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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

REBUTTAL TESTIMONY

OF

DAVID MURRAY

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.

A. My name is David Murray.

Q. Are you the same David Murray who prepared the Rate of Return Section of the Staff's Cost of Service Report?

A. Yes, I am.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my Rebuttal Testimony is to respond to the direct testimony of Dr. Roger A. Morin, Michael Gorman and Daniel J. Lawton. Dr. Morin sponsored rate-of-return (ROR) testimony on behalf of Union Electric Company, d/b/a AmerenUE (AmerenUE or Company). Mr. Gorman sponsored ROR testimony on behalf of the Missouri Industrial Energy Consumers (MIEC). Mr. Lawton sponsored ROR testimony on behalf of the Office of the Public Counsel (OPC). I will address the issues related to the appropriate cost of common equity to be applied to AmerenUE's Missouri electric utility rate base for ratemaking purposes in this proceeding.

EXECUTIVE SUMMARY

Q. Please explain why Staff's recommended return on common equity (ROE) is lower than that of Dr. Morin, Mr. Gorman and Mr. Lawton.

A. Staff's recommended ROE is lower than that of Dr. Morin, Mr. Gorman, and Mr. Lawton due primarily to effect of the DCF growth rate estimates utilized in each witness' respective DCF methodologies. Although Dr. Morin, Mr. Gorman and Mr. Lawton employ models other than the DCF in their cost of equity analyses, each of these witnesses' higher costs of equity estimates are driven primarily by their use of what I believe to be unsustainable growth rates in their constant-growth DCF analyses. Even though Mr. Gorman and Mr. Lawton each employ a multi-stage DCF analysis, the perpetual growth rates used in these analyses are also unreasonably high, resulting in higher cost of equity estimates.

In this testimony I will explain why the perpetual growth rates used in the analyses of Mr. Gorman and Mr. Lawton are unreasonable and I will also provide corroborating support for this position from information derived from investment analysts employed outside of the utility ratemaking environment. This support and these independent perspectives illustrate that the perpetual growth rates used by Mr. Gorman and Mr. Lawton are not within the norm used by professional equity analysts. I believe this to be especially informative due to the fact that Dr. Morin, Mr. Gorman and Mr. Lawton all give professional equity analysts' forecasts a considerable amount of weight in their DCF-estimated costs of equity[1]. If the analysts' that provide 5-year earnings per share (EPS) forecasts do not use these growth rates for a perpetual growth rate when estimating a fair value to pay for utility stocks, then it would seem to be an extraordinary leap of faith to assume that investors, who presumably rely heavily on these analysts, also assume such a high perpetual growth rate.

Each of the witnesses in this matter also perform risk premium and CAPM analyses to estimate AmerenUE's cost of equity. Because these analyses are not the primary

[1] Mr. Gorman less so due to his use of DCF methodologies that deemphasize these growth rates.

drivers behind the differences in our cost of equity estimates (actually, these analyses are primarily what cause the recommendations of the other witnesses to be lower than that indicated by their DCF analyses), I will only briefly address some of the methodological concerns I have with the risk premium and CAPM methodologies.

As is illustrated by the fact that Dr. Morin gives his four constant-growth DCF estimates approximately 57 percent weight for purposes of his recommendation[2] and Mr. Lawton's statement in his Direct Testimony that the DCF methodology is the "best analytical technique for measuring a utility's cost of common equity," it appears that at least these two witnesses agree that the DCF methodology should be given primary weight in this case. I don't think Mr. Gorman believes the DCF methodology is unreliable; he just questions a mindless application of the DCF using analysts' 5-year EPS forecasts as a proxy for constant-growth. Considering that the DCF cost of equity estimates of all three of these witnesses are significantly higher than that recommended by Staff from its multi-stage DCF analysis, I believe this illustrates our fundamental differences in opinion regarding appropriate inputs for purposes of estimating the cost of equity using the DCF methodology. Consequently, the reasonableness of the various parties' assumed DCF inputs will be the primary focus of this rebuttal testimony.

SUMMARY OF DR. MORIN, MR. LAWTON AND MR. GORMAN COST OF EQUITY ESTIMATES

Q. Please summarize Dr. Morin's estimated cost of common equity and the resulting recommended return on common equity.

[2] Dr. Morin provides 7 cost of common equity estimates, but four of those estimates are based on his application of the constant-growth DCF. Dr. Morin applies the constant-growth DCF to two proxy groups using two different proxies for analysts' EPS forecasts for his constant-growth DCF growth rate.

A. Dr. Morin's recommended return on common equity is 11.50 percent, based on a simple average of seven (7) estimates (four (4) constant-growth DCF estimates, two (2) CAPM estimates and one (1) risk premium estimate). All of these estimates are listed on page 56, lines 4 through 6 of Dr. Morin's Direct Testimony. Dr. Morin's estimated cost of equity range is quite wide, spanning from 9.6 percent to 12.5 percent, nearly 300 basis points. Because of Dr. Morin's decision to take a simple average of his seven estimates, his four constant-growth DCF-estimated costs of common equity (all above 12 percent) received the most weight (57%) in his cost of equity estimate (*see* page 56, lines 2 through 6 of Dr. Morin's Direct Testimony). Although oddly, this majority weighting was not expressly discussed in the Direct Testimony of Dr. Morin, the weighting clearly implies that Dr. Morin believes the DCF methodology (or at least the results thereof) should be given the most weight in this case. While I agree with the use of the DCF as the primary methodological driver, I do not agree with Dr. Morin's inputs in his DCF analysis. If investment analysts assumed constant growth rates similar to that which Dr. Morin uses, then all utility stocks would be consistently undervalued by the market. This simply is not the case.

Dr. Morin applies his DCF methodologies to two broad proxy groups, one classified by Dr. Morin as his "Integrated Electric Utility" group and the other based on electric utilities in the Standard and Poor's (S&P) index. Dr. Morin's decision to select two proxy groups for his constant-growth DCF analysis is highly suspect given that there is much overlap between the two and the S&P electric utilities group was not screened for diversified utilities. While Staff can understand the logic underlying the selection of a subgroup of a larger proxy group, in Staff's opinion, Dr. Morin's approach has no rational logic.

Although for the purposes of statistical significance it is desirable to have as large of a proxy group as possible, the goal of having such a large proxy group should not come at the expense of selecting companies that do not have similar business risk as the subject company. Because of restructuring in the electric utility industry, it is much too simplistic to select electric utility companies based on broad Standard Industry Classification (SIC) codes such as that used by Value Line to classify a company as a comparable "electric utility company." For the same reason, simply because an electric utility company may be classified as "integrated", this classification, by itself, does not mean that the company does not have exposure to non-regulated merchant generation operations. In fact, this is the case for Ameren itself. Although Ameren is classified as a "regulated" utility by the Edison Electric Institute (EEI), its non-regulated generation operations account for a significant amount of Ameren's revenues and net income, and also its higher business risk.

