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SURREBUTTAL TESTIMONY

OF

ROGER A. MORIN

Before the Missouri Public Service Commission

On behalf of Union Electric Co.

d/b/a AmerenUE

Case No. ER-2010-0036

ROE Considerations

March 2010

TABLE OF CONTENTS

I. INTRODUCTION 1

II. REPLY TO MR. MURRAY 3

III. REPLY TO MR. HILL 9

INCONSISTENCIES 10

DIVIDEND YIELD COMPONENT OF THE DCF MODEL 13

ANALYSTS' EARNINGS GROWTH FORECASTS IN THE DCF MODEL 13

MARKET-TO-BOOK RATIOS 18

FLOTATION COSTS 22

OTHER ISSUES IN MR. HILL'S REBUTTAL TESTIMONY 24

IV. REPLY TO MR. GORMAN 25

CAPM MARKET RISK PREMIUM 25

EMPIRICAL CAPM 25

HISTORICAL RISK PREMIUM 27

DCF GROWTH RATES 28

DCF DIVIDEND YIELDS 28

DCF RESULTS 28

V. REPLY TO MR. LAWTON 29

DCF DIVIDEND YIELD 30

I. INTRODUCTION

Q. Please state your name.

A. Dr. Roger A. Morin.

Q. Are you the same Dr. Roger A. Morin who provided prefiled direct testimony and rebuttal testimony in this proceeding on behalf of Union Electric Company d/b/a AmerenUE (UE or Company)?

A. Yes, I am.

Q. What is the purpose of your surrebuttal testimony?

A. This surrebuttal testimony responds to the rebuttal testimonies of Mr. David Murray on behalf of the Staff of the Missouri Public Service Commission, Mr. Daniel Lawton on behalf of the Missouri Office of the Public Counsel, and Mr. Michael P. Gorman on behalf of Missouri Industrial Energy Consumers. I also respond to Mr. Stephen Hill's rebuttal testimony on behalf of the Staff of the Missouri Public Service Commission.

Q. Please summarize the key points contained in your surrebuttal testimony.

A. The key points in my surrebuttal are as follows:

- The Staff's recommendation is outside the range of returns on equity (ROEs) granted to comparable firms, and far too low to meet the standards required by the *Hope* and *Bluefield* decisions.
- The use of forecasted growth rates (which in fact were used by all of the return experts in this case except the Staff) is appropriate for several reasons, including because there are severe hazards in relying on historical growth rates.
- Staff witnesses Murray and Hill misuse out-of-context equity return figures from select equity analysts, who in fact recommend selling Ameren stock, as a so-called "reasonableness check" on Mr. Murray's extremely low and insufficient ROE recommendation in this case.
- Mr. Hill's claims that the manner in which I employed my analyses is inconsistent (and by implication, result oriented) with prior testimonies is incorrect, in that changes in available data and market-condition changes require adjustments to

return analyses over time. Mr. Hill himself changes his analyses depending on the proceeding and the timing of the case.

- Mr. Hill's unique views relating to the market-to-book value of utility stocks presume that investors would commit capital to a utility knowing full well that a loss of their capital would be inflicted by regulators, which of course cannot possibly be a realistic reflection of investor expectations or regulatory practices.
- Contrary to Mr. Hill's criticisms, my proxy groups are appropriate because the average revenues from regulated electric operations is high, and the risk of those proxy groups is similar, or perhaps slightly lower, than UE's risk.
- Nothing in Messrs. Gorman's or Lawton's rebuttal testimonies causes me to alter my recommendation, and their criticisms are based on several errors, which I address below.

Q. Can you describe how your surrebuttal testimony is organized?

A. My surrebuttal testimony is organized in four sections, corresponding to each of the aforementioned individuals.

Q. Do you have a general comment before you commence your surrebuttal?

A. Yes, I have two general comments. First, Staff continues to recommend a return on equity that is outside the range of what has been allowed in recent decisions and simply too low to provide a return commensurate with enterprises of similar risk, as required by the *Bluefield* and *Hope* decisions cited in my direct testimony. Both Mr. Gorman and Mr. Lawton recommend a return that is at the low end of what has recently been allowed, but provide no evidence that UE is lower risk than other electric utilities. Therefore, their recommendations are also too low. Second, the aforementioned four witnesses all express concern and disagreement with the flotation cost adjustment embedded in my original ROE recommendation. Since I have eliminated this adjustment in my updated recommendation contained in my rebuttal testimony, I shall limit my comments to a response to specific methodology remarks made by Mr. Hill. Also, since I have updated my recommendation to reflect more current data, I shall refrain from

addressing the concern expressed on the staleness of the market data underlying my original recommendation, which was made many months ago based upon data from the first and second quarters of 2009.

II. REPLY TO MR. MURRAY

Q. Has Mr. Murray made any arguments in his rebuttal testimony that would cause you to alter your testimony and/or any of your rebuttal comments?

A. He has not. I shall now respond to Mr. Murray's principal arguments roughly in the same order he has presented them, first with regard to Discounted Cash Flow (DCF) growth rates, and second with respect to proxy group composition.

Q. On pages 2 and 13 of his rebuttal, Mr. Murray argues that his recommended ROE is lower than your own, Mr. Gorman's, and Mr. Lawton's because of what Mr. Murray claims are unreasonably high DCF growth rates used by all three of you. Do you agree?

A. No, I do not. Mr. Murray's argument on page 2, lines 13-14 of his rebuttal testimony is that the growth rates used in my DCF analysis are "*not within the norm used by professional analysts.*" I was astonished by this point of view given that the growth rates I used are from Value Line and from Zacks Investment Research, which compiles growth rates used by those same professional analysts. I therefore fail to understand Mr. Murray's criticism that my growth rates are not "within the norm" used by professional analysts when the growth rates that I used in fact originate from these analysts.

