mr. Gorman arrives at his second Risk Premium estimate of 9.10 percent.[226] Based on those two approaches (*i.e.*, the risk premium as a function of Treasury yields and of utility bond yields), Mr. Gorman calculates a range of ROE results from 9.10 percent to 9.30 percent and determines that the midpoint of 9.20 percent represents a reasonable ROE estimate.[227]

Q. Does Mr. Gorman rely upon his risk premium model in making his ROE recommendation?

223 *See* Direct Testimony of Michael P. Gorman, at 30.

224 *Ibid.*, at 27.

225 As with his first risk premium analysis, the three highest annual implied risk premium values that Mr. Gorman discards are all from the last seven years (*i.e.*, 2011, 2010, and 2005) whereas the three lowest values that Mr. Gorman discards are all from at least 22 years ago (*i.e.*, 1990, 1988, and 1987).

226 *See* Direct Testimony of Michael P. Gorman, at 30.

227 *Ibid.*, at 30.

A. Yes, he does. As noted above, the low end of Mr. Gorman's range (*i.e.*, 9.20 percent) is based on the result of his Risk Premium analysis.[228]

Q. What are your specific concerns with Mr. Gorman's risk premium analyses?

A. Mr. Gorman's approach does not recognize the well-documented fact that over time, equity risk premia are inversely related to interest rates. As shown in my direct testimony,[229] regression results prove empirically that equity risk premia tend to increase as interest rates decrease. As Schedules RBH-ER14 and RBH-ER22 show, this relationship holds whether one looks at authorized utility equity returns and their risk premia compared to Treasuries, A-rated utility bonds, or Baa-rated utility bonds. Table 16 (below) shows that taking into account this inverse relationship between risk premia and interest rates would increase Mr. Gorman's ROE results from his Treasury bond-based and A-rated utility bond-based risk premium analyses by 104 and 164 basis points, respectively.

228 *Ibid.*, at 36.

229 *See*, Direct Testimony of Robert B. Hevert, at 37-38.

Table 16: Corrections to Mr. Gorman's Risk Premium Results to Account for Inverse Relationship between Risk Premia and Interest Rates

	[A]	[B]	[C]	[B] + [C]	[B] + [C] – [A]
	Mr. Gorman's Risk Premium ROE Result[230]	Mr. Gorman's Reported Bond Yield[231]	Risk Premium Based on Regression Analyses	Adjusted ROE Result	Increase vs. Mr. Gorman's Recom-mendation (basis points)
Equity Risk Premium vs. Treasury Bonds	9.30%	3.70%	6.64%[232]	10.34%	104
Equity Risk Premium vs. A-rated Utility Bonds	9.10%	5.01%	5.73%[233]	10.74%	164

Q. Does Mr. Gorman's direct testimony address the inverse relationship between interest rates and risk premia?

A. Yes, Mr. Gorman disputes the inverse relationship between interest rates and risk premia.[234] In particular, Mr. Gorman claims that, while academic studies have shown that in the past there has been such an inverse relationship, the relationship has changed over time, particularly since interest rate volatility is lower now than it was in the 1980s. Mr.

230 *See*, Direct Testimony of Michael P. Gorman, at 30.

231 *Ibid.*

232 This value is the equity risk premium predicted by the linear regression equation in Schedule RBH-ER14 using Mr. Gorman's reported bond yield of 3.70 percent as the independent variable.

233 This value is the equity risk premium predicted by the linear regression equation in Schedule RBH-ER22 using Mr. Gorman's reported bond yield of 4.27 percent (*see* Schedule MPG-14) as the independent variable.

234 *See*, Direct Testimony of Michael P. Gorman, at 54-55.

Gorman further suggests that I have ignored investment risk differentials in my regression analyses.

