Exhibit No.:
Issue: Rate of Return
Witness: Michael P. Gorman
Type of Exhibit: Direct Testimony
Sponsoring Party: Noranda
Case No.: EC-2014-_____
Date Testimony Prepared: February 7, 2014

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Noranda Aluminum, Inc. (Complainant)	)	
v.	)	**Case No. EC-2014-_____**
Union Electric Company, d/b/a Ameren Missouri (Respondent)	)	

Direct Testimony and Schedules of

Michael P. Gorman

On behalf of

Noranda Aluminum, Inc.

February 7, 2014

BRUBAKER & ASSOCIATES, INC.

Project 9852

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Noranda Aluminum, Inc. (Complainant)	)	
v.	)	**Case No. EC-2014-_____**
Union Electric Company, d/b/a Ameren Missouri (Respondent)	)	

STATE OF MISSOURI)
) **SS**
COUNTY OF ST. LOUIS)

Affidavit of Michael P. Gorman

Michael P. Gorman, being first duly sworn, on his oath states:

1. My name is Michael P. Gorman. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by Noranda Aluminum, Inc. in this proceeding on its behalf.

2. Attached hereto and made a part hereof for all purposes are my direct testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. EC-2014-____.

3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.

Michael P. Gorman

Subscribed and sworn to before me this 7th day of February, 2014.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 14, 2015
Commission # 11024862

Tammy S Klossner
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Noranda Aluminum, Inc. (Complainant)	)	
v.	)	**Case No. EC-2014-_____**
Union Electric Company, d/b/a Ameren Missouri (Respondent)	)	

Table of Contents to the Direct Testimony of Michael P. Gorman

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

Noranda Aluminum, Inc. (Complainant)	)	
v.	)	**Case No. EC-2014-_____**
Union Electric Company, d/b/a Ameren Missouri (Respondent)	)	

Direct Testimony of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and a Managing Principal of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to this testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A This testimony is presented on behalf of Noranda Aluminum, Inc. ("Noranda").

Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A My testimony will address Ameren Missouri's ("Company") current cost of common equity.

SUMMARY

Q PLEASE SUMMARIZE YOUR RATE OF RETURN RECOMMENDATIONS.

A I recommend the Missouri Public Service Commission ("Commission") award Ameren Missouri a return on common equity of 9.40%.

Q HOW DID YOU ESTIMATE AMEREN MISSOURI'S CURRENT MARKET COST OF EQUITY?

A I performed three versions of the Discounted Cash Flow ("DCF") model, Risk Premium study, and Capital Asset Pricing Model ("CAPM") on a proxy group of publicly traded companies that have investment risk similar to Ameren Missouri. Based on these assessments, I estimate Ameren Missouri's current market cost of equity to be 9.40%.

Ameren Missouri Investment Risk

Q DID YOU DO AN ASSESSMENT OF AMEREN MISSOURI'S INVESTMENT RISK?

A Yes. These investment risk characteristics are best explained by credit analysts in a review of Ameren Missouri's current bond rating. In December 2013, Standard & Poor's ("S&P") upgraded Ameren Missouri's bond rating from "BBB" to "BBB+." In its most recent report, S&P states that it may further increase Ameren Missouri's bond rating pending the closing of the sale of its merchant generation subsidiary. In

assessing the investment risk outlook and credit strength of Ameren Missouri, S&P stated as follows:

> Ameren's ratings are on CreditWatch with positive implications, reflecting the high probability of an additional upgrade once it has completed the merchant sale to Dynegy Inc. The CreditWatch status also reflects our base-case forecast after the transaction, with funds from operations (FFO) to debt of about 20% and debt to EBITDA at about 4x. These financial measures are consistent with the "significant" financial risk profile category and, when viewed together with Ameren Corp.'s "excellent" business risk profile, could support a modestly higher rating. Key risks to our forecast include the outcomes of future rate cases and our expectation for continued weak economic growth within the company's regulated service territories. We could upgrade Ameren and its regulated subsidiaries if the company closes the transaction in a timely manner while meeting our expected financial measures.[1]

S&P continues to assess Ameren Missouri's business risk as "Excellent" and has noted constructive regulatory findings by the Missouri Public Service Commission in its last rate proceeding. S&P notes the following concerning Ameren Missouri's business risk:

> Business Risk: Excellent
>
> We consider Ameren Missouri's (AM) business risk profile as "excellent", reflecting its lower-risk, monopolistic rate-regulated utility businesses that provide an essential service. AM is a rate-regulated utility that serves 1.2 million electric and 127,000 gas customers in portions of central and eastern Missouri. The company also has about 10,500 megawatts (MW) of generating capacity, 5,400 MW of which is base-load coal and 1,200 MW of which is nuclear energy. At the end of 2012, AM received a rate-case order of about $260 million based on a 9.8% return on equity. <u>We view the order as generally supportive of credit quality</u>, reflecting the commission's decision to maintain the <u>fuel adjustment clause</u> and the <u>vegetation tracker</u>, and <u>allowing a storm tracker</u>. Based on the company's large capital spending requirements, we expect that the company will be filing rate cases on a regular basis.[2]

[1] Standard & Poor's RatingsDirect, "Summary: Ameren Missouri," June 21, 2013 at 2.
[2] *Id*. at 3, emphasis added.

RETURN ON EQUITY

Q PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON EQUITY."

A A utility's cost of common equity is the return investors require on an investment in the utility. Investors expect to achieve their return requirement from receiving dividends and stock price appreciation.

Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED UTILITY'S COST OF COMMON EQUITY.

A In general, determining a fair cost of common equity for a regulated utility has been framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 (1923) and Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

These decisions identify the general standards to be considered in establishing the cost of common equity for a public utility. Those general standards provide that the authorized return should: (1) be sufficient to maintain financial integrity; (2) attract capital under reasonable terms; and (3) be commensurate with returns investors could earn by investing in other enterprises of comparable risk.

Q PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE AMEREN MISSOURI'S COST OF COMMON EQUITY.

A I have used several models based on financial theory to estimate Ameren Missouri's cost of common equity. These models are: (1) a constant growth DCF model using consensus analysts' growth rate projections; (2) a constant growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF model; (4) a Risk

Premium model; and (5) a CAPM model. I have applied these models to a group of publicly traded utilities that I have determined share investment risk similar to Ameren Missouri's.

Risk Proxy Group

Q HOW DID YOU SELECT A UTILITY PROXY GROUP SIMILAR IN INVESTMENT RISK TO AMEREN MISSOURI TO ESTIMATE ITS CURRENT MARKET COST OF EQUITY?

A I began with the universe of domestic, publicly traded "Electric Utilities," as categorized by *The Value Line Investment Survey* ("*Value Line*") and excluded the companies that do not meet the following criteria:

- Have corporate ratings from Standard and Poor's of "BBB-" to "A-" and Moody's of "Baa3" to "A3;"
- Pay consistent quarterly cash dividends;
- Were not subject to merger and acquisition activities. and
- Are classified as "Regulated" (80%+ of total assets are regulated) by the Edison Electric Institute;

Q PLEASE DESCRIBE WHY YOU BELIEVE YOUR PROXY GROUP IS REASONABLY COMPARABLE IN INVESTMENT RISK TO AMEREN MISSOURI.

A The proxy group is shown in Schedule MPG-1. This proxy group has an average corporate credit rating from S&P of "BBB+," which is identical to S&P's corporate credit rating for Ameren Missouri. The proxy group's corporate credit rating from Moody's of "Baa2" is identical to Ameren Missouri's corporate credit rating from Moody's. The bond ratings indicate that the proxy group has comparable investment risk to Ameren Missouri.

The proxy group has an average common equity ratio of 47.2% (including short-term debt) from SNL Financial ("SNL") and 50.1% (excluding short-term debt) from *Value Line* in 2013. The proxy group's common equity ratio is lower than Ameren Missouri's updated common equity ratio as of September 30, 2013 of 52.5% and lower than the Company's approved common equity ratio of 52.1%. This indicates that Ameren Missouri has a lower financial risk relative to the proxy group.

I also compared Ameren Missouri's business risk to the business risk of the proxy group based on S&P's ranking methodology. Ameren Missouri has an S&P business risk profile of "Excellent," which is identical to the S&P business risk profile of the proxy group. The S&P business risk profile score indicates that Ameren Missouri's business risk is comparable to that of the proxy group.[3]

Based on total bond rating, financial risk and operating risk, Ameren Missouri has slightly lower risk than the proxy group. Nevertheless, the parameters are reasonably comparable to the investment risk of Ameren Missouri, and this proxy group can be used to estimate a fair return on equity for Ameren Missouri.

Discounted Cash Flow Model

Q PLEASE DESCRIBE THE DCF MODEL.

A The DCF model posits that a stock price is valued by summing the present value of expected future cash flows discounted at the investor's required rate of return or cost of capital. This model is expressed mathematically as follows:

[9]S&P ranks the business risk of a utility company as part of its corporate credit rating review. S&P considers total investment risk in assigning bond ratings to issuers, including utility companies. In analyzing total investment risk, S&P considers both the business risk and the financial risk of a corporate entity, including a utility company. S&P's business risk profile score is based on a six-notch credit rating starting with "Vulnerable" (highest risk) to "Excellent" (lowest risk). The business risk of most utility companies falls within the lowest risk category, "Excellent," or the category one notch lower (more risk), "Strong." *Standard & Poor's RatingsDirect:* "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \ldots \frac{D_\infty}{(1+K)^\infty} \quad \text{where} \quad \text{(Equation 1)}$$

P_0 = Current stock price
D = Dividends in periods 1 - ∞
K = Investor's required return

This model can be rearranged in order to estimate the discount rate or investor-required return, "K." If it is reasonable to assume that earnings and dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

$$K = D_1/P_0 + G \quad \text{(Equation 2)}$$

K = Investor's required return
D_1 = Dividend in first year
P_0 = Current stock price
G = Expected constant dividend growth rate

Equation 2 is referred to as the annual "constant growth" DCF model.

Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.

A As shown in Equation 2 above, the DCF model requires a current stock price, expected dividend, and expected growth rate in dividends.

Q WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH DCF MODEL?

A I relied on the average of the weekly high and low stock prices of the utilities in the proxy group over a 13-week period ending on January 10, 2014. An average stock price is less susceptible to market price variations than a spot price. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not be reflective of the stock's long-term value.

A 13-week average stock price reflects a period that is still short enough to contain data that reasonably reflect current market expectations, but the period is not

so short as to be susceptible to market price variations that may not reflect the stock's long-term value. In my judgment, a 13-week average stock price is a reasonable balance between the need to reflect current market expectations and the need to capture sufficient data to smooth out aberrant market movements.

Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?

A I used the most recently paid quarterly dividend, as reported in *Value Line*.[4] This dividend was annualized (multiplied by 4) and adjusted for next year's growth to produce the D_1 factor for use in Equation 2 above.

Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, for purposes of determining the market-required return on common equity, one must attempt to estimate investors' consensus about what the dividend or earnings growth rate will be, and not what an individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[5] That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence observable stock prices than growth rates derived only from historical data.

[4] *The Value Line Investment Survey*, November 1, November 22, and December 20, 2013.
[5] *See, e.g.,* David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional security analysts' earnings growth estimates as a proxy for investor consensus dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, SNL, and Reuters. All such projections were available on January 14, 2014, and all were reported online.