Q. Mr. Murray criticizes your proxy group for not eliminating companies with significant non-regulated operations. Is he right?

A. No, he is not. On page 6, lines 20-22 and on page 8, lines 10-20 of his rebuttal testimony, Mr. Murray states that I failed to eliminate any companies with significant non-regulated operations. That is incorrect. I refer Mr. Murray to my direct testimony on page 27, lines 3-9 and on page 45, lines 17-19 where I specifically remove companies with less than 50% of revenues from regulated electric operations. In fact, the average percentage of revenues from regulated electric operations for my two proxy groups is 80% and 76%, respectively, which is even higher than Mr. Murray's 70% filtering criterion (see page 8, line 2 of his rebuttal testimony).

In addition, the majority of my proxy group companies are classified as regulated or mostly regulated by Edison Electric Institute, meaning that they devote the majority of their assets to regulated activities. Thus, not only do my proxy group companies predominantly earn their revenues from regulated electric activities, but they also predominantly devote their assets to regulated activities. Further, I note that the average bond rating in my integrated electric utility sample is A- from S&P and A3 from Moody's with the average rating of Mr. Murray's sample companies being BBB+ from S&P.[1] In comparison, UE carries a BBB rating from S&P and an A3 rating from Moody's. Thus, UE's bond rating is comparable to or slightly lower than that of the sample companies in all proposed proxy groups, indicating that UE's risk is comparable to, or slightly greater than, all proxy groups.

[1] Gorman Schedule MPG-4 and Murray Schedule 18.

I note that Mr. Murray is the clear outlier in this case when it comes to the formation of proxy groups. Both Mr. Gorman and Mr. Lawton have adopted my proxy groups.

Q. Mr. Murray also criticizes your DCF growth rates on the ground that they exceed long-term economic growth rate estimates. Do you agree?

A. No, I do not. Mr. Murray argues on page 14 lines 11-12 of his rebuttal testimony that the growth rates used in my DCF analysis are implausible because they exceed long-term economic growth estimates. As I demonstrated in my rebuttal testimony (pages 17-19), the long-term expected Gross Domestic Product (GDP) nominal growth is 6.0%, virtually identical to the DCF growth rates on which I relied. Clearly, Mr. Murray's growth forecast of only 3.1% for his comparable group of electric utilities grossly understates the long-term expected GDP nominal growth of 6.0%.

I also point out that Morningstar's *Stocks, Bond, Bills and Inflation 2009 Yearbook Valuation Edition* publication used by Mr. Murray in his CAPM analysis uses 3.3% as its estimate of the U.S. economy's real long-term growth rate. The current long-term expected inflation rate is 2.6%, as indicated by the difference in yield between long-Term Treasury bonds and long-term Treasury bonds indexed to inflation. By combining the inflation estimate of 2.6% with the real growth rate estimate of 3.3%, a long-term estimate of nominal growth rate of 5.9% is indicated, and *not* the 3.1% used by Mr. Murray.

Q. Do you have any other comments on Mr. Murray's analysis of growth rates?

A. Yes. On page 17 of his rebuttal testimony, Mr. Murray looks at the real GDP and electric demand growth. There are two problems with Mr. Murray's table. First, the growth in the MW of demand in the U.S. is useful for the purpose of resource planning, but not for the purpose of determining the rate of return for an electric utility. Specifically, the relevant revenue figure for a utility is the *dollar amount* of the revenues it will generate rather than the MW of demand it must meet. Thus, Mr. Murray's table is missing important information about the growth in the *value* of electricity to be a meaningful measure of historic growth. Because the value of an entity is driven by the cash flows it can generate, investors are interested in the revenues produced from electricity sales and the associated costs, and not the physical demand that it is meeting. This information is simply not part of Mr. Murray's table.

Q. Mr. Murray criticizes your historical risk premium analysis because the 2008 return data were omitted from the analysis. How do you respond?

A. On page 29, lines 22-23 of his rebuttal testimony, Mr. Murray points to what he claims to be a "glaring" omission of my risk premium analysis, namely, that I omitted the 2008 experience from the analysis. The reason for the omission of 2008 is quite clear. The year 2008 was characterized by the worst financial crisis since the Great Depression. Given the unprecedented circumstances of 2008 and the disastrous debacle in the stock market in 2008, which is unlikely to be repeated, inclusion of the 2008 information would distort the historical risk

premium analysis, which is why it was important to end that analysis using data through the period ending in 2007.

Q. Do you have any other comments on Mr. Murray's rebuttal testimony?

A. Yes. Mr. Murray on page 27 of his rebuttal testimony defends his recommendation as being supported by comments made by members of the investment community. There are, however, several problems with Mr. Murray's use of selected comments from the "investment community." First, he arbitrarily selects isolated sections from just a handful of equity analysts' reports out of context, but ignores other sections of these same reports. Second, while Mr. Murray cites specific figures, neither he nor the reports themselves disclose how the analysts calculated the cited figures, and some of the figures are impossible to reconcile and understand without access to the underlying models. This makes reliance on them speculative. Third, Mr. Murray ignores other "investment community" information that is contrary to the point he is attempting to make. Fourth, the context and purposes for which the reports were prepared are not even considered by Mr. Murray.