Q. Do you agree with Mr. Gorman's conclusions regarding your Risk Premium approach?

A. No, I do not. First, Mr. Gorman fails to recognize that a large body of research in addition to my own statistical analyses supports the inverse relationship between interest rates and equity risk premia and that several of these studies were published after those that Mr. Gorman cites as evidence that this inverse relationship is a relic of the 1980s. As summarized in *New Regulatory Finance*:

> Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carelton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates - rising when rates fell and declining when interest rates rose.[235]

Second, I performed additional regression analyses in which the equity risk premium is modeled as a function both of bond yields and also of additional explanatory variables that address investment risk differentials noted by Mr. Gorman as likely factors affecting risk premia. Specifically, I included as independent variables in my regression analyses: (1) the VIX as a measure of equity market volatility (and thus risk); and (2) the credit spread between utility bond yields and Treasuries (as a measure of the investment risk of utility industry securities). The results of those regression analyses are included in Schedules RBH-ER28. In short, the additional regression analyses demonstrate that the highly statistically significant negative relationship between interest rates and the equity risk premium remains even after controlling for the variables identified by Mr. Gorman.

[235] Morin, Roger A., *New Regulatory Finance*, Public Utilities Reports, Inc. (2006), at 128.

Lastly, Mr. Gorman's critique of my risk premium analysis is inconsistent with his own approach. Mr. Gorman argues that the relationship between interest rates and equity risk premia "changes over time."[236] However, Mr. Gorman himself fails to account for any relationship at all between interest rates and equity risk premia in his own analysis.

Taken together, the body of academic research on this topic and my own statistical analyses confirm that Mr. Gorman's failure to account for the negative relationship between interest rates and risk premia in his Risk Premium analyses leads to an unreliable and unreasonably low ROE result.

G. Financial Integrity

Q. Does Mr. Gorman address whether his ROE recommendation will preserve the financial integrity of Ameren Missouri?

A. Yes. Mr. Gorman evaluates the reasonableness of his ROE recommendation by evaluating the *pro forma* effect that his recommended ROE would have on three of the Company's key financial ratios with the goal of ascertaining whether those ratios would still fall within S&P's guideline ranges sufficient for an investment grade rating.[237] Specifically, Mr. Gorman estimates the following financial ratios assuming that the Company earns his recommended ROE: (1) Total Debt to Total Capital; (2) Debt to Earnings Before Interest, Taxes, Depreciation, and Amortization ("EBITDA"); and (3) Funds From Operations ("FFO") to Total Debt. In his Schedule MPG-17, Mr. Gorman develops his *pro forma* financial ratio calculations based on the Company's retail cost of service as of July 31, 2012 as presented in this case and his recommended ROE of 9.30 percent. Mr. Gorman notes that Ameren Missouri has an overall financial risk profile rating of "Significant" from S&P and

236 *See*, Direct Testimony of Michael P. Gorman, at 54-55.

237 *Ibid.*, at 38-40.

proceeds to demonstrate that, assuming all other inputs to his *pro forma* financial analysis remain unchanged, his recommended ROE of 9.30 percent would be sufficient to maintain those three key financial ratios within the S&P guideline ranges for "Significant" or "Intermediate" financial risk. Based on that analysis, Mr. Gorman concludes that his recommendation would support an investment grade bond rating.[238]

Q. Do you agree with Mr. Gorman's analysis and conclusion?

A. No, I do not. First, the fact that Mr. Gorman's ROE recommendation produces credit metrics that fall within a certain ratings category does not mean that the Company necessarily would achieve or maintain those ratings. As shown on Schedule RBH-ER29, for example, an ROE as low as 7.19 percent would produce credit metrics in the same ratings categories as Mr. Gorman's 9.30 percent recommendation. Moreover, one can similarly show that Mr. Gorman's financial integrity analysis would support an ROE of 5.20 percent as sufficient to maintain those three key financial ratios within the S&P guideline ranges for "Significant" financial risk. It is difficult to imagine, however, that rating agencies would not consider the implications of such low allowed returns in arriving at their ratings actions, notwithstanding that Mr. Gorman's *pro forma* metrics would continue to support credit metrics consistent with the Company's current rating. In light of even Mr. Gorman's recommended ROE range of 9.20 percent to 9.40 percent, authorized ROEs as low as 7.19 percent or 5.20 percent would be, *prima facie*, insufficient to attract equity investment capital and maintain the Company's financial integrity. Consequently, Mr. Gorman's *pro forma* analysis does not demonstrate that his recommendation provides reasonable support for the Company's financial integrity. More importantly, from the

