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| Issues: | Return on Equity |
| Witness: | Robert B. Hevert |
| Sponsoring Party: | Union Electric Co. |
| Type of Exhibit: | Rebuttal Testimony |
| Case No.: | ER-2011-0028 |
| Date Testimony Prepared: | March 25, 2011 |

# MISSOURI PUBLIC SERVICE COMMISSION

## CASE NO. ER-2011-0028

# REBUTTAL TESTIMONY

## OF

## ROBERT B. HEVERT

## ON

## BEHALF OF

## Union Electric Company
## d/b/a Ameren Missouri

**Marlborough, Massachusetts**
**March, 2011**

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**REBUTTAL TESTIMONY**

**OF**

**ROBERT B. HEVERT**

**CASE NO. ER-2011-0028**

## I. INTRODUCTION

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

A. My name is Robert B. Hevert, and I am President of Concentric Energy Advisors, Inc. ("Concentric"), 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 AmerenUE. 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 Company's recommended Return on Equity ("ROE"). Mr. David Murray presents Staff's ROE recommendation. I also respond to the direct testimony of Mr. Michael Gorman on behalf of the Missouri Industrial Energy Consumers, and the direct testimony of Ms. Billie Sue LaConte on behalf of the Missouri Energy Group (collectively, with Mr. Murray, the "Opposing ROE Witnesses"). 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-ER8 through RBH-ER30, which have been prepared by me or under my supervision.

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

A. No, I have not. My updated analyses, including 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", models) fully support my 10.90 percent recommendation.

**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:

- I continue to recommend that the Commission adopt a cost of equity within the range of 10.50 percent to 11.25 percent and within that range, I continue to recommend an ROE of 10.90 percent. My recommendation is fully supported by the analyses contained in my direct testimony, as updated to include data through February 28, 2011, 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 also note a significant number of points of

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

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 the approach recently relied upon by the Commission substantially reduces the differences in our analytical results.

- Similarly, had Messrs. Murray and Gorman relied on analyst consensus earnings growth projections in their Constant Growth DCF analyses, those results also would have fallen within my recommended range.
- In addition to growth rate assumptions, certain analytical approaches used by the Opposing ROE Witnesses, in particular Messrs. Murray and Gorman, have the effect of significantly reducing their range of results. In general, those issues include the determination of the appropriate risk-free rate, Beta coefficient and market risk premium for purposes of the Capital Asset Pricing Model ("CAPM"), the application of the Risk Premium approach, and the assessment of the effect of their respective recommendations on the Company's financial integrity.
- In addition to methodological differences, there remain disagreements as to the effect of the continuing instability of the capital markets in general, and certain business risks in particular on the Company's cost of equity. In that regard, my analyses and recommendations take into consideration the continuing instability in the capital markets and the need for capital-

intensive companies such as Ameren Missouri to maintain access to capital when and as needed.

- The ROE recommendations by Messrs. Gorman and Murray are based on ranges of results that are below the average allowed ROE for electric utilities in the United States, inconsistent with the Commission's general policy of considering the average authorized ROE when developing the cost of equity and, if adopted, will likely place significant pressure on Ameren Missouri's credit metrics.

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

A. The remainder of my rebuttal testimony is organized as follows: in Section II, I provide an overview of my rebuttal testimony, including a summary of my updated analyses; Section III contains my response to Staff's Revenue Requirement Cost of Service Report with respect to the cost of equity; Section IV contains my response to Mr. Gorman. In Section V, I respond to the issues raised by Ms. LaConte, Section VI provides my updated analyses, and Section VII summarizes my conclusions and recommendations.

## II. SUMMARY AND OVERVIEW

**Q. Please summarize the Opposing ROE Witnesses' recommendations.**

A. The Opposing ROE Witnesses have recommended equity returns ranging from 8.75 percent in the case of Mr. Murray to 10.20 percent in the case of Ms. LaConte (*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 | 8.25% - 9.25% | 8.75%[2] |
| Mr. Gorman | 9.50% - 10.00% | 9.75%[3] |
| Ms. LaConte | 9.70% - 10.60% | 10.20%[4] |

**Q. Are those recommendations reasonable?**

A. No, they are not**.** In my experience, for example, investors often frame their return requirements by reference to returns recently authorized in other jurisdictions. Chart 1 provides the Return on Equity for integrated electric utilities[5] across the United States from January 2008 through December 2010. During that period, only nine of the 95 rate decisions reported by Regulatory Research Associates resulted in ROE awards of 10.00 percent or lower.[6] That is, the *highest* end of the ranges recommended by either of Mr. Murray or Mr. Gorman was *lower* than approximately 90.00 percent of the observed ROE authorizations. Conversely, over one-half of those cases resulted in ROE determinations of 10.50 percent or higher. Thus, while the majority of the recent ROE awards have fallen within my recommended range, even the highest end of Mr. Gorman's range was observed in

[2] Represents the midpoint of Mr. Murray's range. Staff Revenue Requirement Cost of Service Report, at 2.

[3] Direct testimony of Michael Gorman, at 2.

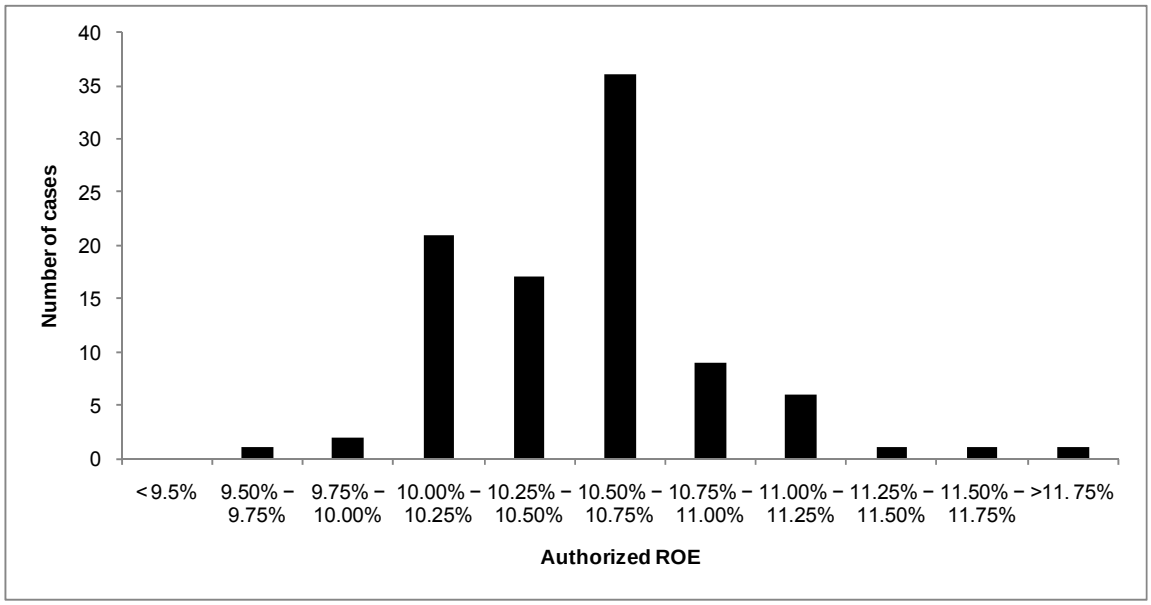
[4] Direct testimony of Billie Sue LaConte, at 2. Please note that the range noted in Table 1 excludes Ms. LaConte's estimates assuming an Environmental Cost Recovery Mechanism is adopted.

[5] Integrated electric utilities are involved in the generation, transmission and distribution of electricity.

[6] As discussed in my response to Mr. Murray, while the absolute values 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.

only 10.00 percent of the cases; there was *no* case in which Mr. Murray's range or recommendation was observed.

**Chart 1: Mean Authorized ROE for Integrated Electric Utilities (2008 – 2010)**[7]




Moreover, it is difficult to reconcile ROE recommendations of 10.00 percent and less with the instability and uncertainty that continues to prevail in the equity markets. As discussed throughout my rebuttal testimony, 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), credit spreads associated with income securities (*i.e.,* the difference between yields on bonds of differing credit quality), and the degree of correlation between the proxy group average return and the return on the broad equity market, all indicate that the current environment is far more similar to that which persisted during the 2002-2003 market dislocation (during which the average

[7] Source: Regulatory Research Associates.

allowed ROE was 11.07 percent) than to the pre-financial crisis (*i.e.,* 2006 – Nov 2007) environment, when the average allowed ROE was 10.28 percent.[8]

**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 DCF analyses; (2) the criteria upon which we selected our proxy companies; (3) the application of the Capital Asset Pricing Model, (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 several of the Opposing ROE Witnesses regarding the relevance of ROE estimates that are lower than any ROE authorized by 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 7.04 percent,[9] for example, should be given any weight in the determination of the Company's cost of equity, yet that is what certain of the Opposing ROE Witnesses in this proceeding have done.

While the differences noted above are significant, I recognize that in the Company's two most recent electric rate cases, the Commission placed substantial

[8] Source: Regulatory Research Associates

[9] *See* Staff Revenue Requirement Cost of Service Report, at 26.

weight on the results of Multi-Stage DCF analyses.[10] And, although I disagree with many of the aspects of the specific Multi-Stage DCF models provided by the Opposing ROE Witnesses, simply adopting their Multi-Stage models and employing a long-term growth rate consistent with the approach recently accepted by the Commission substantially narrows the differences in our respective results (*see* Table 2, below and Schedules RBH-ER11, RBH-ER12 and RBH-ER13).[11] The Commission's preference for the Multi-Stage DCF approach, and the relative consistency in results among the various ROE witnesses, when appropriate growth rates are used, further supports my 10.90 percent ROE recommendation.

**Table 2: Filed and Revised Multi-Stage DCF Results[12]**

| | Range | | | |
|---|---|---|---|---|
| | **Low** | **High** | **Mean** | **Median** |
| Murray - Filed | 6.85% | 10.48% | 8.76% | 8.83% |
| Murray - Adjusted | 9.03%% | 11.67% | 10.41% | 10.47% |
| | | | | |
| Gorman - Filed | 8.00% | 10.94% | 9.65% | 9.86% |
| Gorman - Adjusted | 8.84% | 11.65% | 10.41% | 10.61% |
| | | | | |
| LaConte - Filed | 9.10% | 11.00% | 10.20% | 10.25% |
| LaConte - Adjusted | 9.21% | 10.88% | 10.19% | 10.44% |
| | | | | |
| Hevert - Direct[13] | 10.36% | 11.39% | 10.83% | 10.92% |
| Hevert - Updated | 9.86% | 11.33% | 10.51% | 10.49% |

[10] Case No. ER-2008-0318 and Case No. ER-2010-0036.

[11] The Multi-Stage DCF models presented by each witness were updated to reflect projected long-term growth in the nominal Gross Domestic Product.

[12] The figures in this table reflect the lowest ROE and highest ROE result obtained through the various DCF methodologies employed by the witnesses as well as the means and medians of those results. The adjusted results reflect my recommended long-term growth rate for the Multi-Stage DCF. None of the Opposing ROE Witnesses' results were adjusted to reflect the mid-year convention for discounting.

[13] Hevert Multi-Stage results using 90-day stock price averaging and Gordon Growth terminal value.

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

A. While there are differences in the composition of our respective proxy groups, as a practical matter those differences do not create a material difference in our analytical results. Table 3 (below) summarizes the proxy companies used by the Opposing ROE Witnesses in this proceeding, and the reasons that I have excluded certain of those companies from my proxy group. As Table 3 notes, two companies included in my original proxy group (*i.e.*, Northeast Utilities, and Progress Energy) became parties to (separate) merger transactions subsequent to the filing of my direct testimony. Consequently, my updated results are based on a "Revised Proxy Group" that excludes those companies. Because Mr. Gorman includes those companies in his proxy group, however, they are included in the "Combined Proxy Group."

## Table 3: Proxy Group Comparison

| Company | Ticker | Hevert Proxy Group | Murray Proxy Group | Gorman Proxy Group | LaConte Proxy Group | Combined Proxy Group |
|---|---|---|---|---|---|---|
| Alliant Energy Corp. [3], [4] | LNT | | √ | | | √ |
| American Electric Power | AEP | √ | √ | √ | √ | √ |
| Ameren Corp. | AEE | | | | √ | √ |
| CMS Energy [2], [3], [4] | CMS | | | | √ | √ |
| Cleco Corp. | CNL | √ | √ | √ | | √ |
| Dominion Resources [1], [3], | D | | | | √ | √ |
| Consolidated Edison [3], [4], | ED | | | | √ | √ |
| DPL, Inc. | DPL | √ | √ | √ | | √ |
| DTE Energy Co. [3], [4] | DTE | | | | √ | √ |
| Empire District Electric | EDE | √ | | √ | | √ |
| Entergy Corp. [2] | ETR | | | | √ | √ |
| Exelon Corp. [2], [6] | EXC | | | | √ | √ |
| Great Plains Energy | GXP | √+ | | | | √ |
| IDACORP Inc. | IDA | √ | √ | √ | | √ |
| Integrys Energy Group, Inc. | TEG | | | | √ | √ |
| Northeast Utilities [5] | NU | X | | √ | | √ |
| PG&E Corp [3], [4], [6] | PCG | | √ | | | √ |
| Pinnacle West Capital | PNW | √ | √ | √ | √ | √ |
| PPL Corp. [1], [2], [5], [7] | PPL | | | | √ | √ |
| Pepco Holdings, Inc. [1], [5], | POM | | | | √ | √ |
| Portland General | POR | √ | | √ | | √ |
| Progress Energy [5] | PGN | X | | √ | | √ |
| Southern Company | SO | √ | √ | √ | √ | √ |
| TECO Energy, Inc. [3], [4] | TE | | | | √ | √ |
| Westar Energy | WR | √ | √ | √ | | √ |
| Wisconsin Energy [3], [4] | WEC | | | | √ | √ |
| Xcel Energy, Inc. [3], [4] | XEL | | √ | | √ | √ |

Key:
√ = Included in applicable proxy group
X = Excluded from Revised Proxy Group
√+ = Included in Revised Proxy Group

Reason company was not included in the Hevert Proxy Group:
[1] Percent regulated revenue to total revenue less than 60%
[2] Percent regulated operating income to total operating income less than 60%
[3] Percent regulated electric revenue to total regulated revenue less than 90%
[4] Percent regulated electric operating income to total regulated op. income less than 90%
[5] Company is party to a merger
[6] Percent coal-fired generation to total generation is less than 10%
[7] Generation assets not included in rate base

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

A. As discussed in Section VI, 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 up to and including February 28, 2011.[14] My analyses and recommendations also take into consideration the instability in the capital markets and the need for utilities such as AmerenUE to maintain a level of financial integrity that enables access to capital, at reasonable costs, when and as needed. In that regard, I also have analyzed observable measures of investors' risk aversion, including comparatively high levels of expected market volatility, the inversion of the proxy company dividend yields relative to Treasury yields, changes in credit spreads, and increased correlations in utility returns relative to the broad market. All of those measures are directly relevant to the estimation of the Company's cost of equity.

Tables 4a and 4b (below) summarize my updated analytical results.

[14] As discussed in Section VI, my updated CAPM results are based on Beta coefficients calculated over a twelve-month period, as opposed to the six-month period discussed in my direct testimony. *See* Schedules RBH-ER14 and RBH-ER15.

**Table 4a: Summary of Results – Revised Proxy Group**

| | Mean Low | Mean | Mean High |
|---|---|---|---|
| *Constant Growth DCF* | | | |
| 30-Day Average | 9.06% | 10.42% | 11.58% |
| 90-Day Average | 9.11% | 10.46% | 11.62% |
| 180-Day Average | 9.25% | 10.61% | 11.77% |
| | **Low** | **Mean** | **High** |
| *Multi-Stage DCF* | | | |
| Gordon Growth Terminal Value[15] | | | |
| 30-Day Average | 9.78% | 10.47% | 11.28% |
| 90-Day Average | 9.86% | 10.51% | 11.33% |
| 180-Day Average | 10.01% | 10.66% | 11.38% |
| Long-Term P/E Terminal Value | | | |
| 30-Day Average | 8.45% | 9.90% | 11.84% |
| 90-Day Average | 8.63% | 10.00% | 11.93% |
| 180-Day Average | 8.99% | 10.32% | 12.05% |
| | | | |
| *Risk Premium Approaches* | | | |
| | **Current 30-Yr Treasury** | | **Projected 30-Yr Treasury** |
| *Capital Asset Pricing Model* | | | |
| Sharpe Ratio-Derived MRP | | | |
| Current Beta | 10.37% | | 10.61% |
| Historical Beta | 9.62% | | 9.86% |
| Market DCF-Derived MRP | | | |
| Current Beta | 11.13% | | 11.37% |
| Historical Beta | 10.28% | | 10.52% |
| | **Low** | **Mean** | **High** |
| *Treasury Yield Plus Risk Premium* | 10.63% | 10.66% | 10.70% |

[15] As discussed in my direct testimony (*see* direct testimony of Robert B. Hevert, at 29-31), and as noted in my responses to Messrs. Murray and Gorman, the Terminal Value component of the Multi-stage DCF model can be estimated by the Gordon Growth Model, which is the functional equivalent to the Constant Growth DCF model, or by applying an assumed Price/Earnings ratio to the terminal year Earnings Per Share. *See* Schedule RBH-ER10.