Q. Could you please elaborate on your comments above?

A. Yes. First, while Mr. Murray cites a footnote in a specific table in the Goldman Sachs reports he cites as providing a cost of equity estimate, he fails to highlight Goldman Sachs' *sell recommendation* on Ameren and Goldman Sachs' downward adjustment to its price-earnings valuation of Ameren based on Ameren's larger than average exposure to carbon, lower than average earned return on capital, lower than average free cash flow, and relatively weak regional

markets.[2] If the equity return figures Mr. Murray cites to were sufficient to "assure confidence in the financial integrity of the enterprise, so as to maintain its credit and attract capital,[3] then the stock would not be under a *sell* recommendation, which hardly suggests that such returns are sufficient to attract capital. I would also note that not only did Goldman Sachs have a sell recommendation for Ameren at the time of the report relied on by Mr. Murray, but more recently Goldman Sachs became even more negative on Ameren's stock, and has issued a "sell with conviction" recommendation for Ameren. It is obvious that however Goldman Sachs arrived at the figures Mr. Murray takes out of context (and, as I noted, we don't know how they arrived at those figures since we don't have access to their models or workpapers), the figures do not reflect a fair or true cost of equity for UE since they are insufficient, in Goldman Sachs' own view, to warrant buying the stock – i.e., insufficient to attract capital.

Second, nowhere in the Goldman Sachs report does it explicitly state how the equity return figures were calculated. Further, it is difficult to reconcile the 8 to 9% cited by Mr. Murray with a "valuation of regulated utilities ... [that] imply a 11% total return potential."[4] I therefore do not find these reports meaningful for the purpose of setting a regulatory rate of return. Third, Mr. Murray ignores other "investment community" information such as credit reports. For example, Moody's makes it clear that it viewed the most recently allowed ROE of 10.76%

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[2] Michael Lapides, Jaideep Malik, Zac Hurst, and Neil Mehta, *Powering On: Tilting to Commodity Oriented Utilities and IPPs*, September 29, 2009, p. 17. I would note that each of those factors – (relating to carbon, return on capital, free cash flow, weak markets) are applicable to AmerenUE itself.

[3] Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591 (1944).

[4] Michael Lapides, Jaideep Malik, Zac Hurst, and Neil Mehta, *Power Lifting Through 2010: Long-Term Themes and Concepts, Top Picks and Pans for the Year*, January 15, 2010, p. 25.

for UE as "credit supportive."[5] Fourth, the reports prepared by the investment bank Goldman Sachs equity are intended for Goldman Sachs' potential investors -- not for a regulatory proceeding. For example, the reports do not discuss the utilities' ability to actually earn the return they have been allowed. As noted, the reports reflect a sell recommendation, which belies the contention that the low equity return figures cited in the report reflect a satisfactory return level for investors.

III. REPLY TO MR. HILL

Q. Did Mr. Hill file rate of direct testimony in this proceeding?

A. No, he did not. Nevertheless, he did file rebuttal testimony.

Q. Has Mr. Hill made any arguments in his rebuttal testimony that would cause you to alter your testimony and/or any of your rebuttal comments?

A. He has not.

Q. What are Mr. Hill's major concerns with your testimony?

A. As stated on pages 3, 4 and 18, he has five major concerns: 1) inconsistencies with prior testimonies; 2) the dividend yield component of the DCF model; 3) the use of analysts' earnings growth forecasts that are upwardly-biased in the DCF model; 4) market-to-book ratios; and 5) an unnecessary flotation cost adjustment. I shall only deal with the methodology aspects of Mr. Hill's critique of the flotation cost, as I have eliminated flotation costs from my updated ROE recommendation given that UE is proposing to expense the flotation costs associated with the 2009 equity issuance, as was recently done in another rate case for The Empire District Electric Company in Missouri.

[5] Moody's Investor Services, *Credit Opinion: Union Electric Company*, August 17, 2009.

INCONSISTENCIES

Q. Why did you rely on the S&P Utility Index instead of the Moody's Electric Index in calculating the historical utility returns?

A. On page 8, lines 6-16 of his rebuttal testimony, Mr. Hill expresses concerns with my historical risk premium analysis on the grounds that I now rely on the S&P Utility Index instead of the Moody's Electric Index, on which I relied in the past for purposes of calculating historical utility returns.

As explained in my direct testimony, I have relied on the Moody's Electric Utility Index to perform my historical risk premium study in past testimonies. Following the acquisition of Moody's by Mergent in 2002, publication of the electric utility index was discontinued. Therefore, I chose to rely on the S&P Utility Index instead of the Moody's Index to ensure continuity and timeliness of the risk premium data, because with the passage of time, the Moody's data becomes more and more stale. I also noted that the use of S&P Utility Index instead of the Moody's Index is consistent with the use of the utilities that make up the S&P Utility Index as one of my two proxy groups. In any event, the results using the S&P Index are not materially different from those using the discontinued Moody's index.

Q. Why did you change the base yield onto which the risk premium is added in calculating the historical utility risk premiums?

A. On page 9, lines 3-10 of his rebuttal testimony, Mr. Hill expresses concerns with my historical risk premium analysis on the grounds that I now rely on long-term utility bond yields whereas in the past I relied on long-term T-Bonds as the base

yield onto which the risk premium is added. Mr. Hill suggests that I relied on this procedure in order to produce a higher cost of equity estimate risk premium. This suggestion is patently false and unprofessional. The cost of equity estimates from this method are indeed higher for the simple reason that the cost of equity capital has increased relative to the level of Treasury yields following the financial crisis that began in October 2008, or even earlier, when the bailouts of Fannie Mae and Freddie Mac began.

Trends in utility cost of capital are directly reflected in their cost of debt and are not directly captured by a risk premium estimate tied to government bond yields. This was especially germane since the commencement of the financial crisis where corporate spreads reached record levels, and remain high relative to historical level, although somewhat improved. Because a utility's cost of capital is determined by its business and financial risks, it is reasonable to conclude that its cost of equity will track its cost of debt more closely than it will track the government bond yield. To guard against this possibility, I implemented my historical premium analysis using the utility bond yield instead of the government bond yield.

Q. Why did you choose not to implement the Allowed Risk Premium methodology in this proceeding?

A. On page 13, lines 13-23 of his rebuttal testimony, Mr. Hill complains that I did not implement a historical risk premium methodology based on allowed returns. I eliminated this methodology from the methods that I have used in the past a few years ago on the grounds that the method was deemed circular and because it

produced results nearly identical to the traditional historical risk premium analysis.

