Exhibit No. 57

Ameren Missouri – Exhibit 57
Ann E. Bulkley
Direct Testimony (Gas)
File Nos. ER-2021-0240 & GR-2021-0241

Exhibit No.:	057
Issues:	Return on Equity
Witness:	Ann E. Bulkley
Exhibit Type:	Direct-Highly Confidential
Sponsoring Party:	Ameren Missouri
File No.:	GR-2021-0241
Date:	March 31, 2021

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. GR-2021-0241

DIRECT TESTIMONY

OF

ANN E. BULKLEY

ON BEHALF OF

AMEREN MISSOURI

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DIRECT TESTIMONY

OF

ANN E. BULKLEY

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I. INTRODUCTION

Please state your name and business address.

My name is Ann E. Bulkley. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752. I am employed by Concentric Energy Advisors, Inc. ("Concentric") as a Senior Vice President.

On whose behalf are you submitting this Prepared Direct Testimony?

I am submitting this testimony on behalf of Ameren Missouri ("the "Company"), a wholly-owned subsidiary of Ameren Corporation ("Ameren").

Please describe your education and experience.

I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with more than 20 years of experience consulting to the energy industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. I have included my resume and a summary of testimony that I have filed in other proceedings as Schedule AEB-D1.

Please describe Concentric's activities in energy and utility engagements.

Concentric provides financial and economic advisory services to many and various energy and utility clients across North America. Our regulatory, economic, and market analysis services include utility ratemaking and regulatory advisory services; energy market assessments; market entry and exit analysis; corporate and business unit strategy development; demand forecasting; resource planning; and energy contract negotiations. Our financial advisory activities include buy- and sell-side merger, acquisition, and divestiture assignments; due diligence and valuation assignments; project and corporate finance services; and transaction support services. In addition, we provide litigation support services on a wide range of financial and economic issues on behalf of clients throughout North America.

II. PURPOSE AND OVERVIEW OF TESTIMONY

Please describe the purpose of your testimony.

The purpose of my testimony is to present evidence and provide a recommendation regarding the appropriate Return on Equity ("ROE")[1] for Ameren Missouri to be used for ratemaking purposes. My analyses and recommendations are supported by the data presented in Schedule AEB-D2, Attachments 1 through 14, which were prepared by me or under my direction.

How is the remainder of your testimony organized?

[1] Throughout my Prepared Direct Testimony, I interchangeably use the terms "ROE" and "cost of equity".

Section III provides a summary of my analyses and conclusions. Section IV reviews the regulatory guidelines pertinent to the development of the cost of capital. Section V discusses current and projected capital market conditions and the effect of those conditions on Ameren Missouri's cost of equity. Section VI explains my selection of a proxy group of natural gas utilities. Section VII describes my analyses and the analytical basis for the recommendation of the appropriate ROE for Ameren Missouri. Section VIII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized for the Company in this case. Section IX presents my conclusions and recommendations for the market cost of equity.

III. SUMMARY OF ANALYSES AND CONCLUSIONS

Please provide a brief overview of the analyses that led to your ROE recommendation.

A. To develop my ROE recommendation, I first developed a proxy group that consists of natural gas distribution companies that face risks generally comparable to those faced by Ameren Missouri. To that natural gas distribution company proxy group, I applied the Constant Growth form of the Discounted Cash Flow ("DCF") model, the Multi-Stage DCF model, the Capital Asset Pricing Model ("CAPM"), the Empirical Capital Asset Pricing Model ("ECAPM"), and the Bond Risk Premium Analysis. As discussed in more detail in Section VII of my Direct Testimony, it is appropriate to rely on multiple ROE methodologies because market conditions affect the assumptions used in each model differently. Therefore, the use of

multiple ROE estimation models is beneficial to provide benchmarks and a range of results to consider.

Please summarize the key factors considered in your analyses and upon which you base your recommended ROE.