Each consensus growth rate projection is based on a survey of security analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst's projection does not as reliably predict consensus investor outlooks as does a consensus of market analysts' projections. The consensus estimate is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analyst forecasts is a good proxy for market consensus expectations.

Q WHAT ARE THE GROWTH RATES YOU USED IN YOUR CONSTANT GROWTH DCF MODEL?

A The growth rates I used in my DCF analysis are shown in Schedule MPG-2. The average growth rate for my proxy group is 4.44%.

Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

A As shown in Schedule MPG-3, the average and median constant growth DCF returns for my proxy group are 8.53% and 8.66%, respectively.

Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

A Yes. The constant growth DCF analysis for my proxy group was based on a long-term sustainable growth rate of 4.44%. This growth rate is lower but comparable to my estimate of a maximum long-term sustainable growth rate which I discuss later in this testimony. Hence, I believe the constant growth DCF analysis produces reasonable return estimates. However, to enhance the accuracy of my recommended return on equity I have developed alternative DCF models as discussed below.

Q WHAT IS YOUR ESTIMATE OF A MAXIMUM LONG-TERM SUSTAINABLE GROWTH RATE?

A A long-term sustainable growth rate for the utility stock, or any Company investment, cannot exceed the growth rate of the economy in which it sells its goods and services. Hence, a reasonable proxy for the long-term maximum sustainable growth rate for a utility investment is best proxied by the projected long-term Gross Domestic Product ("GDP"). *The Blue Chip Financial Forecasts* projects that over the next 5 and 10 years, the U.S. nominal GDP will grow in the range of 4.9% to 4.6%. As such, the average growth rate over the next 10 years is around 4.8%, which I believe is a reasonable proxy of long-term sustainable growth.

In the section of testimony addressing my multi-stage growth DCF analysis, I discuss academic and investment practitioner evidence that accepts the projected long-term GDP growth outlook as a maximum sustainable growth rate projection. Hence, recognizing the long-term GDP growth rate as a maximum sustainable growth

rate is logical, and generally consistent with academic and economic practitioner accepted practices.

Sustainable Growth DCF

Q PLEASE DESCRIBE HOW YOU ESTIMATED A SUSTAINABLE LONG-TERM GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.

A A sustainable growth rate is based on the percentage of the utility's earnings that is retained and reinvested in utility plant and equipment. These reinvested earnings increase the earnings base (rate base). Earnings grow when plant funded by reinvested earnings is put into service, and the utility is allowed to earn its authorized return on such additional rate base investment.

The internal growth methodology is tied to the percentage of earnings retained in the company and not paid out as dividends. The earnings retention ratio is 1 minus the dividend payout ratio. As the payout ratio declines, the earnings retention ratio increases. An increased earnings retention ratio will fuel stronger growth because the business funds more investments with retained earnings.

The payout ratios of the proxy group are shown in my Schedule MPG-4. These dividend payout ratios and earnings retention ratios then can be used to develop a sustainable long-term earnings retention growth rate. A sustainable long-term earnings retention ratio will help gauge whether analysts' current three- to five-year growth rate projections can be sustained over an indefinite period of time.

The data used to estimate the long-term sustainable growth rate is based on the Company's current market to book ratio and on *Value Line's* three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in Schedule MPG-5, page 1, the average sustainable growth rate for the proxy group using this internal growth rate model is 4.40%.

Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE LONG-TERM GROWTH RATES?

A A DCF estimate based on these sustainable growth rates is developed in Schedule MPG-6. As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results of 8.49% and 8.69%, respectively.

Multi-Stage Growth DCF Model

Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

A Yes. My first constant growth DCF is based on consensus analysts' growth rate projections, so it is a reasonable reflection of rational investment expectations over the next three to five years. The limitation on the constant growth DCF model is that it cannot reflect a rational expectation that a period of high/low short-term growth can be followed by a change in growth to a rate that is more reflective of long-term sustainable growth. Hence, I performed a multi-stage growth DCF analysis to reflect this outlook of changing growth expectations.

Q WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

A Analyst projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which accelerates their earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows, and

its earnings growth slows from an abnormally high three- to five-year rate to a lower sustainable growth rate.

As major construction cycles extend over longer periods of time, even with an accelerated construction program, the growth rate of the utility will slow simply because rate base will slow, and the utility has limited human and capital resources available to expand its construction program. Hence, the three- to five-year growth rate projection should be used as a long-term sustainable growth rate but not without making a reasonable informed judgment to determine whether it considers the current market environment, the industry, and whether the three- to five-year growth outlook is sustainable.

Q IS THE USE OF A MULTI-STAGE DCF MODEL SUPPORTED IN ACADEMIC AND INDUSTRY LITERATURE?

A Yes. In his book *New Regulatory Finance*, Dr. Roger Morin states the following:

> Dividends need not be, and probably are not, constant from period to period. Moreover, there are circumstances where the standard DCF model cannot be used to assess investor return requirements. For example, if a utility company is in the process of altering its dividend payout policy and dividends are not expected to grow at the same rate as earnings during the transition period, the standard DCF model is inapplicable. This is because the expected growth in stock price has to be different from that of dividends, earnings, and book value if the market price is to converge toward book value.
>
> * * *
>
> A Non-Constant Growth DCF model is appropriate whenever the growth rate is expected to change, and the only way to produce a change in the forecast payout ratio is by introducing an intermediate growth rate that is different from the long-term growth rate, as in the previous example.[6]

[6] *New Regulatory Finance*, Roger A. Morin, PhD, 2006 Public Utilities Reports, Inc., Vienna, Virginia, pp. 264 and 267.

Q PLEASE DESCRIBE YOUR MULTI-STAGE GROWTH DCF MODEL.

A The multi-stage growth DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage growth DCF model reflects three growth periods: (1) a short-term growth period, which consists of the first five years; (2) a transition period, which consists of the next five years (6 through 10); and (3) a long-term growth period, starting in year 11 through perpetuity.

For the short-term growth period, I relied on the consensus analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor, which reflects the difference between the analysts' growth rates and the long-term sustainable growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable long-term growth rate – the nominal U.S. GDP growth rate.

Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

A Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. Utilities' earnings/dividend growth is created by increased utility investment or rate base. Such investment, in turn, is driven by service area economic growth and demand for utility service. In other words, utilities invest in plant to meet sales demand growth, and sales growth, in turn, is tied to economic growth in their service areas.

The Energy Information Administration ("EIA") has observed that utility sales growth tracks, albeit is lower than, the U.S. GDP growth, as shown in Schedule MPG-7. Utility sales growth has lagged behind GDP growth for more than a decade.

As a result, nominal GDP growth is a very conservative proxy for electric utility sales growth, rate base growth, and earnings growth. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility.

Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

A Yes. This concept is supported in both published analyst literature and academic work. Specifically, in a textbook entitled "Fundamentals of Financial Management," published by Eugene Brigham and Joel F. Houston, the authors state as follows:

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[7]

Q IS THERE ANY ACTUAL INVESTMENT HISTORY THAT SUPPORTS THE NOTION THAT THE CAPITAL APPRECIATION FOR STOCK INVESTMENTS WILL NOT EXCEED THE NOMINAL GROWTH OF THE U.S. GDP?

A Yes. This is evident by a comparison of the compound annual growth of the U.S. GDP compared to the geometric growth of the U.S. stock market. Morningstar measures the historical geometric growth of the U.S. stock market over the period 1929-2012 to be approximately 5.6% and an inflation rate of 3.0%.[8] During this same

[7] *Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298.

[8] *Morningstar 2013 Valuation Yearbook* at 23.

time period, the U.S. nominal compound annual growth of the U.S. GDP was approximately 6.3%.[9]

As such, the compound geometric growth of the U.S. nominal GDP has been greater than the nominal growth of the U.S. stock market capital appreciation. This relationship shows the U.S. GDP is a conservative estimate of long-term sustainable growth.

Q HOW DID YOU DETERMINE A SUSTAINABLE LONG-TERM GROWTH RATE THAT REFLECTS THE CONSENSUS OF THE MARKET?

A I relied on the consensus analysts' projections of long-term GDP growth. *The Blue Chip Financial Forecasts* publishes consensus economists' GDP growth projections twice a year. These consensus analysts' GDP growth outlooks are the best available measure of the market's assessment of long-term GDP growth. These analyst projections reflect all current outlooks for GDP, as reflected in analyst projections, and are likely the most influential on investors' expectations of future growth outlooks. The consensus economists' published GDP growth rate outlook is 4.9% to 4.6% over the next 10 years.[10]

Therefore, I propose to use the consensus economists' projected 5- and 10-year average GDP consensus growth rates of 4.9% and 4.6%, respectively, as published by *Blue Chip Financial Forecasts,* as an estimate of long-term sustainable growth. *Blue Chip Financial Forecasts'* projections provide real GDP growth projections of 2.7% and 2.4%, and GDP inflation of 2.1%[11] over the 5-year and 10-year projection periods, respectively. This consensus GDP growth forecast

[9] U.S. Bureau of Economic Analysis, December 2012.
[10] *Blue Chip Financial Forecasts*, December 1, 2013 at 14.
[11] GDP growth is the product of real and inflation GDP growth.

represents the most likely views of market participants because it is based on published consensus economist projections.

Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP GROWTH?

A Yes, and these sources corroborate my consensus analysts' projections. The U.S. EIA in its *Annual Energy Outlook* projects real GDP out until 2040. In its *2013 Annual Report*, the EIA projects real GDP through 2040 to be in the range of 2.0% to 2.9%, with a midpoint or reference case of 2.5%.[12]

Also, the Congressional Budget Office ("CBO") makes long-term economic projections. The CBO is projecting real GDP growth of 2.6% to 2.2% during the next 5 and 10 years, respectively, with GDP price inflation of 2.0%.[13] The CBO's real GDP projections are higher than the consensus, but its GDP inflation is lower than the consensus economists.

The real GDP and nominal GDP growth projections made by the U.S. EIA and those made by the CBO support the use of the consensus analyst 5-year and 10-year projected GDP growth outlooks as a reasonable market assessment of long-term prospective GDP growth.

Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR MULTI-STAGE GROWTH DCF ANALYSIS?

A I relied on the same 13-week stock price and the most recent quarterly dividend payment data discussed above. For stage one growth, I used the consensus analysts' growth rate projections discussed above in my constant growth DCF model.

[12] *DOE/EIA Annual Energy Outlook 2013 With Projections to 2040*, April 2013 at 56.
[13] *CBO: The Budget and Economic Outlook: Fiscal Years 2013 to 2023*, February 2013 at 64.

The transition period begins in year 6 and ends in year 10. For the long-term sustainable growth rate starting in year 11, I used 4.7%, the average of the consensus economists' 5-year and 10-year projected nominal GDP growth rates.

Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE GROWTH DCF MODEL?

A As shown in Schedule MPG-8, the average and median multi-stage growth DCF returns on equity for my proxy group are 8.82% and 9.02%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A The results from my DCF analyses are summarized in Table 1 below:

TABLE 1

Summary of DCF Results

Description	Average	Median
Constant Growth DCF Model (Analysts' Growth)	8.53%	8.66%
Constant Growth DCF Model (Sustainable Growth)	8.49%	8.69%
Multi-Stage Growth DCF Model	8.82%	9.02%

I conclude that a reasonable DCF return for Ameren Missouri in this case is 8.90%. I reach this conclusion largely based on the constant growth and multi-stage growth DCF estimates. The constant growth DCF model using analysts' growth estimates produces slightly lower but comparable results to my multi-stage model. Therefore, I place primary reliance on my analysts' growth rate projections DCF return estimates and my multi-stage DCF model in this proceeding.