Q. Do you have any evidence on the rate of return allowed by other commissions in this proceeding?

A. Yes. My rebuttal testimony on p. 9 reviews recent rate of return decisions for electric utilities to assess the reasonableness of the recommendations made in this proceeding. The average allowed return on equity for integrated electric utilities was 10.59% in 2009.[6] As noted in my rebuttal testimony, the Staff's recommendation is lower than what has been allowed to all other integrated electric utilities in 2009. Clearly, an allowed rate of return that is below that of all other electric utilities will impact UE's ability to raise capital, and cannot be commensurate with the returns allowed enterprises of comparable risk.[7]

Q. Are Mr. Hill's own methodologies consistent with his past practices?

A. No, they are not. On page 11, lines 1-2 of his rebuttal testimony, Mr. Hill refers to a recent Puget Sound Energy case in Washington state where we both testified on rate of return. In that case, Mr. Hill introduced a brand new methodology, namely, the two-stage DCF model, which was a departure from his past practices. Mr. Hill has always performed a traditional, single-stage DCF analysis in most, if not all, of his testimonies for utilities in retail jurisdictions.

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[6] Morin rebuttal testimony p. 2.

[7] The parent of UE is currently listed as a Sell by, for example, Goldman Sachs and credit rating agencies such as Moody's have noted Union Electric's cash flow metrics as an issue. For example, Moody's notes that a factor that could lower Union Electric's credit rating is "a continued decline in cash flow coverage measures." (Moody's Investors Service, "Credit Opinion: Union Electric Company," August 17, 2009).

DIVIDEND YIELD COMPONENT OF THE DCF MODEL

Q. Is Mr. Hill's criticism that you double-counted the expected dividend yield for growth in the DCF model warranted?

A. No. Contrary to assertions on page 26, lines 1-8 of Mr. Hill's rebuttal testimony, I did not overstate the dividend yield by double-counting the dividend increase. This is because I used the "current dividend yield" as defined by Value Line in the Value Line Investment Analyzer software and then grossed up the current dividend yield to produce the expected dividend yield required by the DCF model.

ANALYSTS' EARNINGS GROWTH FORECASTS IN THE DCF MODEL

Q. Is reliance on analysts' earnings growth forecasts in the DCF model problematic?

A. No. Reliance on analysts' earnings growth forecasts in the DCF model is not problematic. Mr. Hill asserts the following on page 26, lines 12-14 and lines 20-22 of his rebuttal testimony with respect to my use of analysts' earnings growth forecasts in the DCF:

> *...exclusive reliance on analysts' earnings per share (EPS) growth rate projections in a DCF analysis causes an overstatement of the cost of equity capital estimate.*
>
> *...exclusive reliance on earnings growth, absent any examination of the underlying fundamentals of long-run growth, can lead to inaccurate and overstated equity cost estimates.*

As discussed in my rebuttal testimony, published studies in the academic literature demonstrate that (i) analysts' growth rate forecasts are reasonable indicators of investor expectations, and (ii) investors rely on such forecasts.

I also note that while Mr. Hill criticizes my DCF growth analysis because it relies exclusively on earnings growth forecasts, Mr. Hill ended up relying exclusively on the same growth forecasts in his two-stage DCF analysis in the Puget Sound case to which he refers to on pages 9 and 11. Messrs. Gorman and Lawton in this case use earnings growth forecasts in this case, as is typically done by the majority of return analysts. In short, Mr. Hill's criticisms of my DCF growth forecasts are unfounded.

Q. Is your growth rate analysis "*mechanical in that it simply plugs selected projected data into a formula to produce a growth rate with no underlying analysis of either the historical or projected growth rate fundamentals*"? (Hill rebuttal, page 26, lines 15-17)

A. No, it is not. Contrary to this assertion, my direct testimony devotes several pages to an analysis of historical growth rates and analysts' growth forecasts. Given this analysis, Mr. Hill's statement that I undertook no underlying analysis of either the historical or projected growth rate fundamentals is patently false.

On page 26, lines 18-19 of his rebuttal testimony, Mr. Hill states that "*Dr. Morin, in his own published work, warns against this type of analysis.*" This is a clear example of Mr. Hill selectively (and misleadingly) citing materials out of context. The referenced passage cited by Mr. Hill in footnote 21 immediately precedes the following section of my book:

> *A note of caution is also necessary when dealing with historical growth rates and their use in the DCF model. Historical growth rates can be downward biased by the impact of diversification and restructuring activities and by the impact of abnormal weather patterns in the case of energy utilities. Acquisitions, start up expenses, and front end capital investments associated with diversification and restructuring efforts, and unfavorable weather patterns can retard and dilute historical earnings growth, and such growth is not representative of a company's long term growth potential. Therefore, caution must be exercised when applying any of the growth estimating techniques directly to recent historical utility company data.*
>
> *Given a dramatic change in a utility's operating environment, the need to be forward looking is apparent. Historically based measures of risk and growth can be downward biased in assessing present circumstances... The fundamental risks and growth prospects of electric utilities are also changing rapidly following the passage of the Energy Bill in 1993. These shifts in growth prospects take some time before they are fully reflected in the historical growth rates. Hence, backward looking growth and statistical analysis may fail to fully reflect the fact that the risks and growth prospects of utilities have escalated, and may only provide limited evidence that the risk and the cost of capital to these utilities have increased. Of course, the converse may also be true under certain circumstances.*

Roger A. Morin, *Regulatory Finance: Utilities' Cost of Capital*, pp. 237-38 (1st ed. 1994). Indeed, the same chapter contains an entire section that comprehensively discusses the hazards of relying on historical growth rates. There was nothing "mechanical" about my use of growth rates, in that I not only examined historical growth rates, but fully understood the hazards of using them.