238 *Ibid.*, at 40.

standpoint of equity investors, the relevant consideration is whether the authorized ROE for Ameren Missouri offers investors a comparable return as compared to prevailing returns available to investors in other utilities with commensurate risk. In that regard, Mr. Gorman's ROE recommendation of 9.30 percent is significantly lower than the average authorized ROE for integrated electric utilities of 10.15 percent for the twelve months ending June 30, 2012.

H. Regulatory Risks

Q. What is Mr. Gorman's position with respect to your assessment of Ameren Missouri's regulatory risk?

A. In my direct testimony, I concluded that "the proxy group companies operating in other jurisdictions have rate mechanisms that provide for more timely recovery of capital costs than does Ameren Missouri."[239] Mr. Gorman describes my conclusion regarding the relative degree of regulatory lag at Ameren Missouri and the proxy group companies as being "without merit and unfounded" because I did not quantify the amount of revenue collected through the various regulatory mechanisms in place at Ameren Missouri and the proxy group companies.[240]

Q. What is your response to Mr. Gorman on that issue?

A. The comparative analysis of revenue stabilization mechanisms that was presented in my direct testimony was intended to demonstrate that all of the proxy group companies have regulatory mechanisms in place that provide them with an opportunity to recover prudently incurred costs. As discussed in my direct testimony, some of the proxy group companies have implemented more comprehensive adjustment mechanisms than Ameren Missouri's current adjustment clauses, tracking mechanisms and

239 *See*, Direct Testimony of Robert B. Hevert, at 45.

240 *See*, Direct Testimony of Michael P. Gorman, at 59.

riders/surcharges.[241] For example, Ameren Missouri's fuel and purchased power adjustment clause allows for recovery of 95.00 percent of the variation between projected fuel costs and actual fuel costs, while the vast majority of operating utilities within the proxy group are allowed to recover 100.00 percent of fuel and purchased power costs. Further, Ameren Missouri is not allowed to earn a cash return on Construction Work In Progress ("CWIP"), is required to establish base rates using a historical test year adjusted for known and measureable changes, and has limited ability to request interim rates under emergency circumstances while a rate case is pending. By contrast, as shown on Schedule RBH-E8, 22 of the 34 operating subsidiaries in the Hevert Original Proxy Group are authorized to earn a cash return on CWIP, 19 of 34 companies are able to use a forecasted or partially forecasted test year to establish base rates, and interim rate relief is commonly available to the operating subsidiaries in certain jurisdictions. Consequently, I conclude that the proxy companies have a better opportunity to earn their authorized ROE than does Ameren Missouri. The issue of regulatory lag and earnings attrition for Ameren Missouri is addressed more fully in the testimony of Company witness Reed.

VII. UPDATED AND REVISED ANALYSES

Q. Have you updated the analyses presented in your direct testimony?

A. Yes. I have updated all of the analyses presented in my direct testimony for the Hevert Revised Proxy Group, as well as for the Combined Proxy Group, with data as of July 13, 2012.

Q. Please summarize your updated Constant Growth DCF Model results.

241 *See*, Direct Testimony of Robert B. Hevert, at 45-46.

A. I have continued to use projected earnings growth rates from Zacks, First Call, and Value Line in developing my Constant Growth DCF model. As shown in Table 17 (below; *see also*, Schedule RBH-ER10) and as discussed earlier in my rebuttal testimony, the Constant Growth DCF model is not producing reliable results. As such, I give little weight to those results in this proceeding.