**Table 4b: Summary of Results – Combined Proxy Group**

| | Mean Low | Mean | Mean High |
|---|---|---|---|
| *Constant Growth DCF* | | | |
| 30-Day Average | 9.30% | 10.60% | 11.94% |
| 90-Day Average | 9.33% | 10.63% | 11.98% |
| 180-Day Average | 9.45% | 10.75% | 12.09% |
| | **Low** | **Mean** | **High** |
| *Multi-Stage DCF* | | | |
| Gordon Growth Terminal Value | | | |
| 30-Day Average | 9.61% | 10.42% | 11.28% |
| 90-Day Average | 9.52% | 10.46% | 11.33% |
| 180-Day Average | 9.46% | 10.58% | 11.38% |
| Long-Term P/E Terminal Value | | | |
| 30-Day Average | 7.47% | 9.80% | 11.84% |
| 90-Day Average | 7.25% | 9.88% | 11.93% |
| 180-Day Average | 7.10% | 10.13% | 12.05% |
| | | | |
| *Risk Premium Approaches* | | | |
| | **Current 30-Yr Treasury** | **Projected 30-Yr Treasury** | |
| *Capital Asset Pricing Model* | | | |
| Sharpe Ratio-Derived MRP | | | |
| Current Beta | 10.36% | 10.60% | |
| Historical Beta | 9.78% | 10.02% | |
| Market DCF-Derived MRP | | | |
| Current Beta | 11.12% | 11.36% | |
| Historical Beta | 10.46% | 10.70% | |

## III. 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, claims that the Company's cost of equity is within a range of 8.25 percent to 9.25 percent. Staff's recommendation is derived from 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.[16]

Mr. Murray considers a variety of growth rates for his DCF analyses, including Earnings per Share, Dividends per Share, and Book Value per Share, and concludes that a reasonable range of growth rate estimates for his Constant Growth DCF analysis is from 4.00 percent to 5.00 percent. As to his Multi-Stage DCF analysis, Mr. Murray's results are significantly biased by his long-term growth estimate of 3.00 percent to 4.00 percent (3.50 percent midpoint), which is based on his review of a 2009 report by Goldman Sachs, and his assessment of certain historical data.

Mr. Murray develops two CAPM analyses, which produce mean results of 7.04 percent and 8.09 percent, respectively.[17] As a means of assessing his DCF and CAPM results, Mr. Murray applies a "Rule of Thumb" estimate that is based on data that is not specific to the electric utility industry, and which establishes the cost of equity as 300 to 400 basis points over the cost of debt. In addition to his "Rule of Thumb" estimates, Mr. Murray asserts that his 8.25 percent to 9.25 percent ROE recommendation is reasonable because "[u]tility debt markets continue to indicate a fairly low cost-of-capital environment" and that "[i]f one were to assume that the risk premium required to invest in utility stocks rather than utility bonds was constant, then these lower utility debt yields clearly translate into a lower required return on equity." Based on those assertions, Mr. Murray concludes that "it is not improbable

[16] As discussed below, Mr. Murray's "Rule of Thumb" is a form of Risk Premium analysis.
[17] Staff Revenue Requirement Cost of Service Report, at 26.

that investors are only requiring returns on common equity in the 7% to 8% range for utility stocks."[18]

**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 reasonableness of Staff's ROE estimates and recommendation; (2) the implications of the current capital market environment for the Company's cost of equity; (3) the composition of the proxy group; (4) Mr. Murray's application of the Constant Growth DCF model; (5) the application and structure of Mr. Murray's Multi-Stage DCF model; (6) Mr. Murray's application of the CAPM; (7) Mr. Murray's Risk Premium analysis and his assertion that authorized returns in other jurisdictions are not relevant to the Commission; and (8) 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. The Reasonableness of Staff's ROE Estimates***

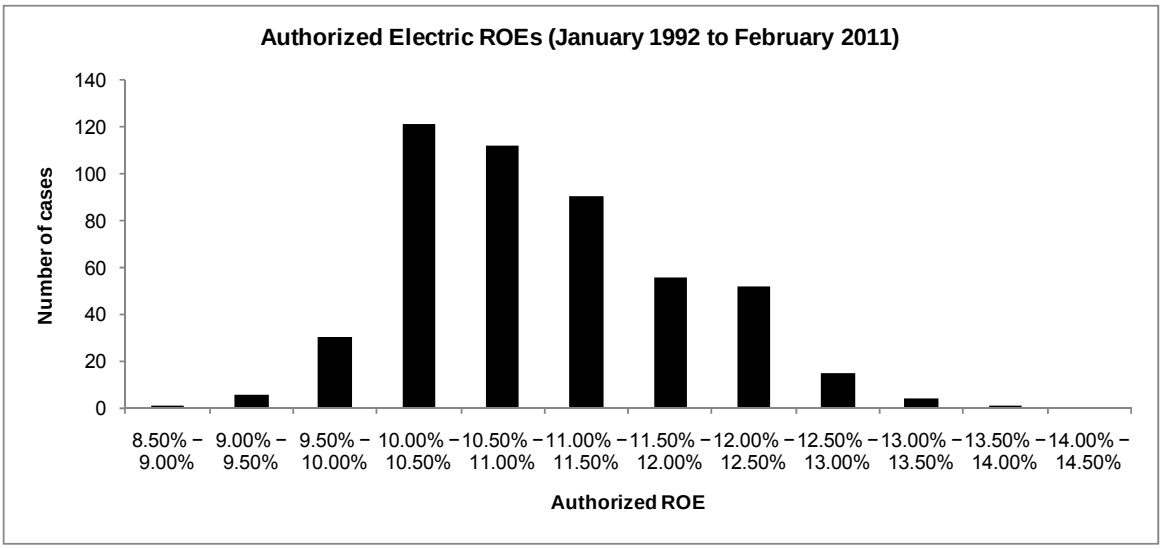
**Q. Are Mr. Murray's analytical results and recommendation reasonable?**

A. No, they are not. ROE estimates as low as 7.04 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 488 electric utility rate case decisions reported by Regulatory Research Associates from January 1992 through February 28, 2011,

[18] *Ibid*., at 26.

there was only one ROE authorization of 9.00 percent or lower;[19] in fact the average ROE award during that time period was 10.92 percent (*see* Chart 2, below).

**Chart 2: Electric Utility ROE Awards (1/1/1992 – 2/28/2011)[20]**




As discussed in my direct testimony, the Commission previously has established a zone of reasonableness by reference to the average authorized ROE as reported by Regulatory Research Associates ("RRA").[21] For 2010, RRA reports an average authorized ROE for electric utilities of 10.35 percent; the vast majority of those authorizations were over 10.00 percent.

Moreover, many 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 6.09 percent by a margin sufficient to enable Ameren Missouri to attract capital at

19 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.

20 Source: Regulatory Research Associates. Includes all reported electric utility ROE authorizations.

21 Direct testimony of Robert B. Hevert, at 44-45.

reasonable terms and conditions consistent with its peers.[22] For example, Mr. Murray's Constant Growth DCF model produces a range of 8.50 percent to 9.50 percent, while his Multi-Stage DCF model produces a range of 8.40 percent to 9.13 percent; his CAPM analyses produce average results of 7.04 percent to 8.09 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.[23]

It also is interesting to note that while Mr. Murray's "Rule of Thumb" (as applied to Baa Utility Bonds) produces a range of 8.82 percent to 9.82 percent, most of his ROE estimates fall below that range; in fact, all twenty of Mr. Murray's CAPM estimates fall below the 8.82 percent lower bound. Similarly, seven of the twenty results produced by Mr. Murray's Constant Growth DCF model, and fifteen of the thirty results produced by his Multi-Stage DCF analysis, do not satisfy his "Rule of Thumb" test. Thus, Mr. Murray's "Rule of Thumb" test does not confirm its primary analytical results.

Capital Market Environment

**Q. Does Mr. Murray address current capital market conditions in Staff's Cost of Service report?**

A. Yes. Mr. Murray observes that the United States presently is emerging from the most severe recession since the Great Depression, and while economic

[22] Source: Bloomberg Financial. Average daily yield for Moody's Baa-rated long-term utility debt for the 30 days ending February 28, 2011.

[23] *See* direct testimony of Robert B. Hevert, at 42.

growth is expanding, it is doing so at a relatively slow rate.[24] In addition, Mr. Murray cites information from the Congressional Budget Office, which forecasts long-term Gross Domestic Product ("GDP") growth between 4.00 percent and 5.00 percent from 2011 through 2021, and points out that those projections assume a 2.00 percent rate of inflation.[25] Mr. Murray further asserts that the difference between Treasury Inflation Protected Securities ("TIPS") and nominal Treasury securities does not appear to be a factor in the recent increase in interest rates,[26] and that the current level of utility bond yields is reminiscent of an environment of "easy money" prior to the economic crisis, which began in 2008.[27] As to the last point, Mr. Murray points to a series of First Mortgage Bonds recently issued by The Empire District Electric Company ("EDE") as indicative of low costs of both debt and equity.[28]

**Q. What is your general response to Mr. Murray on those points?**

A. While I agree with Mr. Murray that capital market conditions have begun to moderate over the past several months, an ROE of 8.25 percent to 9.25 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. Further, while Mr. Murray points to recent data regarding credit spreads, he fails to consider other very visible and

[24] Staff Revenue Requirement Cost of Service Report, at 7.
[25] *Ibid.*
[26] *Ibid.*, at 8.
[27] *Ibid.*, at 9.
[28] *Ibid.*, at 9,10. As discussed in more detail later in my rebuttal testimony, among other issues, Mr. Murray's reference to the EDE First Mortgage Bonds overlooks the fact that the senior and collateralized position of such securities tends to enable the issuer to obtain an interest rate that reflects a stronger credit profile than is reflected in the corporation's overall corporate credit rating.

relevant measures of investor risk aversion, including (1) market volatility, (2) the current yield inversion between Treasury bonds and utility dividend yields, (3) incremental credit spreads, and (4) the correlation of returns between the proxy group and the broader market. As discussed below, those metrics objectively demonstrate that Mr. Murray's conclusions and ROE recommendation are at odds with capital market conditions. Finally, I strongly disagree with Mr. Murray that First Mortgage Bonds issued by EDE for periods as short as ten years are indicative of investors' required Return on Equity for Ameren Missouri.

**Q. Please explain the relationship between capital market volatility and certain cost of equity models, such as the CAPM.**

A. During times of capital market instability, risk aversion increases, which causes investors to seek the relative safety of U.S. Treasury debt, resulting in lower Treasury yields. At the same time, current and expected market volatility increase, as measured by indicators such as the Chicago Board Options Exchange ("CBOE") Volatility Index (commonly referred to as the "VIX"). A direct result of elevated volatility is a corresponding increase in the risk premium required by investors as compensation for taking on the risks associated with equity ownership. In addition, correlations of returns across industry segments increase, indicating that no one sector, including utilities, is a reliable "safe haven". A direct consequence of those increased correlations is an increase in the Beta coefficient. Since the CAPM addresses all three elements, *i.e.*, the correlation of returns (via Beta), equity market volatility (via the market risk premium), and Treasury yields (*i.e*., the risk free rate), all three should be appropriately reflected in the CAPM analysis. Given that

Mr. Murray's focus on historical information in the application of his CAPM analysis fails to consider those fundamental market dynamics, it is not surprising that his analytical results are unreasonably and untenably low, notwithstanding his position that such estimates are "not improbable".

**Q. Have you reviewed specific measures of investor risk sentiment?**

A. Yes. As noted above, I considered several widely-recognized measures of investor risk sentiment, including: (1) equity market volatility; (2) the relationship between the proxy group dividend yields and Treasury yields; (3) incremental credit spreads; and (4) the correlation of returns between the proxy companies and the broad market. In each case, I compared current market conditions to the pre-recession historical averages from January 2006 through November 2007 and January 2002 through December 2003. As shown on Table 5 (below), those metrics indicate that current levels of risk aversion are significantly higher than the levels observed prior to the recent recession, and are much closer to the levels experienced during the 2002-2003 capital market contraction.

**Table 5: Risk Sentiment Indicators**[29]

| | February 28, 2011[30] | Pre-recession (January 2006 through November 2007) | January 2002-December 2003 Period |
|---|---|---|---|
| *Credit Spreads* (Moody's Utility Bond Index) | | | |
| Baa-rated bond to 10-year Treasury | 2.79% | 1.58% | 3.12% |
| Baa-rated bond to A rated bond | 0.47% | 0.25% | 0.46% |
| *Market Volatility* | | | |
| CBOE VIX | 21.87%[31] | 14.90% | 24.64% |
| *Dividend Yield Spreads* | | | |
| Proxy Group to 10-year Treasury | -1.42% | 0.46% | -1.73% |
| *Return Correlations* | | | |
| Utility Index to S&P 500 Index[32] | 68.31%[33] | 49.97% | 70.08% |

Equity Market Volatility

As noted earlier, the VIX is a commonly referenced measure of market volatility. Forward contracts on the VIX (as priced on the CBOE Options Exchange) indicate expected volatility of approximately 21.87 percent, well above the pre-recessionary level of 14.90 percent. That is, expected volatility currently is approximately 50.00 percent higher than it had been prior to the 2008 capital market dislocation. Since (as noted in my direct testimony) there is a direct relationship between market volatility and the *ex-ante* equity risk premium, the comparatively high forward VIX average indicates higher, not lower required equity returns.

29 Source: Bloomberg Professional Service.
30 90-trading day average as of February 28, 2011, except as noted otherwise.
31 30-trading day average pricing of six month forward volatility. *See,* Schedule RBH-ER16.
32 *See* Schedule RBH-ER20.
33 1-month average of 90-day correlation.

Yield Spreads

While the VIX is a broad measure of continuing market instability, it also is instructive to consider the proxy companies' trading behavior in particular. One commonly referenced measure of utility stock valuation levels is the "yield spread", or the relationship of the dividend yield to Treasury yields.[34] From January 2006 through November 2007, the average yield on ten-year Treasury securities exceeded the proxy group average dividend yield by approximately 46 basis points.[35] Since late 2007, however, the proxy group average dividend yield has consistently traded above the ten-year Treasury yield. As Table 5 indicates, the 90-day average yield spread as of February 28, 2011 was negative 142 basis points, an amount much closer to conditions during 2002-2003 than the 2006-2007 timeframe. That significant and sustained yield inversion is another market-based indication that capital market instability remains at a comparatively elevated level.

Incremental Credit Spreads

The "credit spread" is the incremental return required by debt investors to take on the default risk associated with securities of differing credit quality. Since U.S. Treasury securities are considered to have essentially no default risk, credit spreads typically are measured by reference to Treasury securities with maturities comparable to the subject security. In that regard, the difference in credit spreads across ratings "notches" is a measure of the incremental return required by debt investors as compensation for assuming the risk associated with incremental

[34] *See*, for example, Credit Suisse, *A Thought...Regulated Utilities = Investment Opportunity?*, March 10, 2009.

[35] It is common for utility stocks to trade such that their dividend yield is less than the ten-year Treasury yield. *See*, for example, Credit Suisse, *A Thought...Regulated Utilities = Investment Opportunity?*, March 10, 2009, at 30.

deterioration in credit quality. As Table 5 indicates, during the pre-recessionary period, the Baa Utility Bond Index credit spread averaged approximately 1.58 percent; the current credit spread is 2.79 percent. Likewise, the Baa Utility Index to A Utility Index credit spread currently is approximately 47 basis points (0.47 percent) relative to its pre-recessionary average of 25 basis points. While credit ratings are not necessarily directly related to the cost of equity, the data discussed above does support the general observation that risk aversion remains higher than the levels observed in the pre-recessionary environment.

Increasing Return Correlations

As equity volatility has continued, the correlation of returns among various asset classes and equity sectors has begun to increase, indicating that there are fewer "safe harbor" sectors for investors. As noted by The Wall Street Journal, "stocks are trading in lock-step more than at any time since the 1987 crash, and the trend has some analysts concerned."[36] As with other asset classes and equity market segments, utility stocks also have exhibited an increasing correlation with the broad market relative to prior periods. Table 5 demonstrates that from January 2006 to November 2007, the correlation between the proxy group and the S&P 500 averaged approximately 49.97 percent, while the 90-day average correlation for the month of February 2011 was 68.31 percent.[37]

There are two practical implications of those findings. First, as the correlation between the proxy group and the broad market increases, it is less likely that investors will see utility shares as "defensive" investments that would provide

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

[37] Based on 30-day returns, excluding dividends. Correlations are calculated over 90 days.

meaningful diversification benefits. Second, as the correlation increases, it is reasonable to expect that the Beta coefficient (which measures the relationship between the return on the broad market and the return on the subject security) also will increase. As discussed later in my rebuttal testimony, the latter point supports the use of Beta coefficients (used in the CAPM) calculated over periods shorter than the two or five year periods used to calculate many published Beta estimates.

Relevance of the Empire Electric District First Mortgage Bonds

**Q. What is the difference between First Mortgage Bonds ("FMBs") and unsecured notes?**

A. The primary difference (regardless of whether the notes have "junior" or "senior" priority) relates to the means by which the issuer's obligation to service the debt is secured. In the case of unsecured notes, the issuer's ability to service the debt (*i.e.*, to pay both interest and principal on a timely basis) is supported only by the general creditworthiness of the issuer, and not by the pledge of specific collateral. First Mortgage Bonds ("FMBs"), by contrast, are secured by a claim on underlying assets that can be liquidated in the case of default.

The second important distinction relates to the priority of payment in the case of default. If the issuer has both secured (such as the FMBs) and unsecured debt outstanding, the secured bondholders have a claim that is senior to unsecured bondholders on funds that are available to creditors in an event of default. Senior unsecured bondholders, while having a claim that is subordinate to first mortgage bondholders, are paid before "junior", unsecured bondholders. Because senior

unsecured bonds are not collateralized and are subordinate to FMBs, they carry greater risk and therefore require higher yields than FMBs.

Credit rating agencies recognize the superior position of FMBs as part of their credit analysis for all corporations, and will often assign FMBs a rating that is at least one notch higher than the rating on unsecured debt. Standard and Poor's, for example, notes that:

> The analysis of specific instruments includes consideration of priorities within an obligor's capital structure and the potential effects of collateral and recovery estimates in the event of the obligor's default. The analysis may apply notching to instruments that rank above or below their obligor's senior, unsecured debt. For example, subordinated debt would generally receive a rating below the senior debt rating. Conversely, **secured** debt may receive a rating above the unsecured debt rating.[38]

In the case of EDE, it is not surprising that the FMBs carry a higher rating than the company's corporate credit rating. Standard & Poor's evaluates the credit quality of FMBs on the basis of a "recovery ratio", which is the ratio of the total value of outstanding mortgage collateral to the maximum amount of outstanding mortgage debt permitted under the terms of the mortgage indenture.[39] S&P generally views net assets as representative of outstanding collateral, and will consider other limitations that may be imposed under the terms and conditions of subordinate debt agreements on the utility's ability to issue mortgage debt. Based on its review of the recovery ratio, Standard & Poor's likely will assign FMBs a credit rating that is above not only the rating of unsecured debt, but also above the overall corporate credit

[38] Standard & Poor's, *General Criteria: Principles of Credit Ratings*, February 16, 2011, at para 36. [Emphasis added]

[39] Standard & Poor's, *Criteria/Corporates/Utilities: Changes to Collateral Coverage Requirements for '1+' Recovery Ratings on U.S. Utility First Mortgage Bonds,* September 6, 2007, at 3.

rating. For BBB-rated utilities, this could equate to a one or two notch ratings improvement over the corporate credit rating, depending on whether the recovery ratio is above or below 1.5. A utility with a BBB-corporate credit rating and FMBs with a recovery ratio of 1.7 for example, may receive an FMB rating two notches higher than the corporate credit rating.[40]

While Mr. Murray states that EDE was able to obtain favorable interest rates on its FMBs "despite the fact that its S&P corporate credit rating of 'BBB-' is only one notch above non-investment grade status"[41] he neglects to note that, consistent with the discussion above, both S&P and Moody's rate EDE's FMBs two notches above the company's corporate credit rating.[42] Thus, Mr. Murray's use of yields on FMBs does not provide a reasonable reference point by which the Company's cost of equity may be assessed.