Q. Mr. Hill criticizes your DCF analysis because it relies on earnings growth projections and he believes that such forecasts are "rosy". How do you respond?

A. On page 27, lines 12-21 of his rebuttal testimony, Mr. Hill denounces the use of financial analysts' earnings forecasts on the grounds that such forecasts are overly

optimistic. I disagree, at least for utility stocks. Using virtually all publicly available analyst earnings forecasts for a large sample of companies (over 23,000 individual forecasts by 100 analyst firms), a study by Lys and Sohn shows that stock returns respond to individual analyst earnings forecasts, even when they are closely preceded by earnings forecasts made by other analysts or by corporate accounting disclosures.[8] Using actual and IBES data from 1982-1995, a study by Easterwood and Nutt regresses the analysts' forecast errors against either historical earnings changes or analysts' forecasting errors in the prior years.[9] Results show that analysts tend to under-react to negative earnings information but overreact to positive earnings information.

The more recent studies provide evidence that analysts make biased forecasts and misinterpret the impact of new information.[10] For example, several studies in the early 1990s suggest that analysts either systematically under-react or overreact to new information. The study by Easterwood and Nutt discriminated between these different reactions and reported that analysts under-react to negative information, but overreact to positive information. The recent studies do not necessarily contradict the earlier literature. The earlier research focused on whether analysts' earnings forecasts are better at forecasting future

[8] Thomas Lys & Sungkyu Sohn, *The Association Between Revisions of Financial Analysts' Earnings Forecasts and Security Price Changes*, 13 Jrnal of Acctg. and Economics 341 (1990).
[9] John Easterwood & Stacey Nutt, *Inefficiency in Analysts' Earnings Forecasts: Systematic Misreaction or Systematic Optimism?*, 54 The Journal of Finance 1777 (1999).
[10] Other relevant papers corroborating the superiority of analysts forecasts as predictors of future returns versus historical growth rates include: Dov Fried & Dan Givoly, *Financial Analysts Forecasts of Earnings: A Better Surrogate for Earning Expectations*, 4 Journal of Accounting and Economics 85 (1982); R. Charles Moyer, Robert E. Chatfield & Gary D. Kelley, *The Accuracy of Long-Term Earnings Forecasts in the Electric Utility Industry*, 1 International Journal of Forecasting 241 (1985); and David A. Gordon, Myron J . Gordon, & Lawrence I . Gould, *Choice Among Methods of Estimating Share Yield*, 15 The Journal of Portfolio Management 50 (1989).

earnings than historical averages, whereas the recent literature investigates whether the analysts' earnings forecasts are unbiased estimates of future earnings.

Academic papers have also found that companies with less variability in their earnings than the average traded company (like utilities) tend to have more accurate forecasts. This suggests analyst forecasts for the utility industry are likely to be more accurate and less prone to potential bias when compared to forecasts for other industries. Consistent with this notion, Capstaff et al. in 2001 found that "analysts' forecasts for the health care and public utilities were the most accurate... part of the explanation may be the low earnings volatility..."[11] Similarly, Markov and Tamayo (2006) found that the autocorrelation in analyst forecast errors for the utilities industry is close to zero - "This is not surprising. The quarterly earnings process for a utility firm is more likely to be stationary and present better opportunities for learning than other firms."[12] Thus, analysts are more likely to make accurate forecasts for utilities than for other industries. It is therefore important to not over-emphasize the general academic research, which tends to look to all sorts of different companies. This is especially true since much of the literature cited by Mr. Hill dates prior to the efforts of the National Association of Securities Dealers (NASD) and the New York Stock Exchange (NYSE) to reform the influence of investment bankers on analysts.[13]

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[11] J. Capstaff, K. Paudyal and W. Rees, *A Comparative Analysis of Earnings Forecasts in Europe*, Journal of Business Finance & Accounting 28, page 548 (2001); p. 548.

[12] S. Markov and A. Tamayo, *Predictability in Financial Analyst Forecast Errors: Learning or Irrationality?* Journal of Accounting Research 44 (2006); p. 750.

[13] See, for example, p. 44 of the *Joint Report by NASD and NYSE on the Operation and Effectiveness of the Research Analyst Conflict of Interest Rules*, (December 2005).

It is possible that even if the analysts' forecasts are biased, they are still closer to future earnings than the historical averages, although this hypothesis has not been tested in the recent studies. One way to assess the concern that analysts' forecasts may be biased upward is to incorporate into the analysis the growth forecasts of independent research firms, such as Value Line, in addition to the analyst consensus forecast. Unlike investment banking firms and stock brokerage firms, independent research firms such as Value Line have no incentive to distort earnings growth estimates in order to bolster interest in common stocks.

Mr. Hill argues that analysts tend to forecast earnings growth rates that exceed those actually achieved and that this optimism biases the DCF results upward. The magnitude of the optimism bias for large rate-regulated companies in stable segments of an industry is likely to be very small. Empirically, the severity of the optimism problem is unclear for regulated utilities, if a problem exists at all. It is interesting to note that Value Line forecasts for utility companies made by independent analysts with no incentive for over- or understating growth forecasts are not materially different from those published by analysts in security firms with incentives not based on forecast accuracy, and may in fact be more robust.

MARKET-TO-BOOK RATIOS

Q. Please discuss Mr. Hill's views on market-to-book (M/B) ratios.

A. Mr. Hill argues on page 17, lines 15-22 of his rebuttal testimony that because the current M/B ratio for electric utilities exceeds one, allowed returns by regulators exceed the cost of equity capital for utilities. In other words, Mr. Hill is implying

that the regulating authority should lower the allowed return on equity, so that the stock price will decline to book value. I presume from these statements that Mr. Hill finds it desirable that stock prices drop from the current M/B value of well above 1.0 for most electric and gas utilities, to the desired M/B ratio range of near 1.0. There are several reasons why M/B ratios are largely irrelevant and why I seriously disagree with Mr. Hill's views on the role of M/B ratios in regulation.