Risk Premium Model

Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A This model is based on the principle that investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be more risky than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I estimated the difference between the required return on utility common equity investments and U.S. Treasury bonds. The difference between the required return on common equity and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year over the period 1986 through September 2013. The common equity required returns were based on regulatory commission-authorized returns for electric utility companies. Authorized returns are typically based on expert witnesses' estimates of the contemporary investor-required return.

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields. I selected the period 1986 through September 2013 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Schedule MPG-9 which shows that the market to book ratio since 1986 for the electric utility industry was consistently above 1.0. Over this period, regulatory authorized returns were sufficient to support market prices that at least exceeded book value. This is an indication that regulatory authorized returns

on common equity supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Schedule MPG-10, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.34%. Of the 28 observations, 22 indicated risk premiums fall in the range of 4.41% to 6.31%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current return on common equity using this methodology.

As shown in Schedule MPG-11, the average indicated equity risk premium over contemporary Moody's utility bond yields has been 3.94% over the period 1986 through September 2013. The indicated equity risk premium estimates based on this analysis primarily fall in the range of 3.03% to 4.89% over this time period.

Q DO YOU BELIEVE THAT THESE EQUITY RISK PREMIUM ESTIMATES ARE BASED ON A TIME PERIOD THAT IS TOO LONG OR TOO SHORT TO DRAW ACCURATE CONCLUSIONS CONCERNING CONTEMPORARY MARKET CONDITIONS?

A No. Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time where stock valuations reflect premiums to book value is an indication that the authorized returns on equity and the corresponding equity risk premiums were supportive of investors' return expectations and provided utilities access to the equity markets under reasonable terms and conditions. Further, this time period is long

enough to smooth abnormal market movement that might distort equity risk premiums. While market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums.

The time period I use in this risk premium study is a generally accepted period to develop a risk premium study using "expectational" data. Conversely, studies have recommended that use of "actual achieved return data" should be based on very long historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to unexpected and abnormal stock price performance. However, these short-term abnormal actual returns would be smoothed over time and the achieved actual returns over long time periods would approximate investors' expected returns. Therefore, it is reasonable to assume that averages of annual achieved returns over long time periods will generally converge on the investors' expected returns.

My risk premium study is based on expectational data, not actual returns, and, thus, need not encompass very long time periods.

Q BASED ON HISTORICAL DATA, WHAT RISK PREMIUM HAVE YOU USED TO ESTIMATE AMEREN MISSOURI'S COST OF COMMON EQUITY IN THIS PROCEEDING?

A The equity risk premium should reflect the relative market perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Schedule MPG-12. On that schedule, I show the yield spread between utility bonds and Treasury bonds over the last 34 years. As shown on this schedule, the average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.55% and 1.96%, respectively. The utility bond yield

spreads over Treasury bonds for "A" and "Baa" rated utilities during September 2013 are 1.05% and 1.57%, respectively. The current average "A" and "Baa" rated utility bond yield spreads over Treasury bond yields are now lower than the 34-year average spreads.

A current 13-week average "A" rated utility bond yield of 4.75%, when compared to the current Treasury bond yield of 3.81% as shown in Schedule MPG-13, page 1 implies a yield spread of around 0.94%. Similarly, the "Baa" utility yield of 5.21% is 140 basis points higher than the Treasury yield. This current utility bond yield spread is lower than the 34-year average spread for "A" utility bonds of 1.55%. Similarly, the current spread for the "Baa" utility yields of 1.40% is lower than the 34-year average spread of 1.96%.

These utility bond yield spreads are clear evidence that the market considers the utility industry to be a relatively low-risk investment and demonstrates that utilities continue to have strong access to capital.

Q HOW DID YOU ESTIMATE AMEREN MISSOURI'S COST OF COMMON EQUITY WITH THIS RISK PREMIUM MODEL?

A I added a projected long-term Treasury bond yield to my estimated equity risk premium over Treasury yields. The 13-week average 30-year Treasury bond yield, ending January 10, 2014 was 3.81%, as shown in Schedule MPG-13, page 1. *Blue Chip Financial Forecasts* projects the 30-year Treasury bond yield to be 4.40%, and a 10-year Treasury bond yield to be 3.40%.[14] Using the projected 30-year bond yield of 4.40%, and a Treasury bond risk premium of 4.41% to 6.31%, as developed above, produces an estimated common equity return in the range of 8.81% (4.40% + 4.41%)

[14] *Blue Chip Financial Forecasts*, November 1, 2013 at 2.

to 10.71% (4.40% + 6.31%). My risk premium estimates fall in the range of 8.81% to 10.71%.

I next added my equity risk premium over utility bond yields to a current 13-week average yield on "Baa" rated utility bonds for the period ending January 10, 2014 of 5.21%. Adding the utility equity risk premium of 3.03% to 4.89%, as developed above, to a "Baa" rated bond yield of 5.21%, produces a cost of equity in the range of 8.24% (5.21% + 3.03%) to 10.10% (5.21% + 4.89%). The risk premium falls in the range of 8.24% to 10.10%.

Q WHAT IS YOUR RECOMMENDED RETURN FOR AMEREN MISSOURI BASED ON YOUR RISK PREMIUM STUDY?

A My recommendation considers both utility security risk and market interest rate risk. Current interest rate spreads suggest the market is embracing utility investments as relatively low-risk investment alternatives. This is clearly evident from the low utility bond spreads relative to Treasury bonds currently compared to the historical time period studied. (See Schedules MPG-12 and MPG-13). Also, the market is pricing "Baa" utility bonds to produce lower yields compared to general "Baa" rated corporate bond yields. On average over time, "A" utility bond yields are higher than "Aaa" corporate bond yields. (Schedule MPG-12). All of this supports my conclusion that the utility industry is perceived as a low-risk stable investment.

On the other hand, the Federal Reserve has been buying long-term Treasury and collateralized bonds in an effort to stimulate the U.S. economy. This stimulus has reduced long-term interest rates. This government stimulus initiative is expected to be suspended in the near future. The suspension of the Federal Reserve's stimulus in long-term interest rate markets could cause long-term market interest rates to

increase. As such, I believe there is additional risk in long-term interest rate markets created by this Federal Reserve stimulus policy.

I recommend giving more weight to the high-end of my risk premium results to reflect the greater market interest rate risk in the current market. I propose to provide 75% weight to the high-end of my risk premium estimates and 25% to the low-end of my risk premium estimates. Providing more weight to the high-end risk premium captures the greater market interest rate risk. This results in a risk premium estimate over Treasury bond yields of 10.24%,[15] and a risk premium estimate over "Baa" utility bond yields of 9.64%.[16]

My risk premium analysis produces a risk premium in the range of 9.54% to 10.14%, with a midpoint of 9.84%, rounded to 9.85%.

Capital Asset Pricing Model

Q PLEASE DESCRIBE THE CAPM.

A The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

$R_i = R_f + B_i \times (R_m - R_f)$ where:

R_i = Required return for stock i

R_f = Risk-free rate

R_m = Expected return for the market portfolio

B_i = Beta - Measure of the risk for stock

[15] 70% x 10.71% + 30% x 8.81% = 10.14%.
[16] 70% x 10.10% + 30% x 8.24% = 9.54%.

The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a diversified portfolio. When stocks are held in a diversified portfolio, firm-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

The risks that cannot be eliminated when held in a diversified portfolio are non-diversifiable risks. Non-diversifiable risks are related to the market in general and are referred to as systematic risks. Risks that can be eliminated by diversification are regarded as non-systematic risks. In a broad sense, systematic risks are market risks, and non-systematic risks are business risks. The CAPM theory suggests that the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk that investors will be compensated for are systematic or non-diversifiable risks. The beta is a measure of the systematic or non-diversifiable risks.

Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

A The CAPM requires an estimate of the market risk-free rate, the company's beta, and the market risk premium.

Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?

A As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield is 4.40%.[17] The current 30-year Treasury bond yield is 3.81%, as shown in

[17] *Blue Chip Financial Forecasts*, January 1, 2014 at 2.

Schedule MPG-13, page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 4.40% for my CAPM analysis.

Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE OF THE RISK-FREE RATE?

A Treasury securities are backed by the full faith and credit of the United States government, so long-term Treasury bonds are considered to have negligible credit risk. Also, long-term Treasury bonds have an investment horizon similar to that of common stock. As a result, investor-anticipated long-run inflation expectations are reflected in both common stock required returns and long-term bond yields. Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term bond yield is a reasonable estimate of the nominal risk-free rate included in common stock returns.

Treasury bond yields, however, do include risk premiums related to unanticipated future inflation and interest rates. A Treasury bond yield is not a risk-free rate. Risk premiums related to unanticipated inflation and interest rates are systematic or market risks. Consequently, for companies with betas less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?

A As shown in Schedule MPG-14, the proxy group average *Value Line* beta estimate is 0.71.

Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATE?

A I derived two market risk premium estimates, a forward-looking estimate and one based on a long-term historical average.

The forward-looking estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the risk-free rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

Morningstar's *Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook* estimates the historical arithmetic average real market return over the period 1926 to 2012 as 8.7%.[18] A current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.10%.[19] Using these estimates, the expected market return is 10.98%.[20] The market risk premium then is the difference between the 10.98% expected market return, and my 4.40% risk-free rate estimate is 6.58%, or approximately 6.6%.

The historical estimate of the market risk premium was also estimated by Morningstar in *Stocks, Bonds, Bills and Inflation 2013 Classic Yearbook*. Over the period 1926 through 2012, Morningstar's study estimated that the arithmetic average of the achieved total return on the S&P 500 was 11.8%,[21] and the total return on long-term Treasury bonds was 6.1%.[22] The indicated market risk premium is 5.7%

[18] *Morningstar, Inc., Ibbotson SBBI 2013 Classic Yearbook* at 88.
[19] *Blue Chip Financial Forecasts*, November 1, 2013 at 2.
[20] { [(1 + 0.087) ∗ (1 + 0.021)] – 1 } ∗ 100.
[21] *Morningstar, Inc. Ibbotson SBBI 2013 Classic Yearbook* at 87.
[22] *Id*.

(11.8% - 6.1% = 5.7%). The average of my market risk premium estimates is 6.2% (6.6% to 5.7%).

Q HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO THAT ESTIMATED BY MORNINGSTAR?

A Morningstar's analysis indicates that a market risk premium falls somewhere in the range of 6.0% to 6.7%. My market risk premium falls in the range of 5.7% to 6.6%. My average market risk premium of 6.2% is in the middle of Morningstar's range.

Morningstar estimates a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through 2012. Using this data, Morningstar estimates a market risk premium derived from the total return on large company stocks (S&P 500), less the income return on Treasury bonds. The total return includes capital appreciation, dividend or coupon reinvestment returns, and annual yields received from coupons and/or dividend payments. The income return, in contrast, only reflects the income return received from dividend payments or coupon yields. Morningstar argues that the income return is the only true risk-free rate associated with Treasury bonds and is the best approximation of a truly risk-free rate.[23] I disagree with this assessment from Morningstar, because it does not reflect a true investment option available to the marketplace and therefore does not produce a legitimate estimate of the expected premium of investing in the stock market versus that of Treasury bonds. Nevertheless, I will use Morningstar's conclusion to show the reasonableness of my market risk premium estimates.

Morningstar's range is based on several methodologies. First, Morningstar estimates a market risk premium of 6.7% based on the difference between the total

[23] *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 55.

market return on common stocks (S&P 500) less the income return on Treasury bond investments. Second, Morningstar found that if the New York Stock Exchange (the "NYSE") was used as the market index rather than the S&P 500, that the market risk premium would be 6.5%, not 6.7%. Third, if only the two deciles of the largest companies included in the NYSE were considered, the market risk premium would be 6.0%.[24]

Finally, Morningstar found that the 6.7% market risk premium based on the S&P 500 was influenced by an abnormal expansion of price-to-earnings ("P/E") ratios relative to earnings and dividend growth during the period 1980 through 2001. Morningstar believes this abnormal P/E expansion is not sustainable.[25] Therefore, Morningstar adjusted this market risk premium estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings. Based on this alternative methodology, Morningstar published a long-horizon supply-side market risk premium of 6.0%.[26]

Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A As shown in Schedule MPG-15, based on Morningstar's market risk premium of 6.7%, a risk-free rate of 4.40%, and a beta of 0.71, my CAPM analysis produces a return of 9.18%.

[24]Morningstar observes that the S&P 500 and the NYSE Decile 1-2 are both large capitalization benchmarks. *Id.* at 54.

[25]*Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 54.

[26]*Id*.

Return on Equity Summary

Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO YOU RECOMMEND FOR AMEREN MISSOURI?

A Based on my analyses, I estimate Ameren Missouri's current market cost of equity to be 9.40%.

TABLE 2

Return on Common Equity Summary

Description	Results
DCF	8.90%
Risk Premium	9.85%
CAPM	9.18%

My recommended return on common equity is 9.40%. My recommended return on equity in the range of 8.90% to 9.85% is supported by the results of my DCF studies, CAPM and my risk premium studies.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes.

Qualifications of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Managing Principal with Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A In 1983 I received a Bachelors of Science Degree in Electrical Engineering from Southern Illinois University, and in 1986, I received a Masters Degree in Business Administration with a concentration in Finance from the University of Illinois at Springfield. I have also completed several graduate level economics courses.

In August of 1983, I accepted an analyst position with the Illinois Commerce Commission ("ICC"). In this position, I performed a variety of analyses for both formal and informal investigations before the ICC, including: marginal cost of energy, central dispatch, avoided cost of energy, annual system production costs, and working capital. In October of 1986, I was promoted to the position of Senior Analyst. In this position, I assumed the additional responsibilities of technical leader on projects, and my areas of responsibility were expanded to include utility financial modeling and financial analyses.

In 1987, I was promoted to Director of the Financial Analysis Department. In this position, I was responsible for all financial analyses conducted by the Staff. Among other things, I conducted analyses and sponsored testimony before the ICC on rate of return, financial integrity, financial modeling and related issues. I also supervised the development of all Staff analyses and testimony on these same issues. In addition, I supervised the Staff's review and recommendations to the Commission concerning utility plans to issue debt and equity securities.

In August of 1989, I accepted a position with Merrill-Lynch as a financial consultant. After receiving all required securities licenses, I worked with individual investors and small businesses in evaluating and selecting investments suitable to their requirements.

In September of 1990, I accepted a position with Drazen-Brubaker & Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and Staff. Since 1990, I have performed various analyses and sponsored testimony on cost of capital, cost/benefits of utility mergers and acquisitions, utility reorganizations, level of operating expenses and rate base, cost of service studies, and analyses relating to industrial jobs and economic development. I also participated in a study used to revise the financial policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate

design and class cost of service for electric, natural gas, water and wastewater utilities. I have also analyzed commodity pricing indices and forward pricing methods for third party supply agreements, and have also conducted regional electric market price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

A Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and numerous state regulatory commissions including: Arkansas, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and before the provincial regulatory boards in Alberta and Nova Scotia, Canada. I have also sponsored testimony before the Board of Public Utilities in Kansas City, Kansas; presented rate setting position reports to the regulatory board of the municipal utility in Austin, Texas, and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate disputes for industrial customers of the Municipal Electric Authority of Georgia in the LaGrange, Georgia district.

Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst ("CFA") from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting, economics, fixed income and equity valuation and professional and ethical conduct. I am a member of the CFA Institute's Financial Analyst Society.

\\Doc\Shares\ProlawDocs\SDW\9852\Testimony-BAI\247722.doc

Ameren Missouri

Proxy Group

Line	Company	Credit Ratings[1] S&P (1)	Credit Ratings[1] Moody's (2)	Common Equity Ratios *SNL*[1] (3)	Common Equity Ratios *Value Line*[2] (4)	S&P Business Risk Score[3] (5)
1	ALLETE, Inc.	BBB+	Baa1	54.1%	56.3%	Strong
2	American Electric Power Company, Inc.	BBB	Baa2	44.3%	49.4%	Excellent
3	Ameren Corporation	BBB+	Baa3	51.2%	49.4%	Excellent
4	Black Hills Corporation	BBB	Baa2	48.3%	56.8%	Excellent
5	Cleco Corporation	BBB+	Baa3	52.6%	54.4%	Excellent
6	CMS Energy Corporation	BBB	Baa3	29.7%	31.6%	Excellent
7	Consolidated Edison, Inc.	A-	Baa1	51.2%	54.1%	Excellent
8	DTE Energy Company	BBB+	Baa1	47.6%	51.2%	Strong
9	Duke Energy Corporation	BBB+	Baa1	50.1%	52.9%	Excellent
10	Edison International	BBB-	Baa2	45.8%	46.2%	Strong
11	El Paso Electric Company	BBB	Baa2	44.7%	45.2%	Excellent
12	Empire District Electric Company	BBB	Baa2	50.1%	50.9%	Excellent
13	Great Plains Energy Inc.	BBB	Baa3	46.9%	54.4%	Excellent
14	IDACORP, Inc.	BBB	Baa2	52.2%	54.5%	Excellent
15	Northeast Utilities	A-	Baa2	49.7%	55.4%	Excellent
16	PG&E Corporation	BBB	Baa1	48.7%	50.4%	Strong
17	Pinnacle West Capital Corporation	A-	Baa2	52.9%	55.4%	Excellent
18	Portland General Electric Company	BBB	Baa1	51.1%	52.9%	Excellent
19	Southern Company	A	Baa1	43.8%	47.3%	Excellent
20	UIL Holdings Corporation	BBB	Baa3	37.8%	41.1%	Excellent
21	Westar Energy, Inc.	BBB	Baa2	45.4%	48.8%	Excellent
22	Wisconsin Energy Corporation	A-	A3	43.9%	48.0%	Excellent
23	Xcel Energy Inc.	A-	Baa1	44.6%	46.7%	Excellent
24	**Average**	**BBB+**	**Baa2**	**47.2%**	**50.1%**	**Excellent**
25	**Ameren Missouri**	**BBB+**	**Baa2**		**52.5%**	**Excellent**

Sources:

[1] SNL Financial, Downloaded on January 14, 2014.

[2] *The Value Line Investment Survey,* November 1, November 22, and December 20,2013.

[3] *S&P RatingsDirect:* "U.S. Regulated Utilities, Strongest To Weakest", July 30, 2013.

Ameren Missouri

Consensus Analysts' Growth Rates

Line	Company	Zacks Estimated Growth %[1] (1)	Zacks Number of Estimates (2)	SNL Estimated Growth %[2] (3)	SNL Number of Estimates (4)	Reuters Estimated Growth %[3] (5)	Reuters Number of Estimates (6)	Average of Growth Rates (7)
1	ALLETE, Inc.	6.00%	N/A	N/A	N/A	6.00%	1	6.00%
2	American Electric Power Company, Inc.	4.10%	N/A	4.70%	4	4.09%	5	4.30%
3	Ameren Corporation	2.70%	N/A	5.10%	2	2.00%	1	3.27%
4	Black Hills Corporation	4.00%	N/A	N/A	N/A	4.00%	1	4.00%
5	Cleco Corporation	8.00%	N/A	N/A	N/A	2.71%	4	5.36%
6	CMS Energy Corporation	6.10%	N/A	6.10%	3	6.07%	4	6.09%
7	Consolidated Edison, Inc.	2.30%	N/A	2.10%	3	1.38%	3	1.93%
8	DTE Energy Company	5.70%	N/A	5.60%	3	4.92%	3	5.41%
9	Duke Energy Corporation	3.60%	N/A	3.50%	3	3.58%	6	3.56%
10	Edison International	0.60%	N/A	3.20%	4	0.54%	4	1.45%
11	El Paso Electric Company	3.50%	N/A	3.50%	1	2.45%	6	3.15%
12	Empire District Electric Company	3.00%	N/A	3.00%	1	3.00%	1	3.00%
13	Great Plains Energy Inc.	6.90%	N/A	6.90%	4	N/A	N/A	6.90%
14	IDACORP, Inc.	4.00%	N/A	4.00%	1	N/A	N/A	4.00%
15	Northeast Utilities	7.80%	N/A	7.50%	3	7.04%	3	7.45%
16	PG&E Corporation	1.40%	N/A	-1.00%	3	0.81%	3	1.11%
17	Pinnacle West Capital Corporation	4.50%	N/A	4.20%	4	3.85%	2	4.18%
18	Portland General Electric Company	6.00%	N/A	6.00%	3	6.52%	4	6.17%
19	Southern Company	3.90%	N/A	3.30%	4	3.81%	5	3.67%
20	UIL Holdings Corporation	7.60%	N/A	7.90%	3	6.47%	5	7.32%
21	Westar Energy, Inc.	4.00%	N/A	3.30%	3	2.90%	2	3.40%
22	Wisconsin Energy Corporation	5.50%	N/A	5.70%	2	5.34%	3	5.51%
23	Xcel Energy Inc.	4.30%	N/A	4.90%	3	5.56%	4	4.92%
24	**Average**	**4.59%**	**N/A**	**4.76%**	**3**	**3.95%**	**3**	**4.44%**

Sources:

[1] Zacks Elite, http://www.zackselite.com/, downloaded on January 14, 2014.

[2] SNL Interactive, http://www.snl.com/, downloaded on January 14, 2014.

[3] Reuters, http://www.reuters.com/, downloaded on January 14, 2014.

Ameren Missouri

Constant Growth DCF Model
(Consensus Analysts' Growth Rates)

Line	Company	13-Week AVG Stock Price[1] (1)	Analysts' Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	ALLETE, Inc.	$49.64	6.00%	$1.90	4.06%	10.06%
2	American Electric Power Company, Inc.	$46.52	4.30%	$2.00	4.48%	8.78%
3	Ameren Corporation	$36.01	3.27%	$1.60	4.59%	7.86%
4	Black Hills Corporation	$51.41	4.00%	$1.52	3.07%	7.07%
5	Cleco Corporation	$46.19	5.36%	$1.45	3.31%	8.66%
6	CMS Energy Corporation	$26.94	6.09%	$1.02	4.02%	10.11%
7	Consolidated Edison, Inc.	$56.02	1.93%	$2.46	4.48%	6.40%
8	DTE Energy Company	$67.41	5.41%	$2.62	4.10%	9.50%
9	Duke Energy Corporation	$70.08	3.56%	$3.12	4.61%	8.17%
10	Edison International	$47.05	1.45%	$1.35	2.91%	4.36%
11	El Paso Electric Company	$34.95	3.15%	$1.06	3.13%	6.28%
12	Empire District Electric Company	$22.58	3.00%	$1.02	4.65%	7.65%
13	Great Plains Energy Inc.	$23.89	6.90%	$0.92	4.12%	11.02%
14	IDACORP, Inc.	$51.56	4.00%	$1.72	3.47%	7.47%
15	Northeast Utilities	$42.01	7.45%	$1.47	3.76%	11.21%
16	PG&E Corporation	$40.89	1.11%	$1.82	4.50%	5.61%
17	Pinnacle West Capital Corporation	$54.37	4.18%	$2.27	4.35%	8.53%
18	Portland General Electric Company	$29.49	6.17%	$1.10	3.96%	10.13%
19	Southern Company	$41.23	3.67%	$2.03	5.10%	8.77%
20	UIL Holdings Corporation	$38.00	7.32%	$1.73	4.88%	12.20%
21	Westar Energy, Inc.	$31.81	3.40%	$1.36	4.42%	7.82%
22	Wisconsin Energy Corporation	$41.54	5.51%	$1.53	3.89%	9.40%
23	Xcel Energy Inc.	$28.25	4.92%	$1.12	4.16%	9.08%
24	**Average**	**$42.51**	**4.44%**	**$1.66**	**4.09%**	**8.53%**
25	**Median**					**8.66%**

Sources:
[1] SNL Financial, Downloaded on January 14, 2014.
[2] Exhibit MPG-2.
[3] *The Value Line Investment Survey,* November 1, November 22, and December 20,2013.

Ameren Missouri

Payout Ratios

Line	Company	Dividends Per Share 2012 (1)	Dividends Per Share Projected (2)	Earnings Per Share 2012 (3)	Earnings Per Share Projected (4)	Payout Ratio 2012 (5)	Payout Ratio Projected (6)
1	ALLETE, Inc.	$1.84	$2.20	$2.58	$3.50	71.32%	62.86%
2	American Electric Power Company, Inc.	$1.88	$2.30	$2.98	$4.00	63.09%	57.50%
3	Ameren Corporation	$1.60	$1.70	$2.41	$2.50	66.39%	68.00%
4	Black Hills Corporation	$1.48	$1.70	$1.97	$3.00	75.13%	56.67%
5	Cleco Corporation	$1.30	$2.00	$2.70	$3.50	48.15%	57.14%
6	CMS Energy Corporation	$0.96	$1.30	$1.53	$2.00	62.75%	65.00%
7	Consolidated Edison, Inc.	$2.42	$2.62	$3.86	$4.25	62.69%	61.65%
8	DTE Energy Company	$2.42	$3.15	$3.88	$5.00	62.37%	63.00%
9	Duke Energy Corporation	$3.03	$3.35	$3.71	$5.00	81.67%	67.00%
10	Edison International	$1.31	$1.80	$4.55	$4.00	28.79%	45.00%
11	El Paso Electric Company	$0.97	$1.30	$2.26	$2.75	42.92%	47.27%
12	Empire District Electric Company	$1.00	$1.15	$1.32	$1.70	75.76%	67.65%
13	Great Plains Energy Inc.	$0.86	$1.10	$1.35	$2.00	63.70%	55.00%
14	IDACORP, Inc.	$1.37	$1.90	$3.37	$3.65	40.65%	52.05%
15	Northeast Utilities	$1.32	$1.80	$1.89	$3.25	69.84%	55.38%
16	PG&E Corporation	$1.82	$2.10	$2.07	$3.00	87.92%	70.00%
17	Pinnacle West Capital Corporation	$2.67	$2.60	$3.50	$4.25	76.29%	61.18%
18	Portland General Electric Company	$1.08	$1.25	$1.87	$2.25	57.75%	55.56%
19	Southern Company	$1.94	$2.30	$2.67	$3.00	72.66%	76.67%
20	UIL Holdings Corporation	$1.73	$1.73	$2.02	$2.55	85.64%	67.84%
21	Westar Energy, Inc.	$1.32	$1.52	$2.15	$2.75	61.40%	55.27%
22	Wisconsin Energy Corporation	$1.20	$2.10	$2.35	$3.25	51.06%	64.62%
23	Xcel Energy Inc.	$1.07	$1.35	$1.85	$2.25	57.84%	60.00%
24	**Average**	**$1.59**	**$1.93**	**$2.56**	**$3.19**	**63.73%**	**60.53%**

Source:
The Value Line Investment Survey, November 1, November 22, and December 20,2013.

Ameren Missouri

Sustainable Growth Rate

Line	Company	3 to 5 Year Projections: Dividends Per Share (1)	Earnings Per Share (2)	Book Value Per Share (3)	Book Value Growth (4)	ROE (5)	Adjustment Factor (6)	Adjusted ROE (7)	Payout Ratio (8)	Retention Rate (9)	Internal Growth Rate (10)	Sustainable Growth Rate (11)
1	ALLETE, Inc.	$2.20	$3.50	$37.50	4.23%	9.33%	1.02	9.53%	62.86%	37.14%	3.54%	6.07%
2	American Electric Power Company, Inc.	$2.30	$4.00	$38.50	4.18%	10.39%	1.02	10.60%	57.50%	42.50%	4.51%	4.71%
3	Ameren Corporation	$1.70	$2.50	$30.00	1.93%	8.33%	1.01	8.41%	68.00%	32.00%	2.69%	3.01%
4	Black Hills Corporation	$1.70	$3.00	$33.25	3.59%	9.02%	1.02	9.18%	56.67%	43.33%	3.98%	4.65%
5	Cleco Corporation	$2.00	$3.50	$31.50	4.87%	11.11%	1.02	11.37%	57.14%	42.86%	4.87%	4.91%
6	CMS Energy Corporation	$1.30	$2.00	$16.25	6.09%	12.31%	1.03	12.67%	65.00%	35.00%	4.44%	5.34%
7	Consolidated Edison, Inc.	$2.62	$4.25	$47.75	3.33%	8.90%	1.02	9.05%	61.65%	38.35%	3.47%	3.47%
8	DTE Energy Company	$3.15	$5.00	$53.25	4.48%	9.39%	1.02	9.60%	63.00%	37.00%	3.55%	4.68%
9	Duke Energy Corporation	$3.35	$5.00	$64.75	2.21%	7.72%	1.01	7.81%	67.00%	33.00%	2.58%	2.61%
10	Edison International	$1.80	$4.00	$38.00	5.59%	10.53%	1.03	10.81%	45.00%	55.00%	5.95%	5.95%
11	El Paso Electric Company	$1.30	$2.75	$26.50	5.20%	10.38%	1.03	10.64%	47.27%	52.73%	5.61%	5.61%
12	Empire District Electric Company	$1.15	$1.70	$19.50	2.90%	8.72%	1.01	8.84%	67.65%	32.35%	2.86%	3.47%
13	Great Plains Energy Inc.	$1.10	$2.00	$25.25	3.03%	7.92%	1.01	8.04%	55.00%	45.00%	3.62%	3.65%
14	IDACORP, Inc.	$1.90	$3.65	$43.35	4.33%	8.42%	1.02	8.60%	52.05%	47.95%	4.12%	4.28%
15	Northeast Utilities	$1.80	$3.25	$34.50	3.24%	9.42%	1.02	9.57%	55.38%	44.62%	4.27%	4.40%
16	PG&E Corporation	$2.10	$3.00	$35.75	3.33%	8.39%	1.02	8.53%	70.00%	30.00%	2.56%	3.25%
17	Pinnacle West Capital Corporation	$2.60	$4.25	$43.50	3.74%	9.77%	1.02	9.95%	61.18%	38.82%	3.86%	4.33%
18	Portland General Electric Company	$1.25	$2.25	$26.50	2.99%	8.49%	1.01	8.62%	55.56%	44.44%	3.83%	4.83%
19	Southern Company	$2.30	$3.00	$25.50	3.87%	11.76%	1.02	11.99%	76.67%	23.33%	2.80%	4.13%
20	UIL Holdings Corporation	$1.73	$2.55	$28.45	5.32%	8.96%	1.03	9.20%	67.84%	32.16%	2.96%	2.99%
21	Westar Energy, Inc.	$1.52	$2.75	$29.65	5.31%	9.27%	1.03	9.51%	55.27%	44.73%	4.26%	4.77%
22	Wisconsin Energy Corporation	$2.10	$3.25	$21.00	3.07%	15.48%	1.02	15.71%	64.62%	35.38%	5.56%	5.56%
23	Xcel Energy Inc.	$1.35	$2.25	$23.00	4.80%	9.78%	1.02	10.01%	60.00%	40.00%	4.00%	4.60%
24	**Average**	**$1.93**	**$3.19**	**$33.62**	**3.98%**	**9.73%**	**1.02**	**9.92%**	**60.53%**	**39.47%**	**3.91%**	**4.40%**

Sources and Notes:
Cols. (1), (2) and (3): *The Value Line Investment Survey* , November 1, November 22, and December 20,2013.
Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/5) - 1.
Col. (5): Col. (2) / Col. (3).
Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)).
Col. (7): Col. (6) * Col. (5).
Col. (8): Col. (1) / Col. (2).
Col. (9): 1 - Col. (8).
Col. (10): Col. (9) * Col. (7).
Col. (11): Col. (10) + Page 2 Col. (9).

Ameren Missouri

Sustainable Growth Rate

Line	Company	13-Week Average Stock Price[1] (1)	2012 Book Value Per Share[2] (2)	Market to Book Ratio (3)	Common Shares Outstanding (in Millions)[2] 2012 (4)	Common Shares Outstanding (in Millions)[2] 3-5 Years (5)	Growth (6)	S Factor[3] (7)	V Factor[4] (8)	S * V (9)
1	ALLETE, Inc.	$49.64	$30.48	1.63	39.40	48.00	4.03%	6.56%	38.59%	2.53%
2	American Electric Power Company, Inc.	$46.52	$31.37	1.48	485.67	496.00	0.42%	0.63%	32.57%	0.20%
3	Ameren Corporation	$36.01	$27.27	1.32	242.60	255.00	1.00%	1.32%	24.27%	0.32%
4	Black Hills Corporation	$51.41	$27.88	1.84	44.21	46.00	0.80%	1.47%	45.77%	0.67%
5	Cleco Corporation	$46.19	$24.84	1.86	60.36	60.50	0.05%	0.09%	46.22%	0.04%
6	CMS Energy Corporation	$26.94	$12.09	2.23	264.10	274.00	0.74%	1.65%	55.12%	0.91%
7	Consolidated Edison, Inc.	$56.02	$40.53	1.38	292.87	293.00	0.01%	0.01%	27.65%	0.00%
8	DTE Energy Company	$67.41	$42.78	1.58	172.35	190.00	1.97%	3.10%	36.54%	1.13%
9	Duke Energy Corporation	$70.08	$58.04	1.21	704.00	710.00	0.17%	0.21%	17.18%	0.04%
10	Edison International	$47.05	$28.95	1.63	325.81	325.81	0.00%	0.00%	38.47%	0.00%
11	El Paso Electric Company	$34.95	$20.57	1.70	40.11	40.00	-0.05%	-0.09%	41.15%	-0.04%
12	Empire District Electric Company	$22.58	$16.90	1.34	42.48	46.50	1.82%	2.44%	25.17%	0.61%
13	Great Plains Energy Inc.	$23.89	$21.75	1.10	153.53	156.00	0.32%	0.35%	8.95%	0.03%
14	IDACORP, Inc.	$51.56	$35.07	1.47	50.16	51.00	0.33%	0.49%	31.98%	0.16%
15	Northeast Utilities	$42.01	$29.41	1.43	314.05	319.00	0.31%	0.45%	29.99%	0.13%
16	PG&E Corporation	$40.89	$30.35	1.35	430.72	475.00	1.98%	2.66%	25.78%	0.69%
17	Pinnacle West Capital Corporation	$54.37	$36.20	1.50	109.74	115.00	0.94%	1.41%	33.42%	0.47%
18	Portland General Electric Company	$29.49	$22.87	1.29	75.56	89.50	3.44%	4.44%	22.45%	1.00%
19	Southern Company	$41.23	$21.09	1.95	867.77	930.00	1.39%	2.73%	48.85%	1.33%
20	UIL Holdings Corporation	$38.00	$21.95	1.73	50.87	51.00	0.05%	0.09%	42.24%	0.04%
21	Westar Energy, Inc.	$31.81	$22.89	1.39	126.50	135.00	1.31%	1.82%	28.04%	0.51%
22	Wisconsin Energy Corporation	$41.54	$18.05	2.30	229.04	217.50	-1.03%	-2.37%	56.55%	-1.34%
23	Xcel Energy Inc.	$28.25	$18.19	1.55	487.96	515.00	1.08%	1.68%	35.62%	0.60%
24	**Average**	**$42.51**	**$27.81**	**1.58**	**243.91**	**253.86**	**1.06%**	**1.60%**	**34.46%**	**0.54%**

Sources and Notes:

[1] SNL Financial, Downloaded on January 14, 2014.

[2] *The Value Line Investment Survey* , September 20, November 1 and November 22, 2013.

[3] Expected Growth in the Number of Shares, Column (3) * Column (6).

[4] Expected Profit of Stock Investment, [1 - 1 / Column (3)].

Ameren Missouri

Constant Growth DCF Model
(Sustainable Growth Rate)

Line	Company	13-Week AVG Stock Price[1] (1)	Sustainable Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	ALLETE, Inc.	$49.64	6.07%	$1.90	4.06%	10.13%
2	American Electric Power Company, Inc.	$46.52	4.71%	$2.00	4.50%	9.21%
3	Ameren Corporation	$36.01	3.01%	$1.60	4.58%	7.59%
4	Black Hills Corporation	$51.41	4.65%	$1.52	3.09%	7.75%
5	Cleco Corporation	$46.19	4.91%	$1.45	3.29%	8.21%
6	CMS Energy Corporation	$26.94	5.34%	$1.02	3.99%	9.33%
7	Consolidated Edison, Inc.	$56.02	3.47%	$2.46	4.54%	8.02%
8	DTE Energy Company	$67.41	4.68%	$2.62	4.07%	8.75%
9	Duke Energy Corporation	$70.08	2.61%	$3.12	4.57%	7.18%
10	Edison International	$47.05	5.95%	$1.35	3.04%	8.99%
11	El Paso Electric Company	$34.95	5.61%	$1.06	3.20%	8.81%
12	Empire District Electric Company	$22.58	3.47%	$1.02	4.67%	8.15%
13	Great Plains Energy Inc.	$23.89	3.65%	$0.92	3.99%	7.64%
14	IDACORP, Inc.	$51.56	4.28%	$1.72	3.48%	7.76%
15	Northeast Utilities	$42.01	4.40%	$1.47	3.65%	8.06%
16	PG&E Corporation	$40.89	3.25%	$1.82	4.60%	7.84%
17	Pinnacle West Capital Corporation	$54.37	4.33%	$2.27	4.36%	8.69%
18	Portland General Electric Company	$29.49	4.83%	$1.10	3.91%	8.74%
19	Southern Company	$41.23	4.13%	$2.03	5.13%	9.26%
20	UIL Holdings Corporation	$38.00	2.99%	$1.73	4.68%	7.68%
21	Westar Energy, Inc.	$31.81	4.77%	$1.36	4.48%	9.24%
22	Wisconsin Energy Corporation	$41.54	5.56%	$1.53	3.89%	9.45%
23	Xcel Energy Inc.	$28.25	4.60%	$1.12	4.15%	8.75%
24	**Average**	**$42.51**	**4.40%**	**$1.66**	**4.08%**	**8.49%**
25	**Median**					**8.69%**

Sources:

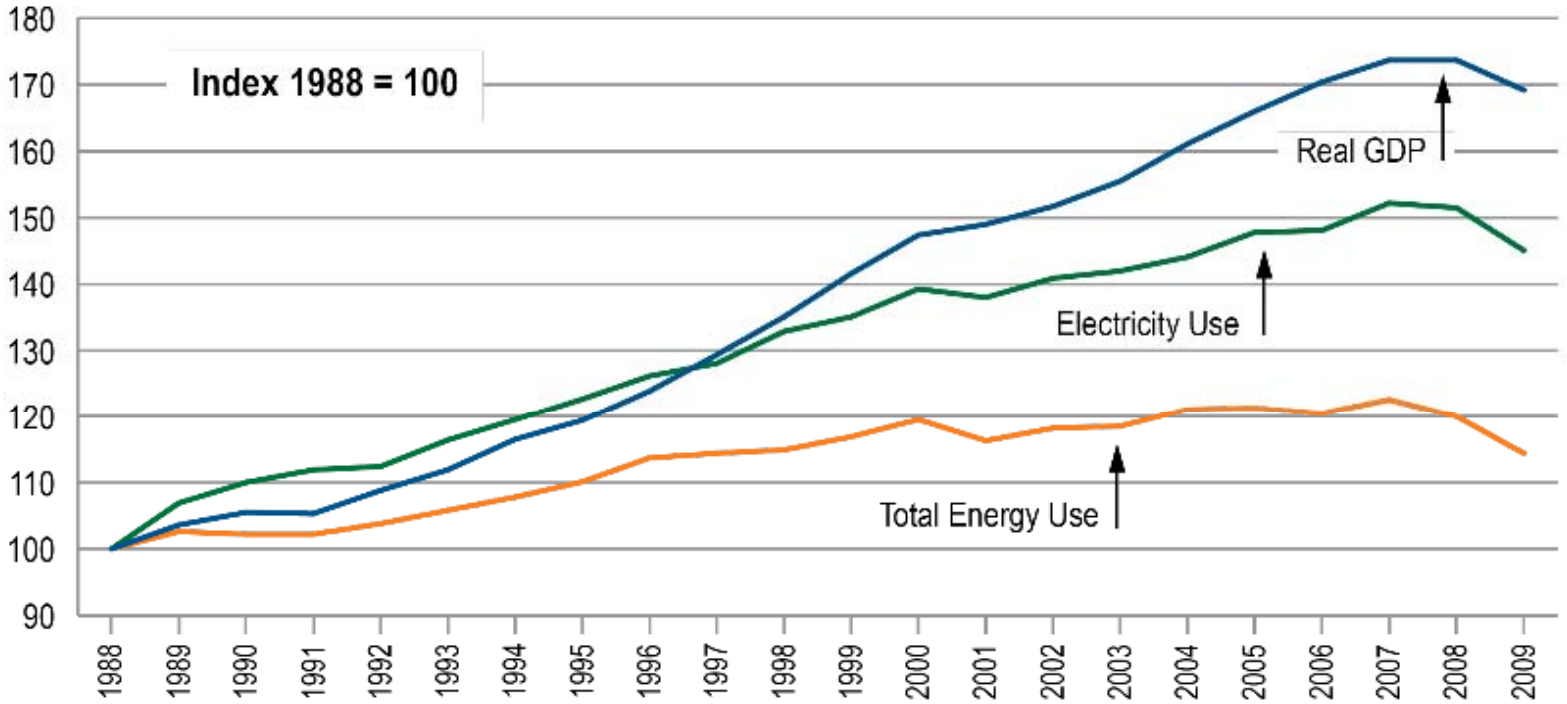
[1] SNL Financial, Downloaded on January 14, 2014.

[2] Exhibit MPG-5, page 1.

[3] *The Value Line Investment Survey*, November 1, November 22, and December 20,2013.

Ameren Missouri

Electricity Sales Are Linked to U.S. Economic Growth



Note:
1988 represents the base year. Graph depicts increases or decreases from the base year.

Sources:
U.S. Department of Energy, Energy Information Administration.
Edison Electric Institute, http://www.eei.org.

Ameren Missouri

Multi-Stage Growth DCF Model

Line	Company	13-Week AVG Stock Price[1] (1)	Annualized Dividend[2] (2)	First Stage Growth[3] (3)	Second Stage Growth Year 6 (4)	Year 7 (5)	Year 8 (6)	Year 9 (7)	Year 10 (8)	Third Stage Growth[4] (9)	Multi-Stage Growth DCF (10)
1	ALLETE, Inc.	$49.64	$1.90	6.00%	5.80%	5.60%	5.40%	5.20%	5.00%	4.80%	9.12%
2	American Electric Power Company, Inc.	$46.52	$2.00	4.30%	4.38%	4.46%	4.55%	4.63%	4.72%	4.80%	9.16%
3	Ameren Corporation	$36.01	$1.60	3.27%	3.52%	3.78%	4.03%	4.29%	4.54%	4.80%	9.03%
4	Black Hills Corporation	$51.41	$1.52	4.00%	4.13%	4.27%	4.40%	4.53%	4.67%	4.80%	7.73%
5	Cleco Corporation	$46.19	$1.45	5.36%	5.26%	5.17%	5.08%	4.99%	4.89%	4.80%	8.20%
6	CMS Energy Corporation	$26.94	$1.02	6.09%	5.88%	5.66%	5.45%	5.23%	5.02%	4.80%	9.10%
7	Consolidated Edison, Inc.	$56.02	$2.46	1.93%	2.41%	2.88%	3.36%	3.84%	4.32%	4.80%	8.63%
8	DTE Energy Company	$67.41	$2.62	5.41%	5.31%	5.20%	5.10%	5.00%	4.90%	4.80%	9.03%
9	Duke Energy Corporation	$70.08	$3.12	3.56%	3.77%	3.97%	4.18%	4.39%	4.59%	4.80%	9.12%
10	Edison International	$47.05	$1.35	1.45%	2.01%	2.56%	3.12%	3.68%	4.24%	4.80%	7.18%
11	El Paso Electric Company	$34.95	$1.06	3.15%	3.43%	3.70%	3.98%	4.25%	4.53%	4.80%	7.64%
12	Empire District Electric Company	$22.58	$1.02	3.00%	3.30%	3.60%	3.90%	4.20%	4.50%	4.80%	9.02%
13	Great Plains Energy Inc.	$23.89	$0.92	6.90%	6.55%	6.20%	5.85%	5.50%	5.15%	4.80%	9.40%
14	IDACORP, Inc.	$51.56	$1.72	4.00%	4.13%	4.27%	4.40%	4.53%	4.67%	4.80%	8.11%
15	Northeast Utilities	$42.01	$1.47	7.45%	7.01%	6.56%	6.12%	5.68%	5.24%	4.80%	9.12%
16	PG&E Corporation	$40.89	$1.82	1.11%	1.72%	2.34%	2.95%	3.57%	4.18%	4.80%	8.48%
17	Pinnacle West Capital Corporation	$54.37	$2.27	4.18%	4.29%	4.39%	4.49%	4.59%	4.70%	4.80%	9.01%
18	Portland General Electric Company	$29.49	$1.10	6.17%	5.94%	5.72%	5.49%	5.26%	5.03%	4.80%	9.06%
19	Southern Company	$41.23	$2.03	3.67%	3.86%	4.05%	4.24%	4.42%	4.61%	4.80%	9.61%
20	UIL Holdings Corporation	$38.00	$1.73	7.32%	6.90%	6.48%	6.06%	5.64%	5.22%	4.80%	10.35%
21	Westar Energy, Inc.	$31.81	$1.36	3.40%	3.63%	3.87%	4.10%	4.33%	4.57%	4.80%	8.90%
22	Wisconsin Energy Corporation	$41.54	$1.53	5.51%	5.39%	5.28%	5.16%	5.04%	4.92%	4.80%	8.84%
23	Xcel Energy Inc.	$28.25	$1.12	4.92%	4.90%	4.88%	4.86%	4.84%	4.82%	4.80%	8.98%
24	**Average**	**$42.51**	**$1.66**	**4.44%**	**4.50%**	**4.56%**	**4.62%**	**4.68%**	**4.74%**	**4.80%**	**8.82%**
25	**Median**										**9.02%**

Sources:

[1] SNL Financial, Downloaded on January 14, 2014.

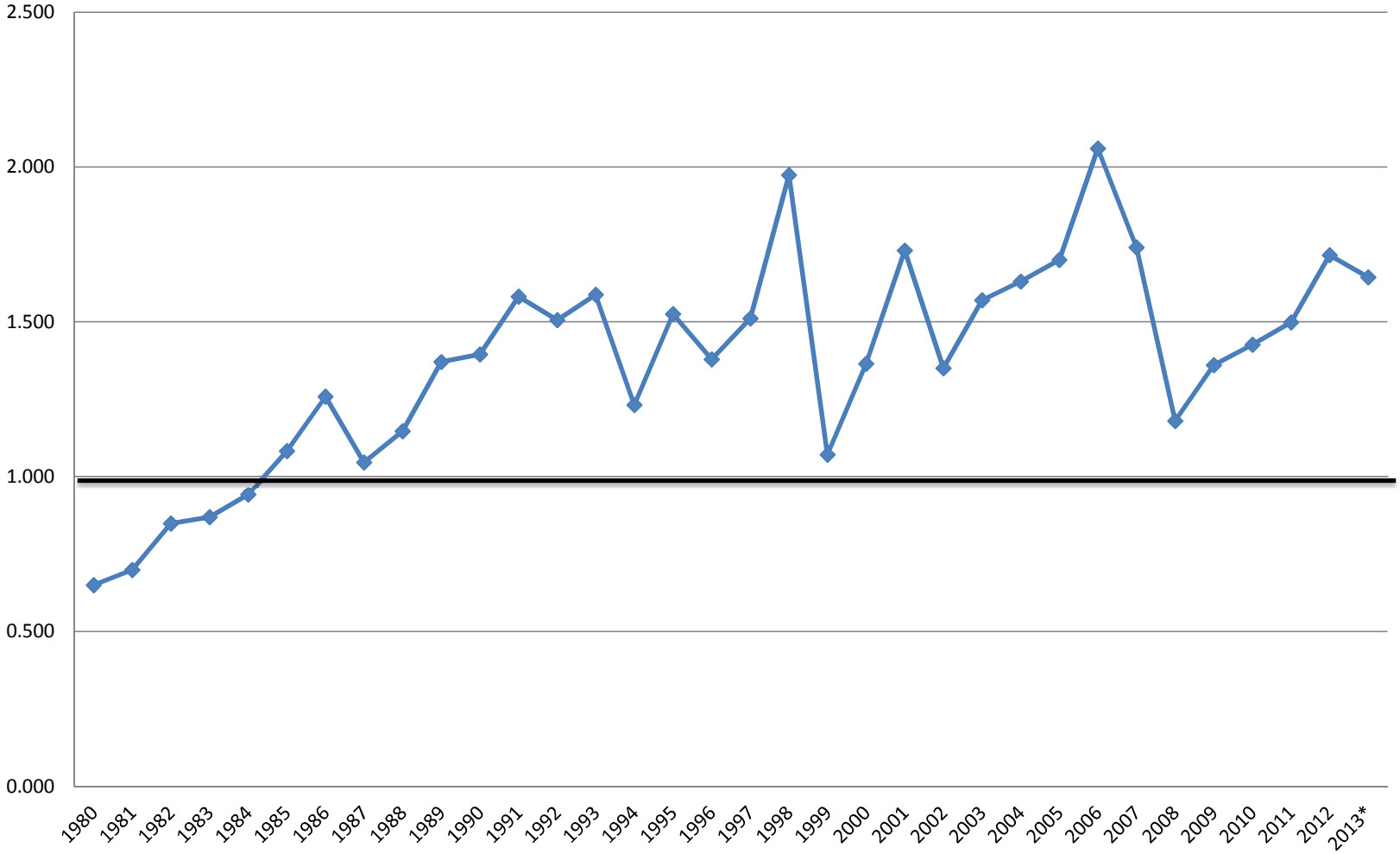
[2] *The Value Line Investment Survey*, November 1, November 22, and December 20,2013.

[3] Exhibit MPG-2.

[4] *Blue Chip Financial Forecasts, December* 1, 2013 at 14.

Ameren Missouri

Common Stock Market/Book Ratio



Source:
AUS Utility Reports, various dates.

* Includes data through September 30, 2013.

Ameren Missouri

Equity Risk Premium - Treasury Bond

Line	Year	Authorized Electric Returns[1] (1)	Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)
1	1986	13.93%	7.80%	6.13%
2	1987	12.99%	8.58%	4.41%
3	1988	12.79%	8.96%	3.83%
4	1989	12.97%	8.45%	4.52%
5	1990	12.70%	8.61%	4.09%
6	1991	12.55%	8.14%	4.41%
7	1992	12.09%	7.67%	4.42%
8	1993	11.41%	6.60%	4.81%
9	1994	11.34%	7.37%	3.97%
10	1995	11.55%	6.88%	4.67%
11	1996	11.39%	6.70%	4.69%
12	1997	11.40%	6.61%	4.79%
13	1998	11.66%	5.58%	6.08%
14	1999	10.77%	5.87%	4.90%
15	2000	11.43%	5.94%	5.49%
16	2001	11.09%	5.49%	5.60%
17	2002	11.16%	5.43%	5.73%
18	2003	10.97%	4.96%	6.01%
19	2004	10.75%	5.05%	5.70%
20	2005	10.54%	4.65%	5.89%
21	2006	10.36%	4.99%	5.37%
22	2007	10.36%	4.83%	5.53%
23	2008	10.46%	4.28%	6.18%
24	2009	10.48%	4.07%	6.41%
25	2010	10.34%	4.25%	6.09%
26	2011	10.22%	3.91%	6.31%
27	2012	10.01%	2.92%	7.09%
28	2013 [3]	9.80%	3.33%	6.47%
29	**Average**	**11.34%**	**6.00%**	**5.34%**

Sources:

[1] Regulatory Research Associates, Inc., *Regulatory Focus,* Jan. 85 - Dec. 06, and Oct 8, 2013, excluding the VA cases, which are subject to a 200 basis point adjustment for certain generation assets.

[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/. The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.

[3] The data includes the period Jan - Sep 2013.

Ameren Missouri

Equity Risk Premium - Utility Bond

Line	Year	Authorized Electric Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)
1	1986	13.93%	9.58%	4.35%
2	1987	12.99%	10.10%	2.89%
3	1988	12.79%	10.49%	2.30%
4	1989	12.97%	9.77%	3.20%
5	1990	12.70%	9.86%	2.84%
6	1991	12.55%	9.36%	3.19%
7	1992	12.09%	8.69%	3.40%
8	1993	11.41%	7.59%	3.82%
9	1994	11.34%	8.31%	3.03%
10	1995	11.55%	7.89%	3.66%
11	1996	11.39%	7.75%	3.64%
12	1997	11.40%	7.60%	3.80%
13	1998	11.66%	7.04%	4.62%
14	1999	10.77%	7.62%	3.15%
15	2000	11.43%	8.24%	3.19%
16	2001	11.09%	7.76%	3.33%
17	2002	11.16%	7.37%	3.79%
18	2003	10.97%	6.58%	4.39%
19	2004	10.75%	6.16%	4.59%
20	2005	10.54%	5.65%	4.89%
21	2006	10.36%	6.07%	4.29%
22	2007	10.36%	6.07%	4.29%
23	2008	10.46%	6.53%	3.93%
24	2009	10.48%	6.04%	4.44%
25	2010	10.34%	5.46%	4.88%
26	2011	10.22%	5.04%	5.18%
27	2012	10.01%	4.13%	5.88%
28	2013 [3]	9.80%	4.38%	5.42%
29	**Average**	**11.34%**	**7.40%**	**3.94%**

Sources:

[1] Regulatory Research Associates, Inc., *Regulatory Focus,* Jan. 85 - Dec. 06, and Oct 8, 2013, excluding the VA cases, which are subject to a 200 basis point adjustment for certain generation assets.

[2] Mergent Public Utility Manual, Mergent Weekly News Reports, 2003. The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record. The utility yields from 2010-2013 were obtained from http://credittrends.moodys.com/.

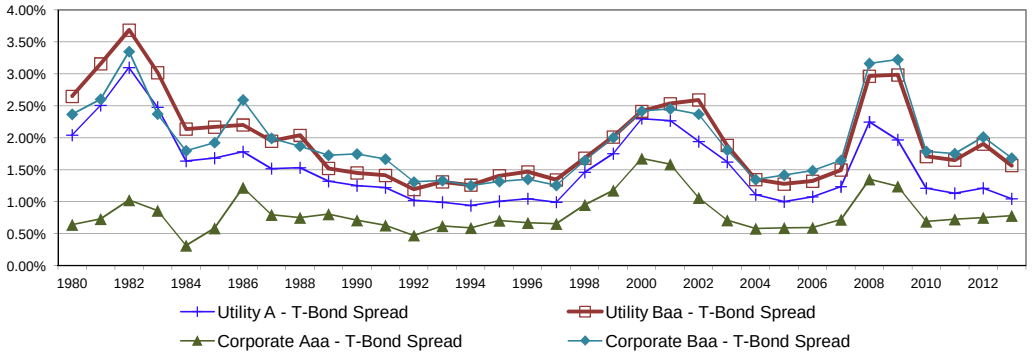
[3] The data includes the period Jan - Sep 2013.