**Q. Do Mr. Murray's observations regarding EDE's First Mortgage Bond issuances provide meaningful information regarding Ameren Missouri's cost of equity?**

A. No. As noted above, the senior and collateralized nature of FMBs tends to provide credit support in excess of the issuer's unsecured credit profile. Consequently, it is difficult to infer investors' views of the issuing company's fundamental credit risk from the yields on FMBs. Consequently, conclusions regarding the cost of equity based on discrete FMB issuances also are tenuous.

40 *Ibid., at 4.*

41 Staff Revenue Requirement Cost of Service Report, at 9.

42 S&P has assigned a "BBB+" rating on EDE's FMBs and a "BBB-" rating for corporate credit quality and Senior Notes. Moody's has assigned an "A3" rating on the FMBs and a "Baa2" rating for corporate credit quality and Senior Notes.

That is why, for example, my screening criteria are focused on issuer or senior unsecured credit ratings as opposed to the ratings on senior secured debt.

Moreover, while long-term Treasury rates recently have begun to increase, the question of whether they currently remain at comparatively low levels is not at issue. What is at issue, however, is whether the equity risk premium is constant over varying levels of interest rates, as Mr. Murray's "Rule of Thumb" assumes, or whether (as demonstrated in my direct and rebuttal testimonies as well as the Barclays' analysis provided by Mr. Murray)[43] the equity risk premium increases as interest rates decrease. In my view, the senior and secured nature of FMBs, together with the inverse relationship between interest rates and the equity risk premium call into question Mr. Murray's suggestion that the EDE First Mortgage Bond yields somehow are indicative of the Company's cost of equity.

**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 substantially higher than those observed prior to the financial market dislocation. The result is an increased, not a decreased, cost of equity. 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 volatility increase investor risk perceptions and, therefore, the premium required by investors to take on the risks of equity ownership. Similarly, increases in credit

[43] Staff Revenue Requirement Cost of Service Report, Appendix 2, Attachment D.

spreads from historical levels indicate greater investor risk aversion than has existed in the past and also are indicative of higher relative capital costs. Finally, increased correlations between utility equity securities and the broad equity market increase relative perceptions of risk of utility equities with respect to the broad market, which in turn increases the Beta term of individual proxy group companies.

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 Mr. Murray's analyses, the analytical results and ROE recommendations are further undermined.

### *B. 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.

**Table 6: Hevert and Murray Proxy Groups**

| Company | Ticker | Hevert Original Group | Revised Proxy Group | Murray Proxy Group |
|---|---|---|---|---|
| Alliant Energy | LNT | | | X |
| American Electric Power | AEP | X | X | X |
| Cleco Corp. | CNL | X | X | X |
| DPL, Inc. | DPL | X | X | X |
| The Empire District Electric Company | EDE | X | X | |
| Great Plains Energy | GXP | | X | |
| IDACORP, Inc. | IDA | X | X | X |
| Northeast Utilities | NU | X | | |
| PG&E Corp. | PCG | | | X |
| Pinnacle West Capital | PNW | X | X | X |
| Portland General | POR | X | X | |
| Progress Energy | PGN | X | | |
| Southern Company | SO | X | X | X |
| Westar Energy | WR | X | X | X |
| Xcel Energy | XEL | | | X |

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

A. The differences between my Revised Proxy Group and Mr. Murray's proxy group are primarily attributable to (1) the inclusion of three companies (Alliant Energy ("LNT"), PG&E Corp. ("PCG") and Xcel Energy ("XEL")) in Mr. Murray's proxy group that I would exclude on the basis of business segment operating results, and (2) the exclusion from Mr. Murray's proxy group of three companies (EDE, Great Plains Energy ("GXP"), and Portland General ("POR")).

**Q. Why did you modify your proxy group?**

A. First, it is important to note that the Revised Proxy Group conforms to the screening criteria presented in my direct testimony, as applied to the most recently available information. In that regard, applying the screening criteria contained in my direct testimony results in the addition of one company, GXP, and the exclusion of two companies, Northeast Utilities ("NU") and Progress Energy ("PGN") from my original proxy group. I included GXP in the Revised Proxy Group because the company's dividend cut, which was the reason for its elimination from my original proxy group, occurred more than 24 months ago and the dividend has remained stable since that time. My Revised Proxy Group excludes both NU and PGN since both have become party to significant (but separate) transactions subsequent to the filing of my direct testimony.[44]

**Q. Why are some of the companies included in Mr. Murray's proxy group excluded from yours?**

A. Mr. Murray's screening criteria add three companies, LNT, PCG, and XEL, all of which I have excluded because they failed to have regulated electric revenues and operating income exceeding 90.00 percent of total regulated revenue and operating income. In addition, PCG did not have at least 10.00 percent of its generation produced by coal-fired plants.

[44] Northeast Utilities, SEC Form 8-K filed for period ended October 16, 2010. Progress Energy, SEC Form 8-K filed for period ended January 8, 2011.

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

A. Mr. Murray's proxy group does not contain three companies, EDE, GXP, 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 EDE was excluded because a future growth estimate was not available from Reuters; GXP was excluded because it had experienced a dividend reduction since 2007, and POR was excluded because there was not ten years of Value Line historical growth data available for that company.

**Q. Do you agree with Mr. Murray's exclusion of those companies from the proxy group?**

A. No, I do not. As to EDE, I note that First Call provides consensus earnings growth estimates and as such, I do not believe that the company should be excluded as Mr. Murray suggests. Regarding POR, I disagree that a company should be excluded 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 comparable proxy companies.[45] In my view, the availability of historical Value Line data for a period of ten years does not distinguish suitable from unsuitable proxy companies. Finally, for the reasons discussed above, I have included GXP in my Revised Proxy Group. Table 7 (below) provides updated ROE analyses for both my Revised Proxy Group, and Mr. Murray's proxy group (based on the Constant Growth and Multi-Stage DCF models).

[45] *See* direct testimony of Robert B. Hevert, at 10-12.

**Table 7: Hevert and Murray DCF Results Comparison**

| | Hevert Revised Proxy Group | Murray Proxy Group |
|---|---|---|
| *Constant Growth DCF* | **Mean** | **Mean** |
| 30-Day Average | 10.42% | 10.23% |
| 90-Day Average | 10.46% | 10.26% |
| 180-Day Average | 10.61% | 10.38% |
| | | |
| *Multi-Stage DCF* | **Mean** | **Mean** |
| Gordon Growth Terminal Value | | |
| 30-Day Average | 10.47% | 10.50% |
| 90-Day Average | 10.51% | 10.53% |
| 180-Day Average | 10.66% | 10.65% |

While there is not a consistently significant difference in results between the two groups, my selection criteria produce a proxy group more representative of Ameren Missouri's investment risks. Nonetheless, I have included Mr. Murray's proxy companies in the Combined Proxy Group.

### *C. 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 published by Zacks, First Call and Value Line.[46] 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, all of which he ultimately dismisses as "not sustainable."[47] While Mr. Murray reviews the analyst growth estimates provided by consensus

[46] *Ibid.*, at 24-25.
[47] Staff Revenue Requirement Cost of Service Report, at 18.

forecasts (*i.e*., Reuters) and Value Line, he concluded that none of those estimates was, in his opinion, a reliable indicator of long-term growth expectations. Rather, Mr. Murray relies on his own estimate of 4.00 percent to 5.00 percent which, he reasons, is more representative of utility growth over the long term relative to expected nominal GDP growth.[48]

**Q. Why does Mr. Murray reject analysts' earnings growth projections 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 is a "relatively wide dispersion."[49] Mr. Murray further notes that historical five and ten year rates of growth in those measures had exhibited a certain level of volatility and concluded that "[d]ue to the current volatility and wide dispersions present in Staff analysis of historical and projected DPS, EPS and BVPS, Staff considered none of those methods to produce reliable indicators of long-term growth expectations."[50] Rather, Mr. Murray suggests that a review of historical growth rates "marginally support" his 4.00 percent to 5.00 percent range.[51]

**Q. Do you agree with Mr. Murray's assessment of growth for the Constant Growth 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.[52] Corporate decisions to manage the dividend payout ratio for the purpose of

48 *Ibid.*, at 18.
49 *Ibid.*, at 18.
50 *Ibid*., at 18
51 *Ibid*., at 19.
52 *See* Direct testimony of Robert B. Hevert, at 24.

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 increases 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 Price/Earnings ("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 Price/Earnings ratios, the required return on equity 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 projections 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.[53]

**Q. Why are earnings growth rates the appropriate measure for the 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.[54] 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.[55]

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 growth in predicting stock prices.[56] For example, Vander Weide and Carleton state that, "[o]ur results…are consistent with the hypothesis that

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53 *Ibid.*, at 13.

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

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

56 *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.

investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions."[57] 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 forecast are indeed reflected in stock prices." Citing Cragg and Malkiel, Dr. Harris notes that those authors "found that the evaluations of companies that analysts make are the sorts of ones on which market valuation is based."[58]

To that point, the research of Professors 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.[59] 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 the proxy group companies.

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

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

[59] As discussed later in my rebuttal testimony, that finding applies specifically to the proxy group.

**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.[60] While their study addressed the use of historical growth rates, the general methodology established by Professors 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 the proxy group stock valuation levels. Essentially, the analysis is structured to determine whether investors use Earnings, Dividend, or Book Value growth rates when valuing the proxy company stocks.

As shown in Table 8 (*see* also Schedule RBH-ER21, my analysis examines the relationship between the P/E ratios of the proxy companies, and the projected EPS, DPS, and BVPS growth rates reported by Value Line. In order to establish a sample of sufficient size to be statistically significant, I examined the relationship between the P/E ratio of the companies and the projected EPS, DPS and BVPS growth rates reported by Value Line as of November 30, 2010 and February 28,

[60] 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 the Vander Weide and Carlton's original conclusions.

2011. I also eliminated any observations wherein Value Line did not report EPS, DPS, and BVPS projections, or for which Value Line projected negative growth rates.

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 intent of those analyses was to determine which, if any, of the growth rates are statistically related to the proxy company stock valuation levels. As shown in Table 8 (below), the results of all four regression analyses indicate that EPS is the only meaningful, statistically significant explanatory variable for P/E ratios.[61]

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

| | Intercept | Coefficient | Standard Error | T-Stat | F-Stat |
|---|---|---|---|---|---|
| Scenario 1- Projected EPS | 10.320 | 62.537 | 16.518 | 3.786 | 14.334 |
| Scenario 2- Projected DPS | 14.245 | -5.924 | 7.831 | -0.756 | 0.572 |
| Scenario 3- Projected BVPS | 17.216 | -75.032 | 13.969 | -5.371 | 28.850 |
| Scenario 4- Projected EPS<br>Projected DPS<br>Projected BVPS | 14.140 | 50.629<br>5.547<br>-78.180 | 14.675<br>7.378<br>15.480 | 3.450<br>0.752<br>-5.050 | 20.457 |

In the first set of analyses (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,

[61] While BVPS is statistically significant, it has a negative sign suggesting the untenable and theoretically unlikely situation in which stock valuation increases as growth decreases.

I then performed a single regression that included all three variables as potential explanatory variables (Scenario 4).

**Q. What did those analyses reveal?**

A. In all 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 did 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, 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. Would Mr. Murray's results be different if he relied on analysts' earnings growth projections in his Constant Growth DCF model?**

A. Yes, they would. As shown on Schedule 9-4 of the Appendices to Staff's Cost of Service Report, Mr. Murray establishes a range of projected earnings growth rates for the proxy group of between 5.83 percent and 6.25 percent, with a mean of 6.04 percent. Relying on that average growth rate, and assuming his proxy group average expected dividend yield of 4.50 percent, the Constant Growth DCF results would range from 10.33 percent to 10.75 percent, with a mean result of 10.54 percent. That mean result is 179 basis points higher than Mr. Murray's (midpoint)

recommendation of 8.75 percent, but only 36 basis points below my 10.90 percent ROE recommendation.[62]

**Q. Please comment on Mr. Murray's use of certain historical data in arriving at his estimated growth rate.**

A. Mr. Murray relies on 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. Since Mr. Murray relies on Value Line data in light of data integrity concerns with respect to the Mergent information,[63] my assessment focuses on the Value Line data relied upon by Mr. Murray.

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.[64] 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% of revenues from electric utility operations in the late 1990s."[65] Finally, Mr. Murray states that companies that appeared to be affected by industry restructuring

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62 I note that in Case No. ER-2010-0036, the Commission adopted the DCF analysis of a witness, that rejected historical growth rates, using instead analysts' consensus earnings growth projections.

63 Staff Revenue Requirement Cost of Service Report, at 23.

64 *Ibid.*, at 22.

65 *Ibid.*, at 22.

activities or mergers/acquisitions were eliminated from the analysis.[66] That selection process produced a ten company study group.

Using that group, Mr. Murray calculated rolling average ten-year growth rates over the study period for Earnings Per Share, Dividends Per Share, and Book Value Per Share of 3.99 percent, 3.62 percent, and 3.18 percent, respectively, with an overall average of 3.59 percent. Mr. Murray notes that those rates were realized over a much more robust economic environment than the U.S. is expected to achieve in the foreseeable future.[67] Mr. Murray then reasons that because the Constant Growth DCF 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, a reasonable rate of growth for the Constant Growth DCF is in the 4.00 percent to 5.00 percent range.[68]

**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 of 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 and my proxy group-specific analyses demonstrated the superiority of analysts' Earnings growth projections over Dividend and Book Value growth projections in the utility stock price formation 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

66 *Ibid.*, at 23.
67 *Ibid.*, at 23.
68 *Ibid.*, at 18,19.

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.[69] 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.

### *D. Application the Multi-Stage DCF Model*

**Q. Does Mr. Murray apply a Multi-Stage DCF model to estimate the ROE for Ameren Missouri?**

A. Yes, he does. 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 an appropriate level that is consistent with the productive capacity of the economy; (2) allows for the dividend payout ratio to change and revert toward the long-term historical industry average over time; and (3) allows for the calculation of the expected price-to-earnings ratio in the terminal stage to ensure that the results are consistent with expected valuation levels.

[69] I recognize that companies such as DPL and XEL are the successor companies to certain of the utilities contained in Schedule 13-3.

**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 his first stage, Mr. Murray relies on analyst growth projections, while his second stage assumes a linear transition from analysts' growth projection to the 3.00 percent to 4.00 percent range that Mr. Murray has concluded is more "normal/sustainable."[70] 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.

**Q. How did Mr. Murray develop his terminal growth estimate?**

A. Mr. Murray relies principally on information from three sources in developing his 3.00 percent to 4.00 percent terminal growth rate estimate. In addition to the Mergent and Value Line data noted earlier, Mr. Murray also references a Goldman Sachs analysis which, he asserts, supports the use of a 2.50 percent perpetual growth rate, and the proposition that because electric utility demand will change by 0.60 percent to 0.70 percent for every 1.00 percent change in the GDP, electric utility cash flows cannot grow at a rate as high as the rate of growth in nominal GDP. [71] Finally, Mr. Murray recognizes the Commission's preference for using GDP growth in the third stage and states that, although he does

[70] *Ibid.*, at 21. Please also note that, as discussed in my direct testimony at pages 26-29, my Multi-Stage assumes varying payout ratio over time while Mr. Murray's model implicitly assumes a constant payout ratio.

[71] *Ibid.*, at 24

not support that approach, the appropriate long-term measure of long-term GDP growth would be 4.50 percent.[72] In support of that position, Mr. Murray references a recent Congressional Budget Office ("CBO") report indicating that economists generally expect long-term growth (2011-2021) in the GDP of 4.00 percent to 5.00 percent based generally upon an estimate of 2.00 percent inflation.[73]

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

A. No, I do not. As a practical matter, the GDP growth rate projected by the CBO covers the next ten years, while the terminal growth rate in Mr. Murray's Multi-Stage DCF model does not begin until year eleven. 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.[74] And, as also explained in my direct testimony, that approach (*i.e.*, combining long-term historical real GDP growth with expected inflation) is consistent with the method adopted by the Commission in Case No. ER-2008-0318.

Moreover, the 3.00 percent to 4.00 percent nominal growth rate that Mr. Murray assumes will persist in perpetuity is at odds with market measures cited elsewhere in his testimony. As Mr. Murray points out, the difference between the yield on TIPS and nominal Treasury yields (for a given maturity) often is seen as a measure of expected inflation.[75] As of February 2011, the 30-day average TIPS

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72 *Ibid.*, at 24.
73 *Ibid.*, at 7.
74 *See* direct testimony of Robert B. Hevert, at 29-30.
75 That difference is referred to herein as the "TIPS spread."

spread for 30-year securities was approximately 2.53 percent.[76] Based on Mr. Murray's 3.50 percent midpoint long-term growth rate, the projected real GDP growth rate would be 0.95 percent.[77] In contrast, the long-term real GDP growth rate reported by the Bureau of Economic Analysis was approximately 3.28 percent,[78] nearly three and a half 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.