In developing my recommended ROE for Ameren Missouri, I considered the following:

- The *Hope* and *Bluefield* decisions[2] that established the standards for determining a fair and reasonable allowed ROE, including consistency of the allowed return with the returns of other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and the requirement that the result lead to just and reasonable rates.
- The effect of current and projected capital market conditions on investors' return requirements.
- The results of several analytical approaches that provide estimates of the Company's cost of equity.
- The Company's regulatory, business, and financial risks relative to the proxy group of comparable companies, and the implications of those risks.

[2] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

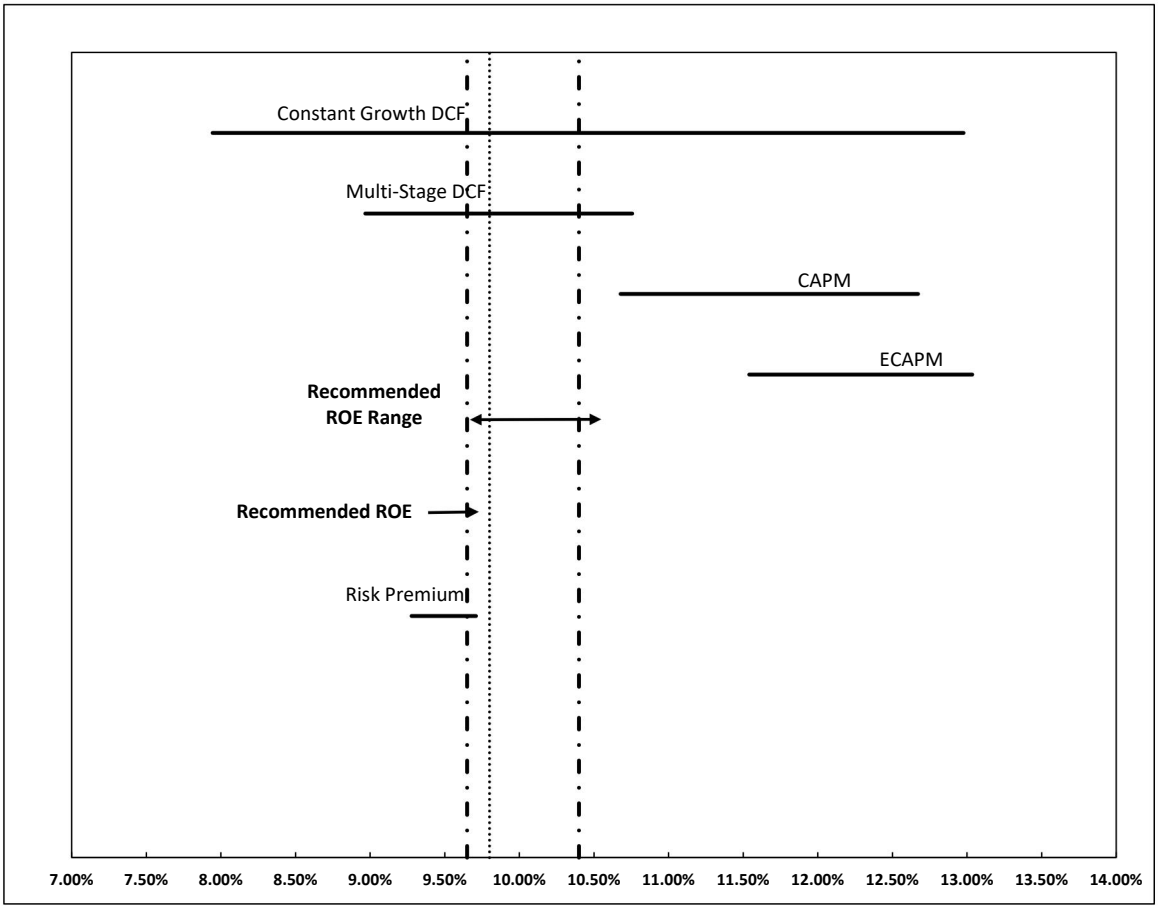
Please explain how you considered those factors.