First, Mr. Hill's position implies that regulators should set an ROE so as to produce a M/B ratio of near 1.0. This is erroneous. The stock price is set by the market, not by regulators. The M/B ratio is the *result* of regulation, not its starting point. The regime of regulation envisioned by Mr. Hill, that is, that the regulator will set an allowed rate of return so as to produce a M/B ratio of close to 1.0, presumes that investors commit capital to a utility with a M/B in excess of 1.0, knowing full well that they will be inflicted a capital loss by regulators. Such behavior on the part of investors is certainly not a realistic or accurate view of investment or regulation.

Second, the traditional M/B ratio does not reflect the replacement cost of a company's assets. The fundamental goal of regulation should be to set the expected economic profit for a public utility equal to the level of profits expected to be earned by firms of comparable risk, in short, to emulate the competitive result, so as to assure the firm's credit and to attract needed capital. For unregulated firms, the natural forces of competition will ensure that in the long-run the market value of these firms' securities equals the replacement cost of their assets. This suggests that a fair and reasonable price for a public utility's common

stock is one that produces equality between the market price of its common equity and the replacement cost of its physical assets. The latter circumstance will not necessarily occur when the M/B ratio is near 1.0. Only when the market value of the firm's common equity equals the value of the firm's equity at replacement cost will equality hold.

In an inflationary period, the replacement cost of a firm's assets may increase more rapidly than its book equity. To avoid the resulting economic confiscation of shareholders' investment in real terms, the allowed rate of return should produce a M/B ratio which provides a Q-ratio of 1 or a Q-ratio equal to that of comparable firms.[14] It is quite likely that M/B ratios will exceed one if inflation increases the replacement cost of a firm's assets at a faster pace than book equity. This explains in part why utility M/B ratios have remained well above 1.0 over the past two decades.

Stock prices above book value are common for utility stocks, and indeed for all of the major market indexes. It is obvious that investors and regulators through their rate case decisions do not subscribe to Mr. Hill's position that utilities that have market prices above book value are over-earning. Otherwise, regulators would not grant rate increases for any utility whose stock price was above book value, and investors would never bid up the price of stock above book value.

[14] The relationship between the market value of a firm's securities and the replacement cost of its assets is embodied in the Q-ratio. The Q-ratio is defined as the market value of a firm's securities divided by the replacement cost of its assets. If $Q > 1.0$, a firm has an incentive to invest because the value of the firm's securities exceeds the replacement cost of assets, that is, the firm's return on its investments exceeds its cost of capital. Conversely, if $Q < 1.0$, a firm has a disincentive to invest in new plant. In final long-run equilibrium, the Q-ratio is driven to 1.0.

Mr. Hill's views on the role of M/B are certainly not corroborated by the historical facts. Utility M/B ratios have been consistently above 1.00 for almost two decades.

Q. On page 13, lines 14-20 of his rebuttal testimony, Mr. Hill criticizes your proxy groups for including companies with as few as 50% of revenues generated by electric operations. How do you respond?

A. That argument is unfounded. As I discussed earlier in my rebuttal of Mr. Murray, the average percentage of revenues from regulated electric operations for my two proxy groups is 80% and 76%. Also, as noted in my response to Mr. Murray above, my proxy groups consist of companies that, likeUE, employ the majority of their assets towards regulated activities and have credit ratings comparable to or slightly higher than UE.

Q. On page 40, lines 1-11, Mr. Hill provides an example that, according to him, illustrates why a market-to-book ratio above 1 means that the return required by investors is lower than the allowed return. Do you have any comments?

A. Yes. The example is created in a vacuum that fails to consider many real market factors that cause the simple model to fail in practice. First, the example assumes that the utility is capable of actually earning its allowed return on equity, which is often not the case as regulatory lag, economic conditions, and other external factors cause a utility to earn more or less than its allowed rate of return. Certainly, UE has not earned its allowed rate of return for several years and on

average under-earned the allowed return by almost 400 basis points in 2009.[15] Second, the rate regulation is based on historical cost and typically, the replacement cost of a utility's assets is larger than the book value of these same assets. To ensure the utility maintains the ability to attract capital, it is important to avoid the economic confiscation of shareholders' investment by setting the allowed rate of return so low that shareholders' value drops to a level where assets cannot be replaced.[16] Third, it is important to recognize that many external factors affect the market-to-book ratio. While diversification of an entity's business may be the most frequently cited reason, there are many other factors that cause the market value of rate base to differ from book value. For example, if Construction Work in Progress (CWIP) is not part of rate base, then rate base differs from book value and the example presented by Mr. Hill fails.

FLOTATION COSTS

Q. Do you have any preliminary comments on this issue?

A. Yes. Because I have removed the flotation cost adjustment from my recommended rate of return, I shall only comment on Mr. Hill's statements that no dilution is occurring.

Q. On page 20, lines 7-20 of his rebuttal testimony, Mr. Hill argues that there is no need to recover flotation costs because electric utility "stocks are selling at a market price approximately 50% above book value" and "No dilution occurs." How do you respond?

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[15] See Schedule LMB-F5 attached to the additional direct testimony of Lynn M. Barnes, February 22, 2010 (Highly Confidential)

[16] For more on this, see, for example, Roger A. Morin, *New Regulatory Finance*, 2004, pp. 370-376.

A. Mr. Hill is wrong for two reasons. First, regardless of a utility's stock price, when additional shares are issued, the current shareholders' shares are diluted. Second, Mr. Hill ignores that several utility stocks, including Ameren's, are selling at a price below book value.[17]

Q. Please explain how dilution occurs when a company's stock trades, even if it is trading at a price higher than book value.