**Q. Is the Goldman Sachs long-term growth rate cited by Mr. Murray valid for the purpose of estimating long-term growth in the Multi-Stage DCF model?**

A. No, it is not. Mr. Murray refers to a Goldman Sachs report[79] as an example of a 2.50 percent terminal growth rate that is used in an investment analysis, and states that if this rate were to be included in his Multi-Stage DCF analysis, the cost of equity estimate would be 8.05 percent.[80] A review of the Goldman Sach's report, however, suggests that the 2.50 percent growth rate employed by Mr. Murray is, in fact, a *real* rate of growth rather than a *nominal* growth rate. For example, the report notes at page 5 that it is assuming a "long-term *real* GDP growth rate of 2.5-3%" (emphasis added) while at page 21 the report states the 2.50 percent terminal growth rate is "roughly in line with expected long-term GDP growth results." Assuming even a modest rate of inflation, it would be incorrect to state that a long-term nominal growth rate is roughly in line with a long-term real rate

76 Source: http://www.federalreserve.gov/releases/h15/data.htm and Bloomberg.
77 0.95% = (1.035/1.0253)-1.
78 *See* direct testimony of Robert B. Hevert, at 29.
79 Staff Revenue Requirement Cost of Service Report, Appendix 2, Attachment E.
80 *Ibid.*, at 23-24.

of growth of the same or greater value. Assuming the 2.53 percent inflation rate suggested by the TIPS spread, a nominal growth rate of 2.50 percent indicates a negative real growth rate of (0.03) percent. That is, the 2.50 percent nominal growth would implicitly assume that the macro economy would contract at a real rate of 0.03 percent annually, in perpetuity.

It also is important to recognize that the portion of the Goldman Sachs report cited by Mr. Murray presents a valuation analysis that is used to establish stock price targets; it is not intended to estimate the market-required ROE. That difference is significant and has been noted by the Commission in prior proceedings:

> Murray's reliance on analyst reports to support his recommendation is misplaced. Most investors do not have access to the specific analyst reports that Murray examined and thus they cannot rely on them in deciding where to invest their money. More fundamentally, the analyst reports upon which Murray relies are designed to project what the analyst expects a company to earn, not what would be a reasonable return for the company to earn. In other words, an analyst may conclude that AmerenUE will not earn a reasonable return and recommend that investors not invest in that company. That analyst's projection should not then be used to test the reasonableness of a recommendation of the amount a company will need to earn to attract investment. [81]

Finally, if one accepts Goldman Sach's 2.50 percent to 3.00 percent forecast of real GDP growth and applies the 2.53 percent long-term forecast of inflation based upon the TIPS data discussed earlier, the projected GDP growth rate would range from approximately 5.09 percent to 5.61 percent. That range is far more supportive of my 5.75 percent (updated to 5.72 in my rebuttal testimony) long-term growth rate than the 3.00 percent to 4.00 percent employed by Mr. Murray. As noted earlier, simply adopting that 5.72 percent long-term growth rate in

[81] Report and Order, Case No. ER 2010-0036, at paragraph 18.

Mr. Murray's Multi-Stage DCF analysis produces results that are highly consistent with my recommended range.

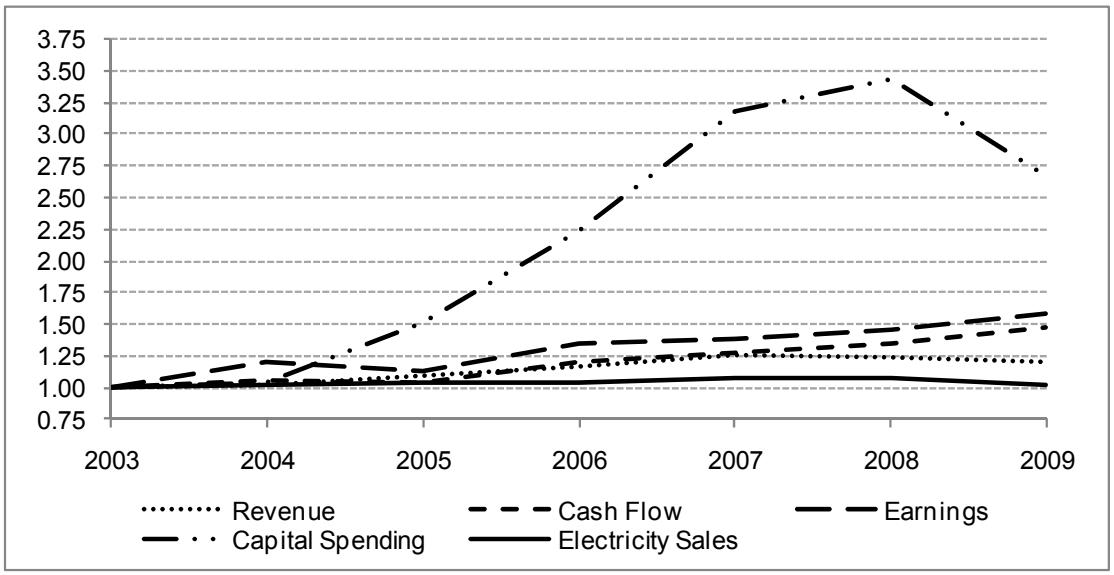
**Q. Do you agree that long-term growth in electricity demand should serve as a limit for the terminal growth estimate?**

A. No, I do not. In suggesting that earnings growth is limited by electricity sales growth,[82] Mr. Murray has implicitly assumed that there is a direct, linear relationship between electricity sales volumes on the one hand, and utility revenue, capital expenditures, and earnings on the other. As a practical matter, however, many variables enter into that relationship. Rate design, for example, will affect the relationship between sales volumes and revenues. The relationship between revenue and earnings likewise is a function of operating margins, which in turn, are influenced by a variety of operating factors, such as productivity improvements.

Based on data from the Energy Information Administration and Value Line, it is clear that from 2003 through 2009 (the range of data available from Value Line and EIA) the proxy group average growth in revenues, earnings, cash flow and capital expenditures far exceeded the growth in electricity end use (*see* Chart 3, below). Consequently, I strongly disagree with Mr. Murray's suggestion that electricity sales growth somehow should be viewed as indicative of long-term cash flow growth.

[82] Staff Revenue Requirement Cost of Service Report, at 24.

**Chart 3: Percent Annual Growth in Electricity End Use, Revenue, Earnings, Cash Flow and Capital Spending 2003 – 2009**




I also note that the Commission explicitly rejected that argument in Case No. ER-2010-0036, noting that:

> Murray's recommendation is low because the three stage DCF analysis he performed relies on an unreasonably low long-term growth estimate of 3.1 percent. Murray based his long-term growth rate on the Energy Information Administration's projection of long-term growth in the usage of electricity plus an inflation factor. Murray's calculation of a long-term growth rate based on the anticipated growth of demand for electricity is inconsistent with the requirements of the DCF model, which relies on earnings/dividends growth.

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

A. Yes, there is. As noted above, and as discussed in my direct testimony, an alternative approach to 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 Price/Earnings ratio.[83] That approach obviates the need to develop a long-term growth rate projection. Moreover, inasmuch as integrated electric utilities typically trade at a discount to the overall market,[84] the implied growth rate is lower than the market-wide rate of growth. 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.[85] Nonetheless, because I consider those analyses in my recommendation, Mr. Murray's concerns are unjustified.

### *E. Application of the CAPM*

**Q. Please summarize Mr. Murray's Capital Asset Pricing Model analysis.**

A. Mr. Murray's CAPM analyses rely on a risk-free rate of 4.16 percent based on the average 30-year Treasury yield for the three month period ending December 2010, Value Line Beta coefficients, and historical MRPs of 4.40 percent (using the geometric mean) and 6.00 percent (using the arithmetic mean).[86]

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

A. No, I disagree with Mr. Murray's exclusion of projected measures of the risk-free rate component of the model, his use of longer-term Beta coefficients,

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83 *See*, direct testimony of Robert B. Hevert, at 31.

84 For example, Value Line reports that for the period 2006 to 2009 the average P/E ratio for the Electric Utility (Central) Industry was 14.9 while the average P/E for Value Line's Industrial Index of 941 companies for the same period was 16.1.

85 As noted by Morningstar, between 1926 and 2009, the P/E ratio of the broad market has expanded at a rate of approximately 1.31 percent annually. *See*, Morningstar, Ibbotson SBBI; 2010 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation, 1926 – 2009, at 66.

86 Staff Revenue Requirement Cost of Service Report, at 25.

and his use of historical market risk premium 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 7.04 percent (using the geometric risk premium) and 8.09 percent (using the arithmetic risk premium). As noted earlier, there is 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 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 2010 average yield on the Moody's Baa-rated utility bond index.

Second, the extraordinary loss in equity values that occurred in 2008 actually resulted in a *decrease* in the historical 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*. The notion that the risk premium required by equity investors 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.

**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, as well as the other components of the model (*i.e.*, Beta coefficients 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.

**Q. What is the source of Mr. Murray's Beta coefficients in his CAPM analyses?**

A. Mr. Murray relies exclusively on Beta coefficients provided by Value Line, which are calculated over a five-year period.[87]

**Q. Is it appropriate to rely solely on Value Line Beta coefficients?**

A. No, it is not. As discussed in my direct testimony, during the early stages of the financial crisis, the relationship between the proxy group average return and the return on the overall market diverged significantly.[88] As a result of that dislocation, Beta coefficients calculated based on market data during that period

[87] Staff Revenue Requirement Cost of Service Report, Appendix 2, Schedule 15.
[88] Direct testimony of Robert B. Hevert, at 34-35.

were lower than would be expected; as noted in my direct testimony, the pre-crisis average Beta for my proxy group was between 0.836 and 1.00[89] (relative to my current 12-month Beta of 0.801 and Mr. Murray's Value Line Beta of 0.66). Moreover, as noted earlier in my rebuttal testimony, there is little question that correlations of returns among market sectors have increased in recent months. Since correlations include the relationship between the proxy group and the broad market (as measured by the S&P 500), it is reasonable to conclude that investors would expect higher Beta coefficients for the utility sector during periods of increased correlation with the broader markets. This is especially true among institutional investors who own (on average) 63.06 percent of the proxy companies' shares,[90] would be aware of those market dynamics, and would construct their analyses accordingly.

Finally, I note that financial data services such as Bloomberg enable analysts to specify the analytical period (*e.g.*, six, twelve, twenty-four, sixty months, etc.), the holding period (*e.g.*, daily, weekly, monthly, etc.), and the index (*e.g.*, S&P 500, Dow Industrial, etc.) used to calculate Beta coefficients. It is clear, therefore, that Bloomberg recognizes that analysts and investors alike consider the nature of the current market environment, determine when the default calculations published by standard sources such as Value Line and Bloomberg are less relevant than alternative specifications, and develop Beta coefficients in a more meaningful

89 *Ibid.*, at 40.
90 *See* Schedule RBH-ER22.

manner. The calculation of Beta coefficients based on more current data therefore is consistent with the actual practice of analysts and investors.[91]

**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 market risk premium 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 the 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.[92]

As shown on Table 9 (below), however, from 2007-2009 the MRP, as calculated using historical data, decreased even as market volatility (the primary statistical measure of risk) significantly increased.

**Table 9: Historical Market Risk Premium and Market Volatility**

| | Market Volatility | Historical Market Risk Premium[93] |
|---|---|---|
| 2010 | 22.55 | 6.70% |
| 2009 | 31.48 | 6.70% |
| 2008 | 32.69 | 6.50% |
| 2007 | 17.54 | 7.10% |

[91] For the reasons discussed in Section VI, my updated CAPM analysis relies on Beta coefficients calculated over twelve, as opposed to six, months.

[92] Morningstar, Ibbotson SBBI; 2010 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation, 1926 – 2009, at 53.

[93] Morningstar, 2011 Ibbotson Risk Premia Over Time Report, Estimates for 1926 – 2009, at 6. Historical MRP equals total return on large company stocks less income only return on long-term government securities.

The assumption that investors would expect or require a lower risk premium during periods of increasing volatility is counter-intuitive,[94] 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 market conditions and investor perceptions. Assuming 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 market risk premium, especially in periods during which 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:

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

> 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.[95]

**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 market risk premium?**

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.[96]

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 60 basis points (using the arithmetic mean).[97] Based on Mr. Murray's average Beta coefficient of .66, the effect on his mean CAPM result would be approximately 40 basis points. Even that correction, however, renders results that are far too low to be reasonable estimates of the Company's cost of equity.

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

96 Morningstar, Ibbotson SBBI; 2010 Valuation Yearbook, Market Results for Stocks, Bonds, Bills, and Inflation, 1926 – 2009, at 55.

97 *Ibid.*, at 25.

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

A. As a practical matter, estimates as low as 7.04 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 7.04 percent to 8.09 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 points out the difficulty in applying financial models without giving due consideration to the reasonableness of the inputs, assumptions and results.

### *F. Risk Premium Analysis and the Relevance of Authorized ROEs in Other Jurisdictions*

**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 October through December 2010. Based on that approach, Mr. Murray estimates an ROE range of 8.24 percent to 9.82 percent.[98] Mr. Murray reasons that the equity risk premium for utilities is toward

[98] Staff Revenue Requirement Cost of Service Report, at 26.

the lower end of that range since investors view utility stocks as similar to utility bonds.[99]

**Q. Are Mr. Murray's conclusions valid?**

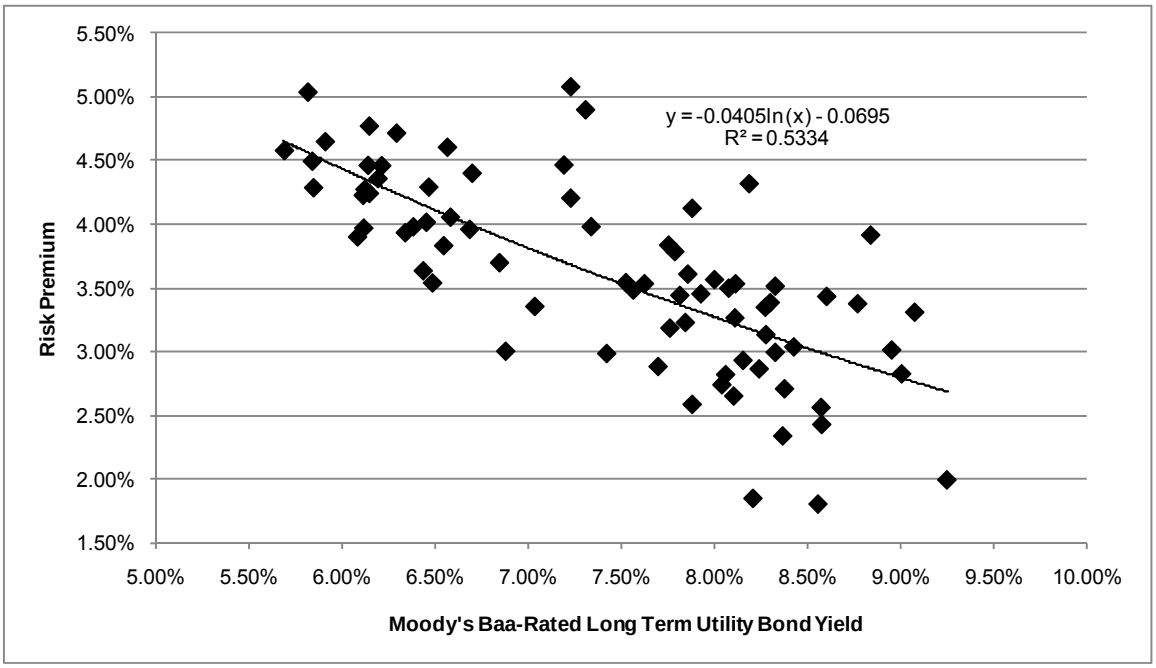
A. No. The principal issue is that Mr. Murray's approach ignores the well-established finding that the equity risk premium is inversely related to interest rates. That relationship, which was demonstrated with respect to long-term Treasury yields in my direct testimony,[100] also applies to utility bond yields. As Chart 4 (below) demonstrates (*see* also Schedule RBH-ER18), 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 research.[101] In fact, applying the 5.82 percent Baa yield noted on page 26 of the Staff Report to the regression equation provided in Chart 4, below, produces a risk premium estimate of approximately 4.57 percent, well above Mr. Murray's "Rule of Thumb" risk premium.

99 *Ibid.*, at 26.

100 *See* direct testimony of Robert B. Hevert, at 43-44.

101 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.

**Chart 4: Equity Risk Premium vs. Moody's Baa Yield**




Data provided by Mr. Murray also support the conclusion that the equity risk premium is inversely related to interest rates. Figure 19 in Attachment D-19 to the Staff Report, for example, provides a table of "Rate Case Outcomes & Relationships" for the years 2005 through 2009. While Figure 19 contains only five observations, in each instance the equity risk premium (referred to in Attachment D-19 as the "spread") increases as the Baa Utility Bond Index yield decreases. In fact, Figure 19 provides an equity premium of 446 basis points relative to Moody's Baa utility bond yield of 6.08 percent. That estimate is very consistent with the average 443 basis point premium produced by my Bond Yield Plus Risk Premium analysis, assuming a Baa utility bond yield of 5.96 percent to 6.09 percent (*see* Schedule RBH-ER18).

Additional information supporting an equity risk premium in this range is provided by Citigroup, which has observed that the equity risk premium above corporate bond yields has been approximately 440 basis points during years in which the average yield on the Baa-rated bond was approximately 6.00 percent.[102] Applying that equity risk premium to the 30-day average yield on Baa-rated long-term debt of 6.09 percent would produce a cost of equity of approximately 10.49 percent, 240 basis points above Mr. Murray's higher CAPM estimate.

Similarly, Attachment D-20 to the Staff Report includes a regression analysis performed by Barclays Capital of the Moody's Baa bond yield on authorized ROEs. Based on the coefficients provided in that equation, the equity risk premium would be 441 basis points, a result fully consistent with the risk premia noted above.[103] Here again, data relied upon by Mr. Murray does not support his "Rule of Thumb" approach.

**Q. Do you agree with Mr. Murray's assertion that returns in other jurisdictions are not relevant to the determination of the appropriate ROE for Ameren Missouri?**

A. I do not. Mr. Murray asserts that returns in other jurisdictions are not relevant to investors because if the authorized ROE is higher or lower than what investors had expected, the stock price would quickly adjust up or down to reflect this new information. 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

[102] Citigroup Global Markets, Inc., *Utility ROEs: An Overview*, April 2008.
[103] .0441 = (.0694 + (.0582 X .5653)) - .0582.

adopted his ROE recommendations, 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 that have 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.