I relied on several analytical approaches to estimate Ameren Missouri's cost of equity based on a proxy group of publicly traded companies. As shown in Figure 1, those ROE estimation models produce a wide range of results. My conclusion about where within that range of results Ameren Missouri's ROE falls is based on the Company's business and financial risk relative to the proxy group. Although the companies in my proxy group are generally comparable to Ameren Missouri, each company is unique, and no two companies have the exact business and financial risk profiles. Accordingly, I selected proxy group companies with similar, but not the same risk profiles; and I adjusted the results of my analysis either upwards or downwards within the reasonable range of results to account for any residual differences in risk.

Please summarize the results of the ROE estimation models that you considered to establish the range of ROEs for Ameren Missouri.

Figure 1 summarizes the range of results produced by the Constant Growth DCF, Multi-Stage DCF, CAPM, ECAPM, and Bond Yield Plus Risk Premium analysis for the Natural Gas Utility Proxy Group.

Figure 1: Summary of Cost of Equity Analytical Results



As shown in Figure 1 (and in Schedule AEB-D2, Attachment 1), the range of results produced by the ROE estimation models is wide. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results is wide in order to appropriately consider the factors that have resulted in the diverging range of results.

As a result, my ROE recommendation considers the results of the DCF model, forward looking CAPM and ECAPM analyses, and Risk Premium analysis. I also

consider company-specific risk factors and current and prospective capital market conditions.

What is your recommended ROE for Ameren Missouri?

Considering the analytical results presented in Figure 1, as well as the level of regulatory, business, and financial risk faced by Ameren Missouri's natural gas operations relative to the proxy group, I believe a range from 9.65 to 10.40 percent is reasonable. This recommendation reflects the range of results for the proxy group companies, the relative risk of Ameren Missouri's natural gas operations as compared to the proxy group, and current capital market conditions. Within that range, the Company is requesting an ROE of 9.80 percent, which is reasonable.

IV. REGULATORY GUIDELINES

Please describe the guiding principles to be used in establishing the cost of capital for a regulated utility.

The United States Supreme Court's precedent-setting *Hope and Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's allowed ROE. Among the standards established by the Court in those cases are: (1) consistency with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) the principle that the result reached, as opposed to the methodology employed, is the controlling factor in arriving at just and reasonable rates.[3]

[3] Hope, 320 U.S. 591 (1944); Bluefield, 262 U.S. 679 (1923).

Has the Missouri Public Service Commission ("Commission") provided similar guidance in establishing the appropriate return on common equity?

Yes. The Commission follows the precedents of the *Hope* and *Bluefield* cases and acknowledges that utility investors are entitled to a fair and reasonable return. This position was set forth by the Commission as follows:

> The standard for rates is "just and reasonable," a standard founded on constitutional provisions, as the United States Supreme Court has explained. But the Commission must also consider the customers. Balancing the interests of investor and consumer is not reducible to a single formula, and making pragmatic adjustments is part of the Commission's duty. Thus, the law requires a just and reasonable end, but does not specify a means. The Commission is charged with approving rate schedules that are as "just and reasonable" to consumers as they are to the utility.[4]

Based on these standards, the authorized ROE should provide the Company with a fair and reasonable return and should provide access to capital on reasonable terms in a variety of market conditions.

Why is it important for a utility to be allowed the opportunity to earn an ROE that is adequate to attract capital at reasonable terms?

An ROE that is adequate to attract capital at reasonable terms enables the Company to continue to provide safe, reliable natural gas service while maintaining its financial integrity. That return should be commensurate with returns expected elsewhere in the market for investments of equivalent risk. If it is not, debt and

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[4] *In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service*, File No. ER-2014-0370, Report and Order (Sp. 15, 2015), at 11.

equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting the Company's ability to attract capital at reasonable cost.

