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REBUTTAL TESTIMONY

OF

STEPHEN G. HILL

ON BEHALF OF

THE MISSOURI PUBLIC SERVICE COMMISSION

UNION ELECTRIC COMPANY
d/b/a AmerenUE

CASE NO. ER-2010-0036

Jefferson City, Missouri
February 2010

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Q. PLEASE STATE YOUR NAME, OCCUPATION AND ADDRESS.

A. My name is Stephen G. Hill. I am self-employed as a financial consultant, and principal of Hill Associates, a consulting firm specializing in financial and economic issues in regulated industries. My business address is P.O. Box 587, Hurricane, West Virginia, 25526 (e-mail: hillassociates@gmail.com).

Q. BRIEFLY, WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. After graduating with a Bachelor of Science degree in Chemical Engineering from Auburn University in Auburn, Alabama, I was awarded a scholarship to attend Tulane Graduate School of Business Administration at Tulane University in New Orleans, Louisiana. There I received a Master's Degree in Business Administration. I have been awarded the professional designation "Certified Rate of Return Analyst" by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. I have also been on the Board of Directors of that national organization for several years. A more detailed account of my educational background and occupational experience appears in Appendix A.

Q. HAVE YOU TESTIFIED BEFORE THIS OR OTHER REGULATORY COMMISSIONS?

A. Yes, I have appeared previously before this Commission. In addition, I have testified on cost of capital, corporate finance and capital market issues in more than

250 regulatory proceedings before the following regulatory bodies: the West Virginia Public Service Commission, the Pennsylvania Public Utilities Commission, the Oklahoma State Corporation Commission, the Public Utilities Commission of the State of California, the Texas Public Utilities Commission, the Maryland Public Service Commission, the Public Utilities Commission of the State of Minnesota, the Ohio Public Utilities Commission, the Insurance Commissioner of the State of Texas, the North Carolina Insurance Commissioner, the Rhode Island Public Utilities Commission, the City Council of Austin, Texas, the Texas Railroad Commission, the Arizona Corporation Commission, the South Carolina Public Service Commission, the Public Utilities Commission of the State of Hawaii, the New Mexico Corporation Commission, the State of Washington Utilities and Transportation Commission, the Georgia Public Service Commission, the Public Service Commission of Utah, the Illinois Commerce Commission, the Kansas Corporation Commission, the Indiana Utility Regulatory Commission, the Virginia Corporation Commission, the Montana Public Service Commission, the Public Service Commission of the State of Maine, the Public Service Commission of Wisconsin, the Vermont Public Service Board, the Federal Communications Commission and the Federal Energy Regulatory Commission. I have also testified before the West Virginia Air Pollution Control Commission regarding appropriate pollution control technology and its financial impact on the company under review and have been an advisor to the Arizona Corporation Commission on matters of utility finance.

Q. ON BEHALF OF WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Missouri Public Service Commission Staff (Staff).

EXECUTIVE SUMMARY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. In this testimony, I will respond to the cost of capital analyses provided by Union Electric Company, d/b/a AmerenUE's witness Dr. Roger A. Morin, Missouri Industrial Energy Consumers' (MIEC) witness Michael Gorman, and Missouri Office of Public Counsel (OPC) witness Daniel J. Lawton. All of the equity cost estimates proffered by those witnesses exceed investors' current required returns for electric utilities and, thus, overstate the appropriate return on equity (ROE) that should be allowed AmerenUE in this proceeding.

Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR TESTIMONY?

A. Yes, Exhibit_(SGH-1) consists of 1 Schedule that provides analytical support for my testimony. This Exhibit was prepared by me and is correct to the best of my knowledge and belief. Also, I have provided Appendix A, which is a copy of my vitae.

Q. HOW IS YOUR REBUTTAL TESTIMONY ORGANIZED?

A. I will address each of the cost of capital analyses presented by the AmerenUE, MIEC and OPC witnesses, describing the shortcomings in each. First I will address Dr. Morin's cost of capital analysis. Initially I show that Dr. Morin has changed the manner in which he calculates the results of some of his cost of capital estimation methods from how he has done so in AmerenUE's prior rate proceeding and, by so doing, achieves a higher equity cost estimate than he would have if he had not made those changes. Following that discussion, I address the details of Dr. Morin's equity cost estimation analyses, giving particular emphasis to Dr. Morin's sample group selection and the determination of the growth rate in his DCF estimate of the cost of equity. That DCF growth rate discussion is also relevant to the testimony offered by OPC's witness because he, too, has relied on a

mechanistic application of projected earnings growth rates in his DCF analyses and, as a result, has overstated the current cost of equity capital for an electric utility similar in risk to AmerenUE.

Second, I discuss the flaws in OPC witness Lawton's cost of capital analysis that are not already covered in my discussion of Dr. Morin's testimony. Third, I address why Mr. Gorman's testimony also overstates the current cost of equity capital for electric utilities with risk similar to that of AmerenUE.

Q. HAVE YOU REVEIEWED THE RATE OF RETURN SECTION OF THE REVENUE REQUIREMENT REPORT PREPARED BY STAFF WITNESS DAVID MURRAY, AND FILED IN THIS CASE ON DECEMBER 18, 2009?

A. Yes, I have. I find Mr. Murray's equity cost estimate of 9.00% to 9.70% to be reasonable and a reliable estimate of current investor return expectations. Unlike the other analysts in this proceeding, Mr. Murray reviewed investment research reports available to AmerenUE, as well as publicly-available data that indicated expected returns on common equity (i.e., the cost of common equity, of 8% to 9%). By that objective measure, unaffected by the politics of rate cases, Mr. Murray's point equity cost estimate of 9.35% for AmerenUE should be considered conservative. Those investor-oriented equity cost estimates from financial industry investor services also underscore the degree to which the cost of capital estimates provided by AmerenUE, OPC and MIEC are overstated.

In addition, Mr. Murray's equity cost estimate is very similar to my own recent independent findings for other BBB-rated electric utilities. For example, in a recent rate proceeding before the Washington Utilities and Transportation Commission regarding Puget Sound Energy, a BBB-rated combination gas and electric utility, my equity cost estimate range, filed in November of 2009, was 9.25% to 9.75%. Given the fact that

AmerenUE's BBB bond rating is constrained by the unregulated operations at the parent company level (and would probably be higher absent that parent-company risk), Mr. Murray's slightly lower equity cost estimate for AmerenUE is reasonable.

Q. THE COST OF EQUITY CAPITAL IS ESTIMATED USING A COMPLEX ARRAY OF ECONOMIC MODELS AND ALGABRAIC FORMULAS. IS THERE A SIMPLE WAY TO UNDERSTAND THE CONCEPT OF THE COST OF EQUITY CAPITAL AS IT IS USED IN RATE REGULATION?

A. Yes. In a regulated rate setting context such as this, the cost of equity capital can be most easily understood as the rate of profit that should be allowed for the regulated firm. A firm's profit is the amount of money that remains from its revenues after the firm has paid all of its costs—operating costs (commodity supply costs, depreciation, equipment maintenance costs, salaries, fees, taxes, retirement obligations), as well as income taxes and interest. That dollar amount of profit, divided by the amount of common equity capital used to finance the firm's regulated assets produces a percentage rate of ROE. If, for example, the profit earned by a utility is $10/year and investors have provided $100 of equity capital, the firm's ROE, its profit, is 10%.

The purpose of all of the economic models and formulas used in cost of capital testimony is to estimate, using market data of similar-risk firms, the percentage rate of return investors require for those similar-risk firms—in this case, electric utility operations. If the profit included in the rates, as a percent of the firm's equity capital, is set equal to the cost of equity capital (the investors' required return), the utility, under efficient management, will be able to attract the capital necessary to maintain the firm's financial integrity and the interests of investors and ratepayers will be balanced.

Simply put, in a rate regulated setting such as this proceeding, the amount of profit the utility should be allowed the opportunity to earn as a percentage of the total equity investment should be equal to the cost of equity capital.

Q. HOW MUCH PROFIT WOULD AMEREN-UE BE ALLOWED THE OPPORTUNITY TO EARN EVERY YEAR, BASED ON MR. MURRAY'S RECOMMENDED 9.35% EQUITY RETURN?

A. A 9.35% allowed return on the rate base recommended by Staff of approximately $6.04 Billion[1], which is comprised of 47.39% common equity (based on the capital structure requested by AmerenUE), would afford AmerenUE an opportunity to earn an annual profit, after all costs, of $267.6 Million. [$6.04 Billion Rate Base x 9.35% ROE x 47.39% Equity Ratio = $267.63 Million Annual Profit] Staff is recommending that AmerenUE be allowed to earn an annual profit of more than a quarter billion dollars—an amount sufficient to meet investor requirements and support the financial integrity of the AmerenUE, as required by *Hope* and *Bluefield.*

Of course, because ratepayers have to provide not only a ROE equal to the cost of capital but also the monies to pay taxes on AmerenUE's equity return (profit), the impact of Staff's recommended ROE will be even greater. Grossing up the annual profit recommended by Staff ($267.63 Million) for an approximate combined Federal and State tax rate of 38.4%, indicates that Staff's recommendation will require Missouri ratepayers to provide $433.9 Million annually for the equity capital costs of AmerenUE. [$267.63 Million ÷ (1-38.4% tax rate) = $433.9 Million] This is a substantial requirement to be shouldered by ratepayers in this difficult economy and should not be exacerbated by setting rates with an equity return higher than the Company's actual cost of capital. AmerenUE's witness Morin, as well as the

cost of capital witnesses for MIEC and OPC, each recommend this Commission allow a ROE higher than AmerenUE's actual cost of equity capital.

COMPANY WITNESS MORIN

A. INCONSISTENT METHODOLOGY

Q. PLEASE EXPLAIN HOW DR. MORIN HAS CHANGED HIS EQUITY COST ESTIMATION METHODS FROM THOSE HE EMPLOYED IN AMEREN-UE'S LAST RATE PROCEEDING, AND WHY THOSE CHANGES CAUSE HIS RESULTS TO BE OVERSTATED.

A. In his Direct Testimony in this proceeding, Dr. Morin uses some of the same methods to estimate the cost of equity capital that he used in prior testimony before this Commission. However, he has changed the manner in which he calculates the results of one method, and has simply omitted another. If Dr. Morin had applied his methodologies consistently he would have produced results considerably below the equity cost estimate he recommends in this proceeding. Dr. Morin's changes in methodology cause his equity cost results to be higher than they would be if he had not altered the manner in which his cost of equity estimation methods are applied. The rationale he supplies for those changes, in my view, is not valid and, therefore, the results of those methodological changes must be considered to have been made to affect his result (i.e., they are result-oriented).