A. This is best illustrated by a simple example. Suppose a company's market value of equity is $1,000 and that it has 100 shares of common stock outstanding, so that the price per share is $10. If the company decides to issue an additional 10 shares of common stock, but nothing else changes, then clearly the price per share changes from $10 to $9.09 (as $1,000/110 = $9.09). The original shareholders' stock was diluted through the new stock issuance. This phenomenon has got nothing to do with whether the company's stock is selling below, at, or above book value.

Q. Could you elaborate on the point that stocks are selling below book value and what it means?

A. Mr. Hill's comments are predicated on the notion that all utility stocks sell above book value. Based on the assumption that electric utilities have a stock price above book value, he concludes:

> every time a new share of that stock is sold, existing shareholders realize an increase in the per share book value of their investment.[18]

[17] According to Staff Schedule 18, the market-to-book ratio for Ameren was .72 at the time of filing. As of February 28, Yahoo Finance listed Ameren's price-to-book value at .76.

[18] Hill rebuttal p. 20, lines 18-19.

This notion is flawed for two reasons. First, investors are not interested in the movement in the book value of their investment. Rather, they are interested in the amount they can realize if they cash-in on their investment and that is the *market value*, which is diluted for the reason illustrated above. Second, Mr. Hill's mistaken theory wouldn't apply to UE in any event, because UE's parent, Ameren, is currently trading at a price which is below book value.[19] Specifically, under Mr. Hill's logic, a stock issuance leads to a decline in the book value per share and thus the return on equity would have to be raised to prevent further decline in the M/B ratio.

As noted in the section above, Mr. Hill's reliance on M/B ratios is simply without merit and is not supported by financial economics.

OTHER ISSUES IN MR. HILL'S REBUTTAL TESTIMONY

Q. On pages 6-7, Mr. Hill calculates the dollar return associated with Mr. Murray's recommended return on equity. Do you have any comments on this calculation?

A. Yes. Mr. Hill calculates that Mr. Murray's ROE recommendation would result in a large dollar amount of revenue requirement. While I do not dispute that the calculated dollars, the discussion is meaningless and arguably misleading without context. UE is a large utility that serves well over 1 million electric customers, so regardless of whether Mr. Hill chooses to look at revenues, an expense account or the number of employees he will find what to the average person appears to be a very large number (e.g., fuel and purchased power expenses at UE exceed $700 million annually). The relevant question is not whether the dollar amount that the

[19] Staff Schedule 18 recognizes this fact.

rate of return translates into is large, but whether the rate of return is comparable to the return earned by other entities of similar risk, that is, whether the *rate of return* is sufficient to attract capital to the firm.

IV. REPLY TO MR. GORMAN

Q. Has Mr. Gorman made any arguments in his rebuttal testimony that would cause you to alter your testimony and/or any of your rebuttal comments?

A. He has not. I shall not offer any reply to Mr. Gorman's criticisms in respect to flotation costs and stale data inputs since I have already dealt with those issues in my rebuttal testimony and above.

CAPM MARKET RISK PREMIUM

Q. Does Mr. Gorman have any objection to your CAPM analysis?

A. Yes. Mr. Gorman argues that my market risk premium (MRP) estimate lies at the high end of a 5.7% – 6.5% range that he deems adequate. Mr. Gorman believes the low end of the range, 5.7%, is more accurate. But then, inexplicably, on page 5, lines 18-20 of his rebuttal testimony, he contradicts his position and states: "*I will not take issue with the market risk premium of 6.5% used by Dr. Morin, because it appears to be in line with a normalized market risk premium.*"

EMPIRICAL CAPM

Q. Please comment on Mr. Gorman's assessment of the Empirical CAPM used in your testimony.

A. On page 6 of his rebuttal testimony, lines 6-8, Mr. Gorman asserts, without support, that the Empirical CAPM analysis significantly overstates a utility

company-specific risk premium for use in a risk premium analysis. Mr. Gorman offers no argument, foundation, or literature references to buttress this claim.[20]

On page 7, lines 3-8, Mr. Gorman erroneously asserts that use of "adjusted" betas with an Empirical CAPM analysis "double-counts the effect of changing the slope of the capital market line." Contrary to such suggestion, the Empirical CAPM is not an adjustment (increase or decrease) in beta. Instead, the Empirical CAPM is a formal recognition of the fact that empirical evidence demonstrates that the observed risk-return tradeoff is flatter than predicted by the plain vanilla CAPM.

The Empirical CAPM and the use of adjusted betas comprise two separate features of asset pricing. Assuming *arguendo* a company's beta is estimated accurately, the CAPM will still understate the return for low-beta stocks. Furthermore, if a company's beta is understated, the Empirical CAPM will also understate the return for low-beta stocks. Both adjustments are necessary.

The graph on page 32 of my direct testimony demonstrates that the Empirical CAPM is a return (vertical axis) adjustment and not a beta (horizontal axis) adjustment. Moreover, the use of adjusted betas compensates for interest rate sensitivity of utility stocks not captured by unadjusted betas.

With respect to the empirical validity of the plain vanilla CAPM, empirical studies of the CAPM to determine to what extent security returns and betas are related in the manner predicted by the CAPM have supported the conclusion that (i) beta is related to security returns, (ii) the risk-return tradeoff is

[20] In contrast, Appendix A to my direct testimony provides ample support for the ECAPM.

positive, and (iii) the relationship is linear. The contradictory finding is that the risk-return tradeoff is not as steeply sloped as predicted by CAPM. In other words, low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn returns somewhat less than the CAPM would predict.