Is a utility's ability to attract capital also affected by the ROEs that are authorized for other utilities?

Yes. Ameren Missouri competes directly for capital with other investments of similar risk, which include other natural gas utilities. The ROE awarded to a utility sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. The cost of capital represents an opportunity cost to investors. If higher returns are available for other investments of comparable risk, investors have an incentive to direct their capital to those investments. Thus, an authorized ROE that is not commensurate with authorized ROEs for other natural gas utilities can inhibit Ameren Missouri's ability to attract capital for investment in Missouri.

What are your conclusions regarding regulatory guidelines?

The ratemaking process is premised on the principle that a utility must have the opportunity to recover the return of, and the market-required return on, its invested capital. Because utility operations are capital-intensive, regulatory decisions should enable the utility to attract capital at reasonable terms under a variety of

economic and financial market conditions; doing so balances the long-term interests of the utility and its customers.

The financial community carefully monitors the current and expected financial condition of utility companies and the regulatory frameworks in which they operate. In that respect, the regulatory framework is one of the most important factors in both debt and equity investors' assessments of risk. The Commission's order in this proceeding, therefore, should establish rates that provide the Company with the opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms under a variety of economic and financial market conditions; (2) sufficient to ensure good financial management and firm integrity; and (3) commensurate with returns on investments in enterprises with similar risk. Providing Ameren Missouri the opportunity to earn its market-based cost of capital supports the financial integrity of the Company, which is in the interest of both customers and shareholders.

Q. Does the fact that the Company is owned by Ameren, a publicly-traded company, affect your analysis?

A. No, it does not. In this proceeding, consistent with stand-alone ratemaking principles, it is appropriate to establish the cost of equity for Ameren Missouri, not its publicly-traded parent Ameren. More importantly however, it is appropriate to establish a return on equity and capital structure that provide Ameren Missouri the ability to attract capital on reasonable terms, on a stand-alone basis, and within the Ameren system.

V. CAPITAL MARKET CONDITIONS

Why is it important to analyze capital market conditions?

The ROE estimation models rely on market data that are either specific to the proxy group, in the case of the DCF model, or the expectations of market risk, in the case of the CAPM. The results of ROE estimation models can be affected by prevailing market conditions at the time the analysis is performed. While the ROE that is established in a rate proceeding is intended to be forward-looking, the practitioner uses current and projected market data, specifically stock prices, dividends, growth rates, and interest rates in the ROE estimation models to estimate the required return for the subject company.

As discussed in the remainder of this section, current market conditions affect the results of ROE estimation models. As a result, it is important to consider the effect of these conditions on the ROE estimation models when determining the appropriate range and recommended ROE to be determined for a future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the ROE estimation models will not provide an accurate estimate of investors' required return during that rate period. Therefore, it is very important to consider projected market data to estimate the return for that forward-looking period.

What factors affect the cost of equity for regulated utilities in the current and prospective capital markets?

The cost of equity for regulated utility companies is affected by several factors in the current and prospective capital markets, including: (1) the current market volatility has created a short-term aberration in the market, which must be carefully considered when selecting the inputs for the ROE estimation models; (2) as the economy recovers from the COVID-19 recession, investors are expected to rotate into cyclical sectors; thus utilities, a defensive sector, are expected to underperform the market over the near-term; and (3) recent Federal tax reform. In this section, I discuss each of these factors and how it affects the models used to estimate the cost of equity for regulated utilities.

A. Current Market Conditions and Effect on Valuations

Please summarize current market conditions.

In 2020, market conditions were extremely volatile. In January and early February 2020, many major market indices reached new threshold levels. As the gravity of the global health pandemic became more apparent, the market became increasingly volatile: in mid-February, utility stock prices reached an all-time high, followed by a significant decline in the overall market and utility stocks; and in March, the S&P 500 Index swung by more than three percent on 16 of the 22 trading days. While volatility has declined from the levels in March of 2020, there is still much uncertainty in financial markets as a result COVID-19. In the March 2021 meeting, the Federal Reserve Open Market Committee ("FOMC") recognized

the uncertainty related to the course of the pandemic which will weigh on economy activity and pose risks to the economic outlook.[5]

Have you reviewed any indicators that measure volatility in the financial markets?