Q. Please summarize Mr. Lawton's estimated cost of common equity and resulting recommended return on common equity.

A. Mr. Lawton's recommended return on common equity is 10.20 percent, based on his use of four approaches (constant-growth DCF, multi-stage DCF, risk premium method and the CAPM). Mr. Lawton's estimates are shown in Table 4 on p. 31 of his Direct Testimony. Mr. Lawton applied his cost of equity methods to a single proxy group derived from Dr. Morin's two proxy groups. Mr. Lawton's cost of equity range is also quite wide, spanning from 8.9 percent to 11.1 percent, a 220 basis point range. However, Mr. Lawton narrowed this range to 9.3 percent to 10.9 percent for purposes of his recommendation (a range of 160 basis points). Mr. Lawton states on page 31, lines 14 through 15 of his Direct Testimony that his point ROE recommendation of 10.2 percent is based on the mid-point of

his range. This is an error in Mr. Lawton's calculation of the mid-point, which is actually 10.1 percent (1.6/2 + 9.3 = 10.1).

Q. Please summarize Mr. Gorman's estimated cost of common equity and resulting recommended return on common equity.

A. Mr. Gorman's recommended return on common equity is 10.0 percent, based on his use of three primary methodologies (DCF, CAPM and risk premium method). Mr. Gorman applied his DCF and CAPM to the two proxy groups proposed by Dr. Morin. Mr. Gorman applied three variants of the DCF – a constant-growth DCF using equity analysts' growth rates, a constant-growth DCF using sustainable growth rates, and a multi-stage DCF analysis (see Table 3 on page 38 of Mr. Gorman's Direct Testimony). Mr. Gorman incorporated all three methods to arrive at cost of common equity estimates of 9.54 percent based on the CAPM, 10.06 percent based on the risk premium method and 10.46 percent based on the DCF method (see Table 4 on page 48 of Mr. Gorman's Direct Testimony). Mr. Gorman used these results in developing his recommended cost of common equity range of 9.5 percent to 10.5 percent, with a mid-point estimate of 10.0 percent.

PROXY GROUPS

Q. Why are Dr. Morin's comparable groups, and therefore, Mr. Lawton's and Mr. Gorman's comparable groups, inappropriate for estimating the cost of common equity for AmerenUE?

A. Dr. Morin selected two proxy groups for purposes of his DCF analysis. Dr. Morin did not screen his "S&P Utility Index Electric Utilities" (S&P Electrics) proxy group to eliminate any companies that have significant non-regulated operations. If an electric utility company was in the S&P Index, he included it in his proxy group. Even

Dr. Morin's "Integrated Electric Utilities" (Integrated Electrics) proxy group wasn't sufficiently screened for companies that have significant non-regulated operations that increase their business risk profiles. These increased business risk profiles cause the holding companies to be exposed to more volatility in their earnings, which causes investors to require a higher rate of return for the consolidated company. For example, Dr. Morin included Allegheny Energy, Inc. (Allegheny) in both proxy groups. Allegheny is classified as a "diversified" company by EEI, has a beta of 1.0 (most regulated electric utility companies have a beta close to 0.7 or less), but according to the December 2009 AUS Utility Report, received approximately 90 percent of revenues from electric utility operations.

Q. If Allegheny receives 90 percent of its revenues from electric utility operations, then why would it be classified as a diversified utility and have such a high beta?

A. Because it is not a traditional regulated vertically-integrated electric utility. According to a December 4, 2009, Standard and Poor's (S&P) report addressing Allegheny Energy, Inc.'s credit quality, Allegheny Energy Supply Co. (AE Supply) increases the overall risk profile of the holding company. AE Supply, Allegheny's merchant generation subsidiary, operates approximately 6,900 MW of mostly non-regulated generation capacity. Apparently the revenues derived from the non-regulated operations are included in total electricity revenues, a fact that is not always recognized in the percentage of "regulated electric revenues" criterion.

Q. How did you screen your proxy group to minimize the potential for selecting "utility" companies that may have higher costs of equity due to non-regulated operations?

A. The primary criteria I used to minimize my selection of companies that have significant non-regulated operations were (1) the company had to be classified as a regulated

electric utility by the EEI (though as mentioned above this does not completely eliminate the possibility of selecting companies with merchant generation business risk) and (2) the company had to derive at least 70 percent of its revenues from electric utility operations.

Q. How did Dr. Morin's criteria for selecting his Integrated Electrics differ from your criteria?

A. While both Dr. Morin and I started with Value Line's generalized group of "electric utility companies," Dr. Morin decided to include any companies that were classified as "integrated" by S&P and that derive at least 50 percent of their revenues from "regulated" electric utility operations.

Q. Are Dr. Morin's criteria stringent enough to ensure that companies that have significant non-regulated operations are excluded from the proxy group?

A. No. S&P's classification of a utility company as "integrated" does not mean the included company's generating assets are regulated generating assets. Additionally, Staff does not believe the S&P classification system relied upon by Dr. Morin is current. To the contrary, to the best of Staff's knowledge, S&P discontinued classifying utilities as "integrated" or "transmission and distribution" a few years ago. Regardless, a higher percentage of revenue from electric utility operations would help limit this selection bias, but because Dr. Morin has elected to set the percentage of revenues from utility operations so low (at least 50 percent), this criterion is not effective in limiting his selection of companies with significant non-regulated operations, i.e., companies dissimilar to AmerenUE.

Q. What risk-related data shows that Dr. Morin's Integrated Electrics proxy group has increased risk due to his inclusion of companies that have non-regulated operations?

A. A company's beta is generally considered to be a good indicator of the historical volatility of the company's stock compared to the broader stock market. The average beta of my comparable group is 0.66, whereas the average beta of Dr. Morin's Integrated Electrics proxy group is 0.73. If Dr. Morin had properly excluded companies that are not considered "mostly regulated" by EEI, the average beta of his Integrated Electrics proxy group would have been 0.70.

Q. How would the average beta of Dr. Morin's Integrated Electrics proxy group been impacted if you had also excluded companies that received less than 70 percent of their revenues from electric utility operations?

A. It would have dropped to 0.69.

Q. How much impact does using Dr. Morin's higher beta Integrated Electrics proxy group have on at least the CAPM cost of equity estimate?