Finally, it is inappropriate 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 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.

### *G. 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?**

A. Yes, I have. To do so, I calculated the *pro forma* effect of the upper (9.25 percent) and lower (8.25 percent) bounds of Mr. Murray's recommended ROE range on two key credit metrics employed by Standard & Poor's: the ratio of debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); and Funds From Operations ("FFO") as a percent of total debt. The results of those analyses are provided in Table 10 (below).[104]

**Table 10: Credit Metrics Produced By Murray ROE Recommendations[105]**

| **Credit Metrics At 9.25% ROE** | **Debt to EBITDA** | **FFO to Debt** | **Debt Ratio** |
|---|---|---|---|
| S&P Range: Significant Financial Risk | 3.0x to 4.0x | 20% - 30% | 45% - 50 % |
| S&P Range: Aggressive Financial Risk | 4.0x to 5.0x | 12% - 20% | 50% - 60% |
| Projected February 28, 2011 | 3.39X | 23.13% | 50.00% |
| Projected Debt End of 2011 | 3.61X | 21.75% | 50.00% |
| Project Debt End of Aug 2012 | 3.75X | 20.91% | 50.00% |
| **Credit Metrics At 8.25% ROE** | **Debt to EBITDA** | **FFO to Debt** | **Debt Ratio** |
| S&P Range: Significant Financial Risk | 3.0x to 4.0x | 20% - 30% | 45% - 50 % |
| S&P Range: Aggressive Financial Risk | 4.0x to 5.0x | 12% - 20% | 50% - 60% |
| Projected February 28, 2011 | 3.57X | 22.25% | 50.00% |
| Projected Debt End of 2011 | 3.79X | 20.92% | 50.00% |
| Project Debt End of Aug 2012 | 3.94X | 20.12% | 50.00% |

As noted earlier, based upon its assessment that Ameren Missouri has an "Excellent" business risk profile and a "Significant" financial risk profile, S&P has

104 A detailed explanation of the assumptions I make to perform these calculations is provided in my discussion of Mr. Gorman's testimony in Section IV.

105 *See* Schedule RBH-ER23. My analysis assumes the Commission does not adopt the Company's construction accounting requests.

assigned the Company a corporate credit rating of BBB-.[106] The debt ratio range for utilities with a "Significant" financial risk profile is 45.00 percent to 50.00 percent; Ameren Missouri's adjusted debt ratio of approximately 50.00 percent is at the high end of that range. S&P's FFO-to-Debt benchmark range for utilities with a "Significant" financial risk profile is 20.00 percent to 30.00 percent. The results produced by Mr. Murray's recommended ROE range are at the higher risk end of the "Significant" financial risk category. Moreover, based on the debt expansion assumptions described in my response to Mr. Gorman, the *pro forma* effect of Mr. Murray's recommended ROE range would be a further reduction in the Company's ratio of FFO-to-Debt. Finally, S&P's Debt-to-EBITDA benchmark range for utilities with a "Significant" financial risk profile is 3.0x to 4.0x. Here again, the *pro forma* effect of Mr. Murray's recommendation on the ratio of Debt-to-EBITDA would be a dilution of the Company's financial profile.

## IV. 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 9.50 percent to 10.00 percent, based on a range of calculated results from 9.67 percent to 10.17 percent and recommends a cost of equity at the midpoint of his estimated range, *i.e*., 9.75 percent.[107] Mr. Gorman establishes the upper end of his estimated range (10.00 percent) based on the average of his risk premium and DCF analyses, (9.95 percent

106 *See* direct testimony of Michael Gorman, at 36.
107 *See* direct testimony of Michael Gorman, at 2.

rounded to 10.00 percent),[108] and the lower end (9.50 percent) by reference to his CAPM estimate.[109] While Mr. Gorman has accepted the proxy group contained in my direct testimony, for the reasons discussed in my response to Mr. Murray, my Revised Proxy Group now excludes NU and PGN, but includes GXP.

**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 growth rates used in and the application of his sustainable growth DCF model; (2) the growth rates used in and the application of the Multi-Stage DCF model; (3) certain elements of his CAPM analyses; (4) the approaches used in his respective Risk Premium analyses; and (5) his conclusion that a 9.75 percent cost of equity recommendation is supportive of Ameren Missouri's credit quality.

***A. DCF Model Growth Rates***

**Q. What growth rates did Mr. Gorman use in his Constant Growth DCF analyses?**

A. Mr. Gorman considers two measures of growth: (1) analyst consensus earnings growth estimates, and (2) a measure of "Sustainable Growth."[110] As to his use of analyst growth projections, Mr. Gorman relies on the median result of 5.13 percent, which produces an ROE estimate of 10.17 percent rather than the 5.59 percent average growth rate estimate, which renders an ROE estimate of 10.31 percent. Mr. Gorman suggests that in light of his five to ten year GDP growth projection of 4.70 percent to 4.80 percent, even the median analyst growth estimate

108 *Ibid.*, at 35.
109 *Ibid.*
110 *Ibid.*, at 15-22.

(*i.e.*, 5.13 percent) may not be sustainable and, as such, he also relies on a measure of "internal growth," which he estimates to be in the range of 4.76 percent (median) to 5.42 percent (mean). As with his review of analyst growth rates, Mr. Gorman chooses to use the lower (*i.e.*, median) estimate of "internal growth" in his Sustainable Growth DCF model.

**Q. Do you agree with those growth rate estimates?**

A. I agree that it is appropriate to use analyst consensus earnings projections to develop DCF long-term estimates. While our sources of consensus estimates differ, the mean results are largely consistent. For the reasons discussed below, however, I disagree with Mr. Gorman's decision to rely on the "Sustainable Growth" estimate.

**Q. Does Mr. Gorman consider whether investors rely primarily on analysts' earnings growth projections in arriving at their investment decisions?**

A. No, he does not. Rather, Mr. Gorman assess the relevance of analysts' growth projections in the context of near-term projections of nominal GDP growth, and his position that sales of electricity, on a national level, set an upper bound on the proxy companies' earnings growth. Based on those benchmarks, Mr. Gorman concludes that his lower Constant Growth DCF ROE estimate of 10.17 percent, based on a median analyst growth rate estimate of 5.13 percent, is unreasonable.[111]

[111] *Ibid.*, at 24.

**Q. How does Mr. Gorman derive his "sustainable growth" estimate?**

A. Mr. Gorman calculates his "Sustainable Growth" DCF result rate by adding the product of the earnings retention ratio ("B") and the expected return on common equity ("R") for each company in the proxy group[112] to the product of the Market-to-Book Ratio, the expected growth in shares outstanding (together, referred to by Mr. Gorman as the "S Factor") and one minus one divided by the Market-to-Book Ratio (referred to by Mr. Gorman as the "V Factor").[113] Mr. Gorman refers to this overall rate as an estimate of "internal growth."[114]

**Q. Do you have any concerns with Mr. Gorman's "sustainable growth" estimate?**

A. Yes, I have several concerns with Mr. Gorman's application of "Sustainable Growth" estimate. First, the underlying premise of Mr. Gorman's calculation is that future earnings will increase as the retention ratio increases. That is, if future growth is modeled as "B x R", growth will increase as B 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

112 As noted previously, Mr. Gorman's analyses are based on the proxy group that I relied upon in my direct testimony. In my rebuttal testimony, I have revised my proxy group to include companies that meet the screening criteria discussed in my direct testimony as of my updated analysis date of February 28, 2011. As discussed in more detail in Section III of my rebuttal testimony, this updated screening resulted in the exclusion of NU and PGN and the inclusion of GXP.

113 *See* Schedule MPG-7.

114 Direct testimony of Michael Gorman, at 21.

data relied upon by Mr. Gorman supports 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 February 28, 2011 (which include historical and projected information regarding both earnings and dividends per share) for the companies in the Combined Proxy Group, I calculated (in each year of the historical periods) 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 estimate empirically supports the assumption that higher retention ratios necessarily produce higher earnings growth rates.

**Q. What did that analysis reveal?**

A. As shown in Table 11 (below),[115] 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 analysis), using historical data, earnings growth actually decreased as the retention ratio increased.

[115] *See* also Schedule RBH-ER24.

**Table 11: Regression Results**

| | Coefficient | Standard Error | t-Statistic |
|---|---|---|---|
| Intercept | 0.101 | 0.006 | 15.705 |
| Retention Ratio | -0.148 | 0.016 | -9.455 |

**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.[116] Both of those articles cite a 2003 study by Arnott and Asness[117] who found that, over the course of 130 years of data, future earnings growth is associated with high, rather than low payout ratios.[118] In essence, the findings of all three studies are consistent with my findings regarding the relationship between retention ratios and future earnings growth for Mr. Gorman's comparable companies: there is a negative, not a positive relationship between the two. In light of those articles, it appears that my findings are not anomalous. Given the strong statistical results of my analyses, and the corroborating research discussed above, I continue to believe that Mr. Gorman's substantial reliance on the "Sustainable Growth DCF" is inappropriate.

116 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.

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

118 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.

**Q. Are there other concerns with Mr. Gorman's "sustainable growth" estimate?**

A. Yes. It is important to note that "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. Notwithstanding that Mr. Gorman has assumed the reasonableness of Value Line's projections, his recommended cost of equity of 9.75 percent is 145 basis points below the 11.20 percent mean (unadjusted) Value Line projected ROE Mr. Gorman calculates for his proxy group.[119]

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 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 Revised Hevert 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 proxy companies will finance an

[119] *See,* Schedule MPG-7.

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.

**Q. Does Mr. Gorman compare his "sustainable growth" estimate to other benchmarks?**

A. Yes. Mr. Gorman observes that the median analyst growth rate projection exceeds the projected five to ten-year nominal Gross Domestic Product growth rate estimates of 4.80 percent and 4.70 percent, respectively,[120] and suggests that nominal GDP growth is the maximum sustainable rate of growth to be used in the Constant Growth DCF model.[121] Mr. Gorman further reasons that since utility sales volume growth is less than GDP growth, nominal GDP growth "is a very conservative, albeit overstated proxy for electric utility sales growth, rate base growth, and earnings growth."[122]

120 *See* direct testimony of Michael Gorman, at 18.
121 *Ibid*. Notwithstanding that assessment, Mr. Gorman continues to rely on his Sustainable Growth Rate estimate of 5.42 percent.
122 *Ibid*.

**Q. Do you agree with Mr. Gorman's use of projected nominal GDP growth rates as a benchmark for assessing his earnings growth rates?**

A. While I agree that in the long-run companies may grow at a rate approximating that of the general economy, I do not agree that the Constant Growth DCF model should be constrained by the use of nominal GDP growth rate estimates. As discussed throughout my rebuttal testimony, to the extent GDP growth rates are used in DCF analyses, they should be used as an input to the terminal stage of the Multi-Stage DCF approach as part of an overall analysis that also considers alternative ways of determining the overall value of those cash flows in that final stage. As to Mr. Gorman's position that expected growth should be bounded by electricity sales, as noted in my response to Mr. Murray, there is no basis to assume that there is a direct relationship between national electricity sales volumes, the proxy group companies' cash flows, and the Company's cost of equity. As also noted in my response to Mr. Murray, the Commission previously has rejected such arguments.

***B. Application of the Multi-Stage DCF Model***

**Q. Do you agree with Mr. Gorman's application of the Multi-Stage growth model?**

A. Not entirely. Mr. Gorman's 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 the 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 of the timing of dividend payments affect his Multi-Stage DCF result?**

A. Mr. Gorman notes that quarterly dividends in his Multi-Stage model were "annualized (multiplied by 4) and adjusted for next year's growth to produce the $D_1$ factor…"[123] 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").

**Q. Would Mr. Gorman's results be different if he used the mid-year convention for dividend payments?**

A. Yes. Schedule RBH-ER12, replicates the calculation of Mr. Gorman's Multi-Stage DCF results (as noted above, that analysis demonstrates that Mr. Gorman's model assumes that dividends are received at the *end* of each period). As Schedule RBH-ER12 also demonstrates simply changing the methodology to reflect the mid-year convention increases the mean and median results by approximately 28 basis points (from 9.65 percent and 9.86 percent, to 9.92 percent and 10.14 percent, respectively).

[123] *Ibid.*, at 15.

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

A. While my model allows for payout ratios to change over time, Mr. Gorman assumes that the current level of payout ratios for the proxy group will remain unchanged over the entire study period. As explained in my direct testimony, it is reasonable to assume that the payout ratios of the proxy group companies may reflect additional downward pressure due to increased utility capital requirements in the near-term, but over long-term they will revert to the long-term industry average.[124]

**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's long-term growth rate of 4.70 percent is based on the 2017 – 2021 forecasted nominal GDP growth rate from Blue Chip Economic Indicators ("Blue Chip").[125] As such, the Blue Chip projection will not necessarily reflect GDP growth expectations for the extended time period beyond 2021, which is the terminal year of his analysis. By contrast, 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 reflects projected rates of inflation based on both the Blue Chip Economic Forecast for the period 2017 to 2021, along with a longer-term forecast produced by the EIA. When Mr. Gorman's Multi-Stage ROE analysis is updated to reflect the mid-year convention and a more forward-looking estimate of future GDP growth, the mean and median ROE become 10.69 percent and

[124] Direct testimony of Robert B. Hevert, at 27.
[125] *See* Schedule MPG-9.

0.90 percent respectively, which is consistent with my range and recommendation in this proceeding.[126]

### *C. CAPM Analysis*

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

A. Mr. Gorman develops three CAPM estimates, which differ based on three separate estimates of the MRP (referred to by Mr. Gorman as the "Risk Premium"). Mr. Gorman's first Risk Premium estimate of 5.90 percent is based on the historical arithmetic average real market premium over the 1926-2009 period as reported by Morningstar, which he then adjusts for current inflation forecasts.[127] The second Risk Premium estimate (6.00 percent) is based on the historical difference between the return on the S&P 500 and the total return on long term government bonds,[128] and the third is the 6.70 percent arithmetic average risk premium developed by Morningstar based upon the long-term historical difference between the return on the S&P 500 and the income return on long-term government bonds. While he relied upon the 6.70 percent Risk Premium in his CAPM analysis, Mr. Gorman also refers to a Morningstar analysis, which adjusts this estimate down to 5.20 percent based on a "supply-side" analysis of the historical data. Ultimately, Mr. Gorman only relies on a CAPM analysis based on Morningstar's 6.70 percent Risk Premium.[129]

126 *See* Schedule RBH-ER12.
127 Direct testimony of Michael Gorman, at 32.
128 *Ibid.*, at 22.
129 *Ibid.*, at 34 lines 17-18.

Finally, Mr. Gorman uses the projected yield on 30-year Treasury bonds of 5.00 percent as his risk-free rate,[130] together with Beta coefficients provided by Value Line to calculate his CAPM results.

**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 Risk Premium, and his exclusive reliance on the five-year Beta calculations provided by Value Line. Mr. Gorman's CAPM analysis fails to reflect very important capital market dynamics. As discussed in my response to Mr. Murray, during periods of capital market instability, the correlations of returns across industry segments increase, resulting in an increase in the Beta coefficient. At the same time, 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 of Treasury securities. Since the CAPM addresses all three elements, *i.e.*, the correlation of returns (via Beta), the equity market volatility (via the MRP), and Treasury yields (*i.e*., the risk free rate), all three should be appropriately reflected in the CAPM analysis. Mr. Gorman's historical estimate of the market premium and his use of Value Line Beta coefficients fail to accurately reflect current market conditions.

**Q. Why doesn't Mr. Gorman's estimate of the MRP reflect capital market dynamics?**

A. Mr. Gorman employs a Market Risk Premium based on the historical relationship between the returns on the S&P 500 and long-term government bonds

[130] *Ibid.*, at 32.

(*i.e.,* the "*ex-post*" MRP). As shown earlier (*see* Table 9), from 2007-2010 the *ex-post* MRP decreased, even as market volatility significantly increased over 2007 levels. 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 companies with such projections represent 96.72 percent of the index market capitalization).[131] The second approach uses the Sharpe Ratio and incorporates forward prices for the VIX Index. 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 market risk premia 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 6.70 percent premium discussed earlier) to historical market volatility. The *ex-ante* risk

[131] *See* Schedule RBH-ER16.

premium simply is the product of the Sharpe Ratio and expected volatility.[132] If, for example, expected volatility equaled historical volatility, the Sharpe Ratio approach would yield the historical average MRP (*i.e.*, 6.70 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 average simply reflects the fact that investors expect volatility to remain above the historical average.

**Q. Do you agree with Mr. Gorman's reliance on Value Line as the source of Beta coefficients?**

A. No, I do not. As discussed in my direct testimony and in my response to Mr. Murray, current and expected market conditions are such that Beta coefficients calculated over a five-year period, as Value Line does, are not representative of current expectations. It is for that reason that I have used Beta coefficients calculated over a shorter holding period.

**Q. Please comment on Mr. Gorman's observation on page 34 of his testimony that Morningstar's "supply side" risk premium approach produces an expected risk premium of 5.20 percent.**

A. Based on the discussion in Mr. Gorman's testimony, and the citations included in the Morningstar 2009 Valuation Yearbook, it appears that Mr. Gorman is referring to the Ibbotson and Chen study. That study, which was published in Financial Analysts Journal in 2003, essentially "decomposed" the long-term average

[132] As explained on page 37 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 20.40 percent market volatility calculated based on Morningstar data, *i.e.*, the same source relied upon by Mr. Gorman.

market return into several components, and forecasted the risk premium "through supply-side models using historical data."[133] The authors developed several supply-side models, including one that arrives at a 3.97 percent geometric average risk premium, referred to as the "Forward-Looking Earnings" model. That model estimates long-run market returns as a function of income (dividend) returns, reinvestment returns, and the growth in Price/Earnings multiples. Ibbotson and Chen then calculate the geometric average risk premium using their supply-side model of equity returns and their expected nominal risk free rate.