Yes, I reviewed a measure of volatility in financial markets, the Chicago Board Options Exchange ("CBOE") Volatility Index ("VIX"). The VIX measures investors' expectation of volatility in the S&P 500 over the next 30 days. As shown in Figure 2, the VIX has recently reached levels not seen since the Great Recession of 2008/09.

Furthermore, as shown in Figure 2, while the VIX has declined from the high reached in March 2020, this measure of volatility still remains well above levels seen prior to COVID-19 between January 1, 2020 and February 18, 2020 (the peak of the market prior to the decline resulting from the effects of COVID-19), averaging 14.24 during that period, versus 24.78 for January 2021. It is important to view the declines in the VIX in the context of the unprecedented response by the Federal Reserve and Congress. As discussed in more detail below, the Federal Reserve's corporate bond buying programs are providing liquidity to bond markets and therefore reducing some of the uncertainty that was driving the volatility seen in March. However, there is still much uncertainty regarding the near-term effect of COVID-19 on the economy and the financial markets, which is why the VIX remains above its long-term average.

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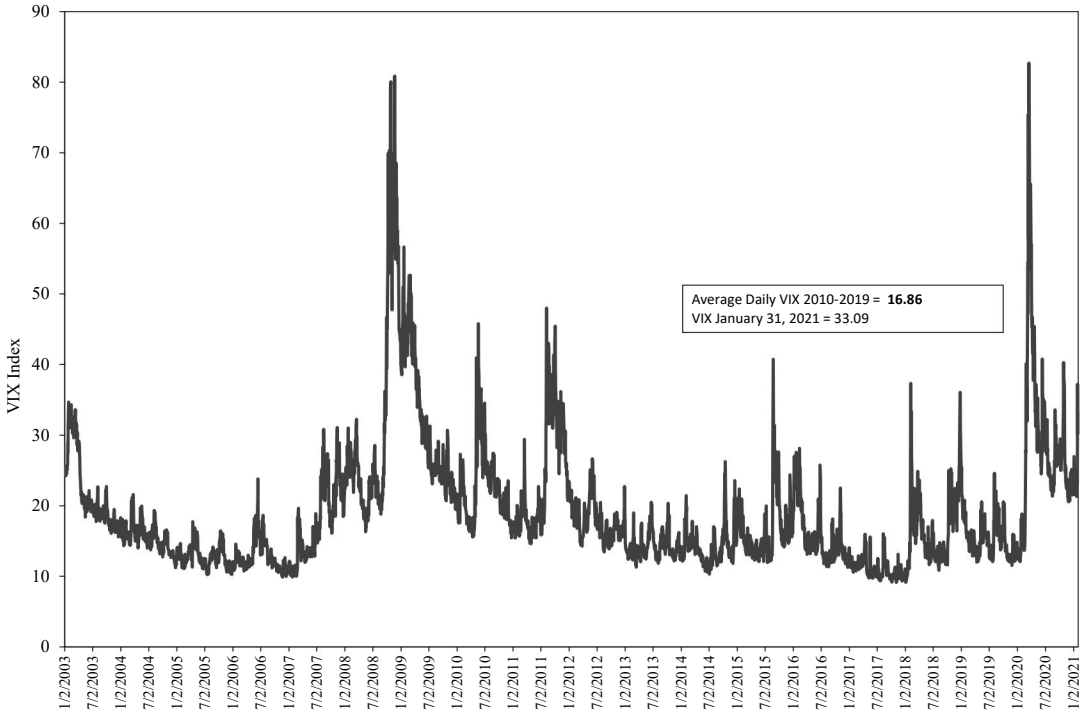
[5] FOMC, Press Release, March 17, 2021, at 1.