Table 17: Updated Constant Growth DCF Results

	Mean Low	Mean	Mean High
Hevert Revised Proxy Group			
30-Day Average	8.79%	9.81%	10.88%
90-Day Average	8.93%	9.95%	11.03%
180-Day Average	8.97%	9.99%	11.07%
Combined Proxy Group			
30-Day Average	8.86%	9.73%	10.69%
90-Day Average	9.00%	9.88%	10.84%
180-Day Average	9.06%	9.93%	10.89%

Q. Please explain your updated Multi-Stage DCF analysis.

A. Similar to the analyses presented in my direct testimony, the first-stage earnings growth rate was based upon analyst projections. The long-term earnings growth rate was assumed to converge to the long-term GDP growth rate. I continue to calculate the terminal stock price based on the Gordon Growth Model, assuming nominal long-term GDP growth as the relevant growth rate. I also have updated my estimate for long-term GDP growth to reflect the most current information available, which results in a terminal growth rate of 5.67 percent, rather than the 5.61 percent used in my direct testimony.

In addition, in response to issues raised by Messrs. Murray and Gorman, I have included an additional version of the Multi-Stage DCF analysis, which relies on historical

P/E ratios for the proxy group companies to calculate the terminal stock price. Specifically, I applied the historical P/E ratio of approximately 16.00 from Mr. Gorman's Schedule MPG-20 revised to include EDE (*see*, page 13 of Schedule RBH-ER11) to each company in the Hevert Revised Proxy Group to calculate the terminal value for that company. As discussed earlier in my rebuttal testimony, even though the P/E ratio is applied in the fifteenth year of the analyses, no expansion in the P/E ratio itself is assumed over that period. As such, analyses based on terminal P/E ratios are biased downward.

Q. Is the historical P/E ratio shown in Mr. Gorman's Schedule MPG-20 generally consistent with the P/E ratios that you have used in the application of the Multi-Stage DCF Model in prior cases?

A. Yes, it is. In Case No. ER-2011-0028, I included a Multi-Stage DCF analysis that relied on the P/E ratios of the proxy companies. At that time, the P/E ratios for the proxy companies in the initial cash flow period was 15.64, which is generally consistent with the historical relationship presented in Mr. Gorman's schedule.[242]

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

A. As noted in my direct testimony, for the first two periods I relied on the 2012 and 2016 projected payout ratios reported by Value Line[243] for each of the proxy group companies. I then assumed that by the end of the second period (*i.e.*, the end of year 10), the payout ratio will converge to the long-term industry average. Given the elevated level of capital expenditures that the industry is facing over the coming three to five years, it is reasonable to assume that payout ratios will generally decline in the near-term, but eventually

242 *See*, Schedule RBH-ER9 in Case No. ER-2011-0028. Equals 90-day average stock price as of February 28, 2011 divided by EPS for 2010.

243 As reported by Value Line as "All Div'ds to Net Prof."

revert to the long-term average over time.[244] I estimated the long-term industry average payout ratio since 1990, as available, for all 49 companies included in the Value Line electric utility universe as of July 13, 2012.

Q. Please summarize your updated Multi-Stage DCF results.

A. As shown in Table 18 (below) and Schedule RBH-ER11, the results produced by my updated and revised Multi-Stage DCF analyses support my revised recommendation of 10.50 percent.