I have replicated and updated the Ibbotson and Chen calculations in Schedule RBH-ER26 based on information provided in Morningstar's 2010 Valuation Handbook. I conclude that the updated Supply Side market return is 13.02 percent, and the implied equity risk premium is 7.29 percent. While that risk premium estimate is consistent with the estimates developed in my *ex-ante* models, it is well above Mr. Gorman's 5.20 percent to 6.70 percent estimates. The 13.02 percent expected market return result from the updated Ibbotson and Chen analysis is generally consistent with, although somewhat higher than, the 12.75 percent market return (DCF-based) included in the calculation of my *ex-ante* risk premium (*see* Schedule RBH-ER16).

[133] Roger G. Ibbotson and Peng Chen, *Long-Run Stock Returns: Participating in the Real Economy*, Financial Analysts Journal, January/February 2003, at 89.

### *D. Risk Premium Analysis*

**Q. Please summarize Mr. Gorman's bond yield plus equity risk premium analysis.**

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 2010 by taking the difference between regulatory commission-authorized equity returns 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 4.40 percent to 6.09 percent. Based on the projected 30-year Treasury yields of 5.00 percent, and the equity risk premia range noted above, Mr. Gorman suggests that the range of likely risk premia results is from 9.40 percent (5.00 percent plus 4.40 percent) to 11.09 percent (5.00 percent plus 6.09 percent), with a midpoint of 10.25 percent.[134]

Mr. Gorman's second approach calculates the average risk premium for the period 1986 through 2010 as the difference between the average authorized equity returns for electric utility companies and the concurrent A-rated and Baa-rated utility bond yields. Here, Mr. Gorman derives his estimate of the equity risk premium by taking the difference between the authorized ROE and the average A-rated utility bond yield in a given year.[135] Mr. Gorman eliminates the three highest and lowest equity risk premia for the 1986 through 2010 period and establishes a range of equity risk premia of 3.03 percent to 4.59 percent. Mr. Gorman then develops a

134 *See* direct testimony of Michael Gorman, at 28-29.
135 *Ibid*.

range of ROE estimates by adding the 3.03 percent and 4.59 percent premia noted above to the 30-day average Baa utility bond yield of 5.96 percent, to arrive at a range of 8.99 percent to 10.55 percent with a midpoint of 9.77 percent. Based on those two approaches (*i.e.*, the risk premium as a function of Treasury yields and utility bond yields, respectively), Mr. Gorman calculates a range of results from 9.77 percent to 10.25 percent and determines that the midpoint of 10.01 percent, rounded to 10.00 percent, represents a reasonable ROE estimate.[136]

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

A. Mr. Gorman's approach does not recognize the well-documented principle that over time, equity risk premia are inversely related to interest rates. As demonstrated in Chart 4 (*see* Section III.F) as well as my direct testimony, regression results prove empirically that equity risk premia increase as interest rates decrease. Assuming the 5.96 percent average yield on the Baa rated utility bond indices noted in Mr. Gorman's testimony, and based on the regression coefficients for the analysis of equity risk premia over "Baa" rated utility bond yields in Schedule RBH-ER18, the implied risk premium is 4.47 percent, resulting in an implied ROE of 10.43 percent. Mr. Gorman's final ROE estimate of 9.75 percent understates the implied ROE, by approximately 68 basis points.

I performed an additional regression analysis in which the equity risk premium is modeled as a function of yields on 30-year Treasury securities and the Baa credit spread (measured by reference to the 30-year Treasury yield; Schedule RBH-ER19). Based on the 30-day average Treasury yield as of February 28, 2011

[136] *Ibid.*, at 29.

(4.62 percent) and 2011 year-to-date average Baa credit spread (1.54 percent) the implied ROE is 10.49 percent; that estimate exceeds Mr. Gorman's final ROE estimate of 9.75 percent by 74 basis points. That analysis also demonstrates that even when credit spreads are added as an additional explanatory variable, interest rates continue to have a significant, negative relationship to the equity risk premium.

### *E. Financial Integrity*

**Q. Does Mr. Gorman attempt to calculate the effect of his 9.75 percent ROE recommendation on the Company's financial integrity?**

A. Yes, Mr. Gorman estimated the *pro forma* effect of his recommendation on the percentage of FFO to debt, the ratio of debt to EBITDA, and the percentage of debt to total capitalization based on information as of February 28, 2011 (the true-up date for this rate case). Based on that analysis, Mr. Gorman concludes that his recommendations would support AmerenUE's "current investment grade bond rating."[137]

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

A. No, I do not. First, the fact that Mr. Gorman's recommendations produce 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-ER27), for example, an ROE as low as 5.00 percent would produce credit metrics in the same ratings categories as Mr. Gorman's 9.70 percent recommendation. It is difficult to imagine, however, that rating agencies would not consider the implications of such a low allowed return in arriving at their ratings actions, notwithstanding that the *pro forma* metrics would continue to support credit

[137] *Ibid.*, at 38, line 18.

metrics consistent with the Company's current rating. Consequently, Mr. Gorman's *pro forma* analysis does not demonstrate that his recommendation provides reasonable support for the Company's financial integrity.

**Q. Do you have other concerns related to Mr. Gorman's statement that his recommended overall rate of return will support an investment grade rating?**

A. Yes, I do. Mr. Gorman's analysis represents a point-in-time estimate of the financial parameters for Ameren Missouri's electric operations as of February 28, 2011. It does not reflect, however, the implications of construction work in progress ("CWIP"), or the continued external financing requirements on Ameren Missouri's financial metrics. When those factors are incorporated into the analysis, the *pro forma* Debt-to-EBITDA ratio increases from 2.90 as presented by Mr. Gorman, to as much as 3.67. Similarly, the *pro forma* FFO-to-Debt percentage decreases from 27.00 percent as presented by Mr. Gorman to as low as 21.31 percent.[138] Given S&P's current "BBB-" rating for both Ameren Missouri and its holding company parent Ameren Corporation,[139] those measures place Ameren Missouri's *pro forma* credit metrics at levels that are not supportive of financial integrity and could place pressure on the Company's credit quality.

**Q. What is S&P's opinion of AmerenUE's credit profile?**

A. Mr. Gorman provides the following information concerning S&P's view of the Company:

> S&P publishes a matrix of financial ratios that correspond to its assessment of the business risk of the utility company and

[138] Schedule MPG-17, at 1. *See also* Schedule RBH-ER28.
[139] Ameren Corp., SEC Form 10-K filed for period ended December 31, 2010, at 64.

related bond rating. S&P updated its credit metric guidelines on November 30, 2007, and incorporated utility metric benchmarks with the general corporate rating metrics. However, the effect of integrating the utility metrics with those of general corporate bonds resulted in a reduction to the transparency in S&P's credit metric guideline for utilities. Most recently, on May 27, 2009 S&P expanded its matrix criteria and included an additional business and financial risk category.

Based on S&P's most recent credit matrix, the business risk profile categories are "Excellent," "Strong," Satisfactory," "Fair," Weak," and "Vulnerable." Most electric utilities have a business risk profile of "Excellent" or "Strong."

The S&P financial risk profile categories are "Minimal," "Modest," "Intermediate," "Significant," "Aggressive," and "Highly Leveraged." Most of the electric utilities have a financial risk profile of "Excellent" or "Aggressive."

Ameren Missouri has an "Excellent" business risk profile and a "Significant" financial risk profile.[140]

**Q. Why would Ameren Missouri's *pro forma* credit metrics reflect a weaker financial profile than presented by Mr. Gorman?**

A. Mr. Gorman calculates *pro forma* credit metrics for Ameren Missouri based on the information derived from the Company's rate case filing. He begins by adopting the Company's proposed capital structure as of March 31, 2010 as the appropriate capital structure on which to develop the rate of return on rate base.[141] Schedule MPG-1 shows that this capital structure contains $7,685.2 million of investor provided capital, including $3,657.5 million of long-term debt. Mr. Gorman then adjusts the Company's proposed March 30, 2010 debt ratio from 47.59 percent to 49.79 percent, which he then rounds to 50.00 percent, in order to reflect Ameren Missouri's portion of certain off balance sheet obligations which, he believes, S&P

[140] Direct testimony of Michael Gorman, at 36.
[141] *Ibid.,* at 8.

would reflect as debt when calculating various credit metrics.[142] That adjusted 50.00 percent debt ratio then is multiplied by Ameren Missouri's February 28, 2011 *pro forma* electric rate base of $6,810.0 million to develop the debt component, which is used in the calculations of both the percentage of FFO-to-Debt and the Debt-to-EBITDA ratio.[143] Thus, Mr. Gorman's analysis calculates the two metrics based on a long-term debt balance of $3,405.0 million (50.00 percent x $6,810.0 million).

Based on the results of those calculations, Mr. Gorman concludes that:

> [a]s shown in Schedule MPG-17, page 1 of 4, column 1, based on an equity return of 9.75%, Ameren Missouri will be provided an opportunity to produce a debt to EBITDA ratio of 2.9x. This is at the high end of S&P's new "Intermediate" guideline range of 2.0x to 3.0x and is stronger than the "Significant" guideline. This ratio supports an investment grade credit rating.
>
> Ameren Missouri's retail operations FFO to total debt coverage at a 9.75% equity return would be 27%, which is within the "Significant" metric guideline range of 20% to 30%. The FFO/total debt ratio will support Ameren Missouri's investment grade bond rating.[144]

**Q. Does the long-term debt amount of $3,405.0 million used by Mr. Gorman accurately reflect the amount of debt Ameren Missouri employs to finance its electric operations?**

A. It does not appear so. Mr. Gorman's proposed capital structure for Ameren Missouri reflects a higher balance of long-term debt (*i.e.*, $3,657.5 million).[145] That level of debt is based on actual results as of March 31, 2010, which is eleven months prior to the February 28, 2011 date that Mr. Gorman uses to determine the debt balance for the purpose of his financial integrity analysis.

142 Schedule MPG-17, page 3.
143 *Ibid.*
144 Direct testimony of Michael Gorman, at 38 (footnote omitted).
145 *Ibid.,* Schedule MPG-17.

Moreover, Ameren Corporation's 2010 SEC Form 10-K provides a December 31, 2010 long-term debt balance for Ameren Missouri of $3,949.0 million.[146] As such, it does not appear that Mr. Gorman has properly recognized differences between the amount of debt in his *pro forma* analysis and the higher amount of debt that is actually outstanding in support of Ameren Missouri's utility operations.

**Q. To what do you attribute the difference between the $3,949.0 million of actual debt outstanding for Ameren Missouri as of December 31, 2010 and the lower $3,405.0 million amount used by Mr. Gorman in his financial integrity analysis?**

A. The $544 million difference appears to be attributable to the fact that a large portion of Ameren Missouri's long-term debt finances CWIP related to plant additions and nuclear fuel, while a portion also finances its natural gas utility operations. Specifically, Ameren Missouri reported $617 million of CWIP as of December 31, 2010[147]. Assuming that CWIP is financed according to Mr. Gorman's adjusted debt ratio of 50.00 percent, $308.5 million of CWIP would be financed with outstanding debt that would not be captured in his assumed debt balance. In addition, it is reasonable to estimate that Ameren Missouri's gas operations employ approximately $122.5 million of debt based on an assumed 50.00 percent debt ratio and Ameren Missouri's gas utility rate base of $245 million (filed as part of its 2010 gas rate case).[148] Combined, debt used to finance CWIP and natural gas utility operations explain about 80.00 percent of the $544 million difference between the

146 Ameren Corp., SEC Form 10-K filed for period ended December 31, 2010, at 87.
147 Ameren Corp., SEC Form 10-K filed for period ended December 31, 2010, at 113.
148 Case No. GR-2010-0363.

reported December 31, 2010 debt balance and the lower debt balance actually reflected in Mr. Gorman's analysis.

**Q. What is the significance of that information for Mr. Gorman's analysis of Ameren Missouri's financial integrity?**

A. It is my understanding that CWIP may not be included in the company's rate base.[149] As such, Ameren Missouri currently has funded over $600 million of CWIP with debt and equity, but will be unable to generate cash to support that incremental capital until the costs are reflected in rates. By ignoring debt associated with CWIP, Mr. Gorman's financial integrity analysis overstates the *pro forma* credit metrics for Ameren Missouri's electric operations.

**Q. Do you have any other concerns related to Mr. Gorman's financial integrity analysis?**

A. Yes, Mr. Gorman's analysis also does not consider how Ameren Missouri's electric utility cash flow metrics may change over time. The cash flow metrics he calculates reflect the Company's electric rate base as of February 28, 2011; however, a decision in this case is not likely until September 2011, and the earliest the Company can increase its rates to collect costs associated with its ongoing capital expenditures is August 2012.[150] Thus, there could be further pressure put on Ameren Missouri's credit metrics to the extent that its balance of outstanding debt increases between now and those future dates.

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149 Regulatory Research Associates, Commission Profile, Missouri.

150 Regulatory Research Associates, Commission Profile, Missouri indicates that there is an eleven month process in Missouri to address major rate cases. The current case was filed in September 2010, indicating that a decision by the Commission will occur by August 2011. Absent a request for interim rates, it is reasonable to assume that the earliest AmerenUE could again increase its electric rates is August 2012. This analysis does not incorporate the Company's construction accounting proposal.

Specifically, as shown in Table 12, Ameren Missouri's total outstanding debt has increased by $1,252 million since the end of 2005, or by about $250 million per year. Over the same five-year period, its capital expenditures totaled $3,761 million. Ameren Missouri currently projects between $3,185 and $4,085 million of capital expenditures over the 2011-2015 period.[151]

**Table 12: Debt Balances and Capital Expenditures 2005-2010[152]**

| Millions | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| Long Term Debt Outstanding | $2,702 | $2,939 | $3,360 | $3,677 | $4,022 | $3,954 |
| Capital Expenditures | | $782 | $625 | $874 | $872 | $608 |

**Q. Have you adjusted Mr. Gorman's financial integrity analysis to reflect your concerns related to CWIP and an increased amount of outstanding debt in the future?**

A. Yes, as reflected in Schedule RBH-ER28, I have prepared a *pro forma* analysis that reflects adjustments to Mr. Gorman's financial integrity analysis to account for CWIP and the potential for increased long-term debt through August 31, 2012. Specifically, the *pro forma* analysis reflects revised Debt-to-EBITDA and FFO-to-Debt results as of three time periods: February 28, 2011, December 31, 2011 and August 31, 2012.

As discussed, Mr. Gorman's analysis assumes an outstanding debt balance of $3,405.0 million as of February 28, 2011. However, for purposes of revising Mr. Gorman's analysis, I have utilized Ameren Missouri's outstanding debt balance as of December 31, 2010. In addition, I have adjusted that outstanding debt balance

[151] Ameren Corp., SEC Form 10-K filed for period ended December 31, 2010, at 57.
[152] Ameren Corp., SEC Form 10-Ks for 2006-2010.

to reflect (1) a reduction of $122.5 million to account for the debt estimated to finance Ameren Missouri's natural gas utility operations, and (2) an increase of $108.8 million to reflect Mr. Gorman's estimate of off-balance sheet obligations that S&P would classify as debt. As a result, my revisions to Mr. Gorman's financial integrity analysis result in an outstanding debt balance of $3,935.3 million as of February 28, 2011. In addition, I have calculated *pro forma* debt balances for Ameren Missouri as of December 31, 2011 and August 31, 2012 that reflect an annual increase in long-term debt outstanding of $250 million, based on Ameren Missouri's historical average over the past five years.

**Q. How do your revisions change the results of Mr. Gorman's financial integrity analysis?**

A. First, as summarized in Table 13, Mr. Gorman's financial integrity analysis indicates that Ameren Missouri's Debt-to-EBITDA ratio is 2.9x and FFO-to-Debt is 27.00 percent as of February 28, 2011. However, after revising Mr. Gorman's analysis to reflect Ameren Missouri's currently outstanding debt balance, the Debt-to-EBITDA ratio is 3.31x, and FFO-to-Debt is 23.57 percent as of February 28, 2011.

**Table 13: Comparison of Credit Metrics**[153]

| Credit Metrics | Debt to EBITDA | FFO to Debt |
|---|---|---|
| Gorman Financial Integrity Analysis (as of 2/28/11) | 2.90x | 27.00% |
| REVISED Gorman Financial Integrity Analysis (as of 2/28/11) | 3.31x | 23.57% |
| REVISED Gorman Financial Integrity Analysis (as of 12/31/11) | 3.53x | 22.16% |
| REVISED Gorman Financial Integrity Analysis (as of 8/31/12) | 3.67x | 21.31% |

Currently, Ameren Missouri has an issuer credit rating from S&P of BBB-, with a designated "Excellent" business risk profile and a "Significant" financial risk profile. S&P's Debt-to-EBITDA benchmark range for utilities with a "Significant" financial risk profile is 3.0x to 4.0x. While Mr. Gorman calculates a Debt-to-EBITDA ratio of 2.90x, which is consistent with S&P's "Intermediate" financial risk profile, my revisions to his analysis produce a Debt-to-EBITDA ratio of 3.31x (as of February 28, 2011), which is consistent with S&P's "Significant" financial risk profile. In addition, S&P's FFO-to-Debt benchmark range for utilities with a "Significant" financial risk profile is 20.00 percent to 30.00 percent. While Mr. Gorman's FFO-to-Debt estimate of 27.00 percent is at the higher end of this range (suggesting lower relative credit risk within the category), revising his analysis to account for a higher debt balance as of February 28, 2011 results in a *pro forma* FFO-to-Debt percentage at the lower end of the range for "Significant" financial risk. Moreover, the debt ratio range for utilities with a "Significant" financial risk profile is 45.00-50.00 percent.

153 *See* Schedule MPG-17 and Schedule RBH-ER28. My analysis assumes the Commission does not adopt the Company's construction accounting requests.

Ameren Missouri's adjusted debt ratio of 49.79 percent (rounded to 50.00 percent) is at the higher risk end of this range, and as such, approaches levels that S&P would require for an "Aggressive" financial risk profile.

Table 13 also demonstrates that additional pressure would be placed on Ameren Missouri's credit metrics if the Company were to issue additional debt through August 31, 2012 (consistent with historical practice). On a *pro forma* basis, Ameren Missouri's Debt-to-EBITDA ratio would be 3.67x at August 31, 2012, which is in the upper half of S&P's credit metrics for a "Significant" financial risk profile. In addition, Ameren Missouri's FFO-to-Debt would be 21.31 percent (*pro forma*) at August 31, 2012, positioning the Company close to S&P's line of demarcation between a "Significant" and "Aggressive" financial risk profile.