Figure 2: CBOE VIX– January 2003 through January 2021[6]



What steps have the Fed and Congress taken to stabilize financial markets and support the economy?

The Federal Reserve has: 1) decreased the Federal Funds rate twice in March 2020, resulting in a target range of 0.00 percent to 0.25 percent; 2) increased its holdings of both Treasury and mortgaged-back securities; 3) started expansive programs to support credit to large employers: the Primary Market Corporate Credit Facility ("PMCCF") to provide liquidity for new issuances of corporate bonds; and the Secondary Market Corporate Credit Facility ("SMCCF") to provide liquidity for outstanding corporate debt issuances; and 4) supported the flow of credit to

[6] Source: Bloomberg Professional.

consumers and businesses through the Term Asset-Backed Securities Loan Facility ("TALF"). In addition, the U.S. Congress also passed the Coronavirus Aid, Relief, and Economic Security ("CARES") Act in March 2020 and the Consolidated Appropriations Act, 2021 in December 2020 which included $2.2. trillion and $900 billion, respectively, in fiscal stimulus aimed at also mitigating the economic effects of COVID-19. These expansive monetary and fiscal programs have provided for greater price stability by mitigating the economic effects of the COVID-19 pandemic. Nevertheless, as shown in Figure 2 above, there is still uncertainty regarding the near-term effect of COVID-19 on the economy and the financial markets, which is why the VIX is still above its long-term historical level.

Has the Federal Reserve signaled a continuation of its accommodative monetary policy?

Yes. In a press conference on March 17, 2021, the Federal Reserve Chairman stated that, "[o]ur forward guidance for the federal funds rate, along with our balance sheet guidance, will ensure that the stance of monetary policy remains highly accommodative as the recovery progresses."[7] The Federal Reserve also indicated that it has kept federal funds rates near zero and will continue to maintain its sizeable asset purchases of both treasuries and mortgage-backed securities until substantial further progress has been made toward its dual goals of maximum employment and price stability.[8]

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[7] FOMC Press Conference, March 17, 2021; https://www.federalreserve.gov/monetarypolicy/fomc.htm.

[8] *Ibid.*

What effect, if any, will the Federal Reserve's accommodative monetary policy have on long-term interest rates over the near term?

Although, the current accommodative monetary policy will keep short-term interest rates low, the Federal Reserve has not committed to keeping long-term interest rates low. Long-term interest rates can increase even though monetary policy is accommodative. In fact, one of the leading indicators used by investors to determine what stage of the business cycle the economy is in is to review the yield curve which shows the difference between long-term and short-term interest rates. A flat or inverted yield curve is when long-term interest rates are equivalent to or less than short-term interest rates and usually occurs prior to a recession. Conversely, a steepening yield curve is when the difference between long-term interest rates and short-term interest rates is increasing and indicates that the economy is entering a period of economic expansion and inflation following a recession.[9]

Have you reviewed the yield curve to determine investors' expectations regarding the economy over the near term?

Yes, I have. Specifically, I calculated the difference between the yield on the 10-year Treasury Bond and the yield on the 2-year Treasury Bond from January 2017 through January 2021. I selected the 10-year Treasury Bond yield to represent long-term interest rates and the yield on the 2-year Treasury Bond to represent

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[9] "What is a yield curve", Fidelity.com. https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-yield-curve

short-term interest rates. As shown in Figure 3, the yield curve has been steepening and has increased to approximately 100 basis points, a level not seen since the first half of 2017. The steepening of the yield curve indicates that investors expect economic growth and inflation to increase in the near term. As a result, investors rotate out of long-term government bonds to avoid being locked into low interest rates for the long term. The steep yield curve signals that higher yields are required by investors to invest in long-term government bonds.