One of Dr. Morin's equity cost estimates in this proceeding is provided by a risk premium analysis he labels "Historical Risk Premium Electric." That methodology measures the long-term average return of a utility index and a bond index, subtracts the latter

[1] Per Staff's Accounting Schedule 1, filed December 18, 2009.

return from the former and adds that historical risk premium to a current interest rate. In this proceeding, Dr. Morin reports a result of 11.3% for that analysis. In prior testimony on behalf of AmerenUE, in Case No. 2008-0318, Dr. Morin employed a similar technique, but used different parameters to calculate the result. The result of his long-term risk premium analysis in that prior testimony was 10.5%.

First, instead of relying on Moody's Electric Utility Index to calculate the historical utility return as he did in the last AmerenUE proceeding, and as he has done for many years, Dr. Morin has now elected to utilize the Standard & Poor's Utility Index. When we compare Dr. Morin's Schedule RAM-E3 filed with his direct testimony in this proceeding (based on the S&P Utility Index) to that same Schedule RM-E3 attached to his direct testimony in AmerenUE's last rate case (based on Moody's Electric Utility Index), we find that the historical return derived from Moody's electric utility index historical data is 40 basis points lower than the return for the S&P Utility Index over the same time period. Therefore, that methodological change, alone, (changing historical data bases from Moody's electric index to S&P's utility index) increases Dr. Morin's Electric Utility Industry risk premium result by 40 basis points.

A higher long-term historical return indicates that the S&P Utility Index has higher risk than the Moody's Electric Utility Index. When we examine both indexes we find that the Moody's Electric Utility Index contains only electric utilities, but the S&P Utility Index to which Dr. Morin has switched contains other types of companies (e.g., diversified gas companies and, historically, telecom companies). Therefore, by electing to change indexes Dr. Morin has elected to analyze companies that have a higher risk profile than those contained in the Moody's index and has, thereby, increased the result of his historical risk premium analysis compared to his previous methodology.

Q. IS THAT THE ONLY CHANGE IN DR. MORIN'S HISTORICAL RISK PREMIUM ANALYSIS?

A. No, Dr. Morin has also changed the base yield onto which the derived historical risk premium is added. In his prior testimonies in this and other jurisdictions, Dr. Morin has, for many years, used long-term Treasury Bonds as the fundamental yield measure in both his CAPM and Risk Premium analyses. In his testimony in this proceeding, while continuing to use Treasury Bonds in his CAPM analysis, Dr. Morin switched the basis of his Risk Premium analysis from Treasury Bond yields to utility bond yields as the fundamental measure of investor risk. In so doing, Dr. Morin increased the equity cost estimate produced by that analysis.

While he has not done so in this proceeding, in recent testimony before the Washington Utilities and Transportation Commission (Docket Nos. UE-090704/UG-090705, Puget Sound Energy), Dr. Morin presented his Historical Risk Premium analysis in two ways: 1) using T-Bonds as the yield measure (his traditional method) and 2) using utility bonds as the yield measure (his new method). The result of his new Historical Risk Premium analysis in the Puget proceeding was 11.1%—very similar to the 11.3% he reports for that analysis in this proceeding. However, as Dr. Morin admitted in response to a data request in that Puget proceeding, had he used his prior methodology based on Treasury Bonds, the result of his historical risk premium analysis would have been considerably lower.

> Q: Is it true that, if Dr. Morin had based his Historical Risk Premium Electric Utility Industry analysis in this proceeding on U.S. Treasury bonds instead of utility bond yields (as he did in Docket Nos. UE-072300 and UG-072301[Puget's prior rate case]), his result for that analysis would have been 9.7%? If not, please explain why not.
>
> A: It is true that, if Dr. Morin had based the historical risk premium electric utility industry analysis in this proceeding on U.S. Treasury bonds instead of utility bond yields, the result for such analysis would

have been 9.7%. (Docket Nos. UE-090704/UG-090705, Puget Sound Energy, Morin response to DR 162 (c))

That 9.7% cost of equity estimate, affirmed in the data response cited above, was based on Dr. Morin's reliance on the S&P Utility Index historical returns. As discussed previously, if Dr. Morin had relied on the Moody's Utility Index historical returns, as he had in previous testimonies, that 9.7% equity cost estimate would have been 40 basis points lower, or, 9.3%. Dr. Morin's change in methodology increased the equity cost estimate produced by his historical risk premium analysis almost 200 basis points, to 11.1% in that recent Puget Sound Energy proceeding.

Q. WHAT WOULD BE THE IMPACT ON DR. MORIN'S HISTORICAL RISK PREMIUM ANALYSIS IF HIS ANALYSIS WERE CONSISTENT WITH THE ANALYSIS HE PRESENTED IN THE LAST AMEREN-UE GENERAL RATE PROCEEDING?

A. Dr. Morin uses a Treasury Bond rate of 4.5% in his CAPM analysis. If the application of his Historical Risk Premium Electric analysis were consistent with that he provided in his previous testimony in this jurisdiction he would use that same yield—the Treasury Bond yield of 4.5%. The 75-year historical risk premium between Moody's electric utilities and Treasury bonds derived on Schedule RAM-E3 attached to Dr. Morin's direct testimony in Case No, 2008-0318 was 5.7%. Therefore, a consistent application of his historical risk premium analysis would have produced a cost of capital indication in this proceeding of 10.2%, not the 11.3% produced by Dr. Morin's new method.

Q. DR. MORIN DOES NOT DISCUSS CHANGES IN HIS RISK PREMIUM METHODOLOGY IN HIS TESTIMONY IN THIS PROCEEDING. HAS HE DONE SO IN OTHER RECENT PROCEEDINGS IN WHICH HE HAS TESTIFIED?

A. Yes, in both Puget Sound Energy (Docket Nos. UE-090704/UG-090705) and Hawaiian Electric Company (Docket No, 08-0083), rate cases in which BOTH Dr. Morin and I were involved as rate of return witnesses, Dr. Morin discussed the changes in his risk premium methodology, which I have outlined above. He indicated that he changed his method because of 1) wide yield spreads between utility bonds and Treasury bonds during the financial crisis and 2) because Moody's ceased publication of its index in 2002 when it sold its publishing business to Mergent.

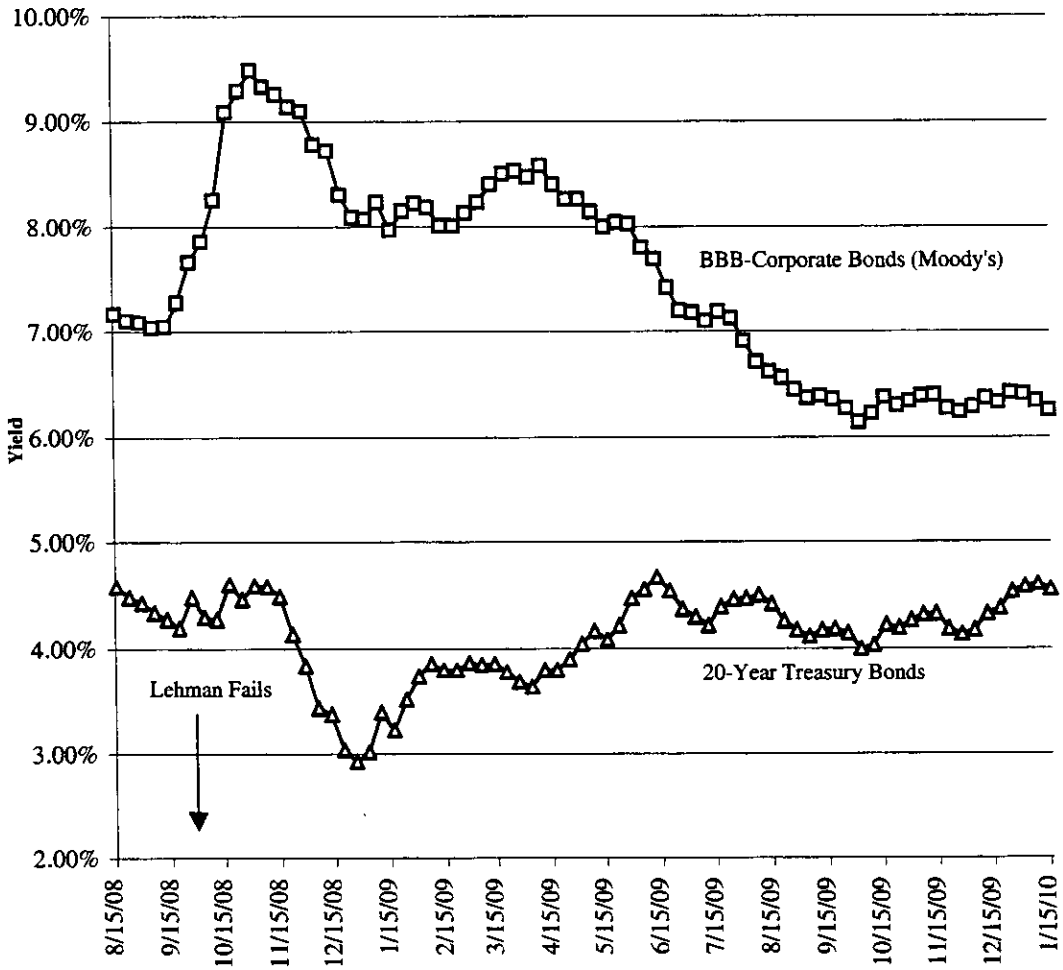
The recent financial crisis certainly contributed to temporary dislocations in the capital markets and investor uncertainty caused increases in the yield spreads between corporate debt and U.S. Treasury debt. However, the Treasury debt markets remained liquid during the midst of the financial crisis and U.S. Treasury bond yields continued to represent investors' risk-free return expectations. As such, they remain a reliable basis for a risk premium determination, and Dr. Morin relied on that basic yield measure in his prior testimonies (and continues to rely on it in his current CAPM analysis). In other words, the financial crisis did not change the theory on which the risk premium analysis is based, it just produced lower results. Those results indicate that investor return requirements had been moderated by the financial crisis.

Also, during the crisis, the spread between corporate bond yields and Treasury yields widened to very high levels as the credit markets reacted to the financial crisis and investors' worries about default drove down corporate bond prices. That was a very unusual circumstance, and one that is not likely to represent the long-term expectations of investors. While switching to a utility bond yield measure in a risk premium analysis during a spike in yield spreads certainly works to increase the cost of capital result, it is unlikely to represent actual long-term investor expectations. As I show in Chart I below, the ostensible impetus for

Dr. Morin's risk premium methodology change—a very high yield spread—has since moderated and has fallen *below* pre-crisis levels.

Chart I

YIELD SPREAD CHANGES



Also, as I noted above, Dr. Morin continues to rely on Treasury Bond yields as the risk-free rate in his CAPM but has elected not to do so in his Risk Premium method claiming that his change was precipitated by the financial crisis. That position is illogical. Why is it

reasonable to rely on Treasury Bonds as an indicator of investor sentiment in one methodology and to reject it in another being used at the same time? Dr. Morin's position on the reliability/unreliability of Treasury Bond yields does not hold up under scrutiny.