A. Based on Dr. Morin's equity risk premium estimate of 6.5 percent, the use of a higher beta would cause his cost of equity estimate to be 26 basis points higher. Consequently, based solely on the beta differences, this alone causes a 26 basis point upward bias.

Q. Because Mr. Lawton and Mr. Gorman adopted Dr. Morin's proxy groups, does this mean that at least their CAPM cost of equity estimates would also have approximately the same upward bias?

A. Yes, but such bias would not be as high for Mr. Gorman's CAPM analysis, which he estimated using a lower market risk premium.

Q. If you applied your proxy group average beta of 0.66 to Dr. Morin's risk premium estimate, how does this affect the estimated cost of common equity?

A. It lowers the estimated cost of common equity by 46 basis points.

Q. Did Mr. Gorman perform an average risk assessment of Dr. Morin's Integrated Electrics proxy group before he adopted this group for purposes of estimating AmerenUE's cost of common equity?

A. Yes. As contained in his Direct Testimony on page 17, line 1 through page 19, line 2, Mr. Gorman explains why he believes it is reasonable to accept Dr. Morin's Integrated Electrics proxy group. Mr. Gorman indicates that he believes this proxy group is acceptable because it has the same average business risk profile (excellent) and same average EEI classification (regulated) as AmerenUE.

Q. What is the flaw in Mr. Gorman's risk-assessment of Dr. Morin's Integrated Electrics proxy group?

A. There is an upward bias to his averaging technique. If one were to employ a categorization technique that approximated the average business risk of a group of average comparable companies, then the proxy group would not only include companies categorized has having *higher* business risk, but also having *lower* business risk. This is not the case. There is no S&P business risk profile that is considered "better than excellent" or an EEI category such as "excellently regulated." Because there are no risk-reducing categories, this causes an upward bias in the risks associated with the proxy groups.

Q. What would the average beta have been for Dr. Morin's S&P Electrics group if he had properly excluded companies that are classified as "mostly regulated" by EEI and had at least 70 percent of their revenues from electric utility operations?

A. The average beta would have been 0.70 compared to 0.76[3] for the entire group.

Q. Even though Mr. Gorman and Mr. Lawton used the same proxy groups as Dr. Morin for purposes of their own cost of equity studies, did they correct one of the major biases in Dr. Morin's methodology for his cost of equity estimation?

A. Yes. Mr. Gorman averaged the two proxy group's cost of equity estimates to determine one combined DCF estimate for each DCF methodology he employed. Mr. Gorman's methodology resulted in his constant-growth DCF using analyst estimates receiving approximately 11 percent weight in his final range of cost of equity estimates (1/3 x 1/3). This compares to the 57 percent weight Dr. Morin assigns to his constant-growth DCF estimates using analyst estimates.

Mr. Lawton combined both of Dr. Morin's proxy groups into one group in order to avoid duplication of cost of equity estimates between the two proxy groups. Mr. Lawton added two companies from the S&P Electrics proxy group that were not in the Integrated Electrics group and then used this group for his cost of equity study. As with Mr. Gorman's approach, Mr. Lawton's decision to approach his proxy group cost of equity study using this approach eliminated Dr. Morin's double counting of cost of equity estimates from duplicate companies in the two proxy groups. Mr. Lawton's approach reduces the bias towards high constant-growth DCF cost of equity estimates inherent in Dr. Morin's analysis. Under Mr. Lawton's approach, his constant-growth DCF cost of equity estimate using analysts' forecasts received approximately 25 percent weight.

[3] The average beta of 0.76 is not shown on page 2 of Dr. Morin's Schedule RAM-E2 because lines 20 through 29 were cut off of his schedule.

DCF COST OF EQUITY ESTIMATES

Q. Based on the ROR witnesses' cost of equity estimates in this case, what methodology has received the most weight in estimating the cost of equity by the majority of witnesses?

A. The DCF methodology. As indicated previously, Dr. Morin's estimated cost of common equity gave approximately 57 percent weight to his constant-growth DCF analysis. Similarly, I believe it is fair to characterize Mr. Lawton as giving his DCF analyses slightly greater than 50 percent weight in arriving at his final cost of common equity estimates based on the fact that the weighted average of the four mid-points of his cost of equity ranges is 10.09 percent, but he recommended a 10.2 percent cost of equity. Because the mid-points of his two DCF analyses are higher than the weighted average, this implies greater weight given to his DCF estimates. Additionally, Mr. Lawton stated "...the best analytical technique for measuring a utility's cost of common equity is the DCF methodology" (Lawton Direct, p. 11, ll. 16-18).

Mr. Gorman used his DCF-estimated cost of equity for the high end of his cost of equity range. Therefore, Mr. Gorman does not give primary weight to his average DCF estimate. However, Staff notes that Mr. Gorman's average DCF estimate is upwardly biased due to his inclusion of the 11.02 percent cost of equity estimate using analysts' forecasts. If this estimate were excluded, his DCF estimate would have been 10.18 percent.

Q. Does Staff believe the DCF methodology is the best methodology for estimating the cost of common equity?

A. Yes. In fact, Staff believes its multi-stage DCF-estimated cost of common equity provides the most reliable cost of equity estimate in its analysis. Consequently, Staff

gave this analysis primary consideration in its estimated cost of common equity for AmerenUE in this case.

Q. Then why is your opinion on the cost of common equity using the DCF methodology so much different than Dr. Morin's, Mr. Gorman's and Mr. Lawton's opinions?

A. Proxy groups aside, we have fundamental disagreements on the appropriate inputs that should be used when estimating the cost of equity using the DCF methodology.

Q. What is the main issue that causes each witnesses' constant-growth DCF cost of equity estimate to be upwardly biased?

A. The fact that all three witnesses incorporate at least one constant-growth DCF estimate based solely on equity analysts' unsustainable 5-year EPS growth rate estimates. These growth rates may be acceptable for expected near-term growth in a multi-stage DCF analysis, but not as a constant/perpetual growth rate.

Q. Why is this problematic?

A. Because the constant-growth DCF methodology assumes the growth rate used in the model will continue in perpetuity, which is not the case in the context of growth tied to analysts' current 5-year EPS projections for the electric utility industry. It would only be appropriate to assume that electric utility companies would grow at a rate tied to these 5-year EPS estimates if these equity analysts' EPS projections were consistent with sustainable perpetual growth rates.

Q. What constant growth rate did each witness assume when using equity analysts' 5-year EPS estimates?

A. Although Dr. Morin selected the median indicated cost of equity from each of his constant-growth DCF analyses of his two proxy groups, this median is fairly close to the

average. Therefore, the approximate constant-growth rates Dr. Morin used in his DCF analyses were: 6.1 percent in first DCF analysis; 6.7 percent in his second DCF analysis; 5.5 percent in his third DCF analysis; and 6.6 percent in his fourth DCF analysis.