Table 18: Updated and Revised Multi-Stage DCF Results

	Low	Mean	High
Hevert Revised Proxy Group			
Gordon Growth Terminal Value			
30-Day Average	9.21%	10.15%	11.22%
90-Day Average	9.33%	10.30%	11.34%
180-Day Average	9.49%	10.35%	11.33%
Historical P/E Terminal Value			
30-Day Average	7.96%	10.20%	12.43%
90-Day Average	8.29%	10.53%	12.67%
180-Day Average	8.69%	10.64%	12.65%
Combined Proxy Group			
Gordon Growth Terminal Value			
30-Day Average	9.21%	10.12%	11.22%
90-Day Average	9.33%	10.27%	11.34%
180-Day Average	9.49%	10.33%	11.33%
Historical P/E Terminal Value			
30-Day Average	7.90%	10.07%	12.37%
90-Day Average	8.23%	10.41%	12.61%
180-Day Average	8.63%	10.56%	12.59%

Q. Please summarize your updated CAPM analysis.

[244] KeyBanc Capital Markets Inc. Equity Research, *Electric Utilities Quarterly 1Q10*, June 2010, at 7.

A. I have continued to use the same inputs used in my direct testimony, updated through July 13, 2012. For the risk-free rate, I continue to refer alternatively to: (1) the 30-day average of the 30-year Treasury yield; and (2) a consensus forecast of the average 30-Year Treasury yield for the coming six quarters. For the Beta coefficient, I continue to rely on published results from Bloomberg and Value Line. For the MRP, I continue to refer to the two forms of *ex-ante* market risk premia that I described in my direct testimony: (1) the expected return on the S&P 500 Index less the current 30-year Treasury yield; and (2) an expected risk premium derived from the historical Sharpe Ratio.

Q. What are your updated CAPM results?

A. As shown in Schedule RBH-ER13, based upon updated market information, my CAPM analyses produce a range of ROE estimates from 8.48 percent to 10.76 percent for the Hevert Revised Proxy Group.

Q. Have you placed any specific reliance on your CAPM results?

A. No, I have not. As noted in my direct testimony, I rely on my CAPM analyses to corroborate the results of my other analyses.[245]

Q. Please summarize your updated Risk Premium analysis.

A. My updated Risk Premium analysis includes authorized ROEs as reported by Regulatory Research Associates through June 30, 2012. For the purpose of calculating the expected risk premium and ROE, I have used projections of the 30-year Treasury yield. As shown in Schedule RBH-ER14, my updated results range from 9.96 percent to 10.94 percent, with a mean of 10.35 percent.

[245] *See*, Direct Testimony of Robert B. Hevert, at 36.

Q. Have you considered whether your recommended return meets the standard of a fair rate of return?

A. Yes. As I noted in my direct testimony, my recommendation is based upon my understanding of the *Hope* and *Bluefield* standards, wherein:

> The allowed ROE should enable the Company to finance capital expenditures at reasonable rates and to maintain its financial flexibility over the period during which rates are expected to remain in effect. To the extent Ameren Missouri is provided the opportunity to earn its market-based cost of capital, neither customers nor shareholders are disadvantaged.[246]

My assessment also reflects the Company's need to attract capital at terms similar to those offered to companies of comparable risk. A recommendation that diminishes the Company's ability to compete for capital in the open market does not meet the "comparable company" standard.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Q. What are your overall conclusions and recommendations?

A. My updated analytical results are provided in Table 19a and 19b (below). As discussed throughout my rebuttal testimony, the Multi-Stage DCF Model addresses many of the concerns with respect to the Constant Growth form of the DCF model. I have viewed the CAPM results and Bond Yield Plus Risk Premium as a means of informing the range of analytical results. Based on the totality of those analyses, I have reduced the lower end of my range from 10.50 percent to 10.25 percent, and my ROE recommendation from 10.75 percent to 10.50 percent.[247] In my view, that 25 basis point reduction appropriately balances analytical results with market information that is critical in arriving at, and assessing, ROE recommendations.

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246 *Ibid.*, at 5.

247 I have left the upper end of my range unchanged, at 11.00 percent.

Table 19a: Summary of Updated Results – Hevert Revised Proxy Group[248]

	Mean Low	Mean	Mean High
Constant Growth DCF			
30-Day Average	8.79%	9.81%	10.88%
90-Day Average	8.93%	9.95%	11.03%
180-Day Average	8.97%	9.99%	11.07%
	Low	**Mean**	**High**
Multi-Stage DCF – Gordon Growth Terminal Value			
30-Day Average	9.21%	10.15%	11.22%
90-Day Average	9.33%	10.30%	11.34%
180-Day Average	9.49%	10.35%	11.33%
Multi-Stage DCF – Historical P/E Terminal Value			
30-Day Average	7.96%	10.20%	12.43%
90-Day Average	8.29%	10.53%	12.67%
180-Day Average	8.69%	10.64%	12.65%
Supporting Methodologies			
		Sharpe Ratio Derived Market Risk Premium	**DCF Derived Market Risk Premium**
Capital Asset Pricing Model – Bloomberg Beta			
Current 30-Year Treasury (2.68%)		8.48%	9.74%
Near-Term Projected 30-Year Treasury (3.20%)		9.00%	10.26%
Capital Asset Pricing Model – Value Line Beta			
Current 30-Year Treasury (2.68%)		8.89%	10.24%
Near-Term Projected 30-Year Treasury (3.20%)		9.41%	10.76%
Treasury Yield Plus Risk Premium			
	Low	**Mean**	**High**
Risk Premium	9.96%	10.35%	10.94%

[248] Please note that the mean results for the Constant Growth DCF analysis exclude the projected earnings growth rate of 24.00 percent from Value Line for Otter Tail Corporation and the results for Edison International, which has an average growth rate of less than 1.00 percent.

Table 19b: Summary of Updated Results – Combined Proxy Group[249]

	Mean Low	Mean	Mean High
Constant Growth DCF			
30-Day Average	8.86%	9.73%	10.69%
90-Day Average	9.00%	9.88%	10.84%
180-Day Average	9.06%	9.93%	10.89%
	Low	**Mean**	**High**
Multi-Stage DCF – Gordon Growth Terminal Value			
30-Day Average	9.21%	10.12%	11.22%
90-Day Average	9.33%	10.27%	11.34%
180-Day Average	9.49%	10.33%	11.33%
Multi-Stage DCF – Historical P/E Terminal Value			
30-Day Average	7.90%	10.07%	12.37%
90-Day Average	8.23%	10.41%	12.61%
180-Day Average	8.63%	10.56%	12.59%
Supporting Methodologies			
		Sharpe Ratio Derived Market Risk Premium	**DCF Derived Market Risk Premium**
Capital Asset Pricing Model – Bloomberg Beta			
Current 30-Year Treasury (2.68%)		8.36%	9.60%
Near-Term Projected 30-Year Treasury (3.20%)		8.88%	10.11%
Capital Asset Pricing Model – Value Line Beta			
Current 30-Year Treasury (2.68%)		8.80%	10.13%
Near-Term Projected 30-Year Treasury (3.20%)		9.32%	10.65%
Treasury Yield Plus Risk Premium			
	Low	**Mean**	**High**
Risk Premium	9.96%	10.35%	10.94%

Q. Does that conclude your rebuttal testimony?

A. Yes, it does.

[249] *Ibid.*

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Electric Service.	)))	**Case No. ER-2012-0166**

AFFIDAVIT OF ROBERT B. HEVERT

COMMONWEALTH OF MASSACHUSETTS)
) **ss**
COUNTY OF MIDDLESEX)

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

1. My name is Robert B. Hevert and my office is located in Framingham, Massachusetts and I am Managing Partner of Sussex Economic Advisors, LLC, and an Executive Advisor to Concentric Energy Advisors, Inc.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Union Electric Company d/b/a Ameren Missouri consisting of RBH-ER9 thru RBH-ER29 114 pages and Schedule(s) _____, all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

Robert B. Hevert

Subscribed and sworn to before me this 10th day of August, 2012.

Notary Public

My commission expires:

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