With regard to the discontinuance of Moody's publication of its electric utility index in 2002, that fact did not deter Dr. Morin from using that measure of historical return in the last AmerenUE rate proceeding in 2008 (a time period well beyond 2002). Therefore, if Dr. Morin was able to use the companies listed in the Moody's electric utility index to construct an historical return series in 2008, there is no reason he could not have done so in 2009. Again, Dr. Morin's rationale for changing his method is lacking. In sum, Dr. Morin's methodological change to his Historical Risk Premium analysis is not well founded in financial theory, or logic, and appears to have been undertaken in order to support a higher cost of equity estimate.

Q. ARE THERE OTHER METHODOLOGICAL CHANGES IN DR. MORIN'S COST OF EQUITY ANALYSIS PRESENTED IN THIS TESTIMONY, COMPARED TO HIS PRIOR TESTIMONY BEFORE THIS COMMISISON?

A. Yes. For many years in prior testimony in this and other jurisdictions, Dr. Morin employed a risk premium equity cost estimation method based on the 10-year average difference between allowed utility equity returns and U.S. Treasury bond yields. That analysis was omitted from his testimony in this proceeding, and a word search of Dr. Morin's Direct Testimony for "allowed returns" reveals no match.

Regarding his Allowed Return risk premium estimate of the cost of equity, at page 47 of his Direct Testimony before this Commission in Case No. 2008-0312, Dr. Morin stated:

> Given the current long-term Treasury bond yield of 4.5% and a [Allowed Return] risk premium of 5.6%, the implied ROE for the average risk electric utility is 10.1%.

The current long-term Treasury Bond yield is the same as it was when Dr. Morin submitted testimony in the last AmerenUE rate proceeding (4.5%) and it is reasonable to believe that the 10-year average difference between allowed returns and bond yields would not be noticeably changed by the addition of another year of data. Therefore, if Dr. Morin had elected to include that analysis in this proceeding his result would have been similar—10.1%. By omitting his "allowed return" risk premium from his analysis in this proceeding, Dr. Morin increased the overall average of his cost of equity estimates.

Q. WHAT REASONS HAS DR. MORIN PROVIDED FOR THE ELIMINATION OF THIS "ALLOWED RETURN" RISK PREMIUM METHOD?

A. While, as I noted, Dr. Morin has not discussed the elimination of that method in his testimony in this proceeding, he has done so in other recent rate proceedings. In the recent Puget Sound Energy docket referenced previously (Washington Utilities and Transportation Commission Docket Nos. UE-090704/UG-090705), in response to Public Counsel Data Request No. 162 (d), Dr. Morin indicated that the reasons for his omission of the Allowed Return Risk Premium was 1) to avoid circularity of reasoning, and 2) due to a scarcity of regulatory decisions since the financial crisis. Neither rationale supports his exclusion of that methodology.

First, the circular nature of using average allowed utility returns to estimate the return to be allowed in a utility proceeding is the essence of this analysis, yet Dr. Morin has used the "allowed return" risk premium for many years. That aspect of the analysis did not deter him from using it in the past and, therefore, does not serve as a valid reason to eliminate that analysis here.

Second, Regulatory Research Associates reports in its October 2, 2009 edition that the number of rate case decisions has not declined as a result of the financial crisis. That publication indicates that in 2008 there were 37 electric utility regulatory rate decisions: 10 in the first quarter, 8 in the second quarter, 11 in the third quarter, and 8 in the fourth quarter. In 2007 there were 39 decisions, and in the first two quarters of 2009 there have been 19 electric utility rate case decisions (roughly half the number of the two prior years). Moreover, in prior years in which Dr. Morin elected to rely on his "Allowed Return" risk premium analysis without questioning the number of rate case orders, there were only 16 in 2006 and 7 in 2001. Therefore, Dr. Morin's assessment of a "scarcity" of regulatory decisions is neither accurate nor a reasonable rationale to omit a methodology he used for many years.

Q. BY CHANGING ONE OF HIS RISK PREMIUM ANALYSES AND ELIMINATING ANOTHER, DR. MORIN IS ABLE TO SHOW AN 11.3% EQUITY COST ESTIMATE IN THIS PROCEEDING INSTEAD OF THE 10.1% AND 10.2% ESTIMATES THAT WOULD HAVE BEEN PRODUCED BY HIS ORIGINAL METHODOLOGIES. HOWEVER, ARE THERE REASONS TO BELIEVE THAT THOSE 10.1% AND 10.2% RISK PREMIUM ESTIMATES OVERSTATE THE CURRENT COST OF EQUITY CAPITAL?

A. Yes. In recent years there has been considerable work published in the financial literature showing that long-term historical risk premium studies that begin around the time of the 1929 stock market crash (Dr. Morin's historical risk premium begins in 1931), overstate current risk premiums and, therefore, investors' current return expectations.[2] This theoretical finding is evidenced in Dr. Morin's risk premium data. As noted in his

[2] Dimson, Marsh, Staunton, "Risk and Return in the 20th and 21st Centuries," *Business Strategy Review*, 2000, Volume 11, Issue 2, pp. 1-18; Dimson, Marsh, Staunton, Triumph of the Optimists, Princeton University Press, Princeton NJ, 2002; Fama, E., French, K., "The Equity Premium," *The Journal of Finance*, Vol. LVII, No. 2, April 2003, pp. 637-659; Graham, J., Harvey, C., "The Equity Risk Premium in January 2007: Evidence from the Global CFO Outlook Survey," Duke University/CFO Magazine, http://www.cfosurvey.org; Brealey, R., Meyers, S., Allen, F., Principles of Corporate Finance, 8th Edition, McGraw-Hill, Irwin, Boston MA, 2006. Pp. 151-154.

Schedule RAM-E3, the average difference between the earned return on a utility index and A-rated utility bonds is 5.0% over the past 75 years. However, his data also show that over the past 50 years the average risk premium was 4.7%; and over the past 25 years the average risk premium between utility stock and A-rated utility bonds was 2.7%.

According to The Value Line Investment Survey (*Selection & Opinion*, January 22, 2010, p. 3093) current A-rated utility bonds are yielding 5.6%. If investor expectations are more in line with the experience of the last 25 years than the last 75 years (as the research indicates), then a reasonable risk premium equity cost estimate would be 8.3% (5.6% current yield + 2.7% 25-year historical risk premium).

Also, it is important to realize that the 75-year historical data relied on by Dr. Morin in his newly-fashioned historical risk premium analysis are extremely variable. The earned return difference between electric utility stocks and A-rated utility bonds shown in Schedule No. RAM-E3 averages 5.0%, but ranges from +59.58% to – 43.2%, with a standard deviation of 21.01%. Adding two standard deviation units to the average risk premium creates a 95% statistical confidence interval for the range of possible "real" risk premiums. That calculation produces a risk premium range of – 37% to +47% [5.0% ± 2 x 21.01%].

Q. ARE THERE ASPECTS OF THE "ALLOWED RETURN" RISK PREMIUM WHICH WOULD CAUSE THAT METHOD TO OVERSTATE THE CURRENT COST OF EQUITY CAPTIAL?

A. Yes. First, in this type of risk premium analysis, the allowed returns are simply averaged over all the available rate case decisions during a calendar year. That means that the capital market data that the regulatory body considered was drawn from a time prior to the decision rendered and the allowed return might not correlate with decision time-specific macro-economic events. In some cases, that period of time between the hearing and the

decision can be substantial, and in an environment in which interest rates are declining those allowed returns would lag the actual cost of equity capital.

Second, the relative risk of the utility for which the equity return was determined is not a factor in that type of risk premium analysis. For example, the allowed ROE for a "BB"-rated firm would simply be averaged with the other returns allowed during a calendar year and included in the analysis. Similarly, allowed returns that are the results of settlements are not necessarily representative of the current cost of capital because they are influenced by other case-specific factors.

Third, a widely-accepted tenet of regulatory finance holds that when the allowed ROE equals the investors' cost of equity capital, the per share market price of that firm will approximate its per share book value.[3] For several years the average allowed ROE has ranged between 10.3% and 10.5% for electric utilities, and the average market-to-book ratio of electric and combination gas and electric utilities is currently 1.46, according to the January 2010 edition of A.U.S. Utility Reports (p. 3).

If the current average market price for electric utilities were closer to book value, with average allowed returns in the range of 10.3% to 10.5%, then one could make the case that risk premium estimates of the cost of equity of 10.1% to 10.2% (produced by Dr. Morin's abandoned methods) were reasonable. However, because the current market-to-book ratio is considerably above 1.0, it is more reasonable to believe that 1) average returns allowed by regulators exceed the cost of equity capital for electric utilities, 2) a risk premium analysis based on allowed returns would also overstate the cost of equity, and 3) that investor-required equity returns (the cost of equity capital for electric utilities) are well below the level of

allowed returns. In my opinion, these data confirm the reasonableness of an equity cost estimate between 9% and 10%, such as that offered by Staff witness Murray in this proceeding.

B. DR. MORIN'S EQUITY COST ESTIMATES

Q. WHAT OTHER ASPECTS OF DR. MORIN'S CURRENT COST OF CAPITAL ANALYSES PRESENTED IN THIS CASE WILL YOU ADDRESS?

A. Because Dr. Morin's CAPM analyses, absent an unnecessary flotation cost adjustment, show equity cost estimates ranging from 9.3% to 9.7% that essentially mirror the recommendations of Staff, I will not discuss those analyses. Also, as I have shown above, if Dr. Morin's risk premium analyses were consistently applied, they would produce current equity cost estimates only slightly above 10%. Moreover, I have provided rationale to show that those estimates are likely to overstate current equity capital costs, and will not repeat that discussion here. Therefore, my comments in this portion of my testimony will address, primarily, Dr. Morin's Discounted Cash Flow analysis, as well as his selection of a similar-risk sample group, and his flotation cost adjustment.

Q. YOU MENTIONED FLOTATION COSTS; HAVE ANY OF THE COST OF CAPITAL WITNESSES IN THIS PROCEEDING, OTHER THAN DR. MORIN INCLUDED AN ADDITIONAL 30 BASIS POINTS TO THEIR EQUITY COST ESTIMATE FOR FLOTATION COSTS?

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[3] Gordon, M.J., The Cost of Capital to a Public Utility, MSU Public Utilities Studies, East Lansing, Michigan, (1974), pp., 63-64; Kolbe, Read, Hall, The Cost of Capital: Estimating the Rate of Return for Public Utilities, 25-33 (1986); Lawrence Booth, ("The Importance of Market-to-Book Ratios in Regulation," NRRI Quarterly Bulletin, Vol. 18, No. 4, at 415-16 (Winter 1997).

A. No. An explicit adjustment to the market-determined cost of equity, such as that recommended by Dr. Morin in this proceeding, is unnecessary and serves only to inflate the ROE recommendation.

Q. CAN YOU PLEASE EXPLAIN WHY AN EXPLICIT ADJUSTMENT TO THE COST OF EQUITY CAPITAL FOR FLOTATION COSTS IS UNNECESSARY?

A. An explicit adjustment to the market-based cost of equity capital "account for" flotation costs is unnecessary in Missouri because the regulatory process in this jurisdiction allows for direct recovery of flotation cost expenses. Therefore, any additional increase to the allowed ROE related to flotation costs, if allowed, would amount to double-counting such costs, and would be unfair to ratepayers.

Dr. Morin's request for a 30 basis point increase to the allowed return would cost ratepayers approximately $8.6 Million annually (not including the taxes they would also have to provide on those monies). [$6.04 Billion Rate Base x 0.30% flotation costs x 47.39% common equity ratio = $8.587 Million] That annual increase to ratepayers recommended by Dr. Morin to account for an expense AmerenUE will recover by other means is unnecessary.

Absent flotation costs, all of Dr. Morin's equity cost estimates would be lower by 30 basis points. The average of Dr. Morin's cost of equity estimates (shown on page 56 of his Direct Testimony in this proceeding) would be 11.2%, rather than the 11.5% he reports.

In addition to the very practical reason that flotation costs are directly accounted for in Missouri, there are several reasons that a generic flotation cost adjustment to the market-based cost of equity capital is unnecessary in the ratemaking process.

First, it is often stated that flotation costs associated with common stock issues are similar to flotation costs associated with bonds. As a preliminary matter, that is not correct because bonds have a fixed cost and common stock does not. Moreover, even if it were true,

the current relationship between the electric utility sample group's stock price and its book value would indicate a reduction to the market-based cost of equity, not an increase.

When a bond is issued at a price that exceeds its face (book) value, and that difference between market price and the book value is greater than the flotation costs incurred during the issuance, the embedded cost of that debt (the cost to the company) is *lower* than the coupon rate of that debt.

In the current economic environment for the electric utility common stocks studied to determine the cost of equity in this proceeding, those stocks are selling at a market price approximately 50% above book value. The difference between the market price of electric utility stock and book value dwarfs any issuance expense the companies might incur. Therefore, if common equity flotation costs are directly analogous to bond flotation costs, if an explicit adjustment to the cost of common equity were necessary, it should be downward, not upward.

Second, flotation cost adjustments are usually predicated on the prevention of the dilution of stockholder investment. However, the reduction of the book value of stockholder investment due to issuance expenses can occur only when the utility's stock is selling at a market price at or below its book value. As noted, electric utilities are selling at a substantial premium to book value. Therefore, every time a new share of that stock is sold, existing shareholders realize an increase in the per share book value of their investment. No dilution occurs, even without any explicit flotation cost allowance.

Third, the vast majority of the issuance expenses incurred in any public stock offering are "underwriter's fees" or "discounts". Underwriter's discounts are not out-of-pocket expenses for the issuing company. On a per share basis, they represent only the difference between the price the underwriter receives from the public and the price the utility

receives from the underwriter for its stock. As a result, underwriter's fees are not an expense incurred by the issuing utility and recovery of such "costs" should not be included in rates.

In addition, the amount of the underwriter's fees are prominently displayed on the front page of every stock offering prospectus and, as a result, the savvy investors who participate in those offerings (e.g., brokerage firms) are quite aware that a portion of the price they pay does not go to the company but goes, instead, to the underwriters. By electing to buy the stock with that understanding, those investors have effectively accounted for those issuance costs in their risk-return framework by paying the offering price. Therefore, they do not need any additional adjustments to the allowed return of the regulated firm to "account" for those costs.

Fourth, research has shown that a specific adjustment for issuance expenses is unnecessary.[4] There are other transaction costs which, when properly considered, eliminate the need for an explicit issuance expense adjustment to equity capital costs. The transaction cost that is improperly ignored by the advocates of issuance expense adjustments is brokerage fees. Issuance expenses occur with an initial issue of stock in a primary market offering. Brokerage fees occur in the much larger secondary market where pre-existing shares are traded daily. Brokerage fees tend to increase the price of the stock to the investor to levels above that reported in the Wall Street Journal, i.e., the market price that analysts use in a DCF analysis. Therefore, if brokerage fees were included in a DCF cost of capital estimate they would raise the effective market price, lower the dividend yield and lower the investors' required return. If one considers transaction costs that, supposedly, raise the required return (issuance expenses), then a symmetrical treatment would require that costs that lower the required return (brokerage fees) should also be considered. As shown by the research noted

above, those transaction costs essentially offset each other and no specific equity capital cost adjustment is warranted.

Q: HAVE YOU REVIEWED DR. MORIN'S SAMPLE GROUP SELECTION PROCESS?

A. Yes.

Q. ARE THERE PROBLEMS WITH DR. MORIN'S SAMPLE GROUP SELECTION PROCESS THAT WOULD LEAD TO AN OVERSTATEMENT OF THE COST OF EQUITY CAPITAL?

A: Yes. Instead of relying on one electric group tailored to the risk profile of AmerenUE, Dr. Morin has used two electric utility groups. There are aspects of that selection process that indicate Dr. Morin's reliance on the second group—S&P's electric utility sample group—does not provide a reliable estimate of the cost of equity capital of AmerenUE and works to overstate the cost of equity. Also, by adding another DCF sample group Dr. Morin is able to double the number of his highest equity cost estimates, from two results to four results.

That is, Dr. Morin simply averages all of his equity cost estimates to reach his recommendation of 11.5%. Because he has examined two sample groups in his DCF analysis, he averages four DCF results with one risk premium and two CAPM results. If, as he did in his testimony in Case No. ER-2008-0312 (p. 65), Dr. Morin had based his recommendation on the average of his CAPM, Risk Premium, and DCF results, he would be recommending a ROE of 11.1% (with flotation costs), not the 11.5% he reports on page 56 of his Direct Testimony in this proceeding. This is another methodological inconsistency in

[4] "A Note on Transaction Costs and the Cost of Common Equity for a Public Utility," Habr, D., National Regulatory Research Institute Quarterly Bulletin, January 1988, pp. 95-103.

Dr. Morin's equity cost analysis in this proceeding, compared to his testimony in AmerenUE's last rate case, which serves to increase his recommended ROE.

Q. WHAT ARE YOU COMMENTS REGARDING DR. MORIN'S SAMPLE SELECTION PROCESS?

A. In selecting his primary sample group for the purpose of determining the cost of equity of AmerenUE, Dr. Morin selected a group from companies that had "integrated" electric operations, like AmerenUE (i.e., generation assets as well as transmission and distribution). He applied further screening to eliminate firms that were dissimilar to AmerenUE (i.e., those with below investment-grade bond ratings, foreign companies, private companies, companies that do not pay dividends, those with market capitalization below $0.5 billion, those that derive less than 50% of revenues from electric operations and those that were not followed by Value Line). That sample selection process is designed to create a group of companies with risks relatively similar to AmerenUE, and appears to be reasonable.

My primary concern with Dr. Morin's sample selection process is that he is including companies have as few as 50% of revenues generated by electric utility operations. AmerenUE, of course, has no unregulated operations and has 100% of its revenues generated by utility operations. Dr. Morin's sample group would have been improved, and the average risk of that sample group would have been made more similar to that of AmerenUE, if Dr. Morin had screened out companies that had, for example, less that 70% of their revenues from electric utility operations. However, he did not do that.

In addition to his primary sample group, Dr. Morin elects also to analyze the equity capital cost of another group of utilities (the electric utilities included in the S&P Utility Index) that are not screened to be similar in risk to AmerenUE. First, nine of the companies included in Dr. Morin's S&P group were specifically *excluded* from consideration

in constructing his primary electric utility sample. Dr. Morin excluded those companies from his primary sample group because they had characteristics that made them dissimilar in risk to AmerenUE. Those companies have greater investment risk than the companies in Dr. Morin's original sample group, according to their average beta coefficient (0.79), compared to the average beta for Dr. Morin's primary group (0.73). It would be unreasonable, therefore, to re-include those higher-risk companies in a separate sample group used to estimate the AmerenUE's cost of equity. Nevertheless, that is what Dr. Morin has done.

Second, the eighteen companies remaining in Dr. Morin's S&P Utility Index sample group are also contained in his primary sample group and the analysis of their cost of equity is redundant. There is no need to apply the cost of equity methods to those companies twice.

Third, as I noted above, the inclusion of an additional sample group serves to double the number of DCF results produced in Dr. Morin's cost of equity analysis. Because those results are the higher than Dr. Morin's risk premium results, the addition of a second sample group results in a higher average equity cost estimate.

Q. IF DR. MORIN HAD NOT CHANGED HIS HISTORICAL RISK PREMIUM ANALYSIS, HAD INCLUDED HIS ALLOWED RETURN RISK PREMIUM, AND HAD USED ONLY ONE SIMILAR-RISK SAMPLE GROUP FOR HIS DCF ANALYSIS, WHAT WOULD BE HIS AVERAGE COST OF EQUITY ESTIMATE?

A. Table I below shows that, with the conditions posed in the question, the average result of Dr. Morin's analyses would be 10.8%. Of course, that result includes flotation costs, which adds an unnecessary 30 basis point to the result. Absent that adder, the result of Dr. Morin's equity cost analyses, if performed in a manner consistent with his prior testimony in this jurisdiction, would be 10.5%.

Table I

Adjusted Morin Results

Risk Premium Analyses Consistent With Prior Testimony

STUDY	ROE
CAPM	9.6%
Empirical CAPM	10.0%
Historical Risk Premium Elec Utility Industry	10.1%
Allowed Return Risk Premium	10.2%
DCF Integrated Elec Utilities Value Line Growth	12.2%
DCF Integrated Elec Utilities Zacks Growth	12.5%
Overall Average of All Results	10.8%

Q. THE EQUITY COST ESTIMATES YOU SHOW IN TABLE I CONTAIN DCF RESULTS THAT ARE SUBSTANTIALLY DIFFERENT FROM THE OTHER RESULTS. DO YOU BELIEVE DR. MORIN'S DCF RESULTS ARE RELIABLE ESTIMATES OF THE COST OF EQUITY FOR AMEREN-UE?

A. No. Dr. Morin's DCF analysis significantly overstates the current cost of equity capital for electric utilities. Both the dividend yield and the growth rate are overstated, but the primary flaw in Dr. Morin's DCF analysis is his sole reliance on projected earning growth—to the exclusion of all other long-term indicators of growth.

Q. PLEASE DESCRIBE HOW DR. MORIN'S DCF DIVIDEND YIELDS ARE OVERSTATED.

A. Dr. Morin's DCF analysis utilizes dividend yields published in Value Line. I have no concerns with the use of that source of information. In calculating his DCF dividend yields, however, Dr. Morin increases the current dividend yield by one plus the DCF growth rate. As Value Line explains to its subscribers in "A Subscribers' Guide," the dividend yield published by Value Line, is based on the "cash dividends estimated to be declared in the

next 12 months divided by the recent [stock] price." Therefore, in adjusting the dividend yield published by Value Line for expected growth over the next year, Dr. Morin is double-counting that growth.

Dr. Morin's dividend growth adjustment (multiplying Value Lines dividend year-ahead dividend by (1+g)) increases the cost of equity capital from 20 to 30 basis points. In his testimony in this proceeding, half of Dr. Morin's equity cost estimates are based on the DCF. It is reasonable to assume, then, that Dr. Morin's additional dividend adjustment adds at least 12 basis points to his cost of equity.

Q. WHAT ARE THE FACTORS THAT CAUSE EXCLUSIVE RELIANCE ON PROJECTED EARNINGS GROWTH TO OVERSTATE LONG-TERM DIVIDEND GROWTH THAT INVESTORS ARE LIKELY TO EXPECT?

A. There are many reasons why 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.

First, this type of growth rate analysis is 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, or any other factors that would influence investor long-term growth expectations. Dr. Morin, in his own published work, warns against this type of mechanical analysis.[5]

Second, as I discuss in detail in Appendix B attached to this testimony, 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.

[5] Morin, R., Regulatory Finance, Utilities' Cost of Capital, Public Utilities Reports, Arlington, VA, 1994, p. 244.

For example, reliance on projected earnings growth in a situation in which projected earnings were expected to recover from reduced levels would include (in any DCF estimate) the assumption that equity returns will increase at an exaggerated rate every five years into the indefinite future (i.e., forever). Of course, this would not be a reasonable expectation, would not represent investor expectations, and any DCF analysis based on an analysis that automatically includes such data would not produce a reasonable result. This is important because long-term sustainable growth is required in an accurate DCF assessment of the cost of equity capital. The efficacy of projected earnings growth rates in any specific DCF analysis can only be determined through a study of the underlying fundamentals of growth—something that those who rely exclusively on analysts' earnings growth rate projections fail to do.

Third, as evidenced in headlines in the financial media in recent years, the sell-side institutional analysts that are polled by IBES and similar services (Zacks, Thomson, Multex) offer relatively "rosy" expectations for the stock they follow-even when the analyst's actual expectations for the stock are not so sanguine. Simply put, some analysts overstate growth expectations to make the stocks they want to sell look better. Although claims are often made that the opinions of sell-side analysts are not affected by the profits made by the other parts of the business that actually trade those securities, the "Cinderella effect" (analysts' overstating stock expectations) is not a new phenomenon, and is recognized in academia. As the authors of a widely-used finance textbook note regarding the use of projected earnings growth rates in a DCF analysis:

> Estimates of this kind are only as good as the long-term forecasts on which they are based. For example, several studies have observed that security analysts are subject to behavioral biases and their forecasts tend to be over-optimistic [footnote]. If so, such DCF estimates of the cost of equity should be regarded as upper estimates of the true figure. [footnote : *See, for example,* A. Dugar and S. Nathan, "The Effect of

> Investment Banking Relationships on Financial Analysts' Earnings Investment Recommendations." (*Contemporary Accounting Research* 12 (1995), pp. 131-160.] (Brealey, Meyers, Allen, Principles of Corporate Finance, 8th Ed., McGraw-Hill Irwin, Boston, MA, (2006), p. 67.)

As Chan and Lakonishok note in "The Level and Persistence of Growth Rates," published in the *Journal of Finance* (Vol. LVIII, No. 2, April 2003, p. 643), "[t]here is no persistence in long-term earnings growth beyond chance, and there is low predictability even with a wide variety of predictor variables. Specifically, IBES growth forecasts are overly optimistic and add little predictive power." The concern regarding investors' use of analysts' growth estimates is also underscored by an investor's advisory service sponsored by the *Wall Street Journal*:

> "You should be careful when looking at analyst recommendations for several reasons. First of all, many analysts suffer from a conflict of interest between the firm that employs them and the company whose stock they track. Often times, an analyst will be responsible for issuing reports on a company that is a current or potential client of their employer (usually an investment bank). Since they know that their employer would like to keep the client's business, the analyst may be tempted to issue a rosier outlook for the stock than what it really deserves." (Investorguide.com, "University," Analysts and Earnings Estimates, www.investorguide.com/igustockanalyst.html)

Also on this point, much of the academic work touted as support for reliance on earnings growth is based on data from the IBES database (now owned by Thomson); however, academic research recently published in the *Journal of Finance* indicates that there have been non-random, systematic errors in that database, which call into question the reliability of research based on those data. The researchers document that the historical contents of the IBES data base have been "quite unstable over time," and state:

> "Data are the bedrock of empirical research in finance. When there are questions about the accuracy or completeness of a data source, researchers routinely go to great lengths to investigate measurement

> error, selection bias, or reliability. But what if the very contents of a historical database were to change, in error, over time? Such changes to the historical record would have important implications for empirical research. They could undermine the principle of replicability, which in the absence of controlled experiments is the foundation of empirical research in finance. They could result in over- or underestimates of the magnitude of empirical effects, leading researchers down blind alleys. Also to the extent that financial-market participants use academic research for trading purposes, they could lead to resource allocation....We document that the historical contents of the I/B/E/S recommendations data base have been quite unstable over time." (Ljungqvist, Malloy, Marston, "Rewriting History," *The Journal of Finance*, Vol. 64, No. 4, August 2009, pp. 1935-1960)

Fourth, Dr. Morin uses both Zack's and Value Line earnings projections in determining his standard DCF growth rate. Earnings growth projections are the only growth rate that Zack's publishes, so the use of that parameter is reasonable as one piece of information in the determination of investor growth rate expectations. However, in addition to and right along side of its earnings projections, Value Line also publishes 3 to 5 year dividend and book value growth rate projections for each company it follows. Investors have equal access to all three growth rates (earnings, dividends and book value) and, it is reasonable to assume, utilize all three when making a determination of long-term sustainable growth. Moreover, the DCF model assumes that earnings, dividends and book value all grow at the same rate. Therefore, the use of the average of those three projected growth rate parameters published in Value Line provide a more balanced growth rate analysis in Dr. Morin's mechanistic earnings-only DCF model.

For example, Dr. Morin's Schedule RAM-E6 contains his DCF analysis of his integrated electric utility sample group, based only on Value Line's earnings projections. Table II, below, replicates Dr. Morin's analysis using the most recent projected earnings, dividends and book value published by Value Line for each company, as well as the year-ahead dividend yield published in the January 22, 2010 edition of Value Line (*Summary & Index*):

Table II
Morin Integrated Electric Sample Group
DCF – Value Line Projected Dividend Yield and Growth Rates

Company	Value Line Projected Growth			Year-ahead
	Earnings	Dividends	Book Value	Div. Yield
ALLETE	-1.00%	3.00%	3.00%	5.50%
Allegheny Energy	7.00%	30.00%	9.50%	2.60%
Alliant Energy	4.00%	7.00%	4.00%	5.00%
Am. Electric Power	3.00%	3.00%	5.00%	4.70%
Ameren Corp.	1.00%	-6.50%	2.50%	5.70%
CMS Energy Corp.	10.00%	27.50%	6.00%	3.80%
Cleco Corp	9.50%	10.00%	4.50%	3.70%
DPL Inc.	9.00%	3.50%	5.50%	4.10%
DTE Energy	8.50%	3.00%	3.00%	4.80%
Duke Energy	5.00%	nmf	-0.50%	5.80%
Edison International	4.50%	4.50%	7.00%	3.60%
Empire Dist. Electric	6.00%	1.00%	1.50%	6.80%
Entergy Corp.	6.00%	5.50%	6.00%	3.70%
Exelon Corp.	4.50%	4.50%	9.00%	4.30%
FirstEnergy Corp.	3.00%	4.00%	4.00%	4.70%
FPL Group	9.50%	6.00%	8.50%	3.90%
G't Plains Energy	5.00%	-6.50%	2.50%	4.30%
Hawaiian Electric	7.00%	0.00%	2.00%	5.80%
IDACORP Inc.	4.50%	2.50%	5.00%	3.70%
PG&E Corp.	6.50%	7.50%	6.50%	4.00%
Pepco Holdings	nmf	nmf	1.00%	6.40%
Portland General	3.50%	5.50%	2.50%	5.20%
Progress Energy	6.00%	1.00%	2.00%	6.40%
Public Service Ent.	7.50%	6.00%	9.00%	4.30%
Southern Company	4.50%	4.00%	5.00%	5.40%
TECO Energy	4.50%	2.50%	4.50%	4.90%
Westar Enery	4.00%	4.50%	6.00%	5.60%
Wisonsin Engy.	8.00%	13.5%	6.00%	3.10%
Xcel Energy Inc.	6.50%	3.00%	4.50%	4.70%
Average	5.61%	5.54%	4.66%	
Median	5.50%	4.00%	4.50%	
Overall Average		**5.27%**		**4.71%**
Overall Median		**4.67%**		**4.70%**
DCF (Average)			**9.97%**	
DCF (Median)			**9.37%**	

Table II, above, shows that the average of Value Line's projected earnings, dividends and book value (all of which are available to investors) is 5.27%, about 40 basis points below the earnings-only Value Line growth rate preferred by Dr. Morin. Also because there are outliers in the data (e.g., the resumption of dividend payments at Allegheny Energy and a 30% growth projection), the median values for projected growth indicate a more normalized 4.67% growth rate—roughly 100 basis points below the earnings-only growth. These data show that investor expectations are not likely to rely solely on earnings growth and that sole reliance on projected earnings will overstate a DCF cost of equity estimate.

Moreover, simply by using all the projected growth rate data available in Value Line instead of just some of it, the DCF equity cost estimate for the combination electric utilities used in Dr. Morin's sample group ranges from 9.37% to 9.97%. That equity cost estimate is roughly 300 basis points below the 12.5% to 13.0% DCF result Dr. Morin provides in his Schedule RAM-E6. Dr. Morin's exclusive reliance on projected earnings growth rates in a mechanically-applied analysis causes his DCF equity cost estimate to substantially overstate the cost of equity capital.

Q. IF DR. MORIN HAD APPLIED HIS RISK PREMIUM ANALYSES CONSISTENTLY, UTILIZED A DCF ANALYSIS THAT CONSIDERED A BROADER RANGE OF INFORMATION, AND ELIMINATED HIS 30 BASIS POINT ADDER FOR FLOTATION COSTS, WHAT COST OF EQUITY ESTIMATE WOULD HAVE HIS ANLAYSES PRODUCED?

A. Table III below shows the results of Dr. Morin's analyses with the conditions cited in the question:

Table III
Adjusted Morin Results
Consistent Methods, No Flotation, Multi-factor DCF

STUDY	ROE
CAPM	9.3%
Empirical CAPM	9.7%
Historical Risk Premium Elec Utility Industry	10.1%
Allowed Return Risk Premium	10.2%
DCF Integrated Elec Utilities (Average)	9.97%
DCF Integrated Elec Utilities (Median)	9.37%
Overall Average of All Results	9.77%

Q. DOES THIS CONCLUDE YOU COMMENTS ON DR. MORIIN'S TESTIMONY?

A. Yes, it does.

OFFICE PUBLIC COUNSEL WITNESS LAWTON

Q. HOW HAS OPC WITNESS LAWTON ANALYZED THE COST OF EQUITY CAPITAL IN THIS PROCEEDING?

A. Mr. Lawton has estimated the cost of equity capital using a constant-growth DCF, a two-stage DCF, Allowed Return Risk Premium, CAPM and ECAPM methodologies. Mr. Lawton's results are overstated for many reasons, which I will discuss below. However, it is worth noting at the outset that a review of Mr. Lawton's prior testimonies indicates that, with regard to his DCF analyses in this proceeding, his analysis, like Dr. Morin's is inconsistent with that he presented in his prior testimonies. Mr. Lawton has, in this proceeding, elected to use growth rate measures that exclude some of the DCF growth rate indicators he has used in prior testimonies and, curiously, are those that produce the highest

results. Mr. Lawton's DCF results, due to his election in this proceeding to use the highest growth rates, are substantially overstated.

Q. HAS MR. LAWTON UNDERTAKEN HIS OWN SCREENING PROCESS TO DETERMINE A SIMILAR-RISK SAMPLE GROUP FOR AMERENUE IN THIS PROCEEDING?

A. No, he has not. As has been his practice for several years, Mr. Lawton simply accepted the sample group selected by the company witness. While that would not be problematic in this proceeding if the sample group proffered by Dr. Morin were reasonably similar in risk to AmerenUE, as I noted previously, it is not. In Dr. Morin's screening process for his primary (integrated) group of electric utility companies, he includes firms that have up to approximately half of their revenues generated by unregulated operations. AmerenUE has no unregulated operations and is, therefore, less risky (and should have a lower cost of equity) than the companies in Dr. Morin's (and Mr. Lawton's) sample group. Mr. Lawton in response to Staff DR No. 303 indicated he was not aware of the amount of unregulated operations of the companies included in Dr. Morin's sample group.

As I also noted previously Dr. Morin's second group (the electric companies included in the S&P Utility Index) is redundant (most of the companies are already included in the first group) and includes other companies that were specifically excluded from the first group, so those additional companies are not reliable proxies for AmerenUE. Mr. Lawton has elected to combine both of Dr. Morin's sample groups, and, in so doing, overstates his DCF results.

Q. WHAT ARE YOUR COMMENTS ON THE DIVIDEND YIELD PORTION MR. LAWTON'S CONSTANT-GROWTH DCF ANALYSIS?

A. Mr. Lawton's average dividend for Dr. Morin's combined sample groups is 5.0% to 5.3%, which is the current annualized dividend multiplied by 1 plus Mr. Lawton's

DCF growth rates. As I show in Table II, Value Line's current year-ahead dividend yield projection for Dr. Morin's sample companies is 4.70% to 4.71%. Mr. Lawton's dividend yield is overstated by 30 to 50 basis points, according to Value Line, a data source on which he relies.

Q. YOU NOTED AT THE OUTSET OF YOUR DISCUSSION THAT MR. LAWTON HAD CHANGED HIS CONSTANT-GROWTH DCF ANALYSIS IN THIS PROCEEDING COMPARED TO WHAT HE PRESENTED IN HIS PRIOR TESTIMONY IN OTHER CASES, AND THAT CHANGE CAUSES HIS RESULTS TO BE HIGHER THAN THEY WOULD BE OTHERWISE. CAN YOU EXPLAIN YOUR COMMENTS?

A. In determining his constant-growth DCF growth rate in prior testimony in other jurisdictions, Mr. Lawton has utilized five and ten-year historical growth in earnings, dividends and book value as reported by Value Line, as well as projected growth in earnings, dividends and book value as reported by Value Line and sustainable growth rates (retention ratio x ROE) in addition to analysts' projected earnings growth rates.

> "I have included in my Schedule (DJL-4) the growth rates I have relied on in my analysis. The first set of growth rates examined is the recent 5 year historical growth rates in earnings per share, dividends per share, and book value per share as reported by Value Line. The second set of growth rates is the Value Line forecasted growth rates in earnings per share, dividends per share, and book value per share for AEP and each company in the comparable group. The third set of growth rates examined is the Zacks forecasted growth rates in earnings. The fourth growth estimate considered is the First Call growth rates are readily available to investors at Yahoo Finance. In addition, I have examined the growth rates based on the retention ratio growth estimate and the growth in GDP." (Lawton Direct, Cause No. 200600285, Public Service Company of Oklahoma, March 26, 2007, p. 12,

However, in his testimony in this proceeding, Mr. Lawton, for reasons unexplained, has eliminated all reference to growth rates except earnings growth rates, even though his

response to Staff Data Request NO. 305 indicates that he is aware that the financial literature indicates that analysts' earnings growth rates overstate actual, realized long-term growth.

> "Mr. Lawton has read research literature that indicates analyst earnings estimates overstate actual or realized growth rates." (Public Counsel Response to Staff DR No. 305)

Mr. Lawton also excludes all consideration of negative earnings growth rates, even though such rates are reviewed by investors and would reasonably temper long-term growth rate considerations. When asked in Staff Data Request No. 304 if investors consider negative information as well as positive information regarding stocks, he agreed that they do. However, in determining long-term sustainable growth in is initial DCF analysis he has elected to exclude any negative earnings data that might moderate his growth estimate.

Finally, as I noted in my discussion of Dr. Morin's testimony, the use of analysts' projected earnings growth as the only growth rate considered results in a "mechanical" plug-and-play DCF analysis, applied without judgment as to the rationality of the data being used, and which can lead to unreliable results. Mr. Lawton has, in prior testimony, also criticized a DCF analysis that elects to discard low results and consider only the highest results as "simple and mechanical."

> "Dr. Murry's DCF analyses rely on a simplistic mechanical application of the DCF model and the only judgment he employs is to discard the lowest results and rely on the highest calculations. Thus, Dr. Murry's DCF analyses are biased to the highest end of his range. The bottom line is that Dr. Murray's DCF analyses are not a reliable basis for setting revenue requirements or rates in this case." (Lawton Direct, pp. Cause No. PUD 200800144, Public Service Company of Oklahoma, 20, 21)

Mr. Lawton's standard DCF analysis in this proceeding suffers the same flaws. This OPC witness, in a mechanical analysis, has elected to rely only on those growth rate measures for his DCF analysis that produce the highest possible results—data that he is aware may

overstate investor growth rate expectations—and has ignored growth rate data he has considered reliable in other testimony and that would produce lower cost of equity estimates. Mr. Lawton's DCF growth rate estimates must be considered to be overstated for those reasons.

Q. WHAT ARE THE RESULTS OF MR. LAWTON'S CONSTANT-GROWTH DCF GROWTH RATE ANALYSIS?

A. Mr. Lawton's DCF earnings-based growth rates range from 5.40% to 5.75%. As shown in Table II, Value Line's five-year projections for earnings, dividends and book value (data which Mr. Lawton elected to ignore in this proceeding) indicate the average growth of Dr. Morin's sample group to be 4.67% to 5.27%. In that regard, Mr. Lawton's DCF growth rates, based on a mechanical application of earnings growth is overstated by 50 to 75 basis points.

Combining the overstatement embodied in Mr. Lawton's DCF dividend yield of 30 to 50 basis points and the overstatement included in his growth rate analysis of 50 to 75 basis points, the data indicate that Mr. Lawton's standard constant-growth DCF analysis overstates the cost of equity capital of AmerenUE by at least 80 to 125 basis points, with a mid-point overstatement of 102 basis points. I use the modifier "at least" because, it must be remembered, that Mr. Lawton has used Dr. Morin's sample group, which includes companies with significant unregulated operations. Reducing the mid-point of Mr. Lawton's DCF result (11%) by the 102 basis point overstatement indicates that a more reliable estimate of the cost of equity of a sample group of electric utilities that have up to 50% unregulated operations is 9.98%. Given a proper application of a DCF analysis, AmerenUE's cost of equity would be lower.

Q. HOW HAS THE OPC WITNESS APPLIED HIS TWO-STAGE DCF ANALYSIS?

A. For the first growth stage (years 1 through 5), Mr. Lawton uses Value Line's projected dividend growth for each of Dr. Morin's sample companies. For the second growth stage (years 6 through 150), Mr. Lawton uses the median of analysts' 5-year earnings growth projections as his estimate for very long-term—150-year—dividend growth in his two-stage DCF model.

Q. DO YOU FIND THIS TO BE A REASONABLE APPLICATION OF A TWO-STAGE DCF ANALYSIS?

A. No, I do not. I have no concerns with Mr. Lawton's use of Value Line's dividend growth projections during the first five years; after all, the long-term sustainable growth rate in the DCF is designed to be dividend growth. When earnings growth is used in a DCF analysis, it is merely a proxy for dividend growth. However, Mr. Lawton's use of five-year analysts' earnings growth for and estimate of long-term dividend growth in the second stage of this DCF methodology is troubling for several reasons.

First, although Mr. Lawton is aware that analysts' earnings growth overstates actual realized growth, he elects to assume that current 5-year earnings growth rate projections will represent growth for the next 150 years. Second, the use of analysts' five-year earnings growth projections as the second stage of a two-stage DCF is redundant in that it simply replicates the assumption utilized in Mr. Lawton's constant-growth DCF. The result is modified only by his reliance on dividend growth in the first stage of the analysis.

Third, in response to Staff DR No. 306, Mr. Lawton admits that he is not aware of any studies that evaluate whether five-year earnings growth projections are reasonable proxies of utility dividend growth. However, in that same data response, Mr.

Lawton also states that he is aware of DCF studies that utilize GDP growth as a proxy for the long-term growth estimate. If Mr. Lawton had used MIEC witness Mr. Gorman's 4.7% GDP growth rate as the second stage of his two-stage DCF analysis, his analysis would have produced an average estimate of 9.86%.[6]

Fourth, in prior rate case testimony Mr. Lawton has elected to moderate his earnings-only approach to estimating the 150-year growth in the second stage of his two-stage DCF. In prior testimony, Mr. Lawton has averaged sustainable ("b x r") growth with earnings growth in the determination of the second-stage DCF growth. (Lawton Direct, Docket No. 09-035-23, Rocky Mountain Power, September 2009, p. 22) In the earnings-only analysis he used in this proceeding, Mr. Lawton selected the median of projected 5-year earnings growth as the second-stage long-term growth rate—5.11%. If, as he has done before, he had combined that figure with the median "b x r" growth rate published by Value Line for Dr. Morin's sample group of integrated electric utilities (4.5%), the result would have been 4.8%. Therefore, a consistent application of the two-stage DCF method would have produced an average DCF estimate of 9.96%, according to the analytical methods contained in Mr. Lawton's Schedule DLJ-7.[7]

Mr. Lawton's decision to use five-year earnings growth projections as a proxy for the second-stage of a two-stage DCF analysis serves to overstate the cost of equity estimate produced by that methodology because analysts' estimates overstate actual growth-a fact of which Mr. Lawton is aware. That fact, combined with the fact that

[6] As I will show in response to MIEC witness Gorman's use of GDP growth in a multi-stage DCF analysis, GDP growth has historically substantially overstated actual electric utility growth. Therefore, if utilized as the final growth in a multi-stage DCF analysis, GDP growth will tend to overstate investors' expected long-term growth and the cost of equity.

[7] As noted above, the companies Mr. Lawton has analyzed have significantly more unregulated operations than AmerenUE.

Mr. Lawton has previously used different methods to determine the second stage growth in this type of analysis, methods which would produce lower long-term growth estimates and lower cost of equity estimates than those produced in this case calls into question the reliability of the results of his DCF equity cost estimates in this proceeding.

Q. WHAT ARE YOUR COMMENTS REGARDING MR. LAWTON'S ALLOWED RETURN RISK PREMIUM ANALYSIS?

A. Mr. Lawton measures the difference between equity returns allowed utilities and triple-B bond yields over a 28-year period. When he adds the average differential between allowed returns and "BBB" bond yields (3.19%) to his estimate for current bond yields, the result is 9.29%. However, Mr. Lawton concludes that a negative correlation exists between bond yields and risk premiums and, due to that relationship, imputes a larger risk premium to reach an equity cost estimate of 10.55%. However, there are several reasons to question the reliability of the latter estimate, which is grounded on the assumption that investors expect a negative correlation between bond yields and risk premiums to continue into the future.

First, implicit in Mr. Lawton's analysis is the assumption that the equity return allowed utilities is equal to the cost of capital. While there is no question that regulators allow returns based on information related to the cost of capital, the available market evidence indicates that, since the mid-1980s regulators have allowed returns that exceed the cost of capital for utilities. It is reasonable to believe that is so because allowed ROE's are applied to book value rate base and because investors have been willing to provide market prices for utility stocks since the mid-1980s that exceed their book values. Therefore, the equity return expected by investors (the cost of equity capital) is lower than the returns allowed by regulators. A simple example will illustrate this point.

Assume that a utility with a $10/share book value is allowed a 10% ROE. A 10% return applied to a $10 book value will provide the investor an income stream of $1 per share ($10/share x 10% = $1/share). If the investor requires a 10% return for this type of investment he or she will pay $10/share for the stock. However, if the investor requires a lower return, say 9%, with the promise of a $1/share income stream, investors would be willing to pay more than $10/share for the utility, and would bid up the market price to $11.10/share. At that price, the investor receives his or her required 9% return ($1/share income stream ÷ $11.10/share = 9%). Therefore when the market price ($11.10/share in our example) exceeds the utility book value ($10/share), the investors' required return, which is the definition of the cost of equity capital (9%), is lower than the allowed return (10%).[8]

Second, the allowed returns used by Mr. Lawton are simply averaged over all the available rate case decisions during a calendar year. That means that the capital market data that the regulatory body considered were drawn from a period prior to the decision rendered and the allowed return might not correlate with decision-time-specific macro-economic events.

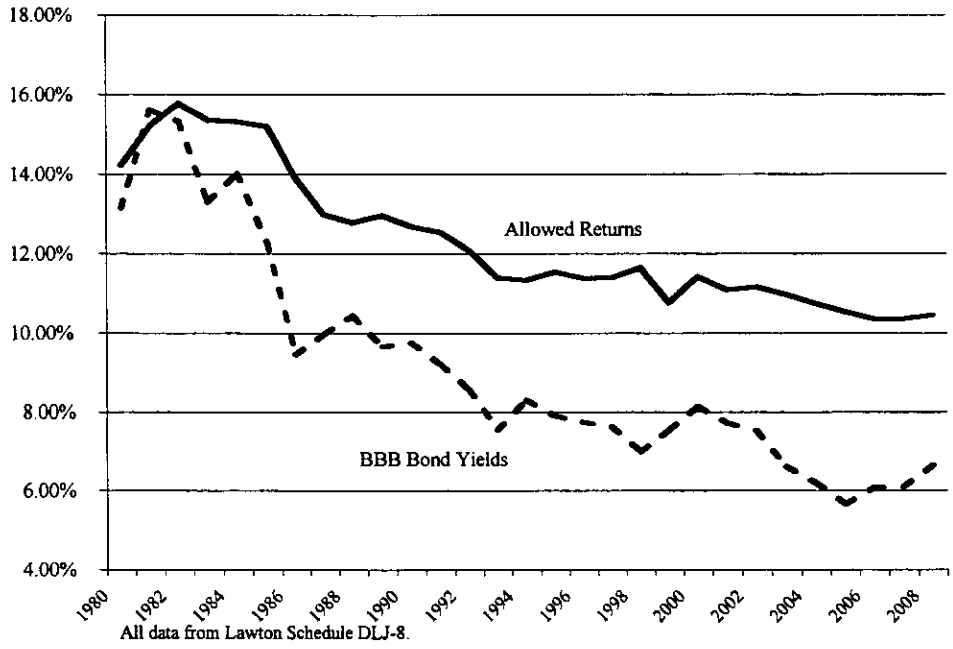
Third, a visual inspection of the data set Mr. Lawton relies on for his conclusion shows that his conclusion that historical risk premiums are inversely related to interest rates is affected to a large extent by the events of the early 1980's. As shown in Chart II, below, there was a very small or even negative risk premium at the beginning of the 1980s, a very unusual time period of very high interest rates. Mr. Lawton's data also show that following

[8] See: Gordon, M.J., The Cost of Capital to a Public Utility, 63-64 (1974), Kolbe, Read, Hall, The Cost of Capital, Estimating the Rate of Return for Public Utilities, 25-33 (1986); Lawrence Booth, ("The Importance of Market-to-Book Ratios in Regulation," NRRI Quarterly Bulletin, Vol. 18, No. 4, at 415-16 (Winter 1997).

the mid-1980's the decline in allowed returns, with some lag, has relatively closely followed the decline in bond yields.

Chart II.

Lawton Historical Allowed Return Data



Fourth, there is evidence in the financial literature that contradicts the notion that risk premiums are inversely correlated with interest rates. Two finance professors from Duke University, Graham and Harvey, in conjunction with *CFO Magazine*, regularly poll corporate financial officers regarding their expectations regarding expected risk premiums. Graham and Harvey found that the expected risk premium varies directly with interest rates. That is, as interest rates decline, so too do expected risk premiums.

Fifth, the notion of risk premiums varying inversely with interest rates is counter-intuitive. Let's assume that investors require a 5% premium to invest in utility stocks in today's capital market environment, with T-Bonds at 4.5%. Now, suppose some dramatic

international event occurs that causes economic turmoil and sends US Treasury bond yields to their 1981 levels of approximately 15%. In that extremely unstable economic environment - in which investors would have to be induced to invest in risk-free securities by means of a 15% return - it is simply not logical to believe that the risk premium they require for common stocks in that environment would *decline*, as Mr. Lawton's thesis would have it. With the added uncertainty and higher interest rates, it is reasonable to believe that investors would require increased risk premiums, not reduced risk premiums as interest rates decline. That logic is confirmed in the Graham and Harvey studies cited above.

In sum, while Mr. Lawton's simple historical average Allowed Return Risk Premium produces a reasonable equity cost estimate of approximately 9.3%, his reliance on an assumption of an inverse relationship between allowed returns and bond yields must be questioned, for the reasons set out above. Mr. Lawton's 10.5% Allowed Return Risk Premium estimate is, therefore, not a reliable estimate of the current cost of equity capital for AmerenUE.

Q. IF MR. LAWTON'S DCF ANALYSES HAD USED A BROADER RANGE OF DATA, AS HE HAS DONE IN ANALYSES HE HAS PRESENTED IN PAST TESTIMONIES, AND HIS ALLOWED RETURN RISK PREMIUM ANALYSIS HAD NOT RELIED ON THE ASSUMPTION OF AN INVERSE RELATIONSHIP BETWEEN RISK PREMIUMS AND BOND YIELDS, WHAT EQUITY COST ESTIMATE WOULD HAVE HIS ANALYSES PRODUCE?

A. Table IV below shows Mr. Lawton's cost of equity capital estimates, applying the adjustments that I have discussed above. Those adjustments include, 1) not relying exclusively on analysts' earnings projections and relying on projections of earnings, dividends and book value, 2) relying on Value Line's year-ahead dividend yield projections,

3) relying on a combination of earnings and sustainable growth projections for the long-term growth estimate in a two-stage DCF analysis, instead of earnings only, and 4) not relying on the assumption that risk premiums are inversely related in interest rates. An application of Mr. Lawton's methodologies more consistent with what he has done in prior proceedings, and based upon sound financial principles, would produce an average equity cost estimate for Dr. Morin's sample group of electric companies of 9.58%.

Table III

Adjusted Lawton Results

STUDY	ROE
Constant Growth DCF	9.98%
Two-Stage DCF	9.96%
Risk Premium	9.27%
CAPM/ECAPM	9.11%
Overall Average of Results	9.58%

Q. DOES THIS CONCLUDE YOUR COMMENTS ON MR. LAWTON'S DIRECT TESTIMONY?

A. Yes, it does.

MISSOURI INDUSTRIAL ENERGY CONSUMERS WITNESS GORMAN

Q. HOW HAS MIEC WITNESS GORMAN ANALYZED THE COST OF EQUITY CAPITAL IN THIS PROCEEDING?

A. Mr. Gorman has estimated the cost of equity capital using three DCF models (a constant-growth DCF using analysts' earnings growth estimates, a constant-growth DCF using sustainable growth estimates and a multi-stage DCF using GDP growth as the long-term growth rate), two Allowed Return Risk Premium analyses (one based on Treasury Bond

yields and one based on "Baa" rated utility bond yields), as well as a Capital Asset Pricing Model analysis. Although Mr. Gorman's analyses are consistent with his prior testimony, and I agree with many of his comments, there are aspects of his analysis that cause his recommended ROE in this proceeding, 10.0%, to overstate the cost of equity capital of AmerenUE.

Q. CAN YOU DISCUSS THE ASPECTS OF MR. GORMAN'S TESTIMONY THAT CAUSE HIS EQUITY COST ESTIMATE FOR AMEREN-UE TO BE OVERSTATED?

A. Yes. The aspects of Mr. Gorman's testimony in this proceeding that cause his equity cost estimate to be overstated are set out below.

- Although Mr. Gorman recognizes that exclusive reliance on analysts' growth rates produces what he describes as results that are "not reasonable" he, nevertheless includes those results in his DCF average, thereby increasing that average (and raising the mid-point of his range). As I have pointed out in my discussion of Dr. Morin's exclusive reliance on analysts' projected earnings growth estimates, there are many reasons why those estimates do not provide reliable estimates of investors' equity return expectations and Mr. Gorman, at pages 24 through 29 of his testimony, provides several more. Because DCF estimates using only analysts' projected earnings estimates are included in Mr. Gorman's average DCF result, that result is too high. Eliminating that "analysts' only" DCF, Mr. Gorman's average DCF (and the top end of his range) would decline from 10.46% to 10.18%.
- While Mr. Gorman has elected to rely on Dr. Morin's sample group companies, he confirms that Dr. Morin's second sample group (the S&P electric utilities) contains "non-utility" companies. At page 31 of his Direct Testimony, Mr. Gorman discusses his sustainable growth rate analysis and points out that several of the "non-utility" companies included in his (and Dr. Morin's) sample group have characteristics that are substantially

different from that of other companies in the sample group that are more consistent with utility operations. Also the average beta coefficient of the second (S&P electrics) sample group is higher than that of the integrated electric sample group indicating higher risk. The inclusion of those "non-utility" companies in Mr. Gorman's sample group (originated by Dr. Morin) cause Mr. Gorman's equity cost estimates to be overstated.

- In his multi-stage DCF analysis, Mr. Gorman has utilized a GDP growth rate projection as the long-term growth rate for electric utilities. At page 28 and 29 of his Direct Testimony, he provides evidence that shows that GDP growth is a maximum expectation for long-term utility growth. Therefore, Mr. Gorman's multi-stage DCF, which starts out using analysts' earnings growth expectations (which Mr. Gorman also admits are too high), transitioning to the long-term growth proxy, GDP growth (a maximum expectation), must produce a cost of equity capital estimate that exceeds investor expectations.

  Although Mr. Gorman does not elect to quantify to what extent GDP growth overstates long-term utility growth, those data are shown in Schedule 1 attached to my rebuttal testimony. Schedule 1 shows that from 1947 through 1999 GDP in the U.S. grew at approximately a 7% rate. That Schedule also shows that utility earnings, dividends and book value grew at very similar rates which averaged 3.4%--roughly half the GDP rate of growth.[9] Therefore, while Mr. Gorman characterizes long-term GDP growth as a "high-end estimate" of the sustainable growth for utility companies, that characterization understates the degree to which the use of GDP growth actually overstates utility growth and downplays the degree to which his 10.16% multi-stage DCF estimate overstates the cost of equity capital.[10]

- With regard to Mr. Gorman's Allowed Return Risk Premium analysis, that analysis suffers from the same flaws as that described previously for

[9] The data in Schedule 1 also show that the fundamental assumption on which the DCF is grounded, i.e., that over the long-term earnings, dividends and book value grow at the same rate is a reliable and an accurate description of how growth occurs.

[10] It is important to note that Staff witness Murray's use of the growth in electricity consumption provides a reasonable alternative to the use of GDP growth as the final stage growth in a multi-stage DCF analysis—and alternative growth rate that is not likely to overstate investors' long-term growth expectations.

Mr. Lawton's Allowed Return Risk Premium analysis. Primarily, that allowed returns are likely to overstate the cost of capital. However, there is an additional concern with Mr. Gorman's Allowed Return Risk Premium analysis, and that is his use of a projected Treasury Bond yield of 5%, when current Treasury Bonds are yielding 4.5%. If investors all believed that Treasury Bonds should be trading at a price to yield 5%, the current price would decline so that the yield was 5%; but that is not investors' current expectation and T-Bond yields are 4.5%. Current yields are expectational, and the current yield is the best estimate of investors' current return requirements. Mr. Gorman overstates the current cost of capital by using projected bond yields. Moreover, in the other part of his Allowed Return Risk Premium, Mr. Gorman uses current yields for Baa-rated utility bonds, not projections. Likewise, Mr. Gorman uses current stock prices in his DCF models, not projections. If he were logically consistent in his analyses he would use current Treasury Bond yields, and his Allowed Return Risk Premium (based on Treasury Bonds) would be 9.74%, not the 10.24% he reports.

- Mr. Gorman's CAPM analysis also suffers from his use of interest rate projections. If Mr. Gorman had used a current average long-term Treasury bond yield of 4.5% instead of his projected 5% yield, his mid-point CAPM analysis result would have been 9.04%.

Q. IF MR. GORMAN HAD EXCLUDED THE DCF RESULTS HE TESTIFIES ARE UNRELIABLE AND HAD USED CURRENT AVERAGE BOND YIELDS, WHAT RANGE OF EQUITY COST ESTIMATES WOULD HIS ANALYSES HAVE PRODUCED?

A. The results of Mr. Gorman's adjusted analyses are shown below in Table IV.

Table IV

Adjusted Gorman Results

STUDY	ROE
DCF	10.18%
Risk Premium	9.80%
CAPM	9.01%
Overall Average of Results	9.66%

Given the results in Table IV, and understanding to what degree the DCF results based on GDP growth overstate the cost of equity, it is likely that given these results, Mr. Gorman's range would be reduced from the 9.5% to 10.5% he presents in his testimony to 9.0% to 10.0%, with a mid-point of 9.5%.

Q. DOES THIS CONCLUDE YOUR COMMENTS ON MR. GORMAN'S DIRECT TESTIMONY?

A. Yes, it does.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY, MR. HILL?

A. Yes, it does.

EDUCATION AND EMPLOYMENT HISTORY
STEPHEN G. HILL

EDUCATION

Auburn University - Auburn, Alabama - Bachelor of Science in Chemical Engineering (1971); Honors - member Tau Beta Pi national engineering honorary society, Dean's list, candidate for outstanding engineering graduate; Organizations - Engineering Council, American Institute of Chemical Engineers

Tulane University - New Orleans, Louisiana - Masters in Business Administration (1973); concentration: Finance; awarded scholarship; Organizations - member MBA curriculum committee, Vice-President of student body, academic affairs

Continuing Education - NARUC Regulatory Studies Program at Michigan State University

EMPLOYMENT

West Virginia Air Pollution Control Commission (1975)
Position: Engineer ; Responsibility: Overseeing the compliance of all chemical companies in the State with the pollution guidelines set forth in the Clean Air Act.

West Virginia Public Service Commission-Consumer Advocate (1982)
Position: Rate of Return Analyst ; Responsibility: All rate of return research and testimony promulgated by the Consumer Advocate; also, testimony on engineering issues, when necessary.

Hill Associates (1989)
Position: Principal; Responsibility: Expert testimony regarding financial and economic issue in regulated industries.

PUBLICATIONS

"The Market Risk Premium and the Proper Interpretation of Historical Data," Proceedings of the Fourth NARUC Biennial Regulatory Information Conference, Volume I, pp. 245-255.
"Use of the Discounted Cash Flow Has Not Been Invalidated," Public Utilities Fortnightly, March 31, 1988, pp. 35-38.
"Private Equity Buyouts of Public Utilities: Preparation for Regulators," National Regulatory Research Institute, Paper 07-11, December 2007.

MEMBERSHIPS

American Institute of Chemical Engineers; Society of Utility and Regulatory Financial Analysts (Certified Rate of Return Analyst, Member of the Board of Directors)

AMEREN-UE

HISTORICAL GDP v. UTILITY GROWTH

YEAR	GDP	Dividends	Earnings	Book Value	
1947	250	$1.56	$2.15	$27.92	
1948	271.6	$1.60	$2.15	$28.24	
1949	268.6	$1.66	$2.31	$28.52	
1950	307.3	$1.76	$2.57	$29.65	
1951	344.9	$1.88	$2.50	$30.88	
1952	365.1	$1.91	$2.55	$31.11	
1953	378.6	$2.01	$2.78	$31.54	
1954	387.2	$2.13	$2.87	$32.24	
1955	421.2	$2.21	$3.12	$33.36	
1956	444.7	$2.32	$3.32	$34.65	
1957	460.3	$2.43	$3.36	$36.57	
1958	477.6	$2.50	$3.57	$38.24	
1959	514.5	$2.61	$3.76	$40.14	
1960	526.6	$2.68	$4.02	$41.20	
1961	556.7	$2.81	$4.25	$42.95	
1962	592.2	$2.97	$4.56	$44.88	
1963	629.6	$3.21	$4.90	$47.91	
1964	675.2	$3.43	$5.21	$50.69	
1965	737.9	$3.86	$5.73	$52.68	
1966	799.6	$4.11	$6.15	$54.53	
1967	848.1	$4.34	$6.50	$57.53	
1968	930.2	$4.50	$6.71	$60.97	
1969	998.7	$4.61	$6.84	$63.90	
1970	1058.8	$4.70	$6.88	$67.75	
1971	1150.2	$4.77	$7.01	$70.24	
1972	1274.5	$4.87	$7.56	$75.05	
1973	1410.6	$5.01	$7.64	$76.84	
1974	1530.7	$4.83	$7.38	$79.94	
1975	1689	$4.97	$7.76	$85.79	
1976	1867	$5.18	$7.87	$89.52	
1977	2083.6	$5.54	$8.84	$92.96	
1978	2373.3	$5.81	$8.40	$94.77	
1979	2628.5	$6.22	$8.98	$99.01	
1980	2871.4	$6.58	$8.75	$102.49	
1981	3162	$6.99	$9.80	$101.84	
1982	3304.1	$7.43	$10.82	$104.43	
1983	3643.4	$7.87	$11.28	$106.77	
1984	4010.7	$8.26	$12.52	$111.65	
1985	4286.8	$8.61	$12.63	$113.12	
1986	4519.9	$8.89	$12.86	$118.61	
1987	4824	$9.12	$12.33	$122.19	
1988	5207.6	$8.87	$10.03	$119.07	
1989	5571.7	$8.82	$8.91	$120.87	
1990	5846	$8.79	$9.41	$117.07	
1991	6073	$8.95	$10.17	$125.21	
1992	6424.4	$9.05	$10.26	$131.59	
1993	6749.5	$8.99	$9.91	$141.22	
1994	7169.1	$8.96	$8.65	$148.67	
1995	7479.1	$9.02	$12.10	$139.71	
1996	7939.3	$9.06	$11.89	$140.71	Average of
1997	8422.6	$9.06	$8.48	$141.97	Earnings
1998	8867	$7.83	$5.76	$141.36	Dividends &
1999	9409.1	$8.10	$11.82	$180.83	Book Value
Growth	**7.2%**	**3.2%**	**3.3%**	**3.7%**	**3.4%**

GDP data from St. Loius Federal Reserve Bank,
Utility per share data from Moody's Public Utility Manual.

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

AFFIDAVIT OF STEPHEN G. HILL

STATE OF WEST VIRGINIA	)	
	)	ss.
COUNTY OF PUTNAM	)	

Stephen G. Hill, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Rebuttal Testimony in question and answer form, consisting of 47 pages to be presented in the above case; that the answers in the foregoing Rebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Stephen G. Hill
STEPHEN G. HILL

Subscribed and sworn to before me this 11th day of February, 2010.

Notary Public

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
BILLY JACK GREGG
P.O. Box 187
Hurricane, WV 25526
My Commission Expires Sept. 19, 2014