For the DCF analysis in which Mr. Gorman relied solely on equity analysts' 5-year EPS forecasted growth rates for his constant-growth assumption, he used 5.50 percent for the first proxy group and 5.83 percent for the second proxy group.

Mr. Lawton relied solely on equity analysts' 5-year EPS forecasted growth rates to arrive at a range of constant growth rates of 5.44 percent to 5.75 percent.

Q. Do you believe investors consider these growth rates sustainable for purposes of determining a fair price to pay for the stock of an electric utility company?

A. No. Considering the fact that these growth rates exceed long-term economic growth rate estimates, this is not plausible.

Q. Has Staff relied on analysts' 5-year EPS projections in past rate cases as a proxy for the constant-growth rate in its DCF analysis?

A. Yes. Staff started to rely more heavily on analysts' projected EPS growth rates for its constant-growth DCF analysis beginning in late 2005 because these growth rates seemed to be somewhat consistent with sustainable long-term constant growth rates at that time. Staff continued to rely on projected growth rates as recently as the last rate case for The Empire District Electric Company, Case No. ER-2008-0093, because the historical growth rates were volatile and not reliable in providing much insight on expected future growth. Consequently, even though these projected EPS growth rates were trending higher, Staff relied on such rates in Staff's constant-growth DCF analysis because historical growth rates were not providing much insight as to what investors may expect going forward.

At the time Staff performed its analysis in those cases, it might have been plausible to argue that these growth rates were consistent with investors' expectations, at least in the near future, due to a much more stable economic environment. However, Staff has doubt that current higher equity analysts' projected EPS growth rates are sustainable. While equity analysts' 5-year EPS growth rates seem to have decreased slightly in light of the recession and continued expected slower growth in the economy, (which has caused many electric utility companies to at least postpone plant investment) these growth rates are still not consistent with the perpetual growth rates investors would expect for the regulated electric utility industry.

Q. How can one test the reasonableness for the sustainability of projected growth rates for a proxy group of electric utility companies?

A. One should at least compare these projected growth rates to expected long-term economic growth rates.

Q. Why?

A. This assumption is often used for a company and/or an industry that is in its "growth phase" and is commonly referred to as a situation in which the company or industry is experiencing "supernormal" growth. In these cases, many finance textbooks recommend that the perpetual growth rate be estimated based on the expected growth in the economy if such growth is consistent with expected sustainable growth.[4]

[4] *See* John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey, *Analysis of Equity Investments: Valuation*, 2002, Association for Investment Management and Research; *see also* Aswath Damodaran, *Investment Valuation: Tools and techniques for determining the value of any asset*, 1996, John Wiley & Sons, Inc.

Q. Is the electric utility industry in its "growth phase"?

A. No. While I believe it is accurate to generally characterize the electric utility industry as going through a growth transition due to the current building cycle, the industry itself has been mature for sometime.

Q. If the electric utility industry is a mature industry, then do you believe it is logical to conclude that it will grow at the same rate as the economy in perpetuity?

A. No.

Q. Do you have any data to support your position that the electric utility industry will not grow at the same rate as that of the economy?

A. Yes. Staff recently visited Ameren Incorporated's (Ameren) headquarters to review various equity analyst research reports published either directly on Ameren or on the electric utility industry in general. During this visit Staff reviewed a January 16, 2008, Jefferies & Company, Inc. report entitled "Power Generation 101," by Paul B. Fremont, Debra E. Bromberg, Anthony C. Crowdell and Ivana Ergovic. In that report the analysts provided a table that compared real GDP growth to that of demand for electricity. It is apparent from this table that electricity demand growth has generally been *decreasing* compared to real GDP growth and should no longer be expected to grow at the same rate as the economy. The table is reproduced as follows:[5]

[5] AmerenUE's response to Staff Data Request No. 0200 provided the following rationale for not providing Staff copies of these reports: "There are many dozens of responsive financial analyst research reports published since January 2008 and we obtain virtually all of these reports via Thomson Reuters' ThomsonOne product. Our contact with Thomson does not allow us to provide copies to outside parties. Therefore these reports will be made available for inspection at a mutually agreeable date and time by contacting Mary Hoyt."

Table 5 (p. 7)

Decade	Real GDP	Electric Demand
1930s	1.86%	3.51%
1940s	4.69%	7.68%
1950s	3.24%	8.37%
1960s	4.16%	6.70%
1970s	3.22%	4.10%
1980s	3.01%	2.11%
1990s	2.82%	1.89%

Source: Dept. of Commerce and EEI

This table shows that electricity demand growth rates have gradually fallen to levels below general broader economic growth rates. The data provided in this table is corroborated by information provided by the Energy Information Administration (EIA) in its "Annual Energy Outlook 2010," which shows 3-year rolling average growth rates in electricity demand declining to approximately 2.4 percent in the 1990's and 0.9 percent for the period of 2000 through 2008. EIA predicts electricity demand growth to only average an annual 1.0 percent growth rate for the period 2008 through 2035 (see Schedule 1).

Q. Why is this information important in estimating the cost of common equity?

A. This information is important because it is the type of publicly-available information available to investors for purposes of estimating sustainable growth rates. It is important for investors to be reasonable in estimating a sustainable long-term growth rate because these estimated cash flows make up a large portion of the inherent value embedded in the stock price.

Q. Is this information reflected in equity analysts' 5-year EPS forecasts?

A. Maybe to some extent in the next 5 years, but equity analysts focus more on near-term issues in forecasting 5-year EPS growth rates, such as companies investing large amounts of capital in new generation or infrastructure upgrades. However, electric utility

companies do not (or at least should not) continuously make these large capital investments over long periods because the fundamentals of expected electric demand growth do not support the need for continuous capacity increases year-after-year.

Q. Is it possible that some electric utility companies may not experience any demand growth in their service territories, or even worse, negative normalized demand growth?

A. Yes. This is possible and in fact this has happened to some utility companies operating in Missouri, such as Great Plains Energy, during the recent economic downturn. However, just as one would not expect temporarily high growth rates to be sustainable, one would also not expect negative demand growth rates to be sustainable. However, each of these situations would be considered by investors in determining an appropriate sustainable growth rate.

Q. What did the other ROR witnesses use for perpetual growth rates in their multi-stage DCF analysis?

A. Mr. Gorman used an economists' consensus estimated growth rate of 4.7 percent for U.S. GDP as published by *Blue Chip Economic Indicators*. Mr. Lawton used the average of the three median equity analysts' 5-year EPS forecasts from his proxy group, which was 5.11 percent. Dr. Morin did not perform a multi-stage DCF analysis.

Q. What does the economists' consensus growth rate forecast of 4.7 percent for GDP supplied by Mr. Gorman imply about equity analysts current 5-year EPS forecasts for electric utility companies?

A. They are not sustainable. Consequently, any DCF analysis that relies solely on these projected growth rates for purposes of either a single-stage constant growth rate or a

multi-stage DCF perpetual growth rate should be disregarded for purposes of estimating the cost of common equity in this case.

Q. Specifically, which estimates should be disregarded?

A. All four of Dr. Morin's DCF constant-growth DCF estimates of 12.2 percent, 12.5 percent, 12.1 percent and 12.5 percent; Mr. Lawton's DCF constant-growth DCF estimate of 10.9 percent to 11.1 percent and his multi-stage DCF estimate of 10.2 percent to 10.4 percent; and Mr. Gorman's constant-growth DCF estimate of 11.02 percent.

Q. After exclusion of these DCF estimates do any of the other ROR witnesses have any other DCF estimates left for the Commission to consider?

A. Yes. Mr. Gorman provides a constant-growth DCF analysis using his best estimate of a sustainable growth rate and a multi-stage DCF analysis using equity analysts' EPS projected growth rates to influence the first and second stages of growth and the 4.7 percent expected GDP forecast for his perpetual growth rate.

Q. What are your concerns regarding Mr. Gorman's constant-growth DCF analysis using his estimate of a sustainable growth rate?

A. Although Mr. Gorman recognizes in his multi-stage DCF analysis that regulated electric utility companies should not have a sustainable growth rate any higher than the long-term growth expectations of the overall economy, the average "sustainable" growth for each proxy group is higher than the GDP growth rate he used in his multi-stage DCF analysis. The average sustainable growth rate for the integrated electric utility proxy group was 5.48 percent. The average sustainable growth rate for the S&P electric utility proxy group was 6.41 percent. Both of these averages exceed the expected GDP growth rate of 4.7 percent Mr. Gorman used in his multi-stage DCF analysis.

Q. Does Mr. Gorman believe that his multi-stage DCF analysis is a high-end estimate of the cost of equity capital for AmerenUE?

A. Yes. When discussing the use of an expected GDP growth rate for a sustainable growth rate for electric utilities on page 29 of his Direct Testimony, Mr. Gorman indicates that "it is very conservative (favorable to utilities) to assume that utility companies could achieve this same level of sustained growth without a material reduction in their dividend payout ratios."

Q. If Mr. Gorman believes that expected GDP growth would be the highest sustainable growth rate for an electric utility (Gorman Direct, p. 28, ll. 12-13), then what is Mr. Gorman's opinion as to the lowest possible sustainable growth rate for an electric utility?

A. In a deposition on January 29, 2010, Staff asked Mr. Gorman the above-referenced question, in follow-up to Staff Data Request No. 0322. In response, Mr. Gorman stated that if a company does not have any expected growth in demand for electricity, it is possible that the minimum sustainable growth rate could be as low as the expected rate of inflation associated with plant replacement costs.

Q. If this is the case, then what may be a minimum sustainable growth rate based on this logic?

A. Based on this logic, a minimum sustainable growth rate could be in the low 2 percent range. However, this estimate would be based upon judgment as to investors' expectations for inflation. Staff used an inflation factor of approximately 2.1 to 2.2 percent in its multi-stage DCF analysis provided in Staff's Cost of Service Report. Staff estimated this inflation factor by giving weigh to both the Congressional Budget Office's expected long-term inflation rate and the current required inflation risk premium implied by the spread

between nominal 20-year U.S. Treasury bonds and 20-year treasury inflation protected securities (TIPS).

Q. What is the mid-point of a range of perpetual growth rates of 2.1 (the inflation factor demonstrated above) percent to 4.7 percent (Mr. Gorman's perpetual growth rate)?

A. 3.4 percent. This is slightly higher than the 3.1 percent perpetual growth rate I assumed for purposes of the multi-stage analysis I provided in Staff's Cost of Service Report.

Q. What cost of common equity would Mr. Gorman's multi-stage DCF analysis imply for both of his proxy groups if he had used a 2.1 percent perpetual growth rate?

A. Even though I disagree with the two proxy groups used my Mr. Gorman for reasons I have already explained, after I changed Mr. Gorman's perpetual growth rate of 4.7 percent to 2.1 percent (and excluded The Empire District Electric Company from his integrated proxy group because of an obvious error in the published projected growth rate of 34 percent), I arrived at an implied cost of equity of 8.23 percent for the integrated group and a cost of equity of 8.70 percent for the S&P group.

Q. What would the implied cost of equity have been if you used the mid-point perpetual growth rate of 3.4 percent?

A. The cost of equity would have been 9.14 percent for the Integrated Electrics group and 9.59 percent for his S&P Electrics group.

Q. Mr. Murray, it appears that you are altering growth rates to provide numerous estimates designed to justify a lower overall cost of equity estimate. Do you have anything other than theoretical support and *your* judgment to support the perpetual growth rates you use and most importantly, the final estimated cost of common equity estimates you provide?

A. Yes.

Q. How did you go about discovering this supporting information?

A. Because many ROR witnesses believe that investors rely heavily on professional equity analysts' EPS growth forecasts for purposes of making investment decisions, Staff thought it should do what most investors would do; attempt to understand the basis for equity analysts' estimates and recommendations.

Q. How did Staff obtain access to these reports in this case?

A. As indicated in the ROR Section of Staff's Cost of Service Report, Staff requested this information from AmerenUE in Staff Data Request No. 0200. AmerenUE's response was as follows:

> There are many dozens of responsive financial analyst research reports published since January 2008 and we obtain virtually all of these reports via Thomson Reuters' ThomsonOne product. Our contact with Thomson does not allow us to provide copies to outside parties. Therefore these reports will be made available for inspection at a mutually agreeable date and time by contacting Mary Hoyt.

As indicated in Staff's Cost of Service Report, Staff decided it should investigate these reports in order to test the reasonableness of its recommendation. Although Staff was able to glean some very useful information from these reports during its November 30, 2009 visit to Ameren's corporate headquarters (see information provided in Staff's Cost of Service Report), due to the limited amount of time Staff had to review these reports and Staff's interest in reviewing more recent reports, Staff performed another onsite review on January 19 and 20, 2010 to further investigate these research reports.

Q. Do Dr. Morin and Mr. Lawton explicitly and implicitly place substantial weight on their belief that investors rely on the advice of equity analyst recommendations when estimating the cost of common equity in this case?

A. Yes. First, this is obvious from the fact that they give complete weight to these analysts' forecasts in estimating their constant-growth DCF analysis. While Mr. Gorman gives complete weight to these analysts' forecasts in one of the two constant-growth DCF estimates he provides, at least he acknowledges that he does not believe this estimate should be used to estimate the cost of common equity in this case because these growth rates are not sustainable.

Second, each witness makes explicit statements in their direct testimonies as to how much influence they believe these analysts' have on investors. For example, Dr. Morin indicates the following in his direct testimony (p. 42, line 19 through p. 43, line 6):

> As proxies for expected growth, I examined growth estimates developed by professional analysts employed by large investment brokerage institutions. Projected long-term growth rates actually used by institutional investors to determine the desirability of investing in different securities influence investors' growth expectations. These forecasts are made by **large reputable organizations,** and the data are readily available to investors and are representative of the consensus view of investors. **Because of the dominance of institutional investors in investment management and security selection, and their influence on individual investment decisions, analysts' growth forecasts influence investor growth expectations and provide a sound basis for estimating the cost of equity with the DCF model.** (emphasis added).

Mr. Lawton makes the following statement in his direct testimony when explaining his rationale for dismissing the use of historical growth rates (p. 24, lines 11 through 13):

> Second, investors (whose expectations we seek to estimate) **do rely on analyst forecasts.** Thus, current growth forecasts provide more insight into investor capital cost expectations than the historical earnings performance. (emphasis added).

Although I agree with Mr. Lawton that the volatility of historical growth rates in the electric utility industry have made it difficult to estimate growth going forward, I do not believe this translates into Mr. Lawton's proposition that investors assume that their

investment in an electric utility company will grow in perpetuity at the same rate as analysts' projected EPS growth rates over the next five years. If this were the case, then investors would not place much weight on professional analysts' investment recommendations because this is not how they value stocks. In fact, if these professional equity analysts truly believed that electric utilities' cash flows would grow at this rate into perpetuity, then they would need to adjust all of their investment recommendations to incorporate the significantly higher values that would be embedded in such assumptions.

Q. Why?

A. Based on Staff's investigation of the professional equity analysts' research reports AmerenUE provided to Staff for inspection, Staff discovered that these equity analysts were using costs of equity in the 8 to 9 percent range to discount future expected cash flows from electric utility companies. Staff also discovered that these analysts were also assuming a perpetual/terminal growth rate in the range of 2.5 percent to 3 percent for the final stage of a multi-stage discounted cash flow analysis. If they had assumed perpetual growth rates based on EPS projections of 5 percent and above, then their estimates of stock values would be much higher than their current estimates.

Q. Please explain.

A. Because the cost of equity that equity analysts use to discount expected cash flows is approximately the same or lower than Staff recommended in this case, if these analysts were to assume a perpetual growth rate twice as high as what they actually use (5 percent rather than 2.5 percent), then they would estimate the inherent share value of electric companies to be much higher than their current estimates. Of course, Dr. Morin would have the Commission believe that investors do expect these higher growth rates in

perpetuity and they just discount them at a higher rate to arrive at the current trading price. I could find no such investment analysis that supports Dr. Morin's belief.

Q. In the ROR section of the Cost of Service Report you provided information from a March 10, 2009, Goldman Sachs' research report, "Reiterate Neutral Coverage View; POR replaces NVE as CL Buy," by Michael Lapides, Jaideep Malik, Zac Hurst and Neil Mehta, to provide the opinions of the authors/analysts on the implied cost of equity in March 2009 of 11.3 percent compared to March 2008 of 8.9 percent. Did you discover any additional information from any other Goldman Sachs' reports that indicates that Goldman Sachs' opinion is that the equity markets have returned to "normal" causing the cost of equity to be closer to 9 percent again?

A. Yes. Staff discovered the following comments in a September 29, 2009, Goldman Sachs research report, "Powering On: Tilting to commodity oriented utilities and IPPs," by Michael Lapides, Jaideep Malik, Zac Hurst and Neil Mehta[6]:

> **Regulated Utilities currently trade near long-term historic average P/E multiples on 2010 estimates.** As shown in Exhibit 27 below, Regulated Utilities currently trade near 12.0x on FY2 or 2010 estimates, versus long-term average levels closer to 12.5x, only a modest discount. We note the long-term average includes trough levels from the high inflationary period in the 1970s and the "electricity crash" from 2001-2002, with the mean and median on FY2 much higher utilizing ranges from just the last 5-7 years, although expected rate base growth currently lags expected levels from 2005-2008 due to cuts in capital spending. (p. 17). (emphasis not added).

As can be determined from the above commentary, regulated electric utility stocks' price-to-earnings (P/E) ratios have returned to levels more consistent with their long-term averages. Assuming constant or possibly even lower expected earnings growth than what

[6] Staff does not have a copy of this report as this was a report that Staff reviewed at Ameren's corporate headquarters and Staff was not allowed to make copies of these reports.

was expected in March of 2008, this implies costs of equity at close to the 9 percent level that Goldman Sachs had estimated at that time.

Q. Are you aware of any other reports Goldman Sachs released that illustrates that they consider electric utility companies' costs of equity to be around 9 percent or possibly even lower?

A. Yes. In the most recent January 15, 2010, Goldman Sachs research report, "Power Lifting through 2010: long-term themes and concepts, top picks and pans for the year," by Michael Lapides, Jaideep Malik, Zac Hurst and Neil Mehta[7], Goldman Sachs indicated that it was raising its baseline P/E for regulated utilities from 10-10.5x 2012 EPS to 11.5x 2012 EPS. This compares to the baseline P/E ratio Goldman Sachs had used for regulated electric utility operations of as low as 8.0x during the Spring to early Summer of 2009. The current baseline P/E ratios used by Goldman Sachs for evaluating the value of regulated electric utility operations is the same as it used in March of 2008, which implies a cost of equity that is similar or possibly even lower than that which was estimated in March 2008.

Q. Why do you believe the implied cost of equity could be even lower than the 8.9 percent that was estimated by Goldman Sachs in March 2008?

A. If Goldman Sachs is using the same baseline P/E multiple they used in March 2008, then in order for the implied cost of equity to be back at the 8.9 percent level, investors would need to have the same earnings expectations that they had in March of 2008. Due to the slow down in the economy, continued high unemployment rates, deferred capital

[7] Staff does not have a copy of this report as this was a report that Staff reviewed at Ameren's corporate headquarters and Staff was not allowed to make copies of these reports.

investment and continued low interest rates it is hard to believe that investors would expect as robust of earnings growth as they did before the recent financial crisis and deep recession.

Q. Your rebuttal testimony seems to have gone into some areas not typically explored in the context of estimating the cost of common equity in a utility rate case proceeding. Why is all of this information relevant to setting the allowed rate of return on common equity in a utility ratemaking proceeding?

A. It is my understanding that all of the ROR witnesses in this case are basing their recommended ROE's on their estimated cost of common equity for AmerenUE. If this is the case, then we should attempt to understand how professionals in the investment community estimate the cost of common equity and review such estimates to test the reasonableness of cost of common equity estimates provided in the context of utility rate case proceedings. While I understand that there are many sources and studies that each witness will cite to support their testimony (in fact, Dr. Morin has authored a book on utility cost of capital estimation), it is important to understand how the investment community applies financial principles to estimate the cost of common equity outside of the regulated arena. Based on all of the information I have reviewed from these investment professionals, cost of common equity estimates for the regulated electric utility industry are firmly in the 8 to 9 percent range. I believe that a cost of common equity estimate above 9.5 percent for a regulated electric utility would be considered high by these equity analysts' standards, in addition to my own standards.

Q. Does Dr. Morin believe costs of equity in 8 to 9 percent range are consistent with investors' requirements?

A. No. In fact, Dr. Morin is pretty adamant that a cost of equity estimate in this range would be well outside of the cost of equity factored into stock prices. When explaining some of the cost of equity estimates he calculated using a variety of historical growth rates, Dr. Morin indicated the following in his direct testimony:

> To illustrate, adding the historical growth rates of 3.4% and 1.8% to the average dividend yield of approximately 5.5% prevailing for those same companies, produces **preposterous cost of common equity estimates of 8.9%** and 7.3% using earnings and dividends growth rates, respectively. (emphasis added) (Morin, Direct, p. 44, ll. 8-11).

Q. Does this not imply that Dr. Morin not only disagrees with you, but he also disagrees with the "investment community?"

A. Yes. Although Dr. Morin seems to have a lot of confidence in the "investment community" when relying on earnings forecasts made by "large reputable organizations," he apparently believes Goldman Sachs' previous 8.9 percent cost of equity estimate is "preposterous" because this is equivalent to the indicated cost of equity Dr. Morin achieved when adding historical earnings to a current dividend yield.

Q. Does Dr. Morin consider Goldman Sachs to be a "reputable organization?"

A. Yes. In response to Staff Data Request No. 0317, Dr. Morin listed several equity research firms that he believes are "reputable," with Goldman Sachs being one of these firms.

Q. Mr. Murray, if reputable investment firms seem to estimate a cost of common equity similar or lower than what you have estimated in this case, why do the average authorized ROE's for electric utility companies continue to be around 10.5 percent as published in RRA publications?

A. Because I do not know the details of the evidence considered in electric utility rate cases decided throughout the country, my answer would be a matter of speculation. However, I am not aware if these other commissions have considered the conflict between ROR witnesses' high cost of equity estimates using equity analysts' EPS forecasts in the constant-growth DCF versus the costs of equity actually used by these equity analysts. If not, then I believe it should be considered.

Q. How do you view your role as a cost of capital witness?

A. I believe as a cost of capital witness I am tasked with reporting to the Commission information on the cost of capital to utility companies based on an analysis of the capital markets. I believe to the extent that ROR witnesses believe professional equity analysts influence investors, I believe it is important to understand the required returns (i.e. costs of equity) these same equity analysts build into their own analysis.

RISK PREMIUM COST OF EQUITY ESTIMATES

Q. Do you have any concerns about the risk premium cost of equity estimates provided by the ROR witnesses?

A. Yes. I will address Dr. Morin's risk premium analysis separately from that of Mr. Gorman's and Mr. Lawton's since he did not rely on authorized returns on equity in his analysis. I will address Mr. Gorman's and Mr. Lawton's risk premium estimates together since they used a similar proxy for the return on equity.

Q. What is one of the most glaring aspects of Dr. Morin's risk premium analysis using utilities in S&P 500 index that has a major impact on his risk premium estimate?

A. Dr. Morin left off the returns for 2008. I am not sure why he did so, but if he had included the negative 28.98 percent return for utilities in his arithmetic average risk

premium, his risk premium estimate would have dropped by 50 basis points.[8] I am not certain as to why Dr. Morin did not factor the 2008 results into his risk premium analysis.

Q. Are 2009 returns for the utilities sector available?

A. Yes. Staff found the S&P utility sector returns for 2009 from the same source that it found the 2008 returns. However, because the estimated bond return and S&P utilities' returns were the same, this had no impact on the arithmetic average risk premium.

Q. If this arithmetic average risk premium were added to the 2009 fourth quarter average A-rated utility bond yield, what would be the indicated cost of equity?

A. 10.16 percent (5.66 + 4.5).

Q. Is this a reliable cost of equity estimate?

A. No, but at least it incorporates more recent data.

Q. What other primary concerns do you have with Dr. Morin's risk premium estimate?

A. The utility companies in the S&P 500 Index are a diverse group of companies that are not limited to regulated electric utility operations or at least regulated utility operations. The other primary concern I have is that Dr. Morin's risk premium estimate is based on an arithmetic average of annual returns. Because buy and hold investors focus on the probability of what their expected ending wealth may be, they will focus on long-term return spreads rather than annual changes. This would reduce investors' required returns on common equity.

Q. What are your primary concerns about Mr. Gorman's and Mr. Lawton's risk premium analyses?

[8] http://www.sectorspdr.com/sectortracker/

A. Each witness assumes allowed ROE's represent market-determined costs of equity for electric utility companies. I think it is fair to conclude from my testimony that I do not believe that allowed ROE's are consistent with market-based costs of common equity. However, to the extent that the Commission may believe that a fair rate of return should be something higher than the cost of equity and consistent with other states' allowed ROE's, then this methodology may have appeal to the Commission. However, in the case of Mr. Gorman's risk premium analysis I do not recommend using an expected bond yield for the purposes of estimating the cost of equity because this is akin to replacing current stock prices in a DCF analysis with the analyst's expectation of what those stock prices may be. This violates the efficient market hypothesis.

Mr. Lawton's risk premium analysis adjusts the estimated risk premium by an interest rate coefficient that shows that allowed ROE's have not tracked the decreased in required returns on bonds on a one-for-one basis. I do not recommend making this adjustment because this adjustment contributes to the circularity problem of not allowing the allowed ROE to converge to the cost of common equity. If commissions do not want to recognize these lower costs of common equity because they do not think this is a fair return, then this should be specified in orders to provide cost of capital witnesses guidance that they do not believe the allowed return should be based on the cost of equity.

CAPM COST OF EQUITY ESTIMATES

Q. Do you agree with the methodologies each ROR witness used in their CAPM analysis?

A. No. However, due to the fact that each witnesses' CAPM results are not the primary reason for their higher cost of equity estimates, I am not going to delve into these details.

FLOTATION COSTS

Q. Dr. Morin suggests there should be an upward adjustment to the cost of common equity to allow for costs associated with issuing common equity. Should this adjustment be made?

A. No. In past Missouri rate cases, Staff has allowed recovery of explicit costs associated with issuing common equity by the allowance for an amortization of these issuance costs over a 5-year period. This is the methodology Staff used for allowing The Empire District Electric Company recovery of issuance costs in their past rate cases. Consequently, the recovery of these costs would be through an expense allowance rather than through an adjustment to ROR. It is Staff's understanding that AmerenUE will request this allowance as part of the true-up in this case because no common equity had been issued at the time of the test year in this case. This is the proper time to address this issue.

CAPITAL STRUCTURE

Q. Do you have any comments about the proposal to true-up AmerenUE's proposed capital structure through January 31, 2010?

A. Yes. If Ameren has issued common equity for purposes of investment in AmerenUE, then this should be reflected in the ratemaking capital structure. However, Staff reserves the right to reconsider if the mid-point of its recommended return on common equity would still be appropriate for the capital structure as of the true-up period.

SUMMARY AND CONCLUSIONS

Q. Please summarize the conclusions of your rebuttal testimony.

A. Dr. Morin's, Mr. Lawton's and Mr. Gorman's DCF estimated costs of common equity are based on assumptions that are not used in practice in the investment community. Being that the ROR witness are attempting to estimate what investors do in practice, this information is very important to consider when determining the reliability of an estimated cost of common equity. Staff believes that it has provided a great deal of evidence that shows that cost of equity estimates in utility ratemaking settings are not consistent with cost of common equity estimates used by investment analysts outside the ratemaking process. If the Commission believes a fair rate of return should be based on AmerenUE's cost of common equity, then Staff has shown that its estimate is more consistent with mainstream financial analysis and therefore, investors.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE's Tariffs to Increase its Annual Revenues for Electric Service.	)))	Case No. ER-2010-0036

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

David Murray, 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 33 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.

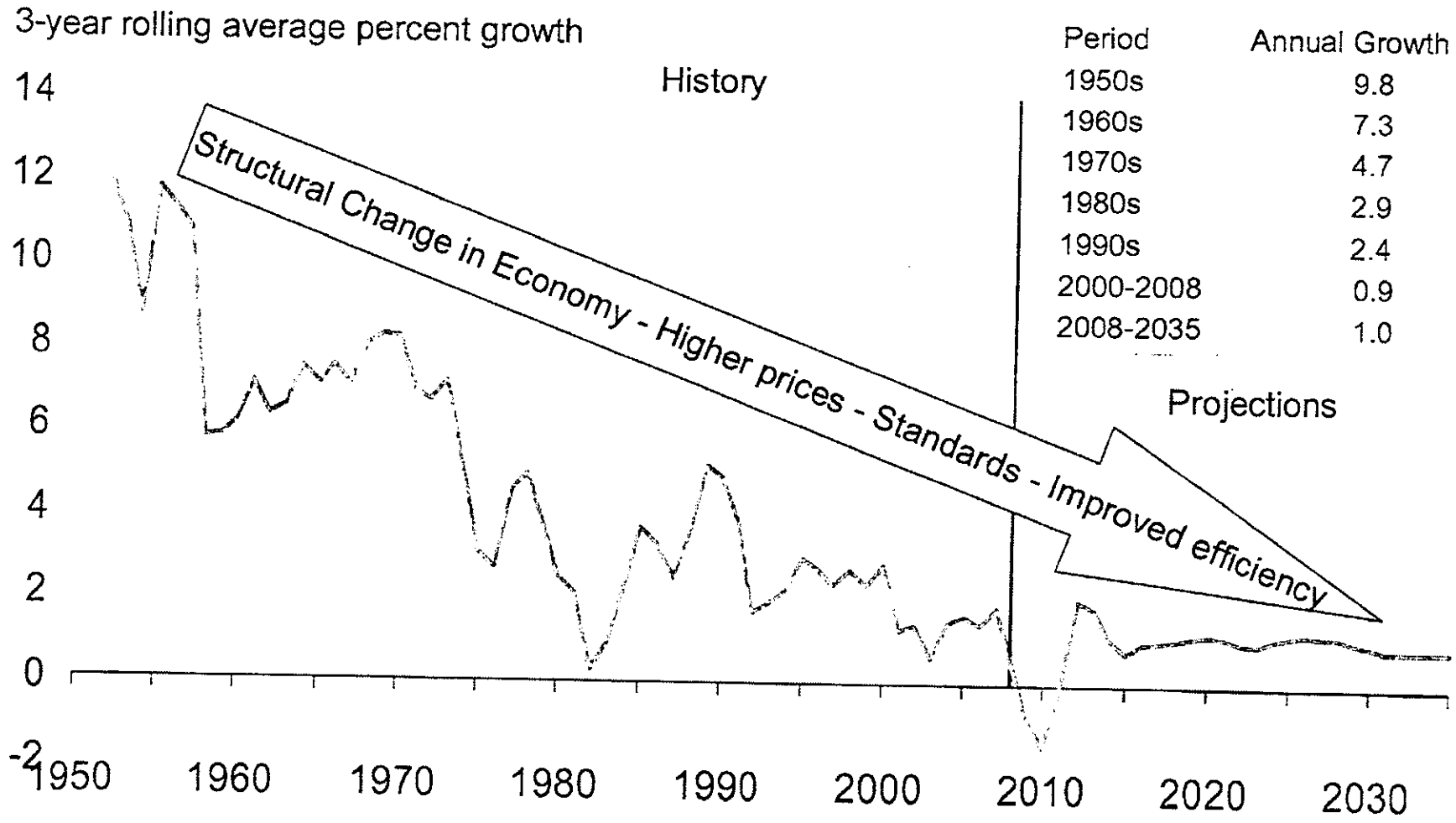
DAVID MURRAY

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

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 08, 2012
Commission Number: 08412071

Notary Public

Growth in electricity use continues to slow



Period	Annual Growth
1950s	9.8
1960s	7.3
1970s	4.7
1980s	2.9
1990s	2.4
2000-2008	0.9
2008-2035	1.0