Ameren Missouri

Bond Yield Spreads

Line	Year	T-Bond Yield[1] (1)	Public Utility Bond A[2] (2)	Public Utility Bond Baa[2] (3)	Public Utility Bond A-T-Bond Spread (4)	Public Utility Bond Baa-T-Bond Spread (5)	Corporate Bond Aaa[1] (6)	Corporate Bond Baa[1] (7)	Corporate Bond Aaa-T-Bond Spread (8)	Corporate Bond Baa-T-Bond Spread (9)	Utility to Corporate Baa Spread (10)	Utility to Corporate A-Aaa Spread (11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.29%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.99%	6.07%	6.32%	1.08%	1.32%	5.59%	6.48%	0.60%	1.49%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.72%
31	2010	4.25%	5.46%	5.96%	1.21%	1.71%	4.94%	6.04%	0.69%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.56%	1.13%	1.65%	4.64%	5.66%	0.73%	1.75%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.91%	3.67%	4.94%	0.75%	2.01%	-0.11%	0.46%
34	2013[3]	3.33%	4.38%	4.90%	1.05%	1.57%	4.12%	5.02%	0.78%	1.68%	-0.11%	0.27%
35	**Average**	**7.05%**	**8.60%**	**9.02%**	**1.55%**	**1.96%**	**7.88%**	**9.00%**	**0.82%**	**1.94%**	**0.02%**	**0.73%**

Yield Spreads
Treasury Vs. Corporate & Treasury Vs. Utility



Sources:

[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

[2] Mergent Public Utility Manual, Mergent Weekly News Reports, 2003. The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record. The utility yields from 2010-2013 were obtained from http://credittrends.moodys.com/.

[3] The data includes the period Jan - Sep 2013.

Ameren Missouri

Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	01/10/14	3.80%	4.65%	5.11%
2	01/03/14	3.93%	4.81%	5.23%
3	12/27/13	3.94%	4.82%	5.24%
4	12/20/13	3.82%	4.73%	5.14%
5	12/13/13	3.88%	4.80%	5.25%
6	12/06/13	3.90%	4.86%	5.33%
7	11/29/13	3.82%	4.76%	5.22%
8	11/22/13	3.84%	4.79%	5.25%
9	11/15/13	3.80%	4.79%	5.27%
10	11/08/13	3.84%	4.83%	5.32%
11	11/01/13	3.69%	4.70%	5.15%
12	10/25/13	3.60%	4.59%	5.06%
13	10/18/13	3.65%	4.66%	5.13%
14	**Average**	**3.81%**	**4.75%**	**5.21%**
15	**Spread To Treasury**		**0.94%**	**1.40%**

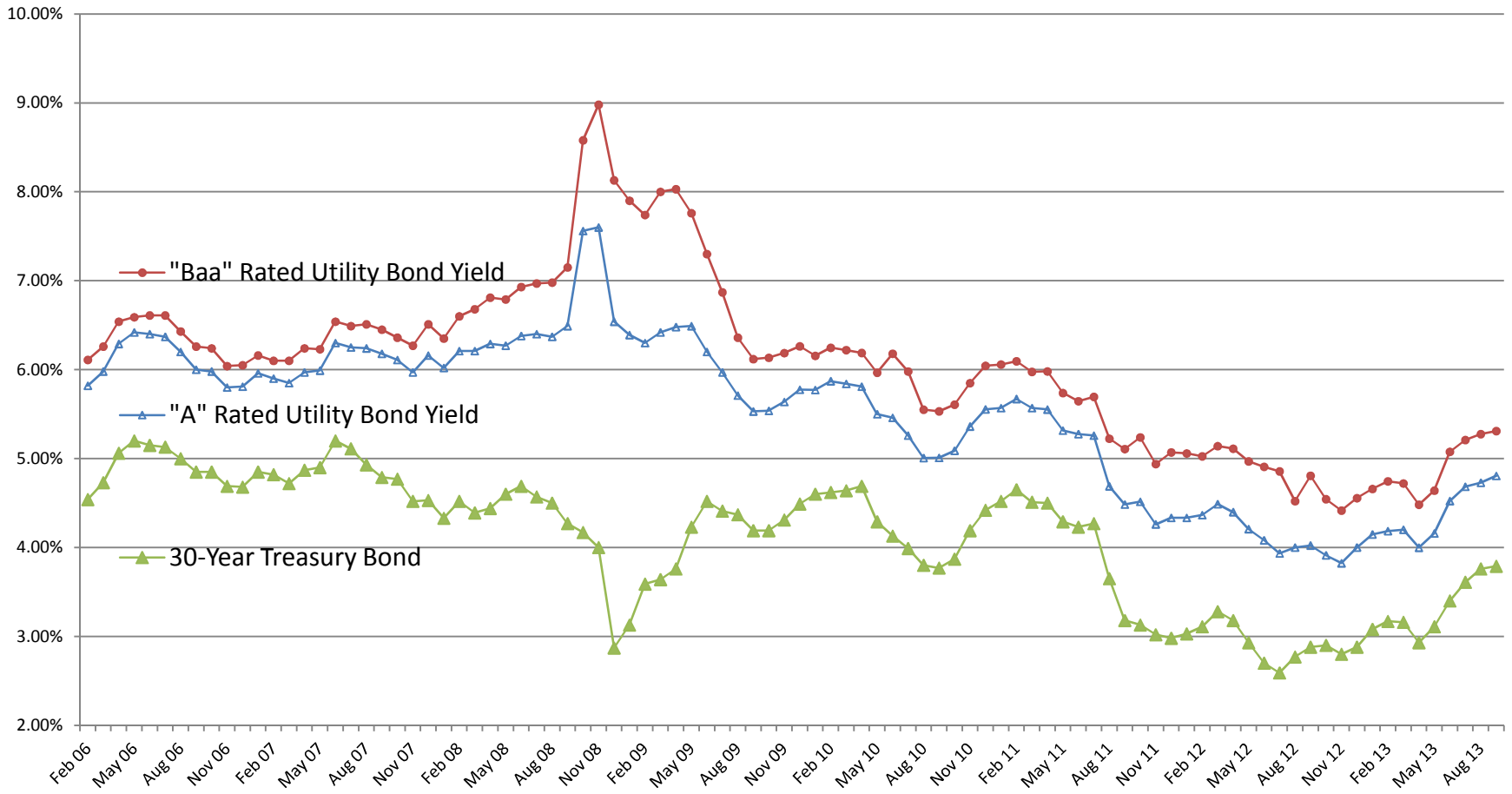
Sources:

[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

[2] http://credittrends.moodys.com/.

Ameren Missouri

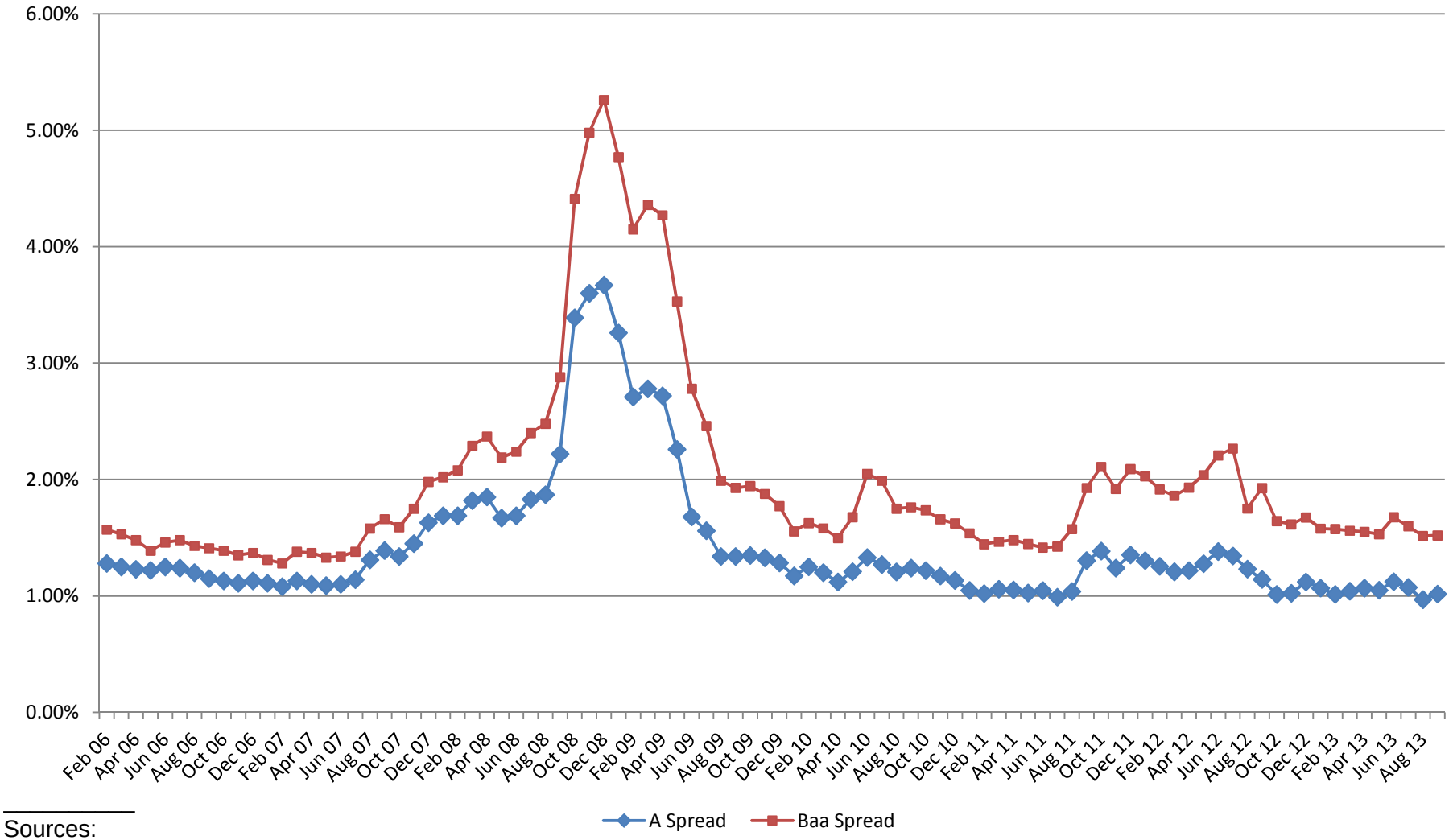
Trends in Bond Yields



Sources:
Merchant Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

Ameren Missouri

Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:
Merchant Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

Ameren Missouri

Value Line Beta

Line	Company	Beta
1	ALLETE, Inc.	0.75
2	American Electric Power Company, Inc.	0.70
3	Ameren Corporation	0.80
4	Black Hills Corporation	0.85
5	Cleco Corporation	0.70
6	CMS Energy Corporation	0.70
7	Consolidated Edison, Inc.	0.60
8	DTE Energy Company	0.80
9	Duke Energy Corporation	0.65
10	Edison International	0.75
11	El Paso Electric Company	0.70
12	Empire District Electric Company	0.70
13	Great Plains Energy Inc.	0.85
14	IDACORP, Inc.	0.70
15	Northeast Utilities	0.75
16	PG&E Corporation	0.55
17	Pinnacle West Capital Corporation	0.70
18	Portland General Electric Company	0.75
19	Southern Company	0.55
20	UIL Holdings Corporation	0.80
21	Westar Energy, Inc.	0.75
22	Wisconsin Energy Corporation	0.65
23	Xcel Energy Inc.	0.65
24	**Average**	**0.71**

Source:
The Value Line Investment Survey,
November 1, November 22, and December 20,2013.

Ameren Missouri

CAPM Return

Line	Description	Market Risk Premium
1	Risk-Free Rate[1]	4.40%
2	Risk Premium[2]	6.70%
3	Beta[3]	0.71
4	**CAPM**	**9.18%**

Sources:

[1] *Blue Chip Financial Forecasts*; January 1, 2014, at 2.

[2] Morningstar, Inc. *Ibbotson SBBI 2013 Classic Yearbook* at 88, and Morningstar, Inc. *Ibbotson SBBI 2013 Valuation Yearbook* at 54 and 66.

[3] Exhibit MPG-14.