In sum, a plain vanilla CAPM will understate the return required for low-beta securities and overstate the return required for high-beta securities. The Empirical CAPM refines the plain vanilla CAPM to account for this phenomenon.

HISTORICAL RISK PREMIUM

Q. **Why does your historical risk premium analysis exclude data from 2008?**

A. On page 8, lines 1-4, Mr. Gorman argues that my historical risk premium study was concluded in 2007 and has not been updated to include 2008. But he contradicts his own point of view on page 5 lines 17-18 when he states: "*...I believe that this point estimate was severely impacted by the 2008 market disruptions.*" That is precisely why I concluded that study at the end of 2007, as I discussed earlier in this testimony.

Thus, Mr. Gorman's argument regarding the exclusion of 2008 data is without merit, and he himself rejects 2008 as a highly abnormal circumstance given the devastating effect of the financial crisis.

DCF GROWTH RATES

Q. How do you respond to Mr. Gorman's criticisms of your choice of growth rates in the DCF analysis?

A. Mr. Gorman argues that my growth estimates are not sustainable because they exceed GDP growth rates. As discussed in my rebuttal testimony, I disagree with this argument. My growth rates fall in the range of 5.5% to 6.4%, which compare favorably to long-term GDP growth rates of 6.0%, and not the 4.7% intermediate GDP growth rates cited by Mr. Gorman in his direct testimony.

DCF DIVIDEND YIELDS

Q. On page 10 of his rebuttal testimony, Mr. Gorman claims that the dividend yields used in my DCF analysis are higher than historical standards. How do you respond?

A. This argument is spurious. Not only does Mr. Gorman substitute his judgment for that of the overall market, but he offers no foundation for his outlandish claim that dividend yields are too high (stock prices are too low). Dividend yields are what they are, whether Mr. Gorman agrees or not with the market consensus.

DCF RESULTS

Q. On page 12 of his rebuttal testimony, Mr. Gorman claims that if he updates your analysis using current data, the average DCF return will be "approximately 10.56% (constant growth) and 10.00% (multi-stage growth)." Is he right?

A. No. As stated on p. 54 of my rebuttal testimony, my updated constant growth DCF analysis results in ROE estimates of 10.60% to 11.60.

V. REPLY TO MR. LAWTON

Q. Has Mr. Lawton made any arguments in his rebuttal testimony that would cause you to alter your testimony and/or any of your rebuttal comments?

A. He has not. I shall not offer any reply to Mr. Lawton's criticisms in respect to flotation costs and stale data inputs since I have already dealt with those issues in my rebuttal testimony and above.

Q. Do you have any comment on Mr. Lawton's views on allowed ROEs?

A. Yes, I do. On page 3, lines 20-27 and page 4, lines 14-22 of his rebuttal testimony, Mr. Lawton cherry picks two recent electric cases decided by the Florida Public Service Commission where the Commission authorized equity returns between 10.0% and 10.5% and argues that this Commission should consider these recent Florida decisions.

While I certainly agree with the "zone of reasonableness" considerations employed by this Commission, I disagree with Mr. Lawton's suggestion based on just two cherry-picked cases. Instead, I would recommend giving serious consideration to all the cases decided in the recent past rather than to two selective cases. As I stated in my rebuttal testimony, the average allowed ROEs for integrated electric utilities by state commissions during the past two years have stayed very consistent, as have the ranges:

2008-09 Range of Allowed ROEs	10.0% - 11.25%
2009 Average of Allowed ROEs	10.59%.

Given Commission Staff's interest in the investment community's view on electric utilities, it is interesting to note that S&P put Florida Power & Light on

negative credit watch *immediately* following the decision citing "lower-than-expected revenues" as well as regulatory concerns.[21] Similarly, Fitch and Moody's also put Florida Power & Light on credit watch negative. Progress Energy, the other Florida utility involved, was also put on credit watch negative by credit rating agencies. Thus, debt investors viewed the referenced decisions quite negatively.

DCF DIVIDEND YIELD

Q. Is Mr. Lawton's criticism that you multiplied the spot dividend yield by one plus the expected growth rate (1 + g) warranted?

A. No. On page 5, lines 17-25 of his rebuttal testimony, Mr. Lawton argues that the expected dividend yield of the DCF model is overstated and that the proper analysis is to calculate the expected dividend yield by grossing up the spot dividend yield by one-half the growth rate rather than the full growth rate.

I disagree. The plain vanilla annual DCF model ignores the time value of quarterly dividend payments and assumes dividends are paid once a year at the end of the year, when in fact dividends are paid four times per year. Because the appropriate dividend to use in a DCF model is the prospective dividend for all companies that have positive growth rate forecasts, the dividend for all companies should be increased by the (1 + g) factor. Multiplying the spot dividend yield by (1 + g) is actually a conservative attempt to capture the reality of quarterly dividend payments and understates the expected return on equity. Use of this

[21] See, for example, Wall Street Journal, *S&P Mulls Downgrade on FPL Amid Regulatory Concerns*, January 14, 2010.

method is conservative in the sense that the annual DCF model ignores the more frequent compounding of quarterly dividends.

Q. Does this conclude your surrebuttal 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's Tariffs to Increase its Annual Revenues for Electric Service.	)	Case No. ER-2010-0036
	)	Tracking No. YE-2010-0054
	)	Tracking No. YE-2010-0055

AFFIDAVIT OF ROGER A. MORIN

STATE OF GA.)
CITY OF JEKYLL IS) **ss**

Roger A. Morin, being first duly sworn on his oath, states:

1. My name is Roger A. Morin. I work in Atlanta, Georgia, and I am employed by Georgia State University.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 31 pages and Schedules RAM-SR n/a through RAM-SR n/a, 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.

Roger A Morin
Roger A. Morin

Subscribed and sworn to before me this 4th day of March, 2010.

Megan R. Jefferies
Notary Public

My commission expires: