Exhibit No.:	
Issue:	Revenue Requirement
Witness:	Michael P. Gorman
Type of Exhibit:	Direct Testimony
Sponsoring Parties:	Midwest Energy Consumers' Group and Missouri Industrial Energy Consumers
Case No.:	ER-2016-0179
Date Testimony Prepared:	December 9, 2016

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Electric Service	)))))	**Case No. ER-2016-0179**

Direct Testimony and Schedules of

Michael P. Gorman

On behalf of

Midwest Energy Consumers' Group
and
Missouri Industrial Energy Consumers

December 9, 2016

BRUBAKER & ASSOCIATES, INC.

Project 10202

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Electric Service	)	**Case No. ER-2016-0179**

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 the Midwest Energy Consumers' Group ("MECG") and the Missouri Industrial Energy Consumers ("MIEC") in this proceeding on their 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. ER-2016-0179.

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 8th day of December, 2016.

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2017
Commission # 13706793

Notary Public

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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 the Midwest Energy Consumers' Group ("MECG") and the Missouri Industrial Energy Consumers ("MIEC"). MECG is an incorporated association representing the interests of large commercial and industrial users of electricity in the Ameren Missouri (or "Company") service territory. MIEC is a non-profit corporation that represents the interests of industrial utility consumers in Missouri utility matters. Industrial consumers purchase substantial quantities of electricity from Ameren Missouri.

Q WHAT IS THE SUBJECT MATTER OF YOUR TESTIMONY?

A My testimony will address the current market cost of equity, and resulting overall rate of return, for Ameren Missouri. In my analyses, I consider the results of several market models and the current economic environment and outlook for the electric utility industry as well as the financial integrity of Ameren Missouri given my recommended return on equity and overall rate of return.

My silence in regard to any issue should not be construed as an endorsement of Ameren Missouri's position.

I. SUMMARY

Q PLEASE SUMMARIZE YOUR RECOMMENDATIONS AND CONCLUSIONS ON RATE OF RETURN.

A I recommend the Missouri Public Service Commission (the "Commission") award a return on common equity of 9.20%, which is the midpoint of my recommended range of 9.00% to 9.40%. My recommended return on equity will fairly compensate Ameren Missouri for its current market cost of common equity, and it will mitigate the claimed revenue deficiency in this proceeding by fairly balancing the interests of all stakeholders. I will update this study in subsequent testimony to reflect any change in market costs.

Preliminarily, for purposes of calculating an appropriate overall weighted cost of capital, I will use Ameren Missouri's pro forma capital structure presented in its direct case. However, I will respond to the reasonableness of the Company's capital structure in my rebuttal testimony. As shown on my Schedule MPG-1, this produces an overall rate of return of 7.35%.

Q YOU RECENTLY FILED TESTIMONY IN THE KANSAS CITY POWER & LIGHT RATE ("KCPL") CASE (CASE NO. ER-2016-0285). WOULD YOU COMPARE YOUR RECOMMENDATION IN THE KCPL CASE TO THE RECOMMENDATION IN THIS CASE?

A Yes. In the KCPL case, I recommended a return on equity between 8.8% to 9.2%, with a midpoint of 9.00%. The difference between my recommendations in these two cases is primarily a result of timing. Specifically, while my recommendation in this case was calculated based upon financial data as of November 18, 2016, my recommendation in the KCPL rate case was based upon financial data as of October 28, 2016. I have committed, in both cases, to update my return on equity recommendation to account for more recent information. As a result, I expect this timing difference to be largely mitigated.

Q DOES YOUR RECOMMENDED RETURN ON EQUITY REFLECT CHANGES IN THE REGULATORY MECHANISMS USED TO RECOVER AMEREN MISSOURI'S COST OF SERVICE IN THIS PROCEEDING?

A No. My recommended rate of return reflects the legislative and regulatory mechanisms that Ameren Missouri is currently using to recover its cost of service and which are known by market participants in assessing its investment risks, and credit standing, including its regulatory and business environment. To the extent Ameren Missouri's proposal for changed regulatory mechanisms with respect to transmission cost recovery, or other costs are approved in this case, then my recommended return on equity would not reflect the reduction in business risk created by new regulatory mechanisms that reduce Ameren Missouri's cost recovery risk.

In this instance, my recommended return on equity would be below the midpoint of my recommended range of 9.0% to 9.4%, but still higher than the low end of my recommended range of 9.0%. A reduction in the return on equity would reflect any transfer in cost recovery risk from investors to ratepayers in the event of new regulatory mechanisms that are designed to reduce Ameren Missouri's cost recovery uncertainty.

II. RATE OF RETURN

Q PLEASE DESCRIBE THIS SECTION OF YOUR TESTIMONY.

A In this section of my testimony, I will explain the analysis I performed to determine the reasonable rate of return in this proceeding and present the results of my analysis. I begin my estimate of a fair return on equity by reviewing the authorized returns approved by the regulatory commissions in various jurisdictions, the market assessment of the regulated utility industry investment risk, credit standing, and stock price performance. I used this information to get a sense of the market's perception of the risk characteristics of regulated electric utility investments in general, which is then used to produce a refined estimate of the market's return requirement for assuming investment risk similar to Ameren Missouri's utility operations.

As described below, I find the credit rating outlook of the industry to be strong, supportive of the industry's financial integrity and access to capital. Further, regulated utilities' stocks have exhibited strong price performance over the last several years, which is evidence of utility access to capital.

Based on this review of credit outlooks and stock price performance, I conclude that the market continues to embrace the regulated utility industry as a

safe-haven investment and views utility equity and debt investments as low-risk securities.

II.A. Electric Industry Authorized Returns on Equity, Access to Capital, and Credit Strength

Q DO YOU AGREE WITH MR. HEVERT THAT CURRENT MARKET CONDITIONS SHOULD BE REFLECTED IN AMEREN MISSOURI'S AUTHORIZED RETURN?

A Yes, I do. By reviewing recent regulatory decisions and the current market environment, I conclude that my estimated return on equity range of 9.00% to 9.40% will fairly compensate Ameren Missouri's investors and allow the utility to access capital without unnecessarily increasing the revenue requirements and placing a burden on ratepayers. Further, the evidence in this case finds that the 9.53% return on equity authorized by the Commission for Ameren Missouri in 2015 is now above market cost and should be reduced in this case.

Q HOW DOES YOUR RECOMMENDED RETURN ON EQUITY RANGE COMPARE TO AMEREN MISSOURI'S RECENT AUTHORIZED RETURN ON EQUITY OF 9.53%?

A On April 29, 2015, the Commission issued its final order in Ameren Missouri's rate case (Missouri Public Service Commission, Case No. ER-2014-0258) which included a return on equity of 9.53%.

This return on equity falls above the upper end of my recommended return on equity range. This also clearly shows the Company's requested return on equity of 9.90% is excessive.

Q IN HIS DIRECT TESTIMONY, AMEREN MISSOURI WITNESS MR. HEVERT OUTLINED INDUSTRY AUTHORIZED RETURNS ON EQUITY FOR VERTICALLY INTEGRATED ELECTRIC UTILITY COMPANIES. HE FINDS THAT HIS RECOMMENDATION IS HIGHLY CONSISTENT WITH RECENTLY AUTHORIZED RETURNS ON EQUITY.[1] PLEASE COMMENT.

A As shown in Table 1 below, I outline the individual authorized returns on equity for vertically integrated electric utilities in 2015 and the first three quarters of 2016. This data includes most of the data used by Mr. Hevert but also reflects additional data for the first three quarters of 2016. Like Mr. Hevert, I excluded the Virginia decisions based on their rider return on equity obligations.

[1]Hevert Direct Testimony at 3.

TABLE 1

2015 and 2016 Vertically Integrated Electric Utility Rate Case Authorized Returns on Equity Litigated Decisions

Line	Company (1)	State (2)	Return on Equity (3)	Date (4)	S&P Credit Rating (5)
1	Kansas City Power & Light Company	KS	9.30%	09/10/15	BBB+
2	El Paso Electric Company	NM	9.48%	06/08/16	BBB
3	PacifiCorp	WY	9.50%	01/23/15	A
4	PacifiCorp	WA	9.50%	03/25/15	A
5	Kansas City Power & Light Company	MO	9.50%	09/02/15	BBB+
6	PacifiCorp	WY	9.50%	12/30/15	A
7	UNS Electric, Inc.	AZ	9.50%	08/18/16	
8	PacifiCorp	WA	9.50%	09/01/16	A
9	Union Electric Company	MO	9.53%	04/29/15	BBB+
10	Public Service Company of New Mexico	NM	9.58%	09/28/16	BBB+
11	Southwestern Public Service Company	TX	9.70%	12/17/15	A-
12	Northern States Power Company - MN	MN	9.72%	03/26/15	A-
13	Appalachian Power Company	WV	9.75%	05/26/15	BBB
14	Indianapolis Power & Light Company	IN	9.85%	03/16/16	BBB-
15	Wisconsin Public Service Corporation	WI	10.00%	11/19/15	A-
16	Northern States Power Company - WI	WI	10.00%	12/03/15	A-
17	Upper Peninsula Power Company	MI	10.00%	09/08/16	
18	Consumers Energy Company	MI	10.30%	11/19/15	BBB+
19	DTE Electric Company	MI	10.30%	12/11/15	BBB+

Source: SNL Financial, downloaded November 3, 2016.

Notes:
[1]Data through the third quarter of 2016.
[2]Rate cases for limited issue riders are excluded.
[3]Rate cases decided by settlement are excluded.
[4]Rate cases without return on equity authorization are excluded.

As shown in the table above, the industry authorized returns on equity have predominantly ranged between 9.3% and 9.75%. There were 19 total observations and 12 were below 9.75%, and 9 at or below 9.53%. The data illustrates that authorized returns on equity in Michigan and Wisconsin are well above industry

average authorized returns on equity. The Michigan and Wisconsin rate decisions were the only return awards above 9.85% in 2015 and 2016.

Other awards are also notable. Specifically, the return on equity for Indianapolis Power & Light Company was for a utility with a minimum investment grade bond rating of BBB-, and whose parent company is actually a below investment grade entity (AES Corporation – BB from S&P and Ba3 from Moody's). Excluding this notable decision, along with the Wisconsin and Michigan decisions, an overwhelming majority of authorized returns on equity in 2015 and the first three quarters of 2016 were approximately 9.5% plus or minus 20 basis points.

Of additional importance is that the authorized return for vertically integrated utilities has continued to decline since the decision in the 2014 Ameren Missouri rate case. Specifically, as shown in Table 2 and Figure 1 below, the average authorized return for fully litigated vertically integrated utilities dropped by about 25 basis points from 2014 to 2016.

TABLE 2

Electric Utility
Vertically Integrated
Returns on Equity

Year	Return on Equity	Fully Litigated Cases
2016 YTD	9.70%	9.65%
2015	9.75%	9.74%
2014	9.94%	10.03%
2013	9.95%	9.91%

Source: *RRA Regulatory Focus*: "Major Rate Case Decisions January-September 2016," October 14, 2016.

Q SHOULD THE COMMISSION GIVE MUCH CONSIDERATION TO THE AUTHORIZED RETURNS ON EQUITY FOR THE WISCONSIN AND MICHIGAN UTILITIES?

A No. In my experience, these jurisdictions often award utilities well above industry average authorized returns on equity. What is significant about this observation is, while these utilities get above industry average returns on equity, their bond ratings are generally comparable to the industry average credit ratings. As shown in Table 1 above, Wisconsin Public Service Corporation and Northern States Power Company - MN both have A- bond ratings. In Michigan, Consumers Energy Company and DTE Electric Company have BBB+ bond ratings. These bond ratings are comparable to Ameren Missouri's BBB+. While these utilities' investors are receiving the benefit of well-above industry average authorized returns on equity, these return on equity awards are not supporting stronger credit standing or reduced cost of debt for these utilities. Indeed, the authorized returns on equity in Wisconsin and Michigan are simply inflating these utilities' cost of service and providing above market returns to investors with no measurable benefit to their retail customers. As shown on my Schedule MPG-2, Wisconsin and Michigan industrial rates are amongst the highest in the central United States region for integrated electric utilities.

Q HOW SHOULD THE COMMISSION INTERPRET THIS DATA ON AUTHORIZED RETURNS ON EQUITY FOR ELECTRIC UTILITIES?

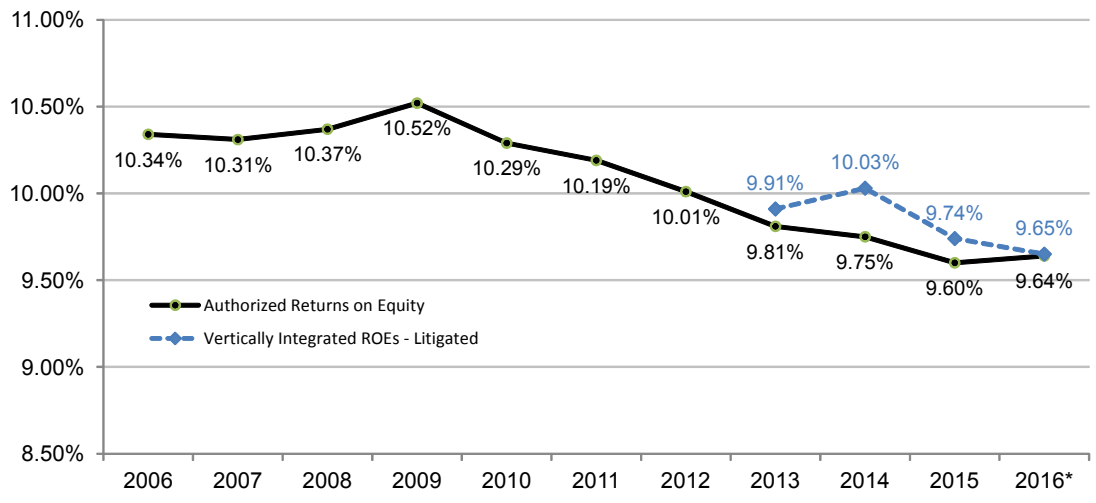
A I recommend the Commission find that its past decisions have struck a balance between investors and customers by mitigating the unnecessary increases in cost of service sought by the utilities, while preserving the financial integrity of Missouri utilities and supporting their access to large amounts of capital under reasonable

terms and conditions. It should also find that the Company's proposal in this proceeding fails to do so.

Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN AUTHORIZED RETURNS ON EQUITY FOR ELECTRIC UTILITIES.

A Authorized returns on equity for electric utilities have been generally declining over the last 10 years as illustrated in the graph below. More recent authorized returns on equity for electric utilities generally, and vertically integrated electric utilities specifically, have declined.

Figure 1



Source and Note:
Regulatory Research Associates, Inc., Regulatory Focus, Major Rate Case Decisions -- January - Sep 2016, October 14, 2016 at page 6.

* The data includes the period Jan - Sep 2016.

As illustrated on the graph above, excluding these Virginia rider decisions, the authorized return on equity for electric utilities has steadily declined in 2015/2016 from preceding periods.

While the decline in authorized returns on equity is public knowledge, and align with declining capital market costs, utilities are maintaining strong investment grade credit standing, and have been able to attract large amounts of capital at low costs to fund very large capital programs.

Q PLEASE DESCRIBE THE TREND IN CREDIT RATING CHANGES IN THE ELECTRIC UTILITY INDUSTRY OVER THE LAST FIVE YEARS.

A As shown below in Table 3 below, over the period 2010-2015, the electric utility industry has experienced a significant number of upgrades in credit ratings by all of the major credit rating agencies (Fitch Ratings, Moody's, and Standard & Poor's).

TABLE 3

Credit Rating Changes
(U.S. Shareholder-Owned Electric Utility Industry)

	2010	2011	2012	2013	2014	2015
Upgrades	29	39	37	60	103	35
Downgrades	51	21	39	20	3	15
% Upgrades	36%	65%	49%	75%	97%	70%
Total Rating Activity	**80**	**60**	**76**	**80**	**106**	**50**

Source: EEI Q4 2015 Credit Ratings, Tab IV Direction of Rating Action.

As noted above in Table 3, the upgrades in utility credit ratings started outpacing downgrades in 2011, and more recently, the number of upgrades substantially exceeds the amount of downgrades. For example, in 2014, there were 103 upgrades and only three downgrades. In 2015, the number of upgrades were more than twice the number of downgrades (at 35 upgrades and 15 downgrades).

Q HOW DID THIS CREDIT RATING ACTIVITY IMPACT THE CREDIT RATING OF THE ELECTRIC UTILITY INDUSTRY?

A The credit rating changes for the electric utility industry reflected a significant strengthening of the electric utility industry credit rating as shown below in Table 4. As shown in this table, in 2008, approximately 69% of the electric utility industry was rated from BBB- to BBB+, 18% had a bond rating better than BBB+, and around 13% of the industry was below investment grade. This industry rating improved steadily over the subsequent six years. By 2016, only about 3% of the industry is below investment grade, around 65% continue to be in the range of BBB- to BBB+, and over 32% of the industry has a bond rating above BBB+. Overall, the improvement to the credit rating of the electric utility industry has been very significant.

TABLE 4

S&P Ratings by Category
(Year End)

Description	2008	2012	2013	2014	2015	2016 Q3
Regulated						
A or higher	8%	6%	3%	3%	3%	5%
A-	10%	17%	20%	21%	22%	27%
BBB+	23%	14%	17%	32%	33%	35%
BBB	23%	36%	49%	37%	33%	22%
BBB-	23%	17%	6%	3%	3%	8%
Below BBB-	13%	11%	6%	5%	6%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Sources: Edison Electric Institute, Electric Industry Credit Standing.

Q HAVE CREDIT RATING AGENCIES COMMENTED ON DECLINING AUTHORIZED RETURNS ON EQUITY?

A Yes. Credit rating agencies recognize the declining trend in authorized returns and the expectation that regulators will continue lowering the returns for U.S. utilities while maintaining a stable credit profile. Specifically, Moody's states:

> **Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles**
>
> The credit profiles of US regulated utilities will remain intact over the next few years despite our expectation that regulators will continue to trim the sector's profitability by lowering its authorized returns on equity (ROE).[2]

Further, in a recent report, S&P states:

> **2. Earned returns will remain in line with authorized returns**
>
> Authorized returns on equity granted by U.S. utility regulators in rate cases this year have been steady at about 9.5%. Utilities have been adept at earning at or very near those authorized returns in today's economic and fiscal environment. A slowly recovering economy, natural gas and electric prices coming down and then stabilizing at fairly low levels, and the same experience with interest rates have led to a perfect "non-storm" for utility ratepayers and regulators, with utilities benefitting alongside those important constituencies. Utilities have largely used this protracted period of favorable circumstances to consolidate and institutionalize the regulatory practices that support earnings and cash flow stability. We have observed and we project continued use of credit-supportive policies such as short lags between rate filings and final decisions, up-to-date test years, flexible and dynamic tariff clauses for major expense items, and alternative ratemaking approaches that allow faster rate recognition for some new investments.[3]

[2] *Moody's Investors Service*, "US Regulated Utilities: Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," March 10, 2015.

[3] *Standard & Poor's Ratings Services*: "Corporate Industry Credit Research: Industry Top Trends 2016, Utilities," December 9, 2015, at 23, emphasis added.

Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT INFRASTRUCTURE CAPITAL PROGRAMS?

A Yes. While cost of capital and authorized returns on equity were declining, the utility industry has been able to fund substantial increases in capital investments needed for infrastructure modernization and expansion. The Edison Electric Institute ("EEI") reported in a 2015 financial review of the electric industry financial performance that in 2015 electric "industry-wide capex has more than doubled since 2005."[4]

EEI also observed that, despite a more than doubling of capital expenditures during the period 2005-2015, a majority of the funding for utilities' capital expenditures has been provided by internal funds. EEI reports approximately 25% of funding needed to meet these increasing capital expenditures has been derived from external sources (debt and equity issuance) and 75% of these capital expenditures has been funded by internal cash (operating utility cash flow). Further, despite more than a doubling of capital expenditures, the electric utility industry debt interest expense has declined by approximately 1.9% despite increases in the amount of outstanding debt.[5] This is clear proof that capital market costs have declined, and utilities have strong access to external capital.

Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF ELECTRIC UTILITY EQUITY SECURITIES?

A Yes. On my Schedule MPG-3, I show the historical valuation of the electric utility industry followed by *Value Line* based on price-to-earnings ratio, price-to-cash flow ratio and market price-to-book value ratio indicators. These electric utility industry

[4]Edison Electric Institute, *2015 Financial Review, Annual Report of the U.S. Investor-Owned Electric Utility Industry*, page 17.
[5]*Id*., pages 8 and 11.

security valuation metrics show that current electric utility stock valuations are very strong and robust relative to the last 10 to 15 years. These robust valuations are an indication that utilities can sell equity securities at high prices, which is a strong indication that they can access capital under reasonable terms and conditions, and at relatively low cost.

Q HOW SHOULD THE COMMISSION USE THIS MARKET INFORMATION IN ASSESSING A FAIR RETURN FOR AMEREN MISSOURI?

A Market evidence for the electric industry is quite clear that capital market costs are near historically low levels. Authorized returns on equity have fallen to the low to mid 9.0% area, and utilities continue to have access to large amounts of external capital to fund large capital programs, and utilities' investment grade credit standings are stable to improving. The Commission should carefully weigh all this important observable market evidence in assessing a fair return on equity for Ameren Missouri. Clearly, the return on equity that I recommend for Ameren Missouri is not unreasonable given these macroeconomic indicators.

II.B. Regulated Utility Industry Market Outlook

Q PLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED UTILITIES.

A Regulated utilities' credit ratings have improved over the last few years and the outlook has been labeled "Stable" by credit rating agencies. Credit analysts have also observed that utilities have strong access to capital at attractive pricing (i.e., low capital costs), which has supported very large capital programs.

Standard & Poor's ("S&P") recently published a report titled "Corporate Industry Credit Research: Industry Top Trends 2016, Utilities." In that report, S&P noted the following:

> **Ratings Outlook.** Stable with a slight bias toward the negative. Utilities in the U.S. continue to enjoy a confluence of financial, economic, and regulatory environments that are tailor-made for supporting credit quality. Low interest rates, modest economic growth, and relatively stable commodity costs make for little pressure on rates and therefore on the sunny disposition of regulators.
>
> • **Credit Metrics.** We see credit metrics remaining within historic norms for the industry as a whole and do not project overall financial performance that would affect the industry's creditworthiness.
>
> • **Industry Trends.** Taking advantage of the favorable market conditions, utilities have been maintaining aggressive capital spending programs to bolster system safety and reliability, as well as technological advances to make the systems "smarter." The elevated spending has not led to large rate increases, but if macro conditions reverse and lead to rising costs that command higher rates, we would expect utilities to throttle back on spending to manage regulatory risk.[6]

Similarly, Fitch states:

> **Stable Financial Performance:** The stable financial performance of Utilities, Power & Gas (UPG) issuers continues to support a sound credit profile for the sector, with 93% of the UPG portfolio carrying investment-grade ratings as of June 30, 2015, including 65% in the 'BBB' rating category. Second-quarter 2015 LTM [Long-Term Maturity] leverage metrics remained relatively unchanged year over year (YOY) while interest coverage metrics modestly improved. Fitch Ratings expects this trend to broadly sustain for the remainder of 2015, driven by positive recurring factors.
>
> **Low Debt-Funded Costs:** The sustained low interest rate environment has allowed UPG companies to refinance high-coupon legacy debt with lower coupon new debt. Gross interest expense on an absolute value represented approximately 4.6% of total adjusted debt as of June 30, 2015, a decline of about 150 bps from the 6.1% recorded in the midst of the recession. Fitch believes a rise in interest rates would largely be neutral to credit quality, as issuers have generally built enough headroom in coverage metrics to withstand higher financing costs.

[6] *Standard & Poor's Ratings Services*: "Corporate Industry Credit Research: Industry Top Trends 2016, Utilities," December 9, 2015, at 22, emphasis added.

> **Capex Moderately Declining:** Fitch expects the capex/depreciation ratio to be at the lower end of its five-year historical range of 2.0x–2.5x in the near term, reflecting a moderate decline in projected capex from the 2011–2014 highs. The capex depreciation ratio was relatively flat YOY at about 2.4x. Capex targets investments toward base infrastructure upgrades, utility-scale renewables and transmission investments.
>
> * * *
>
> Key credit metrics for IUCs [investor-owned utility companies] remained relatively stable YOY and continue to support the sound credit profiles and Stable Outlooks characteristic of the sector. EBITDAR [Earnings Before Interest, Taxes, Depreciation, Amortization and Rent] and FFO [Funds From Operations] coverage ratios were 5.6x and 5.9x, respectively, for the LTM ended second-quarter 2015, while adjusted debt/EDITDAR and FFO-adjusted leverage were 3.5x and 3.4x, respectively.[7]

Moody's recent comments on the U.S. Utility Sector state as follows:

> Our outlook for the US regulated utilities industry is stable. This outlook reflects our expectations for fundamental business conditions in the industry over the next 12 to 18 months.
>
> » **The credit-supportive regulatory environment is the main reason for our stable outlook.** We expect that the relationship between regulators and utilities in 2016 will remain credit-supportive, enabling utilities to recover costs in a timely manner and maintain stable cash flows.
>
> » **We estimate that the ratio of cash flow from operations (CFO) to debt will hold steady at about 21%, on average for the industry, over the next 12 to 18 months.** The use of timely cost-recovery mechanisms and continued expense management will help utilities offset a lack of growth in electricity demand and lower allowed returns on equity, enabling financial metrics to remain stable. Tax benefits tied to the expected extension of bonus depreciation will also support CFO-to-debt ratios.
>
> * * *
>
> » **Utilities are increasingly using holding company leverage to drive returns, a credit negative.** Although not a driver of our outlook, utilities are using leverage at the holding company level to invest in

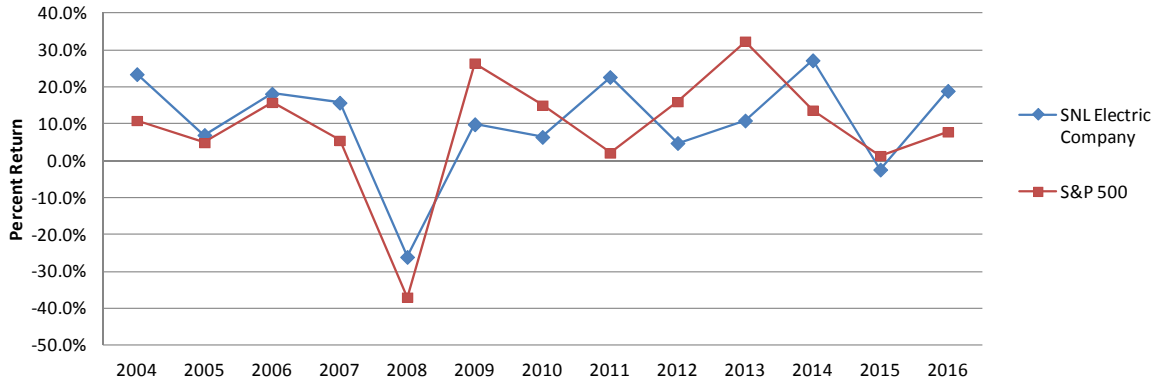
[7] *Fitch Ratings*: "U.S. Utilities, Power & Gas Data comparator," September 21, 2015, at 1 and 7, emphasis added.

other businesses, make acquisitions and earn higher returns on equity, which could have negative implications across the whole family.[8]

Q PLEASE DESCRIBE UTILITY STOCK PRICE PERFORMANCE OVER THE LAST SEVERAL YEARS.

A As shown in the graph below, SNL Financial has recorded utility stock price performance compared to the market. The industry's stock performance data from 2004 through September 2016 shows that the SNL Electric Company Index has outperformed the market in downturns and trailed the market during recovery. This relatively stable price performance for utilities supports my conclusion that utility stock investments are regarded by market participants as a moderate- to low-risk investment.

FIGURE 2



Source: SNL Financial, data through September 30, 2016.

[8] *Moody's Investors Service*: "2016 Outlook – US Regulated Utilities: Credit-Supportive Regulatory Environment Drives Stable Outlook," November 6, 2015, at 1, emphasis added.

Q HAVE ELECTRIC UTILITY INDUSTRY TRADE ORGANIZATIONS COMMENTED ON ELECTRIC UTILITY STOCK PRICE PERFORMANCE?

A Yes. In its 4th Quarter 2015 Financial Update, EEI stated the following concerning the EEI Electric Utility Stock Index ("EEI Index"):

> EEI Index returns during 2015 embodied the larger pattern seen in Table I since the 2008/2009 financial crisis, as industry business models have migrated to an increasingly regulated emphasis. The industry has generated consistent positive returns but has lagged the broader markets when markets post strong gains, which in turn have been sparked both by slow but steady U.S. economic growth and corporate profit gains and by the willingness of the Federal Reserve to bolster markets with historically unprecedented monetary support in the form of three rounds of quantitative easing and near-zero short-term interest rates. While the Fed did raise short-term rates in December 2015 for the first time since 2006 (from zero to a range of 0.25% to 0.50%), this hardly effects longer-term yields, which remain at historically low levels and are influenced more by the level of inflation and economic strength than by the Fed's short-term rate policy.
>
> * * *
>
> **Regulated Fundamentals Remain Stable**
>
> The rate stability offered by state regulation and the ability to recover rising capital spending in rate base shield regulated utilities from the volatility in the competitive power arena and turn the growth of renewable generation (and the resulting need for new and upgraded transmission lines) into a rate base growth opportunity for many industry players.
>
> * * *
>
> In the shorter-term, analysts continue to see opportunity for 4-6% earnings growth for regulated utilities in general along with prospects for slightly rising dividends (with a dividend yield now at about 4% for the industry overall). That formula has served utility investors quite well in recent years, delivering long-term returns equivalent to those of the broad markets but with much lower volatility. Provided state regulation remains fair and constructive in an effort to address the interests of ratepayers and investors, it would appear that the industry can continue to deliver success for all stakeholders, even in an environment of flat demand and considerable technological change.[9]

[9] *EEI Q4 2015 Financial Update*: "Stock Performance" at 4 and 6, emphasis added.

Q WHAT ARE THE IMPORTANT TAKEAWAY POINTS FROM THIS ASSESSMENT OF UTILITY INDUSTRY CREDIT AND INVESTMENT RISK OUTLOOKS?

A Credit rating agencies consider the regulated utility industry to be "Stable" and believe investors will continue to provide an abundance of low-cost capital to support utilities' large capital programs at attractive costs and terms. All of this reinforces my belief utility investments are generally regarded as safe-haven or low-risk investments and the market continues to embrace and demand low-risk investments such as utility securities. The ongoing demand for low-risk investments can reasonably be expected to continue to provide attractive low-cost capital for regulated utilities.

II.C. Ameren Missouri Investment Risk

Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF THE INVESTMENT RISK OF AMEREN MISSOURI.

A The market's assessment of Ameren Missouri's investment risk is described by credit rating analysts' reports. Ameren Missouri's current corporate bond ratings from S&P and Moody's are BBB+ and Baa1, respectively. Ameren Missouri's outlook from both credit rating agencies is "Stable." Specifically, S&P states:

> **Outlook: Stable**
>
> The stable rating outlook on utility Union Electric Co. d/b/a Ameren Missouri (AM) and parent Ameren Corp. reflects S&P Global Ratings' base-case forecast level of Ameren's adjusted funds from operations (FFO) to debt of about 21% over the next two years. Fundamentally, we expect the company will continue to manage its regulatory risk, enabling some of the regulated companies to earn their allowed return on equity. We also expect the company will disproportionately invest in lower-risk, rate-regulated electric transmission assets that will gradually strengthen the company's business risk profile.

Business Risk: Excellent

We view AM's business risk profile as excellent, reflecting the utility's very low operating risk as a fully regulated vertically-integrated electric and natural gas distribution utility. AM serves about 1.2 million electric and more than 120,000 gas customers in portions of central and eastern Missouri, including the St. Louis metropolitan area. We expect ongoing operational performance and cost recovery through regulatory mechanisms for items like fuel costs, pension expense, and storm related costs to bolster operating cash flow. Although these trackers and surcharges help cash flow, modest economic recovery in the service territory can pressure the utility's operating income. The utility has an electricity generation fleet that includes low-cost coal-fired assets that are subject to rising air emissions rules and higher operating risk from owning the Callaway nuclear power plant. After factoring in these components, the business risk profile is within the excellent category, but it's at the comparatively weaker end of the assessment.

Financial Risk: Intermediate

Based on our medial volatility financial ratio benchmarks, our assessment of AM's stand-alone financial risk profile is intermediate. This reflects the recurring cash flow from providing customers the essential services of electricity and natural gas. The company's financial risk profile also takes into consideration ongoing maintenance capital spending for new projects and steady recovery of costs through base rates and rate mechanisms. Our base-case scenario indicates AM will continue to have negative DCF after capital spending and dividend payments to its parent, leading to external funding needs. We expect the core ratio of adjusted FFO to total debt to average about 23% over the next two years. We expect debt to EBITDA to remain between 3.0x-3.4x over the same time period.[10]

Q WHAT ARE THE IMPORTANT TAKEAWAY POINTS FROM THIS ASSESSMENT OF UTILITY INDUSTRY CREDIT AND INVESTMENT RISK OUTLOOKS?

A Generally, credit rating agencies rate Ameren Missouri as an “Excellent” business risk with a “Stable” outlook.

[10] *Standard & Poor’s RatingsDirect:* “Summary: Union Electric Co. d/b/a Ameren Missouri,” July 15, 2016, at 3-4.

III. AMEREN MISSOURI'S PROPOSED CAPITAL STRUCTURE

Q WHAT IS AMEREN MISSOURI'S PROPOSED CAPITAL STRUCTURE?

A Ameren Missouri's proposed capital structure is shown below in Table 5. This capital structure is based on a pro forma period December 31, 2016 and is sponsored by Ameren Missouri witness Mr. Ryan Martin. Mr. Martin states that the pro forma will be updated with actual at the true-up. (Martin Direct at 7).

TABLE 5

Ameren Missouri's
Proposed Capital Structure
(December 31, 2016)

Description	Weight
Long-Term Debt	47.14%
Preferred Stock	1.06%
Common Equity	51.80%
Total	100.00%

Source: Schedule RJM-1.

I will comment on the reasonableness of the Company's proposed pro forma capital structure in my rebuttal testimony.

III.A. Embedded Cost of Debt

Q WHAT IS THE COMPANY'S EMBEDDED COST OF DEBT?

A Mr. Martin is proposing an embedded cost of debt of 5.39% as developed on his Schedule RJM-2. I have used the Company's proposed cost of debt in my calculation of an overall weighted cost of capital.

IV. 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 expected return that investors require on an investment in the utility. Investors expect to earn their required return from receiving dividends and through 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 financial and economic standards to be considered in establishing the cost of common equity for a public utility. Those general standards provide 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 Discounted Cash Flow ("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 Capital Asset Pricing Model ("CAPM"). I have applied these models to a group of publicly traded utilities with investment risk similar to Ameren Missouri.

IV.A. Risk Proxy Group

Q PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP THAT COULD BE USED TO REASONABLY REFLECT THE INVESTMENT RISK OF AMEREN MISSOURI AND USED TO ESTIMATE ITS CURRENT MARKET COST OF EQUITY.

A I relied on the same proxy group developed by Ameren Missouri witness Mr. Hevert with one exception. I excluded Otter Tail because it did not have analysts' growth rates from Zacks, SNL Financial, or Reuters at the time I developed my studies.

Q WHY IS IT IMPORTANT TO LIMIT THE PROXY GROUP COMPANIES TO THOSE THAT HAVE CONSENSUS ANALYSTS' GROWTH RATES PUBLISHED BY ZACKS, SNL FINANCIAL OR REUTERS?

A Selecting companies that have consensus analysts' growth rate projections from at least one of these three sources is an indication that market participants are following the security and there is adequate liquidity and market demand for the security to support the assumption that the market valuation of the security is based on fundamental valuation principles. A stock that is thinly traded, or is not widely followed by the market, may have an observable market price inconsistent with fundamental valuation principles.

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-4, The 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 has an average corporate credit rating from Moody's of Baa1, which is also identical to Ameren Missouri's corporate credit rating from Moody's. Based on this information, I believe my proxy group is reasonably comparable in investment risk to Ameren Missouri.

The proxy group has an average common equity ratio of 46.9% (including short-term debt) from SNL Financial ("SNL") and 49.4% (excluding short-term debt) from *The Value Line Investment Survey* ("*Value Line*") in 2015.

The Company's proposed common equity ratio of 51.8% is higher than, but comparable to, the proxy group common equity ratio. Based on these risk factors, I conclude the proxy group reasonably approximates the investment risk of Ameren Missouri.

IV.B. 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:

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

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 otherwise known as "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 November 18, 2016. An average stock price is less susceptible to market price variations than a price at a single point in

time. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not reflect 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 reflects 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*.[11] 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.

[11] *The Value Line Investment Survey*, September 16, October 28, and November 18, 2016.

As predictors of future returns, security analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[12] That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence investors' decisions, which are captured in observable stock prices than growth rates derived only from historical data.

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 November 18, 2016, 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-5. The average growth rate for my proxy group is 5.47%.

[12] *See, e.g.,* David Gordon, Myron Gordon, and Lawrence Gould, "Choice Among Methods of Estimating Share Yield," *The Journal of Portfolio Management*, Spring 1989.

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

A As shown in Schedule MPG-6, the average and median constant growth DCF returns for my proxy group for the 13-week analysis are 8.88% and 9.02%, 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 is based on a group average long-term sustainable growth rate of 5.47%. The three- to five-year growth rates are higher than my estimate of a maximum long-term sustainable growth rate of 4.25%, which I discuss later in this testimony. I believe the constant growth DCF analysis produces a reasonable high-end return estimate.

Q HOW DID YOU ESTIMATE A MAXIMUM LONG-TERM SUSTAINABLE GROWTH RATE?

A A long-term sustainable growth rate for a utility stock cannot exceed the growth rate of the economy in which it sells its goods and services. Hence, the long-term maximum sustainable growth rate for a utility investment is best proxied by the projected long-term Gross Domestic Product ("GDP"). *Blue Chip Financial Forecasts* projects that over the next 5 and 10 years, the U.S. nominal GDP will grow approximately 4.25%. These GDP growth projections reflect a real growth outlook of around 2.2% and an inflation outlook of around 2.1% going forward. As such, the average growth rate over the next 10 years is around 4.25%, which I believe is a reasonable proxy of long-term sustainable growth.[13]

[13] *Blue Chip Financial Forecasts,* December 1, 2016, at 14.

In my multi-stage growth DCF analysis, I discuss academic and investment practitioner support for using 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 is logical, and is generally consistent with academic and economic practitioner accepted practices.

IV.C. 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-7. 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-8, the average sustainable growth rate for the proxy group using this internal growth rate model is 4.31%.

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-9. As shown there, a sustainable growth DCF analysis produces proxy group average and median DCF results for the 13-week period of 7.69% and 7.47%, respectively.

IV.D. 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 this constant growth DCF model is that it cannot reflect a rational expectation that a period of high or 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 in turn accelerates 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 growth will slow and the utility has limited human and capital resources available to expand its construction program. Therefore, 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 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 consisting of the first five years; (2) a transition period, consisting 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 reflecting 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.

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. Sales growth, in turn, is tied to economic growth in their service areas.

The U.S. Department of Energy, Energy Information Administration ("EIA") has observed utility sales growth tracks the U.S. GDP growth, albeit at a lower level, as shown in Schedule MPG-10. 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 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 published analyst literature and academic work. Specifically, in a textbook titled "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).[14]

The use of the economic growth rate is also supported by investment practitioners as outlined as follows:

> **Estimating Growth Rates**
>
> One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.
>
> * * *
>
> Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.[15]

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

[15] *Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook* at 51 and 52.

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 1926-2015 to be approximately 5.8%. During this same time period, the U.S. nominal compound annual growth of the U.S. GDP was approximately 6.2%.[16]

As such, the compound geometric growth of the U.S. nominal GDP has been higher but comparable to the nominal growth of the U.S. stock market capital appreciation. This historical relationship indicates the U.S. GDP growth outlook is a conservative estimate of the long-term sustainable growth of U.S. stock investments.

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

A I relied on the consensus analysts' projections of long-term GDP growth. *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 and are likely the most influential on investors' expectations of future growth outlooks. The consensus economists' published GDP growth rate outlook is 4.25% over the next 10 years.[17]

[16] *Duff & Phelps 2016 Valuation Handbook* inflation rate of 3.0% at 2-4, and U.S. Bureau of Economic Analysis, January 29, 2016.

[17] *Blue Chip Financial Forecasts*, December 1, 2016, at 14.

Therefore, I propose to use the consensus economists' projected 5- and 10-year average GDP consensus growth rates of 4.25%, 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 2.2% and GDP inflation of 2.1%[18] over the 5-year and 10-year projection periods. These consensus GDP growth forecasts represent the most likely views of market participants because they are 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, as shown below in Table 6.

TABLE 6

GDP Forecasts

Source	Term	Real GDP	Inflation	Nominal GDP
Blue Chip Financial Forecasts[19]	5-10 Yrs	2.2%	2.1%	4.3%
EIA – Annual Earnings Outlook[20]	25 Yrs	2.2%	2.1%	4.4%
Congressional Budget Office[21]	10 Yrs	2.0%	2.0%	4.0%
Moody's Analytics[22]	30 Yrs	2.0%	2.0%	4.1%
Social Security Administration[23]	50 Yrs			4.4%
The Economist Intelligence Unit[24]	35 Yrs	1.9%	2.0%	3.9%

[18] *Id.*
[19] *Id*.

The EIA in its *Annual Energy Outlook* projects real GDP out until 2040. In its 2016 Annual Report, the EIA projects real GDP through 2040 to be 2.2% and a long-term GDP price inflation projection of 2.1%. The EIA data supports a long-term nominal GDP growth outlook of 4.4%.[20]

Also, the Congressional Budget Office ("CBO") makes long-term economic projections. The CBO is projecting real GDP growth to be 2.0% during the next 10 years with a GDP price inflation outlook of 2.0%.[21] The CBO 10-year outlook for nominal GDP based on this projection is 4.0%.

Moody's Analytics also makes long-term economic projections. In its recent 30-year outlook to 2045, Moody's Analytics is projecting real GDP growth of 2.0% with GDP inflation of 2.0%.[22] Based on these projections, Moody's is projecting nominal GDP growth of 4.1% over the next 30 years.

The Social Security Administration ("SSA") makes long-term economic projections out to 2090. The SSA's nominal GDP projection, under its intermediate cost scenario of 50 years, is 4.4%.[23] The Economist Intelligence Unit, a division of *The Economist* and a third-party data provider to SNL Financial, makes a long-term economic projection out to 2050.[24] The Economist Intelligence Unit is projecting real GDP growth of 1.9% with an inflation rate of 2.0% out to 2050. The real GDP growth projection is in line with the consensus economists. The long-term nominal GDP projection based on these outlooks is approximately 3.9%.

The real GDP and nominal GDP growth projections made by these independent sources support the use of the consensus economist 5-year and 10-year

[20]DOE/EIA Annual Energy Outlook 2016 With Projections to 2040, May 2016, Table 20.
[21]*CBO: The Budget and Economic Outlook: 2016 to 2026*, January 2016, at 140.
[22]www.economy.com, *Moody's Analytics Forecast*, January 6, 2016.
[23]www.ssa.gov, "2016 OASDI Trustees Report," Table VI.G4.
[24]*SNL Financial, Economist Intelligence Unit*, downloaded on January 13, 2016.

projected GDP growth outlooks as a reasonable estimate of market participants' long-term GDP growth outlooks.

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 average stock prices 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. The first stage growth covers the first five years, consistent with the term of the analyst growth rate projections. The second stage, or transition stage, begins in year 6 and extends through year 10. The second stage growth transitions the growth rate from the first stage to the third stage using a linear trend. For the third stage, or long-term sustainable growth stage, starting in year 11, I used a 4.25% long-term sustainable growth rate based on the consensus economists' long-term projected nominal GDP growth rate.

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

A As shown in Schedule MPG-11, the average and median DCF returns on equity for my proxy group using the 13-week average stock price are 7.89% and 7.99%, respectively.

Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

A The results from my DCF analyses are summarized in Table 7 below:

TABLE 7

Summary of DCF Results

Description	Proxy Group Average	Proxy Group Median
Constant Growth DCF Model (Analysts' Growth)	8.88%	9.02%
Constant Growth DCF Model (Sustainable Growth)	7.69%	7.47%
Multi-Stage Growth DCF Model	7.89%	7.99%

I conclude that my DCF studies support a return on equity of 9.0%, primarily based on my constant growth DCF result, which I find as a reasonable high-end DCF return estimate. Based on security valuation metrics, including dividend yields, price-to-earnings ratios and price-to-cash flow ratios, and based on my decades of experience in reviewing security valuations and utiilties' cost of capital, I do not believe that a DCF result that implies the Company's cost of common equity is below 8% reasonably reflects current market valuations and investor-required returns. Therefore, I will give primary consideration to my constant growth DCF analysis based on analysts' growth rate projections. Based on an assessment of my proxy group results, I believe the proxy group median most accurately describes the central tendency of the proxy group DCF return results.

IV.E. Risk Premium Model

Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

A This model is based on the principle 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 riskier 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 January 1986 through September 2016. 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 by Moody's. I selected the period January 1986 through September 2016 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Schedule MPG-12, which shows the market-to-book ratio since 1986 for the electric utility industry was consistently above a multiple of 1.0x. 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 utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Schedule MPG-13, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.47%. 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 for a risk premium methodology.

I incorporated five-year and 10-year rolling average risk premiums over the study period to gauge the variability over time of risk premiums. These rolling average risk premiums mitigate the impact of anomalous market conditions and skewed risk premiums over an entire business cycle. As shown on my Schedule MPG-13, the five-year rolling average risk premium over Treasury bonds ranged from 4.25% to 6.75%, while the 10-year rolling average risk premium ranged from 4.38% to 6.41%.

As shown on my Schedule MPG-14, the average indicated equity risk premium over contemporary Moody's utility bond yields was 4.09%. The five-year and 10-year rolling average risk premiums ranged from 2.88% to 5.58% and 3.20% to 5.05%, respectively.

Q DO YOU BELIEVE THAT THE TIME PERIOD USED TO DERIVE THESE EQUITY RISK PREMIUM ESTIMATES IS APPROPRIATE TO FORM ACCURATE CONCLUSIONS ABOUT CONTEMPORARY MARKET CONDITIONS?

A Yes. The time period I use in this risk premium study is a generally accepted period to develop a risk premium study using "expectational" data.

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 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.

Alternatively, some studies, such as Duff & Phelps referred to later in this testimony, have recommended that use of "actual achieved investment return data" in a risk premium study should be based on 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. Short-term, abnormal actual returns would be smoothed over time and the achieved actual investment 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 investment returns, and, thus, need not encompass a very long historical time period.

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-15, where I show the yield spread between utility bonds and Treasury bonds over the last 36 years. As shown in this schedule, the average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.52% and 1.96%, respectively. The utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utilities for 2016 were 1.37% and 2.18%, respectively. The current average "A" rated utility bond yield spread over Treasury bond yields is now lower than the 36-year average spread. The current "Baa" rated utility bond yield spread over Treasury bond yields is higher than the 36-year average spread.

A current 13-week average "A" rated utility bond yield of 3.79% when compared to the current Treasury bond yield of 2.51% as shown in Schedule MPG-16, page 1, implies a yield spread of 128 basis points. This current utility bond yield spread is lower than the 36-year average spread for "A" rated utility bonds of 1.52%. The current spread for the "Baa" rated utility bond yield of 1.87% is also lower than the 36-year average spread of 1.96%. Further, when compared to the projected Treasury bond yield of 3.40%, the current "Baa" utility spread is around 0.98%, lower than the 36-year average of 1.96%.

These utility bond yield spreads are evidence that the market perception of utility risk is about average relative to this historical time period and demonstrate that utilities continue to have strong access to capital in the current market.

Q HOW DO YOU DETERMINE WHERE A REASONABLE RISK PREMIUM IS IN THE CURRENT MARKET?

A I observed the spread of Treasury securities relative to public utility bonds and corporate bonds in gauging whether or not the risk premium in current market prices

is relatively stable relative to the past. What this observation of market evidence clearly provides is that the valuations in the current market place an above average risk premium on securities that have greater risk.

This market evidence is summarized below in Table 8, which shows the utility bond yield spreads over Treasury bond yields on average for the period 1980 through 2016 and the spreads for the first three quarters of 2016. I also show the corporate bond yield spreads for Aaa corporates and Baa corporates.

TABLE 8

Comparison of Yield Spreads Over Treasury Bonds

Description	Utility		Corporate	
	A	Baa	Aaa	Baa
Average Historical Spread	1.52%	1.96%	0.84%	1.95%
Q3, 2016 Spread	1.37%	2.18%	1.10%	2.46%

Source: Schedule MPG-15.

The observable yield spreads shown in the table above illustrate securities of greater risk have above average risk premiums relative to the long-term historical average risk premium. Specifically, A-rated utility bonds to Treasuries, a relatively low-risk investment, have a yield spread in 2016 that has been very comparable to that of its long-term historical yield spread. The A utility bond yield spread is actually below the yield spread over the last 36 years. This is an indication that low risk investments like A-rated utility bond yield have premium values relative to minimal risk Treasury securities.

In contrast, the higher risk Baa utility and corporate bond yields currently have an above-average yield spread of approximately 20 basis points (2.18% vs. 1.96%).

The higher risk Baa utility bond yields do not have the same premium valuations as their lower risk A-rated utility bond yields, and thus the yield spread for greater risk investments is wider than lower risk investments.

This illustrates securities with greater risk such as Baa yields versus A yields are commanding above average risk premium spreads in the current marketplace. Utility equity securities are greater risk than Baa utility bonds. Because greater risk securities appear to support an above-average risk premium relative to historical averages, this would support an above-average risk premium in measuring a fair return on equity for a utility stock or equity security.

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

A To be conservative, I am recommending more weight to the high-end risk premium estimates than the low-end. I state this because of the relatively low level of interest rates now but relative upward movements of utility yields more recently. Hence, I propose to provide 75% weight to my high-end risk premium estimates and 25% to the low-end. Applying these weights, the risk premium for Treasury bond yields would be approximately 6.1%,[25] which is considerably higher than the 31-year average risk premium of 5.47% and reasonably reflective of the 3.4% projected Treasury bond yield. A Treasury bond risk premium of 6.1% and projected Treasury bond yield of 3.4% produce a risk premium estimate of 9.50%. Similarly, applying these weights to the utility risk premium indicates a risk premium of 4.9%.[26] This risk premium is above the 31-year historical average risk premium of 4.09%. This risk

[25](4.25% * 25%) + (6.75% * 75%) = 6.13%.
[26](2.88% * 25%) + (5.58% * 75%) = 4.91%.

premium in connection with the current Baa observable utility bond yield of 4.38% produces an estimated return on equity of approximately 9.30%.

Based on this methodology, both my Treasury bond risk premium and my utility bond risk premium indicate a return in the range of 9.3% to 9.5% with a midpoint of 9.4%.

IV.F. Capital Asset Pricing Model ("CAPM")

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

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 referred to as systematic risks. Risks that can be eliminated by diversification are

non-systematic risks. In a broad sense, systematic risks are market risks and non-systematic risks are business risks. The CAPM theory suggests the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk 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 3.40%.[27] The current 30-year Treasury bond yield is 2.51%, as shown in Schedule MPG-16. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.40% 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)

[27] *Blue Chip Financial Forecasts*, December 1, 2016 at 2.

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 of 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-17, 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.

Duff & Phelps' *2016 Valuation Handbook* estimates the historical arithmetic average real market return over the period 1926 to 2015 as 8.7%.[28] A current consensus analysts' inflation projection, as measured by the Consumer Price Index, is 2.3%.[29] Using these estimates, the expected market return is 11.20%.[30] The market risk premium then is the difference between the 11.20% expected market return and my 3.40% risk-free rate estimate, or approximately 7.80%.

My historical estimate of the market risk premium was also calculated by using data provided by Duff & Phelps in its *2016 Valuation Handbook*. Over the period 1926 through 2015, the Duff & Phelps study estimated that the arithmetic average of the achieved total return on the S&P 500 was 12.0%[31] and the total return on long-term Treasury bonds was 6.00%.[32] The indicated market risk premium is 6.0% (12.0% - 6.0% = 6.0%).

Q HOW DOES YOUR ESTIMATED MARKET RISK PREMIUM RANGE COMPARE TO THAT ESTIMATED BY DUFF & PHELPS?

A The Duff & Phelps analysis indicates a market risk premium falls somewhere in the range of 5.5% to 6.9%. My market risk premium falls in the range of 6.0% to 7.8%. My average market risk premium of 6.9% is at the high-end of the Duff & Phelps range.

[28] *Duff & Phelps, 2016 Valuation Handbook: Guide to Cost of Capital* at 2-4. Calculated as [(1+0.12) / (1+0.03)] – 1.
[29] *Blue Chip Financial Forecasts*, December 1, 2016 at 2.
[30] { [(1 + 0.087) ∗ (1 + 0.023)] – 1 } ∗ 100.
[31] *Duff & Phelps, 2016 Valuation Handbook: Guide to Cost of Capital* at 2-4.
[32] *Id.*

Q HOW DOES DUFF & PHELPS MEASURE A MARKET RISK PREMIUM?

A Duff & Phelps makes several estimates of a forward-looking market risk premium based on actual achieved data from the historical period of 1926 through 2015 as well as normalized data. Using this data, Duff & Phelps 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. Duff & Phelps claims 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.[33] I disagree with this assessment from Duff & Phelps 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 Duff & Phelps' conclusion to show the reasonableness of my market risk premium estimates.

Duff & Phelps' range is based on several methodologies. First, Duff & Phelps estimates a market risk premium of 6.9% based on the difference between the total market return on common stocks (S&P 500) less the income return on Treasury bond investments over the 1926-2015 period.

Second, Duff & Phelps updated the Ibbotson & Chen supply-side model, which found that the 6.9% 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, primarily over the last 25 years. Duff

[33] *Id.* at 3-28.

& Phelps believes this abnormal P/E expansion is not sustainable.[34] Therefore, Duff & Phelps 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, Duff & Phelps published a long-horizon supply-side market risk premium of 6.03%.[35]

Finally, Duff & Phelps develops its own recommended equity, or market, risk premium by employing an analysis that takes into consideration a wide range of economic information, multiple risk premium estimation methodologies, and the current state of the economy by observing measures such as the level of stock indices and corporate spreads as indicators of perceived risk. Based on this methodology, and utilizing a "normalized" risk-free rate of 4.0%, Duff & Phelps concludes the current expected, or forward-looking, market risk premium is 5.5%, implying an expected return on the market of 9.5%.[36]

Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

A As shown in Schedule MPG-18, based on my low market risk premium of 6.0% and my high market risk premium of 7.8%, a risk-free rate of 3.40%, and a beta of 0.71, my CAPM analysis produces a return of 7.69% to 8.97%. Based on my assessment of risk premiums in the current market, as discussed above, I recommend the high-end CAPM return estimate because it closely aligns the market risk premium with the prevailing risk-free rate. I recommend a CAPM return of 8.97%, rounded to 9.00%.

[34] *Id.* at 3-30.
[35] *Id.* at 3-31.
[36] *Id.* at 3-40.

IV.G. 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 9.20%.

TABLE 9

Return on Common Equity Summary

Description	Results
DCF	9.00%
Risk Premium	9.40%
CAPM	9.00%

My recommended return on common equity of 9.20% is at the midpoint of my estimated range of 9.00% to 9.40%. As shown in Table 9 above, the high-end of my estimated range is based on my risk premium studies. The low-end is based on my CAPM return and my DCF result.

My return on equity estimates reflect observable market evidence, the impact of Federal Reserve policies on current and expected long-term capital market costs, an assessment of the current risk premium built into current market securities, and a general assessment of the current investment risk characteristics of the electric utility industry, and the market's demand for utility securities.

Q DO YOU HAVE ANY OTHER THOUGHTS ON THE REASONABLENESS OF YOUR RETURN ON EQUITY RECOMMENDATION?

A Yes. It is important to recognize that in the last Ameren Missouri rate case, Mr. Hevert recommended a return on equity of 10.4%. In this case, he has recommended a return on equity of 9.9%. Thus, Mr. Hevert has explicitly recognized that the cost of equity has declined since the last case.

In the last case, the Commission authorized a return on equity for Ameren Missouri of 9.53%. Using Mr. Hevert's own recognized reduction in the cost of common equity (50 basis points), the Commission's return on equity would now be 9.03%. This aligns exactly with the low end of my recommended return on equity range.

IV.H. Financial Integrity

Q WILL YOUR RECOMMENDED OVERALL RATE OF RETURN SUPPORT AN INVESTMENT GRADE BOND RATING FOR AMEREN MISSOURI?

A Yes. I have reached this conclusion by comparing the key credit rating financial ratios for Ameren Missouri at my proposed return on equity and the Company's pro forma capital structure to S&P's benchmark financial ratios using S&P's new credit metric ranges.

Q PLEASE DESCRIBE THE MOST RECENT S&P FINANCIAL RATIO CREDIT METRIC METHODOLOGY.

A S&P publishes a matrix of financial ratios corresponding to its assessment of the business risk of utility companies and related bond ratings. On May 27, 2009, S&P

expanded its matrix criteria by including additional business and financial risk categories.[37]

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

The financial risk profile categories are "Minimal," "Modest," "Intermediate," "Significant," "Aggressive," and "Highly Leveraged." Most of the utilities have a financial risk profile of "Aggressive." Ameren Missouri has an "Excellent" business risk profile and an "Intermediate" financial risk profile.

Q PLEASE DESCRIBE S&P'S USE OF THE FINANCIAL BENCHMARK RATIOS IN ITS CREDIT RATING REVIEW.

A S&P evaluates a utility's credit rating based on an assessment of its financial and business risks. A combination of financial and business risks equates to the overall assessment of Ameren Missouri's total credit risk exposure. On November 19, 2013, S&P updated its methodology. In its update, S&P published a matrix of financial ratios that defines the level of financial risk as a function of the level of business risk.

S&P publishes ranges for primary financial ratios that it uses as guidance in its credit review for utility companies. The two core financial ratio benchmarks it relies on in its credit rating process include: (1) Debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA"); and (2) Funds From Operations ("FFO") to Total Debt.[38]

[37] S&P updated its 2008 credit metric guidelines in 2009, and incorporated utility metric benchmarks with the general corporate rating metrics. *Standard & Poor's RatingsDirect*: "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," May 27, 2009.

[38] *Standard & Poor's RatingsDirect*: "Criteria: Corporate Methodology," November 19, 2013.

Q HOW DID YOU APPLY S&P'S FINANCIAL RATIOS TO TEST THE REASONABLENESS OF YOUR RATE OF RETURN RECOMMENDATIONS?

A I calculated each of S&P's financial ratios based on Ameren Missouri's cost of service for its retail jurisdictional operations. While S&P would normally look at total consolidated Ameren Missouri financial ratios in its credit review process, my investigation in this proceeding is not the same as S&P's. I am attempting to judge the reasonableness of my proposed cost of capital for rate-setting in Ameren Missouri's retail regulated utility operations. Hence, I am attempting to determine whether my proposed rate of return will in turn support cash flow metrics, balance sheet strength, and earnings that will support an investment grade bond rating and Ameren Missouri's financial integrity.

Q DID YOU INCLUDE ANY OFF-BALANCE SHEET DEBT EQUIVALENTS?

A Yes, I did. The off-balance sheet debt related to operating leases and the associated amortization and interest expense were obtained from the S&P Capital IQ website, as shown on my Schedule MPG-19.

Q PLEASE DESCRIBE THE RESULTS OF THIS CREDIT METRIC ANALYSIS AS IT RELATES TO AMEREN MISSOURI.

A The S&P financial metric calculations for Ameren Missouri at a 9.20% return are developed on Schedule MPG-19, page 1. The credit metrics produced below, with Ameren Missouri's financial risk profile from S&P of "Intermediate" and business risk profile by S&P of "Excellent", will be used to assess the strength of the credit metrics based on Ameren Missouri's retail operations in Missouri.

Ameren Missouri's adjusted total debt ratio is approximately 47.6%. As shown on page 4 of Schedule MPG-19, this adjusted debt ratio is below the S&P median debt ratio of approximately 50.8% for A-rated utilities and below the S&P median of 53.6% for BBB-rated utilities. Hence, I concluded this capital structure reasonably supports Ameren Missouri's current investment grade bond rating.

Based on an equity return of 9.20%, Ameren Missouri will be provided an opportunity to produce a debt to Earnings Before Interest, Taxes, Depreciation and Amortization ("EBITDA") ratio of 2.6x. This is within S&P's "Intermediate" guideline range of 2.5x to 3.5x."[39] This ratio supports an investment grade credit rating.

Ameren Missouri's retail operations FFO to total debt coverage at a 9.20% equity return is 26%, which is within the S&P "Intermediate" metric guideline range of 23% to 35%. This FFO/total debt ratio will support an investment grade bond rating.

At my recommended return on equity of 9.20% and the Company's embedded debt cost and capital structure, Ameren Missouri's financial credit metrics continue to support credit metrics at an investment grade utility level.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A Yes.

[39] *Id.*

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, Mississippi, 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.

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Ameren Missouri

Rate of Return
(December 31, 2016)

Line	Description	Amount (1)	Weight (2)	Cost (3)	Weighted Cost (4)
1	Long-Term Debt	$ 3,647,652	47.14%	5.39%	2.54%
2	Preferred Stock	$ 81,828	1.06%	4.18%	0.04%
3	Common Equity	$ 4,008,377	51.80%	**9.20%**	4.77%
4	**Total**	**$ 7,737,856**	**100.00%**		**7.35%**

Source:
Schedule RJM-1.

Ameren Missouri

Ranking of Industrial Electric Rates for Ameren Missouri and State Averages of Investor Owned Utilities
50 MW Demand and 90% Load Factor

Rank	State or Utility	2016 ¢/kWh
1	Wisconsin	7.32
2	Minnesota	7.07
3	Kansas	6.56
4	North Dakota	6.56
5	Indiana	6.30
6	Michigan	6.05
7	South Dakota	6.03
8	Missouri	6.00
9	**Ameren Missouri**	**5.79**
10	Iowa	4.89

Rank	State or Utility	2015 ¢/kWh
1	Wisconsin	7.28
2	Michigan	6.92
3	Minnesota	6.73
4	North Dakota	6.59
5	Indiana	6.54
6	Kansas	6.54
7	South Dakota	6.28
8	Missouri	5.87
9	**Ameren Missouri**	**5.69**
10	Iowa	4.80

Rank	State or Utility	2014 ¢/kWh
1	Wisconsin	7.11
2	Michigan	6.99
3	Minnesota	6.78
4	Indiana	6.54
5	North Dakota	6.47
6	Kansas	6.35
7	South Dakota	5.89
8	Missouri	5.65
9	**Ameren Missouri**	**5.47**
10	Iowa	4.61

Ameren Missouri

Ranking of Industrial Electric Rates for Ameren Missouri and State Averages of Investor Owned Utilities
50 MW Demand and 90% Load Factor

Rank	State or Utility	2013 ¢/kWh
1	Michigan	7.15
2	Wisconsin	7.03
3	Kansas	6.86
4	Minnesota	6.48
5	Indiana	6.18
6	North Dakota	6.02
7	South Dakota	5.70
8	Missouri	5.33
9	**Ameren Missouri**	**5.16**
10	Iowa	4.64

Rank	State or Utility	2012 ¢/kWh
1	Michigan	7.20
2	Wisconsin	7.00
3	Minnesota	6.27
4	North Dakota	6.22
5	Indiana	5.80
6	Kansas	5.69
7	South Dakota	5.37
8	Missouri	5.06
9	**Ameren Missouri**	**4.81**
10	Iowa	4.08

Rank	State or Utility	2011 ¢/kWh
1	Wisconsin	6.85
2	Michigan	6.82
3	Minnesota	6.33
4	Indiana	6.04
5	North Dakota	5.90
6	Kansas	5.41
7	South Dakota	5.16
8	Missouri	4.91
9	**Ameren Missouri**	**4.74**
10	Iowa	4.55

Ameren Missouri

Ranking of Industrial Electric Rates for Ameren Missouri and State Averages of Investor Owned Utilities
50 MW Demand and 90% Load Factor

Rank	State or Utility	2010 ¢/kWh
1	Michigan	6.30
2	Wisconsin	6.29
3	Minnesota	6.13
4	Indiana	5.58
5	North Dakota	5.51
6	South Dakota	5.17
7	Kansas	5.06
8	Missouri	4.55
9	**Ameren Missouri**	**4.08**
10	Iowa	3.67

Rank	State or Utility	2009 ¢/kWh
1	Michigan	6.47
2	Wisconsin	6.22
3	Minnesota	5.74
4	Indiana	5.64
5	North Dakota	5.52
6	South Dakota	4.90
7	Iowa	4.50
8	Kansas	4.43
9	Missouri	4.08
10	**Ameren Missouri**	**3.74**

Source:
This report was prepared by Brubaker & Associates, Inc. using Edison Electric Institute Typical Bills and Average Rates Reports.

Ameren Missouri

Valuation Metrics

		Price to Earnings (P/E) Ratio [1]															
Line	Company	15-Year Average (1)	2016 [2] (2)	2015 (3)	2014 (4)	2013 (5)	2012 (6)	2011 (7)	2010 (8)	2009 (9)	2008 (10)	2007 (11)	2006 (12)	2005 (13)	2004 (14)	2003 (15)	2002 (16)
1	ALLETE	17.01	19.30	15.06	17.23	18.59	15.88	14.66	15.98	16.08	13.95	14.78	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	15.31	19.90	18.07	16.60	15.28	14.50	14.45	12.47	13.86	13.43	15.08	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	15.15	19.00	17.55	16.71	16.52	13.35	11.93	9.66	9.26	14.21	17.45	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	13.54	16.20	15.77	15.88	14.49	13.77	11.92	13.42	10.03	13.06	16.27	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	29.12	17.30	40.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	17.66	19.60	17.60	17.28	14.64	19.30	14.08	12.74	11.42	14.97	30.88	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.45	21.00	16.14	19.03	18.24	17.13	31.13	18.10	9.93	N/A	15.02	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	14.45	22.80	18.10	16.96	18.75	14.85	14.58	13.78	11.81	11.27	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	16.29	20.30	18.29	17.30	16.32	15.07	13.62	12.46	13.56	10.87	26.84	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	14.90	18.50	15.59	15.90	14.72	15.39	15.08	13.30	12.55	12.29	13.78	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	17.63	19.20	22.14	22.97	19.25	18.91	17.27	14.35	12.74	13.78	20.63	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	15.07	18.70	18.11	14.91	17.92	14.89	13.51	12.27	10.41	14.81	18.27	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	16.21	17.90	18.22	17.91	17.45	17.46	13.76	12.69	13.32	17.28	16.13	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	13.71	18.10	14.77	13.05	12.70	9.71	11.81	10.32	9.72	12.36	16.03	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	16.74	17.90	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Empire District Electric	18.27	25.40	18.71	16.21	15.00	15.76	15.76	16.75	14.34	17.26	21.70	15.92	24.50	24.81	15.83	16.18
17	Entergy Corp.	13.37	11.30	12.53	12.89	13.21	11.22	9.06	11.57	11.98	16.56	19.30	14.28	16.28	15.09	13.77	11.53
18	Eversource Energy	17.37	17.50	18.11	17.92	16.94	19.86	15.35	13.42	11.96	13.66	18.75	27.07	19.76	20.77	13.35	16.07
19	Exelon Corp.	14.08	13.00	12.58	16.02	13.43	19.08	11.30	10.97	11.49	17.97	18.22	16.53	15.37	12.99	11.77	10.46
20	FirstEnergy Corp.	17.80	17.80	17.02	39.79	13.06	21.10	22.39	11.75	13.02	15.64	15.59	14.23	16.07	14.13	22.47	12.95
21	Great Plains Energy	15.72	21.00	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
22	Hawaiian Elec.	17.77	13.00	20.40	15.88	16.21	15.81	17.09	18.59	19.79	23.16	21.57	20.33	18.27	19.18	13.76	13.47
23	IDACORP, Inc.	15.60	18.90	16.22	14.67	13.45	12.41	11.54	11.83	10.20	13.93	18.19	15.07	16.70	15.49	26.51	18.88
24	ITC Holdings	25.13	23.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26.37	N/A	N/A	N/A
25	MGE Energy	17.37	23.90	20.28	17.19	17.01	17.23	15.82	14.98	15.14	14.22	15.01	15.88	22.40	17.98	17.55	15.96
26	NextEra Energy, Inc.	15.50	21.50	16.89	17.25	16.57	14.43	11.54	10.83	13.42	14.48	18.90	13.65	17.88	13.65	17.88	13.60
27	NorthWestern Corp	16.50	15.10	18.36	16.24	16.86	15.72	12.62	12.90	11.54	13.87	21.74	25.95	17.09	N/A	N/A	N/A
28	OGE Energy	14.65	17.50	17.69	18.27	17.69	15.16	14.37	13.31	10.83	12.41	13.75	13.68	14.95	14.13	11.84	14.12
29	Otter Tail Corp.	24.56	21.80	18.20	18.84	21.12	21.75	47.48	55.10	31.16	30.06	19.02	17.35	15.40	17.34	17.77	16.01
30	PG&E Corp.	16.41	17.30	26.40	15.00	23.67	20.70	15.46	15.80	13.01	12.08	16.85	14.84	15.37	13.81	9.50	N/A
31	Pinnacle West Capital	15.26	18.30	16.04	15.89	15.27	14.35	14.60	12.57	13.74	16.07	14.93	13.69	19.24	15.80	13.96	14.43
32	PNM Resources	17.54	18.90	16.85	18.68	16.13	14.97	14.53	14.05	18.09	N/A	35.65	15.57	17.38	15.02	14.73	15.08
33	Portland General	15.73	18.80	17.71	15.32	16.88	13.98	12.37	12.00	14.40	16.30	11.94	23.35	N/A	N/A	N/A	N/A
34	PPL Corp.	14.18	14.60	13.92	14.08	12.84	10.88	10.52	11.93	25.69	17.64	17.26	14.10	15.12	12.51	10.59	11.06
35	Public Serv. Enterprise	13.05	14.00	12.41	12.61	13.50	12.79	10.40	10.37	10.04	13.65	16.54	17.81	16.74	14.26	10.58	10.00
36	SCANA Corp.	13.97	17.50	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
37	Sempra Energy	14.09	25.80	19.73	21.87	19.68	14.89	11.77	12.60	10.09	11.80	14.01	11.50	11.79	8.65	8.96	8.19
38	Southern Co.	15.73	18.30	15.85	16.04	16.19	16.97	15.85	14.90	13.52	16.13	15.95	16.19	15.92	14.68	14.83	14.63
39	Vectren Corp.	16.67	20.00	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
40	Westar Energy	15.08	21.90	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
41	WEC Energy Group	15.69	20.40	21.33	17.71	16.50	15.76	14.25	14.01	13.35	14.77	16.47	15.97	14.46	17.51	12.43	10.46
42	Xcel Energy Inc.	16.49	17.90	16.54	15.44	15.04	14.82	14.24	14.13	12.66	13.69	16.65	14.80	15.36	13.65	11.62	40.80
43	Average	16.01	18.83	18.02	17.18	16.26	15.58	15.23	14.24	13.51	15.17	17.75	16.43	16.98	16.79	13.76	14.37
44	Median	15.30	18.75	17.71	16.43	16.20	15.04	14.31	12.91	12.82	14.21	16.41	15.88	16.07	15.49	13.69	13.54

Sources:

[1] *The Value Line Investment Survey Investment Analyzer Software,* downloaded on November 30, 2016.

[2] *The Value Line Investment Survey,* September 16, October 28, and November 18, 2016.

Ameren Missouri

Valuation Metrics

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	15-Year Average (1)	2016 [2/a] (2)	2015 (3)	2014 (4)	2013 (5)	2012 (6)	2011 (7)	2010 (8)	2009 (9)	2008 (10)	2007 (11)	2006 (12)	2005 (13)	2004 (14)	2003 (15)	2002 (16)
1	ALLETE	9.24	8.36	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	7.05	9.52	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	6.72	7.24	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	5.97	7.72	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	10.15	8.99	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	6.33	8.11	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.36	8.28	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	4.70	6.04	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	5.21	8.47	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.05	9.32	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.13	11.01	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	5.86	8.66	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.48	8.23	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	5.15	6.54	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.51	7.17	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Empire District Electric	7.69	8.38	7.27	7.29	7.07	6.97	6.43	6.88	6.23	6.94	8.78	8.17	9.20	9.60	8.22	7.93
17	Entergy Corp.	5.83	4.03	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
18	Eversource Energy	6.30	11.04	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
19	Exelon Corp.	6.29	4.30	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
20	FirstEnergy Corp.	6.32	5.48	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
21	Great Plains Energy	6.27	6.98	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
22	Hawaiian Elec.	7.86	7.69	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
23	IDACORP, Inc.	7.64	10.83	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
24	ITC Holdings	13.95	14.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13.67	N/A	N/A	N/A
25	MGE Energy	10.35	14.41	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
26	NextEra Energy, Inc.	7.13	10.36	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
27	NorthWestern Corp	7.45	8.79	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
28	OGE Energy	7.42	8.42	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
29	Otter Tail Corp.	8.94	9.00	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
30	PG&E Corp.	6.16	6.75	7.24	5.65	6.84	5.86	5.32	5.42	4.71	4.61	5.84	5.28	5.07	5.13	4.05	14.69
31	Pinnacle West Capital	5.80	7.81	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
32	PNM Resources	6.68	8.49	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
33	Portland General	5.44	7.00	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
34	PPL Corp.	7.32	8.67	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
35	Public Serv. Enterprise	7.13	7.28	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
36	SCANA Corp.	7.04	9.99	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
37	Sempra Energy	7.40	10.95	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
38	Southern Co.	8.29	9.49	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
39	Vectren Corp.	6.85	8.35	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
40	Westar Energy	6.62	10.34	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
41	WEC Energy Group	8.04	10.69	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
42	Xcel Energy Inc.	6.22	7.98	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
43	Average	6.97	8.60	8.05	7.80	7.37	6.96	6.48	5.99	5.58	6.94	7.71	7.13	7.35	6.85	5.77	5.91
44	Median	6.82	8.40	7.93	7.49	7.04	6.85	6.27	5.80	5.35	7.08	7.76	7.37	7.06	6.72	5.66	5.57

Sources:

[1] *The Value Line Investment Survey Investment Analyzer Software,* downloaded on November 30, 2016.

[2] *The Value Line Investment Survey, September 16, October 28, and November 18, 2016.*

Note:

[a] Based on the average of the high and low price for 2016 and the projected 2016 cash flow per share, published in The Value Line Investment Survey, September 16, October 28, and November 18, 2016.

Ameren Missouri

Valuation Metrics

Line	Company	Market Price to Book Value (MP/BV) Ratio [1] 12-Year Average (1)	2016 [2/a] (2)	2015 (3)	2014 (4)	2013 (5)	2012 (6)	2011 (7)	2010 (8)	2009 (9)	2008 (10)	2007 (11)	2006 (12)	2005 (13)
1	ALLETE	1.56	1.49	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22
2	Alliant Energy	1.55	1.98	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33
3	Ameren Corp.	1.31	1.62	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68
4	American Electric Power	1.46	1.68	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57
5	Avangrid, Inc.	0.78	0.84	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.23	1.56	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13
7	Black Hills	1.41	1.81	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63
8	CenterPoint Energy	2.38	2.57	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06
9	CMS Energy Corp.	1.78	2.71	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32
10	Consol. Edison	1.37	1.55	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52
11	Dominion Resources	2.63	3.00	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50
12	DTE Energy	1.35	1.76	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39
13	Duke Energy	1.15	1.37	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A
14	Edison Int'l	1.59	1.86	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93
15	El Paso Electric	1.50	1.65	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76
16	Empire District Electric	1.34	1.63	1.32	1.39	1.27	1.23	1.25	1.24	1.07	1.30	1.47	1.45	1.49
17	Entergy Corp.	1.68	1.33	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01
18	Eversource Energy	1.37	1.63	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05
19	Exelon Corp.	2.45	1.14	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60
20	FirstEnergy Corp.	1.57	1.24	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64
21	Great Plains Energy	1.20	1.22	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86
22	Hawaiian Elec.	1.59	1.64	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78
23	IDACORP, Inc.	1.28	1.74	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22
24	ITC Holdings	3.48	3.43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.52
25	MGE Energy	1.90	2.42	2.10	2.10	2.06	1.92	1.75	1.65	1.54	1.62	1.75	1.83	2.09
26	NextEra Energy, Inc.	1.92	2.24	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
27	NorthWestern Corp	1.43	1.69	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42
28	OGE Energy	1.83	1.63	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80
29	Otter Tail Corp.	1.66	1.81	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
30	PG&E Corp.	1.58	1.64	1.57	1.39	1.38	1.41	1.46	1.56	1.41	1.50	1.94	1.83	1.84
31	Pinnacle West Capital	1.30	1.70	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25
32	PNM Resources	1.05	1.44	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45
33	Portland General	1.22	1.53	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A
34	PPL Corp.	2.13	2.26	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50
35	Public Serv. Enterprise	1.93	1.64	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45
36	SCANA Corp.	1.49	1.71	1.47	1.48	1.48	1.48	1.36	1.33	1.20	1.45	1.62	1.64	1.72
37	Sempra Energy	1.72	2.10	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.73
38	Southern Co.	2.04	1.76	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35
39	Vectren Corp.	1.75	2.15	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82
40	Westar Energy	1.31	1.86	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41
41	WEC Energy Group	1.83	2.07	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62
42	Xcel Energy Inc.	1.47	1.86	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
43	Average	1.62	1.81	1.67	1.68	1.59	1.50	1.42	1.34	1.25	1.62	1.90	1.76	1.84
44	Median	1.51	1.69	1.57	1.53	1.49	1.46	1.35	1.31	1.14	1.46	1.71	1.71	1.73

Sources:

[1] *The Value Line Investment Survey Investment Analyzer Software,* downloaded on November 30, 2016.

[2] *The Value Line Investment Survey, September 16, October 28, and November 18, 2016.*

Note:

[a] Based on the average of the high and low price for 2016 and the projected 2016 cash flow per share,

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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)
1	ALLETE, Inc.	BBB+	A3	53.3%	53.7%
2	Alliant Energy Corporation	A-	Baa1	46.5%	51.4%
3	American Electric Power Company, Inc.	BBB+	Baa1	46.3%	50.2%
4	Avista Corporation	BBB	Baa1	46.9%	50.0%
5	CMS Energy Corporation	BBB+	Baa2	29.3%	31.4%
6	DTE Energy Company	BBB+	Baa1	47.3%	49.8%
7	IDACORP, Inc.	BBB	Baa1	54.0%	54.4%
8	NorthWestern Corporation	BBB	A3	44.1%	46.9%
9	OGE Energy Corp.	A-	A3	54.8%	55.7%
10	Pinnacle West Capital Corporation	A-	A3	53.7%	57.0%
11	PNM Resources, Inc.	BBB+	Baa3	40.6%	45.5%
12	Portland General Electric Company	BBB	A3	50.7%	52.2%
13	SCANA Corporation	BBB+	Baa3	45.5%	48.1%
14	Xcel Energy Inc.	A-	A3	43.3%	45.9%
15	**Average**	**BBB+**	**Baa1**	**46.9%**	**49.4%**
16	**Median**	**BBB+**	**Baa1**	**46.7%**	**50.1%**
17	**Ameren Missouri**	**BBB+[3]**	**Baa1[3]**		**51.8%[4]**

Sources:

[1] SNL Financial, Downloaded on November 21, 2016.

[2] *The Value Line Investment Survey* , September 16, October 28, and November 18, 2016.

[3] Martin Direct at 9.

[4] Schedule RJM-1

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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.	5.50%	N/A	6.00%	1	5.00%	1	5.50%
2	Alliant Energy Corporation	6.10%	N/A	7.90%	1	6.60%	2	6.87%
3	American Electric Power Company, Inc.	5.40%	N/A	3.10%	5	1.89%	1	3.46%
4	Avista Corporation	5.30%	N/A	5.30%	1	5.65%	2	5.42%
5	CMS Energy Corporation	6.60%	N/A	6.90%	3	7.26%	2	6.92%
6	DTE Energy Company	5.80%	N/A	5.40%	4	5.63%	3	5.61%
7	IDACORP, Inc.	4.30%	N/A	4.40%	2	4.10%	2	4.27%
8	NorthWestern Corporation	5.00%	N/A	4.70%	3	4.50%	2	4.73%
9	OGE Energy Corp.	5.20%	N/A	5.40%	2	4.00%	1	4.87%
10	Pinnacle West Capital Corporation	4.50%	N/A	4.70%	5	4.45%	2	4.55%
11	PNM Resources, Inc.	6.80%	N/A	7.00%	4	6.85%	2	6.88%
12	Portland General Electric Company	6.20%	N/A	5.70%	3	6.20%	2	6.03%
13	SCANA Corporation	5.50%	N/A	6.10%	3	6.50%	2	6.03%
14	Xcel Energy Inc.	5.40%	N/A	5.10%	4	5.72%	2	5.41%
15	**Average**	**5.54%**	**N/A**	**5.55%**	**3**	**5.31%**	**2**	**5.47%**

Sources:

[1] Zacks Elite, http://www.zackselite.com/, downloaded on November 18, 2016.

[2] SNL Interactive, http://www.snl.com/, downloaded on November 18, 2016.

[3] Reuters, http://www.reuters.com/, downloaded on November 18, 2016.

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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.	$59.58	5.50%	$2.08	3.68%	9.18%
2	Alliant Energy Corporation	$37.69	6.87%	$1.18	3.35%	10.21%
3	American Electric Power Company, Inc.	$63.52	3.46%	$2.24	3.65%	7.11%
4	Avista Corporation	$40.86	5.42%	$1.37	3.53%	8.95%
5	CMS Energy Corporation	$41.62	6.92%	$1.24	3.19%	10.11%
6	DTE Energy Company	$93.33	5.61%	$3.08	3.49%	9.10%
7	IDACORP, Inc.	$76.59	4.27%	$2.20	2.99%	7.26%
8	NorthWestern Corporation	$57.05	4.73%	$2.00	3.67%	8.40%
9	OGE Energy Corp.	$31.06	4.87%	$1.10	3.71%	8.58%
10	Pinnacle West Capital Corporation	$75.14	4.55%	$2.50	3.48%	8.03%
11	PNM Resources, Inc.	$32.34	6.88%	$0.88	2.91%	9.79%
12	Portland General Electric Company	$42.33	6.03%	$1.28	3.21%	9.24%
13	SCANA Corporation	$71.13	6.03%	$2.30	3.43%	9.46%
14	Xcel Energy Inc.	$40.85	5.41%	$1.36	3.51%	8.92%
15	**Average**	**$54.51**	**5.47%**	**$1.77**	**3.41%**	**8.88%**
16	**Median**					**9.02%**

Sources:
[1] SNL Financial, Downloaded on November 21, 2016.
[2] Schedule MPG-5.
[3] *The Value Line Investment Survey* , September 16, October 28, and November 18, 2016.

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Payout Ratios

Line	Company	Dividends Per Share 2015 (1)	Dividends Per Share Projected (2)	Earnings Per Share 2015 (3)	Earnings Per Share Projected (4)	Payout Ratio 2015 (5)	Payout Ratio Projected (6)
1	ALLETE, Inc.	$2.02	$2.40	$3.38	$3.75	59.76%	64.00%
2	Alliant Energy Corporation	$1.10	$1.50	$1.69	$2.45	65.09%	61.22%
3	American Electric Power Company, Inc.	$2.15	$2.75	$3.59	$4.25	59.89%	64.71%
4	Avista Corporation	$1.32	$1.60	$1.89	$2.50	69.84%	64.00%
5	CMS Energy Corporation	$1.16	$1.60	$1.89	$2.50	61.38%	64.00%
6	DTE Energy Company	$2.84	$3.70	$4.45	$6.25	63.82%	59.20%
7	IDACORP, Inc.	$1.92	$2.70	$3.87	$4.50	49.61%	60.00%
8	NorthWestern Corporation	$1.92	$2.32	$2.90	$4.00	66.21%	58.00%
9	OGE Energy Corp.	$1.05	$1.65	$1.69	$2.25	62.13%	73.33%
10	Pinnacle West Capital Corporation	$2.44	$3.10	$3.92	$4.75	62.24%	65.26%
11	PNM Resources, Inc.	$0.80	$1.30	$1.64	$2.35	48.78%	55.32%
12	Portland General Electric Company	$1.18	$1.60	$2.04	$2.75	57.84%	58.18%
13	SCANA Corporation	$2.18	$2.80	$3.81	$4.75	57.22%	58.95%
14	Xcel Energy Inc.	$1.28	$1.70	$2.10	$2.75	60.95%	61.82%
15	**Average**	**$1.67**	**$2.19**	**$2.78**	**$3.56**	**60.34%**	**62.00%**

Source:
The Value Line Investment Survey , September 16, October 28, and November 18, 2016.

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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.	$2.40	$3.75	$43.50	3.25%	8.62%	1.02	8.76%	64.00%	36.00%	3.15%	3.52%
2	Alliant Energy Corporation	$1.50	$2.45	$20.00	4.04%	12.25%	1.02	12.49%	61.22%	38.78%	4.84%	5.19%
3	American Electric Power Company, Inc.	$2.75	$4.25	$44.25	3.96%	9.60%	1.02	9.79%	64.71%	35.29%	3.46%	3.72%
4	Avista Corporation	$1.60	$2.50	$28.50	3.05%	8.77%	1.01	8.90%	64.00%	36.00%	3.21%	4.08%
5	CMS Energy Corporation	$1.60	$2.50	$19.25	6.26%	12.99%	1.03	13.38%	64.00%	36.00%	4.82%	6.30%
6	DTE Energy Company	$3.70	$6.25	$61.00	4.53%	10.25%	1.02	10.47%	59.20%	40.80%	4.27%	4.73%
7	IDACORP, Inc.	$2.70	$4.50	$49.50	3.90%	9.09%	1.02	9.26%	60.00%	40.00%	3.71%	3.85%
8	NorthWestern Corporation	$2.32	$4.00	$40.00	3.78%	10.00%	1.02	10.19%	58.00%	42.00%	4.28%	4.67%
9	OGE Energy Corp.	$1.65	$2.25	$19.75	3.46%	11.39%	1.02	11.59%	73.33%	26.67%	3.09%	3.24%
10	Pinnacle West Capital Corporation	$3.10	$4.75	$49.00	3.48%	9.69%	1.02	9.86%	65.26%	34.74%	3.42%	3.79%
11	PNM Resources, Inc.	$1.30	$2.35	$25.50	4.18%	9.22%	1.02	9.40%	55.32%	44.68%	4.20%	4.25%
12	Portland General Electric Company	$1.60	$2.75	$30.25	3.53%	9.09%	1.02	9.25%	58.18%	41.82%	3.87%	4.02%
13	SCANA Corporation	$2.80	$4.75	$47.75	4.62%	9.95%	1.02	10.17%	58.95%	41.05%	4.18%	4.79%
14	Xcel Energy Inc.	$1.70	$2.75	$25.50	4.07%	10.78%	1.02	11.00%	61.82%	38.18%	4.20%	4.22%
15	**Average**	**$2.19**	**$3.56**	**$35.98**	**4.01%**	**10.12%**	**1.02**	**10.32%**	**62.00%**	**38.00%**	**3.91%**	**4.31%**

Sources and Notes:
Cols. (1), (2) and (3): *The Value Line Investment Survey* , September 16, October 28, and November 18, 2016.
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).

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Sustainable Growth Rate

Line	Company	13-Week Average Stock Price[1] (1)	2015 Book Value Per Share[2] (2)	Market to Book Ratio (3)	Common Shares Outstanding (in Millions)[2] 2015 (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.	$59.58	$37.07	1.61	49.10	50.60	0.60%	0.97%	37.78%	0.37%
2	Alliant Energy Corporation	$37.69	$16.41	2.30	226.92	230.00	0.27%	0.62%	56.46%	0.35%
3	American Electric Power Company, Inc.	$63.52	$36.44	1.74	491.05	500.00	0.36%	0.63%	42.63%	0.27%
4	Avista Corporation	$40.86	$24.53	1.67	62.31	66.50	1.31%	2.18%	39.97%	0.87%
5	CMS Energy Corporation	$41.62	$14.21	2.93	277.16	288.00	0.77%	2.26%	65.85%	1.49%
6	DTE Energy Company	$93.33	$48.88	1.91	179.47	184.00	0.50%	0.95%	47.63%	0.45%
7	IDACORP, Inc.	$76.59	$40.88	1.87	50.34	50.75	0.16%	0.30%	46.63%	0.14%
8	NorthWestern Corporation	$57.05	$33.22	1.72	48.17	49.50	0.55%	0.94%	41.77%	0.39%
9	OGE Energy Corp.	$31.06	$16.66	1.86	199.70	201.50	0.18%	0.33%	46.36%	0.16%
10	Pinnacle West Capital Corporation	$75.14	$41.30	1.82	110.98	113.50	0.45%	0.82%	45.04%	0.37%
11	PNM Resources, Inc.	$32.34	$20.78	1.56	79.65	80.00	0.09%	0.14%	35.74%	0.05%
12	Portland General Electric Company	$42.33	$25.43	1.66	88.79	89.80	0.23%	0.38%	39.93%	0.15%
13	SCANA Corporation	$71.13	$38.09	1.87	142.90	148.00	0.70%	1.31%	46.45%	0.61%
14	Xcel Energy Inc.	$40.85	$20.89	1.96	507.54	508.00	0.02%	0.04%	48.86%	0.02%
15	**Average**	**$54.51**	**$29.63**	**1.89**	**179.58**	**182.87**	**0.44%**	**0.85%**	**45.79%**	**0.41%**

Sources and Notes:

[1] SNL Financial, Downloaded on November 21, 2016.

[2] *The Value Line Investment Survey* , September 16, October 28, and November 18, 2016.

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

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

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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.	$59.58	3.52%	$2.08	3.61%	7.13%
2	Alliant Energy Corporation	$37.69	5.19%	$1.18	3.29%	8.49%
3	American Electric Power Company, Inc.	$63.52	3.72%	$2.24	3.66%	7.38%
4	Avista Corporation	$40.86	4.08%	$1.37	3.49%	7.57%
5	CMS Energy Corporation	$41.62	6.30%	$1.24	3.17%	9.47%
6	DTE Energy Company	$93.33	4.73%	$3.08	3.46%	8.18%
7	IDACORP, Inc.	$76.59	3.85%	$2.20	2.98%	6.83%
8	NorthWestern Corporation	$57.05	4.67%	$2.00	3.67%	8.34%
9	OGE Energy Corp.	$31.06	3.24%	$1.10	3.66%	6.90%
10	Pinnacle West Capital Corporation	$75.14	3.79%	$2.50	3.45%	7.25%
11	PNM Resources, Inc.	$32.34	4.25%	$0.88	2.84%	7.09%
12	Portland General Electric Company	$42.33	4.02%	$1.28	3.15%	7.16%
13	SCANA Corporation	$71.13	4.79%	$2.30	3.39%	8.17%
14	Xcel Energy Inc.	$40.85	4.22%	$1.36	3.47%	7.69%
15	**Average**	**$54.51**	**4.31%**	**$1.77**	**3.38%**	**7.69%**
16	**Median**					**7.47%**

Sources:

[1] SNL Financial, Downloaded on November 21, 2016.

[2] Schedule MPG-8, page 1.

[3] *The Value Line Investment Survey*, September 16, October 28, and November 18, 2016.

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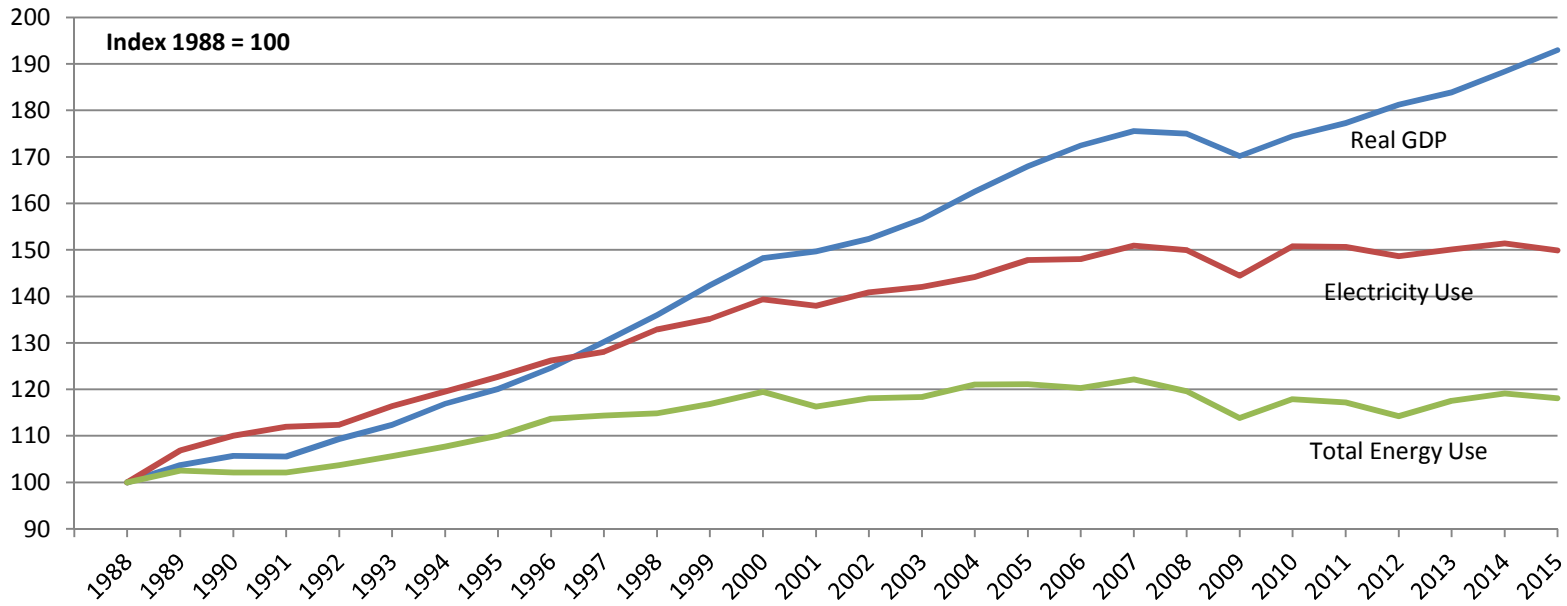
Electricity Sales Are Linked to U.S. Economic Growth



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

Sources:
U.S. Energy Information Administration
Federal Reserve Bank of St. Louis

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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.	$59.58	$2.08	5.50%	5.29%	5.08%	4.88%	4.67%	4.46%	4.25%	8.19%
2	Alliant Energy Corporation	$37.69	$1.18	6.87%	6.43%	5.99%	5.56%	5.12%	4.69%	4.25%	8.10%
3	American Electric Power Company, Inc.	$63.52	$2.24	3.46%	3.59%	3.73%	3.86%	3.99%	4.12%	4.25%	7.74%
4	Avista Corporation	$40.86	$1.37	5.42%	5.22%	5.03%	4.83%	4.64%	4.44%	4.25%	8.01%
5	CMS Energy Corporation	$41.62	$1.24	6.92%	6.48%	6.03%	5.59%	5.14%	4.70%	4.25%	7.93%
6	DTE Energy Company	$93.33	$3.08	5.61%	5.38%	5.16%	4.93%	4.70%	4.48%	4.25%	8.00%
7	IDACORP, Inc.	$76.59	$2.20	4.27%	4.26%	4.26%	4.26%	4.26%	4.25%	4.25%	7.24%
8	NorthWestern Corporation	$57.05	$2.00	4.73%	4.65%	4.57%	4.49%	4.41%	4.33%	4.25%	8.02%
9	OGE Energy Corp.	$31.06	$1.10	4.87%	4.76%	4.66%	4.56%	4.46%	4.35%	4.25%	8.09%
10	Pinnacle West Capital Corporation	$75.14	$2.50	4.55%	4.50%	4.45%	4.40%	4.35%	4.30%	4.25%	7.78%
11	PNM Resources, Inc.	$32.34	$0.88	6.88%	6.44%	6.01%	5.57%	5.13%	4.69%	4.25%	7.60%
12	Portland General Electric Company	$42.33	$1.28	6.03%	5.74%	5.44%	5.14%	4.84%	4.55%	4.25%	7.78%
13	SCANA Corporation	$71.13	$2.30	6.03%	5.74%	5.44%	5.14%	4.84%	4.55%	4.25%	8.02%
14	Xcel Energy Inc.	$40.85	$1.36	5.41%	5.21%	5.02%	4.83%	4.64%	4.44%	4.25%	7.98%
15	**Average**	**$54.51**	**$1.77**	**5.47%**	**5.26%**	**5.06%**	**4.86%**	**4.66%**	**4.45%**	**4.25%**	**7.89%**
16	**Median**										**7.99%**

Sources:

[1] SNL Financial, Downloaded on November 21, 2016.

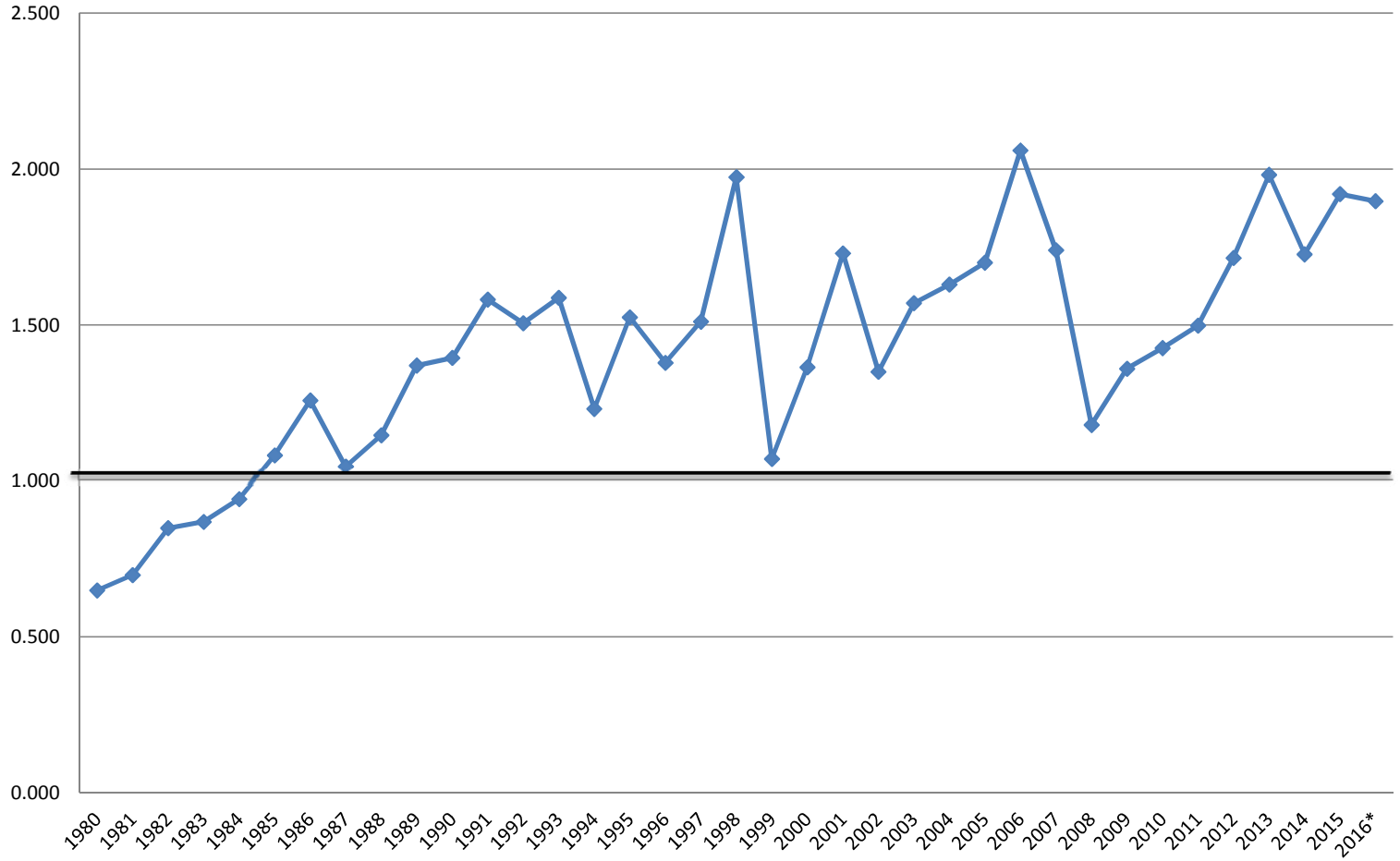
[2] *The Value Line Investment Survey*, September 16, October 28, and November 18, 2016.

[3] Schedule MPG-5.

[4] Blue Chip Financial Forecasts, December 1, 2016 at 14.

Ameren Missouri

Common Stock Market/Book Ratio



* through June 2016

Source:
1980 - 2000: Mergent Public Utility Manual.
2001 - 2016: AUS Utility Reports, various dates.

Ameren Missouri

Equity Risk Premium - Treasury Bond

Line	Year	Authorized Electric Returns[1] (1)	30 yr. Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
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%	4.60%	
6	1991	12.55%	8.14%	4.41%	4.25%	
7	1992	12.09%	7.67%	4.42%	4.26%	
8	1993	11.41%	6.60%	4.81%	4.45%	
9	1994	11.34%	7.37%	3.97%	4.34%	
10	1995	11.55%	6.88%	4.67%	4.46%	4.53%
11	1996	11.39%	6.70%	4.69%	4.51%	4.38%
12	1997	11.40%	6.61%	4.79%	4.59%	4.42%
13	1998	11.66%	5.58%	6.08%	4.84%	4.65%
14	1999	10.77%	5.87%	4.90%	5.03%	4.68%
15	2000	11.43%	5.94%	5.49%	5.19%	4.82%
16	2001	11.09%	5.49%	5.60%	5.37%	4.94%
17	2002	11.16%	5.43%	5.73%	5.56%	5.07%
18	2003	10.97%	4.96%	6.01%	5.55%	5.19%
19	2004	10.75%	5.05%	5.70%	5.71%	5.37%
20	2005	10.54%	4.65%	5.89%	5.79%	5.49%
21	2006	10.34%	4.99%	5.35%	5.74%	5.56%
22	2007	10.31%	4.83%	5.48%	5.69%	5.62%
23	2008	10.37%	4.28%	6.09%	5.70%	5.62%
24	2009	10.52%	4.07%	6.45%	5.85%	5.78%
25	2010	10.29%	4.25%	6.04%	5.88%	5.83%
26	2011	10.19%	3.91%	6.28%	6.07%	5.90%
27	2012	10.01%	2.92%	7.09%	6.39%	6.04%
28	2013	9.81%	3.45%	6.36%	6.44%	6.07%
29	2014	9.75%	3.34%	6.41%	6.44%	6.14%
30	2015	9.60%	2.84%	6.76%	6.58%	6.23%
31	2016 [3]	9.64%	2.52%	7.12%	6.75%	6.41%
32	**Average**	**11.17%**	**5.70%**	**5.47%**	**5.41%**	**5.40%**
33	**Minimum**				**4.25%**	**4.38%**
34	**Maximum**				**6.75%**	**6.41%**

Sources:

[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, January 1997 page 5, January 2011 page 3, and October 2016 page 6.

[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 2016.

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Equity Risk Premium - Utility Bond

Line	Year	Authorized Electric Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
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%	3.12%	
6	1991	12.55%	9.36%	3.19%	2.88%	
7	1992	12.09%	8.69%	3.40%	2.99%	
8	1993	11.41%	7.59%	3.82%	3.29%	
9	1994	11.34%	8.31%	3.03%	3.26%	
10	1995	11.55%	7.89%	3.66%	3.42%	3.27%
11	1996	11.39%	7.75%	3.64%	3.51%	3.20%
12	1997	11.40%	7.60%	3.80%	3.59%	3.29%
13	1998	11.66%	7.04%	4.62%	3.75%	3.52%
14	1999	10.77%	7.62%	3.15%	3.77%	3.52%
15	2000	11.43%	8.24%	3.19%	3.68%	3.55%
16	2001	11.09%	7.76%	3.33%	3.62%	3.56%
17	2002	11.16%	7.37%	3.79%	3.61%	3.60%
18	2003	10.97%	6.58%	4.39%	3.57%	3.66%
19	2004	10.75%	6.16%	4.59%	3.86%	3.81%
20	2005	10.54%	5.65%	4.89%	4.20%	3.94%
21	2006	10.34%	6.07%	4.27%	4.39%	4.00%
22	2007	10.31%	6.07%	4.24%	4.48%	4.04%
23	2008	10.37%	6.53%	3.84%	4.37%	3.97%
24	2009	10.52%	6.04%	4.48%	4.34%	4.10%
25	2010	10.29%	5.46%	4.83%	4.33%	4.26%
26	2011	10.19%	5.04%	5.15%	4.51%	4.45%
27	2012	10.01%	4.13%	5.88%	4.84%	4.66%
28	2013	9.81%	4.48%	5.33%	5.13%	4.75%
29	2014	9.75%	4.28%	5.47%	5.33%	4.84%
30	2015	9.60%	4.12%	5.48%	5.46%	4.90%
31	2016 [3]	9.64%	3.89%	5.75%	5.58%	5.05%
32	**Average**	**11.17%**	**7.08%**	**4.09%**	**4.03%**	**4.00%**
33	**Minimum**				**2.88%**	**3.20%**
34	**Maximum**				**5.58%**	**5.05%**

Sources:

[1] *Regulatory Research Associates, Inc* ., Regulatory Focus, Major Rate Case Decisions, January 1997 page 5, January 2011 page 3, and October 2016 page 6.

[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 2010-2016 were obtained from http://credittrends.moodys.com/.

[3] The data includes the period Jan - Sep 2016.

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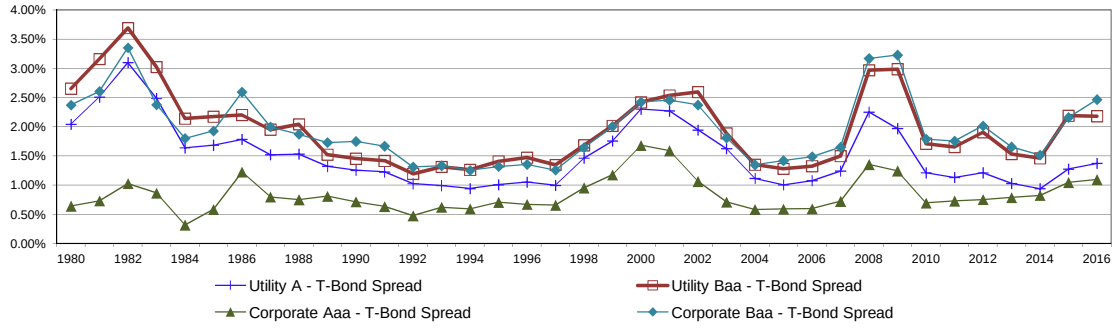
Bond Yield Spreads

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	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.85%	0.82%	1.51%	-0.06%	0.11%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016 [3]	2.52%	3.89%	4.70%	1.37%	2.18%	3.62%	4.99%	1.10%	2.46%	-0.28%	0.28%
38	**Average**	**6.72%**	**8.24%**	**8.68%**	**1.52%**	**1.96%**	**7.56%**	**8.67%**	**0.84%**	**1.95%**	**0.01%**	**0.68%**

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 2010-2016 were obtained from http://credittrends.moodys.com/.

[3] The data includes the period Jan - Sep 2016.

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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	11/18/16	3.01%	4.22%	4.79%
2	11/10/16	2.94%	4.12%	4.70%
3	11/04/16	2.56%	3.81%	4.38%
4	10/28/16	2.62%	3.86%	4.40%
5	10/21/16	2.48%	3.75%	4.30%
6	10/14/16	2.55%	3.83%	4.41%
7	10/07/16	2.46%	3.76%	4.33%
8	09/30/16	2.32%	3.64%	4.26%
9	09/23/16	2.34%	3.65%	4.26%
10	09/16/16	2.44%	3.76%	4.37%
11	09/09/16	2.39%	3.69%	4.29%
12	09/02/16	2.28%	3.58%	4.19%
13	08/26/16	2.29%	3.62%	4.22%
14	**Average**	**2.51%**	**3.79%**	**4.38%**
15	**Spread To Treasury**		**1.28%**	**1.87%**

Sources:

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

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

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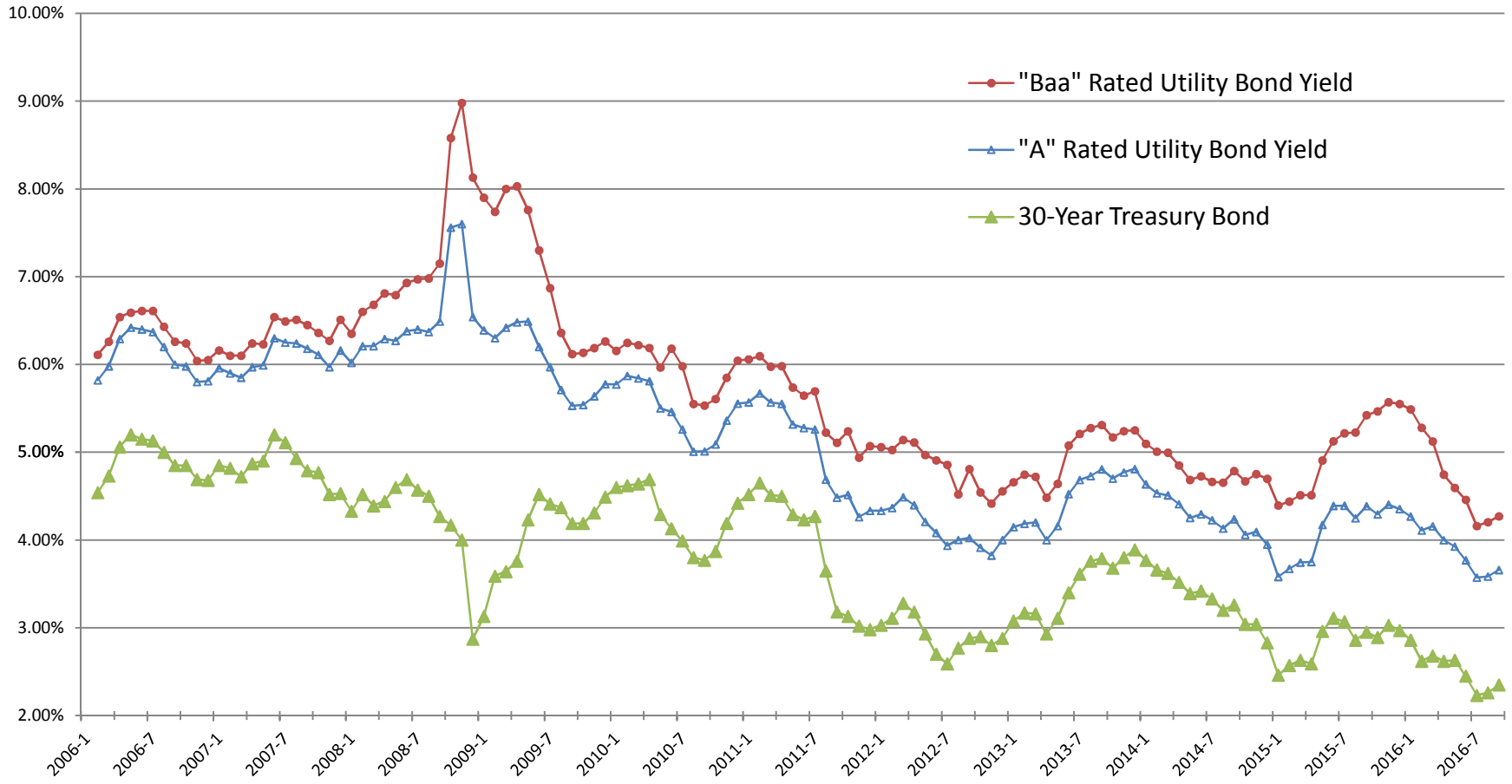
Trends in Bond Yields



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

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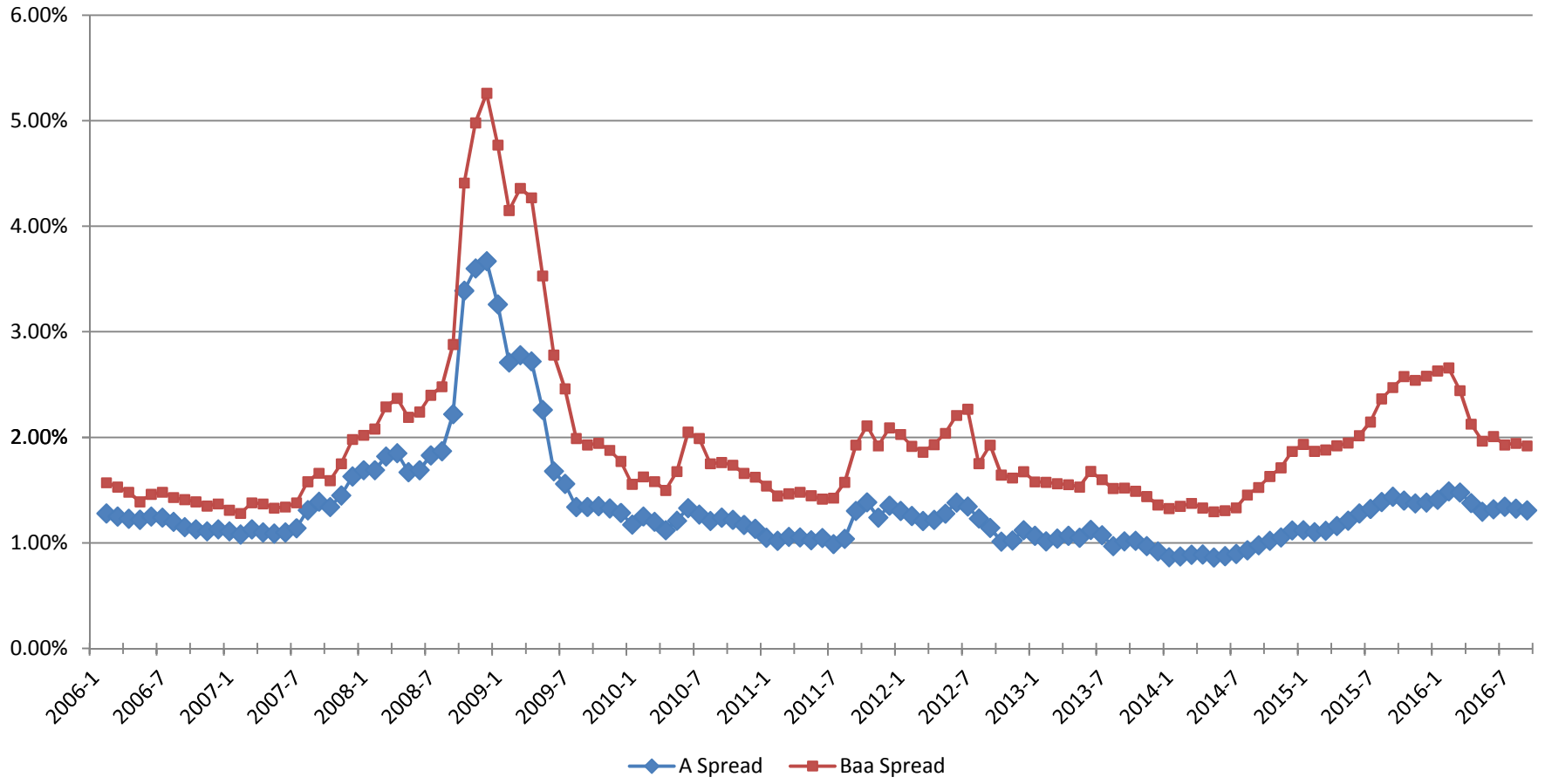
Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



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

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Value Line Beta

Line	Company	Beta
1	ALLETE, Inc.	0.75
2	Alliant Energy Corporation	0.75
3	American Electric Power Company, Inc.	0.65
4	Avista Corporation	0.70
5	CMS Energy Corporation	0.65
6	DTE Energy Company	0.70
7	IDACORP, Inc.	0.75
8	NorthWestern Corporation	0.70
9	OGE Energy Corp.	0.90
10	Pinnacle West Capital Corporation	0.70
11	PNM Resources, Inc.	0.75
12	Portland General Electric Company	0.70
13	SCANA Corporation	0.70
14	Xcel Energy Inc.	0.60
15	**Average**	**0.71**

Source:
The Value Line Investment Survey,
September 16, October 28, and November 18, 2016.

Ameren Missouri

CAPM Return

Line	Description	High Market Risk Premium (1)	Low Market Risk Premium (2)
1	Risk-Free Rate[1]	3.40%	3.40%
2	Risk Premium[2]	7.80%	6.00%
3	Beta[3]	0.71	0.71
4	**CAPM**	**8.97%**	**7.69%**

Sources:

[1] Blue Chip Financial Forecasts; December 1, 2016, at 2.

[2] *Duff & Phelps, 2016 Valuation Handbook Guide to Cost of Capital* at 2-4, 3-31, and 3-40.

[3] Schedule MPG-18.

Ameren Missouri

Standard & Poor's Credit Metrics

Line	Description	Retail Cost of Service Amount (1)	S&P Benchmark (Medial Volatility)[1/2] Intermediate (2)	Significant (3)	Aggressive (4)	Reference (5)
1	Rate Base	$ 7,195,256				Schedule LMM-15
2	Weighted Common Return	4.77%				Page 2, Line 3, Col. 4.
3	Pre-Tax Rate of Return	10.30%				Page 2, Line 4, Col. 5.
4	Income to Common	$ 342,911				Line 1 x Line 2.
5	EBIT	$ 741,217				Line 1 x Line 3.
6	Depreciation & Amortization	$ 532,300				Schedule LMM-12
7	Imputed Amortization	$ 6,887				S&P Capital IQ, downloaded on December 2, 2016.
8	Deferred Income Taxes & ITC	$ (5,915)				Schedule LMM-14
9	Funds from Operations (FFO)	$ 876,183				Sum of Line 4 and Lines 6 through 8.
10	Imputed Interest & Cap. Int. Expense	$ 16,613				S&P Capital IQ, downloaded on December 2, 2016.
11	EBITDA	$ 1,297,017				Sum of Lines 5 through 7 and Line 10.
12	Total Debt Ratio	47.6%				Page 3, Line 3, Col. 2.
13	Debt to EBITDA	2.6x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 5.5x	(Line 1 x Line 12) / Line 11.
14	FFO to Total Debt	26%	23% - 35%	13% - 23%	9% - 13%	Line 9 / (Line 1 x Line 12).

Sources:

[1] Standard & Poor's RatingsDirect: "Criteria: Corporate Methodology," November 19, 2013.

[2] Standard & Poor's RatingsDirect: "Union Electric Co. d/b/a Ameren Missouri" July 16, 2016.

Note:

Based on the July 2016 S&P report, Ameren Missouri has an "Excellent" business risk profile and an "Intermediate" financial risk profile, and falls under the "Medial Volatility" matrix.

Ameren Missouri

Standard & Poor's Credit Metrics
(Pre-Tax Rate of Return)

Line	Description	Amount (000) (1)	Weight (2)	Cost (3)	Weighted Cost (4)	Pre-Tax Weighted Cost (5)
1	Long-Term Debt	$ 3,647,652	47.14%	5.39%	2.54%	2.54%
2	Preferred Stock	$ 81,828	1.06%	4.18%	0.04%	0.07%
3	Common Equity	4,008,377	51.80%	**9.20%**	4.77%	7.69%
4	**Total**	**$ 7,737,856**	**100.00%**		**7.35%**	**10.30%**
5	Tax Conversion Factor*					1.6133

Sources:
Schedule MPG-1.
* Workpapers of Laura Moore.

Ameren Missouri

Standard & Poor's Credit Metrics
(Financial Capital Structure)

Line	Description		Amount (000) (1)	Weight (2)
1	Long-Term Debt	$	3,647,652	46.75%
2	Off-Balance Sheet Debt*		64,035	0.82%
3	**Total Debt**	**$**	**3,711,686**	47.57%
4	Preferred Stock	$	81,828	1.05%
5	Common Equity	$	4,008,377	51.38%
6	**Total**	**$**	**7,801,891**	**100.00%**

Source:
* S&P Capital IQ, downloaded on December 2, 2016.

Ameren Missouri

Standard & Poor's Credit Metrics
(June 30, 2016)

Line		Credit Rating (1)	FFO / Debt (%) (2)	Debt / Capital (%) (3)
	Value Line Publicly Traded Electric Utility Companies			
	A Rated			
1	Average	A-	19.02	56.43
2	Median	A-	16.26	54.51
	BBB Rated			
3	Average	BBB	16.39	56.29
4	Median	BBB	17.06	56.88
	All Utilities			
5	Average	BBB+	17.27	56.33
6	Median	BBB+	16.30	55.89
	Electric Operating Subsidiary Companies			
	A Rated			
7	Average	A-	21.31	50.76
8	Median	A-	21.99	50.77
	BBB Rated			
9	Average	BBB	20.61	53.03
10	Median	BBB	19.94	53.63
	All Utilities			
11	Average	BBB+	20.92	52.03
12	Median	BBB+	20.93	52.15

Source:
www.globalcreditportal.com/ratingsdirect/
Downloaded November 17, 2016.