Taken together, those factors indicate that (1) Mr. Gorman's recommended ROE is not supportive of Ameren Missouri's financial integrity, and (2) on a *pro forma* basis, additional pressure may be placed on Ameren Missouri's credit quality over the next eighteen months.

## V. RESPONSE TO MS. LACONTE

**Q. Please summarize Ms. LaConte's cost of equity recommendation.**

A. Ms. LaConte suggests that the Company's cost of equity is within a range of 9.70 percent to 10.60 percent, and recommends an ROE of 10.20 percent. In support of her recommendation, Ms. LaConte develops ROE estimates for two proxy groups, which rely primarily on the results of a Constant Growth DCF model, a Two-Stage DCF model, and a Risk Premium method augmented by the Capital Asset Pricing Model. Ms. LaConte also contends that Ameren Missouri has

proposed an Environmental Cost Recovery Mechanism ("ECRM") that will "allow the Company to collect costs associated with required environmental upgrades on its current plant in-between rate cases."[154] Because she views the ECRM as reducing regulatory lag, she recommends that the Commission reduce the ROE to the lower end of her recommended range (9.70 percent to 9.90 percent).

**Q. What are the major areas of disagreement between you and Ms. LaConte?**

A. While Ms. LaConte's DCF results are generally consistent with mine, there are several areas in which Ms. LaConte and I disagree including: (1) the group selection process; (2) the lack of clarity in the development of the dividend yield in Ms. LaConte's Constant Growth DCF model; (3) the use of the long term GDP growth rate in one variant of Ms. LaConte's Constant Growth DCF model; (4) Ms. LaConte's use of analysts' earnings growth rates as the long term growth rate in one of the Two-Stage DCF models; (5) certain aspects of the Two-Stage DCF estimates related to Ms. LaConte's use of dividend payments; (6) the use of historical risk premia in the Risk Premium and CAPM analyses; (7) Ms. LaConte's exclusive reliance on Value Line Betas coefficients (which, as noted earlier, are calculated over a 60-month time period); and (8) Ms. LaConte's characterization of and conclusions related to the Company's business risks and ECRM.

***A. Proxy Group Composition***

**Q. How did Ms. LaConte select her proxy group?**

A. Ms. LaConte employs a three-step approach beginning with the universe of twenty integrated electric utilities that make up the S&P's Utility Index.

[154] Direct testimony of Billie Sue LaConte, at 17.

She then eliminates four companies (Duke Energy, Progress Energy, Allegheny Energy and FirstEnergy) due to recent merger activity. Ms. LaConte also excludes Ameren, Exelon Corporation, and PPL Corporation due to negative earnings growth forecasts for the purpose of developing a single-stage DCF (using analysts' growth estimates), although she includes those companies in her other analyses.

**Q. How does your proxy group differ from the group developed by Ms LaConte?**

A. Table 14 (below) provides the composition of my original and Revised proxy groups of electric utility companies, as well as the larger of the two proxy groups relied on by Ms. LaConte in her ROE analyses.

**Table 14: Hevert and LaConte Proxy Groups[155]**

| Company | Ticker | Hevert Original Proxy Group | Hevert Revised Proxy Group | LaConte Proxy Group |
|---|---|---|---|---|
| Ameren | AEE | | | X |
| American Electric Power | AEP | X | X | X |
| Cleco Corp. | CNL | X | X | |
| CMS Energy | CMS | | | X |
| Consolidated Edison Inc. | ED | | | X |
| DPL, Inc. | DPL | X | X | |
| DTE Energy | DTE | | | X |
| Dominion Resources, Inc | D | | | X |
| The Empire District Electric Company | EDE | X | X | |
| Entergy Corp. | ETR | | | X |
| Exelon Corporation | EXC | | | X |
| Great Plains Energy | GXP | | X | |
| IDACORP, Inc. | IDA | X | X | |
| Integrys Energy Group, Inc. | TEG | | | X |
| Northeast Utilities | NU | X | | |
| Pepco Holdings, Inc. | POM | | | X |
| Pinnacle West Capital | PNW | X | X | X |
| Portland General | POR | X | X | |
| PPL Corporation | PPL | | | X |
| Progress Energy | PGN | X | | |
| Southern Company | SO | X | X | X |
| TECO Energy, Inc. | TE | | | X |
| Westar Energy | WR | X | X | |
| Wisconsin Energy Corp | WEC | | | X |
| Xcel Energy | XEL | | | X |
| | | | | |

[155] The table reflects Ms. LaConte's enlarged proxy group which contains three companies that were not included in the proxy group used to develop her Constant Growth DCF estimate.

**Q. How does Ms. LaConte's proxy group screening approach differ from your screening approach?**

A. Ms. LaConte's selection approach differs from mine in two key respects. First, Ms. LaConte relies on (the S&P Utility Index of twenty vertically integrated electric utilities, while I began with 54 domestic U.S. utilities, classified by Value Line as "Electric Utilities."[156] The two different universes of proxy group candidates account entirely for the reason that seven of the ten members of my revised proxy group are excluded from Ms. LaConte's proxy group; those companies are not part of the S&P Utility Index.

In addition to the universe of potential proxy companies, Ms. LaConte and I differ as to the screening criteria applied to our respective groups. While the criteria included in my direct testimony focused on a series of fundamental financial and operating parameters, Ms. LaConte eliminated only those companies that were party to significant transactions, or that had negative projected growth rates. While I agree that merger activity and negative growth rate projections are appropriate screens, I do not believe that they are sufficient to arrive at a reasonably risk-comparable proxy group; as noted in Section II (*see,* Table 3), there are several factors that explain why I excluded the thirteen additional companies included in Ms. LaConte's proxy group.

**Q. What would be the effect of relying on Ms. LaConte's proxy group?**

A. As a practical matter, differences in proxy groups do not result in a significant difference in our respective results. As shown on Table 16 (*see* Section

[156] Direct testimony of Robert B. Hevert, at 13.

VI), for example, the mean Constant Growth DCF results differ by approximately 14 to 18 basis points between my Revised Proxy Group and the combined proxy group. As with Messrs. Murray and Gorman, while I do not necessarily agree with all of Ms. LaConte's proxy companies, I have included them in the Combined Proxy Group.

### *B. The Dividend Component of the Dividend Yield Component of the Constant Growth DCF Model*

**Q. How does Ms. LaConte calculate the dividend input to the dividend yield in her two single-stage DCF analyses?**

A. Ms. LaConte averages Value Line's forecast of dividends for 2011 with Value Line's stated 2010 dividend amount for each company in her proxy group. That expected dividend then is divided by the average closing stock price for the three-month period ended January 31, 2011 to develop the dividend yield component.

**Q. Please address Ms. LaConte's approach to developing the dividend yield component of her Constant Growth DCF models.**

A. Ms. LaConte's dividend yield calculation should, in theory, reflect the expected dividend yield as of the beginning of 2011 for the companies in the proxy group using a current stock price and a projection of the dividends that are expected over the next twelve months. The November 2010 to January 2011 time period used to calculate the stock price reasonably reflects current stock prices at the time of Ms. LaConte's testimony. However, Ms. LaConte does not describe how her

approach should be updated over time as the expected dividend component changes in either of her two Constant Growth DCF models.

I explain in my direct testimony that because dividends are paid periodically through the year and may change in any quarter, a reasonable approach for calculating the dividend yield is to divide the current annualized dividend by a recent average historical stock price; that yield is then increased by one half of the expected growth rate to arrive at the expected dividend yield.[157] That approach is premised on the observation that on average, dividends will be increased half-way through the year. Ms. LaConte's approach, however, is applicable only at the beginning of a calendar year because as the year progresses, the projected dividend calculation requires recognition of dividends in the following year. Despite our differences in approach, I recognize that Ms. LaConte's average expected dividend yield of approximately 4.80 percent (based on data provided in Schedule BSL-1) is not materially different than the average expected dividend yield provided in Schedule RBH-ER8.

### *C. The Use of GDP Growth in the Constant Growth DCF*

**Q. How does Mr. LaConte employ GDP growth in the Constant Growth DCF model?**

A. Ms. LaConte uses the 5.75 percent long-term historical GDP growth rate developed in my direct testimony as a surrogate for analysts' projections of earnings growth. The results of that analysis (10.60 percent median) do not markedly differ from the results of her Constant Growth DCF model for the thirteen company proxy group using analyst growth forecasts (10.50 percent median DCF

[157] *Ibid.*, at 22-23.

result). The primary reason for the relatively small difference between the two results is the similarly small difference between the 5.57 percent median analyst growth rate and the 5.75 percent long-term historical GDP growth rate. While those two growth rates are similar in measure, I do not necessarily agree that they are interchangeable for the purpose of the Constant Growth DCF model. As noted earlier in my rebuttal testimony, earnings growth rates have a meaningful and statistically significant relationship to the proxy company valuation metrics. Since they can be applied to current dividend yields, analysts' consensus growth projections are the appropriate measure of growth for the Constant Growth DCF model.

Regarding the use of projected nominal GDP growth rates, as discussed in my responses to Messrs. Murray and Gorman, those rates are appropriately used in the latter stages of the Multi-Stage DCF model. Thus, while I agree with Ms. LaConte that both analyst growth rates and nominal GDP growth are reasonable measures of expected growth, I disagree as to her application of those growth rates.

### *D. The Use of Value Line Earnings Growth Forecasts as the Long Term Growth Rate in a Two-Stage DCF Model*

**Q. Please describe Ms. LaConte's Two-Stage DCF cost of equity analysis.**

A. Ms. LaConte provides two Multi-Stage DCF models, both of which include a four-year first stage, and a 146-year second stage.[158] The growth rates used in each stage of the two models, in the order in which they are discussed in Ms. LaConte's testimony, are summarized in Table 15 (below).

[158] *See*, Direct testimony of Billie Sue LaConte, at 9, lines 2-34.

**Table 15: Ms. LaConte's Two-Stage DCF Growth Assumptions**

| | **Stage 1** | **Stage 2** |
|---|---|---|
| Model 1 (BSL-4) | Value Line DPS growth | 5.75% nominal GDP growth |
| Model 2 (BSL-3) | Value Line DPS growth | Average analysts' EPS growth |

**Q. Are Ms. LaConte's Multi-Stage models valid?**

A. While I appreciate that Ms. LaConte provided her Multi-Stage analyses as an additional methodological approach, I do not agree with the structure of her model, or with certain of her assumptions. As to the first stage, my model projects dividends as the product of expected earnings per share, based on analysts' consensus estimates, and Value Line's projected payout ratio. Again, that approach reduces the potential bias associated with relying on a single source (Value Line) in the first stage.

In addition, while I disagree with many of their assumptions, Mr. Murray, Mr. Gorman and I agree that a reasonable approach is to allow for a period during which analyst growth projections transition to the long-term growth rate. Ms. LaConte's model, however, assumes that the first stage growth rate changes to the long-term growth rate over the course of a single year. I also disagree with the use of analyst growth rates in the terminal stage of the model. As a practical matter, Ms. LaConte's terminal stage accounts for approximately 84.09 percent of the model's price estimate (*see* Schedule RBH-ER13). If Ms. LaConte is going to focus on analyst growth projections for the long-term, there is little practical difference between that approach and the Constant Growth DCF model.

### *E. The Use of Dividend Payments in the Two-Stage DCF Models*

**Q. How does Ms. LaConte develop the stream of future dividend payments that are used in her Two-Stage DCF cost of equity estimate?**

A. Ms. LaConte states that the first Two-Stage model using the historical GDP growth rate after year 4 to project future dividends through year 150 "uses analyst's growth rates for dividends for the first stage (1-4 years)".[159] She then states that the second Two-Stage model using the median[160] analyst five year earnings growth forecast as the long-term growth rate in dividends "uses the forecast growth rates for dividends for the first stage".[161]

**Q. Do you agree with that description?**

A. Not entirely. Ms. LaConte states that her first model uses analyst growth rates to develop dividends for the first four years of her Two-Stage analysis, which is presented in Schedule BSL-4. But that schedule indicates that the initial dividends for years 1 to 4 for each entity are determined by taking the difference between the average 2010-2011 dividend payment and the Value Line projected 2013-15[162] dividend payment and dividing by three. That increment is then added to the year 1 dividend (the average 2010-2011 amount) and the subsequent dividend amounts to reach the year 4 dividend level, which matches the Value Line projection for 2013-2015. For example, Wisconsin Energy Corporation has an average 2010-2011 dividend of $1.85 and a projected 2013-2015 dividend of $2.70. The difference

159 *Ibid.*

160 Ms. LaConte's direct testimony at page 9, line 5 notes that she used the average of analysts' earnings growth as the long-run dividend growth rate, however a review of Schedules BSL-1 and BSL-3 indicate that she used the lower median growth rate.

161 Direct testimony of Billie Sue LaConte, at 9, line 5.

162 Ms. LaConte characterizes the dividend in Schedules BSL-3 and BSL-4 as a 2015 dividend, while Value Line indicates it is a forecast for the 2013-15 period, and Ms. LaConte employs that amount as the year 4 dividend representing 2014 in Schedule BSL-4.

between the two amounts is $.85 and the annual difference between 2011 and 2014 is $.2833. Adding that amount to the initial year 1 dividend of $1.85 produces dividends for years 2 through 4 of $2.13, $2.42, and $2.70, respectively. (Those amounts correspond to the levels in Schedule BSL-4 for Wisconsin Energy Corporation.)

The second Two-Stage analysis referenced by Ms. LaConte is provided in Schedule BSL-3. Despite stating the inputs used to develop the initial stream of dividends are the same as those reflected in Schedule BSL-4, the initial dividend levels all are lower than reflected in Schedule BSL-4. Unlike the analysis in Schedule BSL-4, Ms. LaConte uses a four-year period, instead of a three-year period as a divisor to calculate future growth in dividends during the first stage of her analysis.

**Q. What is your conclusion regarding the Two-Stage analysis presented in Schedule BSL-3?**

A. The Two-Stage analysis presented in Schedule BSL-3 is inconsistent with the analysis in Schedule BSL-4 and does not reflect a reliable estimate of long-term growth in dividends because it employs analysts' five-year estimates of earning growth. Consequently, the estimates of future dividends shown in that schedule cannot be relied upon.

**Q. Do you have any other comments concerning Ms. LaConte's dividend estimates in her Two-Stage models?**

A. Yes, I do. As discussed in my response to Mr. Gorman, because companies in his proxy group pay dividends that are evenly distributed over time, the

use of a discounting model that applies an annual discount rate to amounts that are paid throughout the year will understate the estimated cost of equity A more reasonable approach is to assume that the cash flow is received in the middle of the year, such that half the quarterly dividend payments occur prior to the assumed dividend payment date. The same circumstances exist with regard to the projected dividend payments in Ms. LaConte's Two-Stage DCF analysis. Because her model uses an annual discount rate that assumes payments occur at the end of the year, it is reasonable to apply the same mid-year convention to the results of her Two-Stage DCF analysis. For example, the application of the mid-year convention to the analysis presented in Schedule BSL-3 would increase her cost of equity estimate from a median of 10.11 percent to 10.38 percent.[163]

### *F. The Use of Historical Risk Premia*

**Q. Does Ms. LaConte employ historical risk premia to estimate the cost of equity for Ameren Missouri?**

A. Yes, Ms. LaConte employs historical risk premia to estimate the cost of equity using both the Risk Premium approach and the CAPM. In her Risk Premium approach, Ms. LaConte relies on the 5.50 percent historical average risk premium resulting from the difference between allowed returns for electric utilities and yields on 30-year Treasury bonds for the period 1992 through 2010, as presented in my direct testimony.[164] In her CAPM analysis, Ms. LaConte uses a market risk premium of 6.50 percent, based upon the historical average reported by Morningstar.[165]

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163 *See* Schedule RBH-ER13.

164 Direct Testimony of Billie Sue LaConte, at 12.

165 *Ibid.*, at 13. Based upon the 2011 publication of the Morningstar Yearbook, the comparable MRP is 6.70 percent.

**Q. Please address Ms. LaConte's use of those risk premia to estimate the cost of equity under those two approaches.**

A. As discussed earlier in my rebuttal testimony, there is a statistically significant inverse relationship between equity risk premia and interest rates. As a result, current estimates of the ROE derived from the Treasury Yield Risk Premium approach range between 10.63 percent and 10.70 percent (*see* Schedule RBH-ER17). Consequently, it is inappropriate to rely on a simple average risk premium derived from a period of time during which the average 30-year Treasury securities was significantly higher than current levels.[166] If Ms. LaConte chooses to rely on the average risk premium, she also should rely on the average Treasury yield of 5.62 percent. Under that scenario, the expected ROE would be 11.12 percent.[167]

Moreover, Ms. LaConte's use of a historical market risk premium estimate in her CAPM analysis ignores important market information included in the *ex-ante* risk premium estimates used in my direct testimony. As discussed in my response to Mr. Murray, the assumption that investors would expect or require a lower risk premium during periods of increasing volatility is counter-intuitive. By relying on the historical average market risk premium, however, Ms. LaConte has made that assumption. Since Ms. LaConte's Risk Premium approach and CAPM analyses do not properly reflect important market considerations discussed above, her analytical results are biased and unreliable.

166 Schedule RBH-ER17 indicates that the yield on 30-year Treasury bonds during the first two months of 2011 was 4.54%. The average 30-year Treasury Bond yield during Ms. Laconte's study period was 5.62 percent.

167 11.12% = 5.62% + 5.50%.

### *G. The Use of Historical Beta Coefficients in the CAPM*

**Q. Please address Ms. LaConte's selection of proxy company Beta coefficients and how she uses them in her CAPM analyses.**

A. Ms. LaConte employs two versions of Value Line's reported Beta coefficients to develop two sets of CAPM analyses. Her first CAPM analysis, which employs the median Beta coefficient reported by Value Line for her proxy group, produces an ROE estimate of 9.00 percent.[168] In her second analysis, Ms. LaConte adjusts the Value Line Beta coefficients upward by incorporating a weighting of 75.00 percent of the reported Beta plus 25.00 percent.[169] Ms. LaConte uses the median of the resulting "adjusted" proxy group Beta coefficients to develop an Empirical CAPM ("ECAPM") ROE estimate for the proxy group of 9.50 percent.[170]

**Q. Is Ms. LaConte's exclusive use of the Value Line Beta coefficients in the CAPM appropriate?**

A. No, it is not. As noted in my response to Mr. Murray, Value Line Beta coefficients are computed using five years of historical data and as such, do not reflect current investor expectations and requirements. As discussed in my direct testimony, Beta coefficients calculated over a shorter time period better reflect current market conditions than those calculated by Value Line, which reflect conditions prior to and including the 2008 financial market dislocation. Consequently, Ms. LaConte's exclusive reliance on Value Line Beta coefficients biases her CAPM estimates downward. That bias is not addressed in Ms. LaConte's ECAPM analysis since that approach addresses the tendency of the CAPM itself to

168 *See*, Schedule BSL-6.
169 Direct Testimony of Billie Sue LaConte, at 15.
170 *See* Schedule BSL-6.

underestimate the required cost of equity, not the relevance of particular estimates of Beta coefficients.

### *H. Environmental Cost Recovery Mechanism*

**Q. What is Ms. LaConte's position concerning the proposed Environmental Cost Recovery Mechanism?**

A. Ms. LaConte concludes that if the Commission adopts the Company's proposal, it also should reduce the authorized ROE to the lower end of her range (9.70 percent to 9.90 percent). Ms. LaConte reaches that conclusion based on her observation that "(t)he Company has requested an (ECRM)" which "will allow the Company to collect costs associated with required environmental upgrades on its current plant in-between rate cases."[171] Ms. LaConte reasons that by reducing regulatory lag, the ECRM will increase certainty because the Company will be able to recover costs in a more timely manner, and that approval of the ECRM will, at the very least, serve to maintain the Company's current "excellent" business risk profile.

**Q. Do you agree with Ms. LaConte on those points?**

A. No, I do not. As a practical matter, Ameren Missouri has not requested a mechanism to provide ongoing rate recovery of environmental upgrades between rate cases. The Company has proposed to begin recovery of several significant specific projects that it expects to complete after the final true-up date in this rate case, but before rates go into effect. Indeed, as noted by Company Witness Warner L. Baxter:

> AmerenUE is proposing several measures that would help reduce regulatory lag in this case. We are proposing the continuation of our existing fuel adjustment clause. We are also

[171] Direct testimony of Billie Sue LaConte, at 17, lines 15-17.

> requesting that the Commission allow us to continue our existing vegetation management and infrastructure inspection, and pension/OPEB cost trackers. We are also requesting that the Commission adopt new trackers to allow the recovery of renewable energy standard costs. In addition, we are proposing "construction accounting" for capital investments that go into service between the true-up cut-off date and the completion of this case, as well as for mandatory relocations due to highway construction and other similar causes over which we have no control, and which produce no additional revenues. We are also seeking to enhance the cost recovery mechanism for energy efficiency expenditures and proposing a tracking mechanism that recovers fixed costs AmerenUE would normally expect to recover through the sale of energy absent the implementation of energy efficiency programs.[172]

As Mr. Baxter makes clear, the intent of the Company's proposed mechanism is to recover amounts that have been invested for projects currently in operation or which will soon be completed, so as to reduce the lag between the Company's capital investment and its recovery of and on that investment.[173] Such recovery on previously incurred expenses does not, as Ms. LaConte asserts "lower the utility's risk."[174] Rather, including such investments in rates would allow the Company the opportunity to earn its authorized ROE, which would be impossible absent approval of the Company's proposal.

## VI. 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 using the Hevert Revised Proxy Group and data as of February 28, 2011. In addition, while I disagree with many of the companies included in the proxy

[172] Direct Testimony of Warner L. Baxter, at 21 -22.
[173] *Ibid.,* at 22.
[174] Direct Testimony of Billie S. LaConte, at 18.

groups of the Opposing ROE Witnesses, I have created a Combined Proxy Group, incorporating all companies included in all the ROE witnesses' proxy groups. While I created the Combined Proxy Group as a broad measure of electric utility required returns, the results of my analyses using the Combined Proxy Group also support my 10.90 percent ROE recommendation.

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

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 16 (below; *see* also Schedule RBH-ER8), and as discussed earlier in my rebuttal testimony, the Constant Growth DCF model results continue to support my ROE recommendation of 10.90 percent.

**Table 16: Updated Constant Growth DCF Results**

| | Mean Low | Mean | Mean High |
|---|---|---|---|
| **Hevert Proxy Group** | | | |
| 30-Day Average | 9.06% | 10.42% | 11.58% |
| 90-Day Average | 9.11% | 10.46% | 11.62% |
| 180-Day Average | 9.25% | 10.61% | 11.77% |
| **Combined Proxy Group** | | | |
| 30-Day Average | 9.30% | 10.60% | 11.94% |
| 90-Day Average | 9.33% | 10.63% | 11.98% |
| 180-Day Average | 9.45% | 10.75% | 12.09% |

**Q. Please explain your updated and revised 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 (1) the Gordon Model, assuming nominal long-term GDP growth as the relevant growth rate; and (2) the product of the projected Earnings per Share and the expected P/E ratio. 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 5.72 percent, rather than the 5.75 percent used in my direct testimony.

**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 first year and long-term projected payout ratios reported by Value Line[175] 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 revert to the long-term average over time.[176] I estimated the long-term payout ratio to be the average median of the

[175] As reported by Value Line as "All Div'ds to Net Prof."
[176] KeyBanc Capital Markets Inc. Equity Research, *Electric Utilities Quarterly 1Q10*, June 2010, at 7.

historical payout ratio since 1987, as available, for all fifty four companies included in the Value Line electric utility universe.

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

A. As shown in Table 17 (below) and Schedule RBH-ER9, the results produced by my updated and revised Multi-Stage DCF analyses are consistent with the Multi-Stage DCF results presented in my direct testimony. Moreover, as shown in Schedule RBH-ER10, the calculated terminal value P/E ratios derived from the Multi-Stage DCF analyses employing the Gordon Growth Terminal Value methodology continue to produce reasonable results when considered in the context of the range of historical P/E ratios attributable to the proxy group companies.[177]

**Table 17: Updated Multi-Stage DCF Results**

| | Low | Mean | High |
|---|---|---|---|
| **Hevert Revised Proxy Group** | | | |
| Gordon Growth Terminal Value | | | |
| 30-Day Average | 9.78% | 10.47% | 11.28% |
| 90-Day Average | 9.86% | 10.51% | 11.33% |
| 180-Day Average | 10.01% | 10.66% | 11.38% |
| Long-Term P/E Terminal Value | | | |
| 30-Day Average | 8.45% | 9.90% | 11.84% |
| 90-Day Average | 8.63% | 10.00% | 11.93% |
| 180-Day Average | 8.99% | 10.32% | 12.05% |
| **Combined Proxy Group** | | | |
| Gordon Growth Terminal Value | | | |
| 30-Day Average | 9.61% | 10.42% | 11.28% |
| 90-Day Average | 9.52% | 10.46% | 11.33% |
| 180-Day Average | 9.46% | 10.58% | 11.38% |
| Long-Term P/E Terminal Value | | | |
| 30-Day Average | 7.47% | 9.80% | 11.84% |
| 90-Day Average | 7.25% | 9.88% | 11.93% |
| 180-Day Average | 7.10% | 10.13% | 12.05% |

[177] As noted earlier in my rebuttal testimony, the P/E estimates reflect no expansion over the forecast period and as such, are somewhat conservative.

**Q. Please summarize your updated CAPM analysis.**

A. I have continued to use the same inputs used in my direct testimony, updated through February 28, 2011. 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 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 current 30-year Treasury yield; and (2) an expected risk premium derived from the historical Sharpe Ratio. As discussed below, however, while I continue to rely on three estimates of the Beta coefficient, Value Line and Bloomberg published results and a shorter term calculation, I have revised my calculation of the Beta coefficients for the proxy group companies to rely on 12 months of data, as opposed to the six-month period included in my direct testimony.

**Q. Why did you change your calculation of Beta coefficients to 12 months?**

A. As discussed in my direct testimony,[178] Beta estimates reported by Value Line and Bloomberg calculate the Beta for each company over historical periods of 60 and 24 months, respectively. During the recent financial market dislocation, the relationship between the returns of the proxy group companies and the S&P 500 was considerably different than has been experienced in the current market environment. In order to develop a cost of equity estimate that reflects current investor expectation, it is reasonable to rely on a near-term calculation of

[178] Direct testimony of Robert B. Hevert, at 34.

Beta to reflect the current relationship between the proxy group companies and the S&P 500. To capture a more current period than the Bloomberg two-year calculation period, I based my analysis on a twelve-month period. Chart 5 (below) illustrates the relationship between the covariance of average weekly returns for the proxy group and the variance in the returns of the S&P 500, the two components of the Beta calculation.

**Chart 5: Proxy Group Average Covariance and S&P 500 Variance**

**(Moving twelve month calculation)**

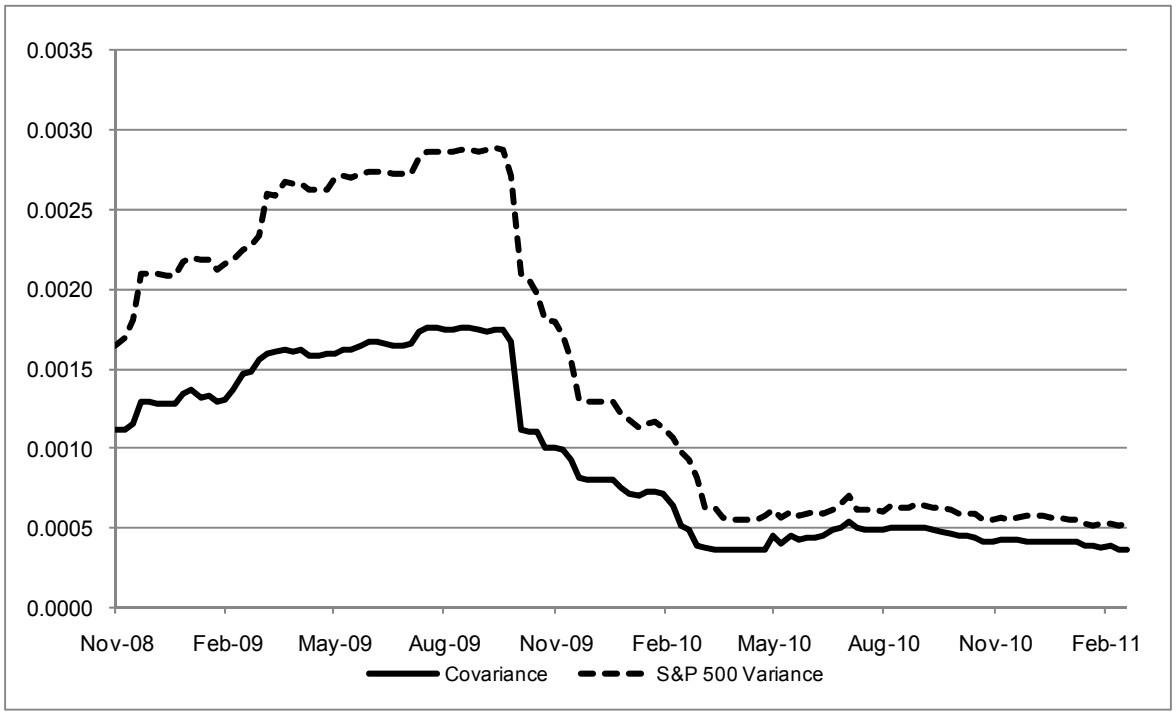


Chart 5 demonstrates that since September 2009, the difference between the average covariance for the proxy group weekly returns and the variance in the S&P 500 weekly returns, calculated on a moving twelve-month basis, has narrowed significantly. Since Beta is the ratio of the covariance to the variance, that increasingly small difference indicates that the proxy company stock prices have

become increasingly volatile relative to the broad market. Consequently, over the past year, the proxy group average Beta has increased.

**Q. Is your calculated Beta coefficient of 0.801 consistent with levels that were observed prior to the financial market crisis?**

A. Yes. In September 2007, one year prior to the Lehman Brothers bankruptcy filing, the average Beta coefficient for the companies in my revised proxy group, as reported by Value Line, was 0.978. In September 2008, the average Beta coefficient for the same group was 0.805. Based on those historical measures, the twelve-month average calculated Beta coefficient of 0.801 is reasonable, if not conservative, compared to levels before the financial market crisis.

**Q. What are your updated CAPM results?**

A. As shown in Schedule RBH-ER16, based upon updated market information, my CAPM analyses produce a range of ROE estimates from 9.62 percent to 11.37 percent using the Hevert Proxy Group and 9.78 percent to 11.36 percent using the Combined 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.[179]

**Q. What then is the relevance of your updated CAPM results?**

A. Given the current market circumstances, the CAPM results shown in Schedule RBH-ER16 display the significant level of market uncertainty that continues to persist. Moreover, the results demonstrate that utilities in the proxy group have indeed become more correlated to the broader market than the

[179] *Ibid.*, at 42.

historically measured Beta coefficients suggest. While I realize that this elevated degree of correlation is symptomatic of the currently unsettled market conditions, I also recognize that over the long-term, indices such as correlation coefficients, yield inversion, and other measures of investors' risk sentiments may revert toward pre-financial crisis levels. Thus, although I have not relied explicitly upon the updated CAPM results, the results do inform the high end of the current market-required return for the proxy group.

**Q. Please summarize your updated Risk Premium analysis.**

A. My Risk Premium analysis includes authorized ROEs as reported by Regulatory Research Associates through February 28, 2011. 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-ER17, my updated results range from 10.63 percent to 10.70 percent, with a mean of 10.66 percent.

**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 authorized ROE for a public utility should allow the company to attract investor capital at reasonable cost under a variety of economic and financial market conditions. The ability to attract capital on reasonable terms is especially important for capital-intensive businesses such as utilities.[180]

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

[180] *Ibid.*, at 6.

diminishes the Company's ability to compete for capital in the open market does not meet the "comparable company" standard.

**Q. Does Mr. Murray test whether his recommended ROE meets that standard?**

A. No. Mr. Murray does not present any analyses that consider the risk differential between Ameren Missouri and the proxy group or that test whether the combination of Staff's recommended ROE, capital structure and cost of debt would allow the Company to maintain its financial integrity, or attract capital at terms offered to companies of similar risk.

**Q. Did any of the Opposing ROE Witnesses consider risk differences between Ameren Missouri and their proxy group?**

A. No, they did not. While they do discuss S&P's business risk classification for the Company, the Opposing ROE Witnesses do not address factors such as the regulatory climate for the Company, its high concentration of coal generation and other potential differences.[181] I explained in my direct testimony why it is important to consider those factors when determining the ROE for Ameren Missouri, and why those factors suggest an ROE toward the upper end of my recommended range.[182]

## VII. CONCLUSIONS AND RECOMMENDATIONS

**Q. What are your overall conclusions and recommendations?**

A. My updated analytical results are provided in Table 18 (below). As discussed throughout my rebuttal testimony, the Multi-Stage DCF model addresses

[181] *See* Schedules RBH-ER29 and RBH-ER30.
[182] Direct testimony of Robert B. Hevert, at 46-52.

many of the concerns raised by the Commission with respect to the Constant Growth form of the model. I have viewed the CAPM results as a means of informing the range of analytical results and based on the conclusion that my current calculation of Beta coefficients more accurately reflects market conditions than historical Beta coefficients, I view the upper end of the CAPM results as more informative.

While I recognize that my Constant Growth and Multi-Stage DCF results have fallen somewhat since the filing of my direct testimony, my 10.90 percent recommendation continues to fall well within the range of results. As discussed throughout my direct and rebuttal testimonies, the Company remains exposed to business and market risks. Based on the totality of those analyses, it continues to be my view that a reasonable range of results is from 10.50 percent to 11.25 percent and that within that range, 10.90 percent is a reasonable estimate of the Company's cost of equity.

**Table 18: Summary of Updated Results**

| | Mean Low | Mean | Mean High |
|---|---|---|---|
| *Constant Growth DCF* | | | |
| 30-Day Average | 9.06% | 10.42% | 11.58% |
| 90-Day Average | 9.11% | 10.46% | 11.62% |
| 180-Day Average | 9.25% | 10.61% | 11.77% |
| | **Low** | **Mean** | **High** |
| *Multi-Stage DCF* | | | |
| Gordon Growth Terminal Value | | | |
| 30-Day Average | 9.78% | 10.47% | 11.28% |
| 90-Day Average | 9.86% | 10.51% | 11.33% |
| 180-Day Average | 10.01% | 10.66% | 11.38% |
| Long-Term P/E Terminal Value | | | |
| 30-Day Average | 8.45% | 9.90% | 11.84% |
| 90-Day Average | 8.63% | 10.00% | 11.93% |
| 180-Day Average | 8.99% | 10.32% | 12.05% |
| | | | |
| *Risk Premium Approaches* | | | |
| | **Current 30-Yr Treasury** | **Projected 30-Yr Treasury** | |
| *Capital Asset Pricing Model* | | | |
| Sharpe Ratio-Derived MRP | | | |
| Current Beta | 10.37% | 10.61% | |
| Historical Beta | 9.62% | 9.86% | |
| Market DCF-Derived MRP | | | |
| Current Beta | 11.13% | 11.37% | |
| Historical Beta | 10.28% | 10.52% | |
| | **Low** | **Mean** | **High** |
| *Bond Yield Plus Risk Premium* | 10.63% | 10.66% | 10.70% |

**Q. Does that conclude your rebuttal testimony?**

A. Yes, it does.

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

| | | |
|---|---|---|
| In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area. | ) ) ) ) ) | Case No. ER-2011-0028 |

**AFFIDAVIT OF ROBERT B. HEVERT**

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

**ROBERT B. HEVERT**, being first duly sworn on his oath, states:

1. My name is **ROBERT B. HEVERT**. I work in the County of Middlesex, Massachusetts, and I am President of Concentric Energy Advisors.

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 114 pages, Schedules RBH-ER8 through RBH-ER30, 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
**ROBERT B. HEVERT**

Subscribed and sworn to before me this 25 day of March, 2011.

Notary Public

My commission expires:

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

KIMBERLY H. DAO NOTARY PUBLIC