Figure 3: 10-year Treasury Bond Yield Minus 2-year Treasury Bond Yield – January 2017 – January 2021[10]

What have equity analysts said about the steepening of the yield curve?

[10] Federal Reserve Bank of St. Louis, 10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity [T10Y2Y], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/T10Y2Y, January 31, 2021.

Several equity analysts have noted that the yield curve is steepening and is expected to continue to steepen into 2021, which is an indicator that the economy is entering the early expansion phase of the business cycle. For example, in a recent Bloomberg article, Morgan Stanley indicated that they expected a "V-shaped" economic recovery and therefore advised investors to underweight government bonds and overweight equities.[11] Similarly, in a recent Bloomberg article, Goldman Sachs noted the following:

> "As the economic recovery consolidates next year, we expect to see more differentiation across the curve, with policymakers committing to keeping front-end rates low, but higher expectations for real growth and inflation driving long-end rates higher," Goldman strategists including Zach Pandl wrote in the report, released Tuesday.
>
> "This should be especially true in the U.S. due to the Federal Reserve's new average inflation targeting framework, which commits the central bank to holding off on rate hikes until inflation has reached its target and is on track to overshoot it."[12]

Finally, Barron's noted that Citigroup also projected that the yield on the 10-year Treasury Bond is expected to increase in 2021, which prompted Citigroup's recommendation to overweight equities and favor cyclical sectors over defensive sectors, such as utilities.[13]

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[11] Ossinger, Joanna. "Morgan Stanley Says Go Risk-On and 'Trust the Recovery' in 2021." Bloomberg.com, 15 Nov. 2020, www.bloomberg.com/news/articles/2020-11-16/morgan-stanley-says-go-risk-on-and-trust-the-recovery-in-2021.

[12] McCormick, Liz. "Goldman Goes All-In for Steeper U.S. Yield Curves as 2021 Theme." Bloomberg.com, 10 Nov. 2020, www.bloomberg.com/news/articles/2020-11-10/goldman-goes-all-in-for-steeper-u-s-yield-curves-as-2021-theme.

[13] Keown, Callum. "10-Year Treasury Yields Will Rise Into 2021, Citi Says. This 'Aggressive' Equity Strategy Can Outperform." Barrons.com, 16 Nov. 2020, www.barrons.com/articles/10-year-treasury-yields-will-rise-into-2021-citi-says-this-aggressive-equity-strategy-can-outperform-51605543920.

Have equity analysts specifically commented on the performance of the utility sector over the near-term?

Yes. In a recent article, Barron's surveyed ten market strategists and chief investment officers regarding the outlook for 2021. In addition to forecasting increases in the 10-year Treasury Bond yield and a continued steepening of the yield curve, the market strategists rated utilities as a near-consensus underweight.[14] Therefore, the market strategists surveyed by Barron's are projecting that utilities will underperform the broader market in 2021.

How has the utility sector performed historically during periods where the yield curve is steepening, and the economy is in the early stage of the business cycle?

In a recent report, Fidelity noted that the utility sector has historically been one of the worst performing sectors during the early phase of the business cycle with a geometric average return of -10.5 percent.[15] This conclusion is further supported by studies conducted by both Goldman Sachs and Deutsche Bank that examined the sensitivity of share prices of different industries to changes in interest rates over the past five years. Both Goldman Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships with bond yields (i.e.,

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[14] Jasinski, Nicholas. "The Stock Market Could Gain Another 10% Next Year, Experts Say." Barron's, 19 Dec. 2020, www.barrons.com/articles/the-stock-market-could-gain-in-2021-51608339301.

[15] Fidelity Investments, "The Business Cycle Approach to Equity Sector Investing," 2020.

increases in bond yields resulted in the decline of utility share prices).[16] This is important because if the utility sector underperforms over the near term as the economy recovers and interest rates increase, then the DCF model, which relies on historical averages of share prices, is likely to understate the cost of equity for Ameren Missouri over the near term or the period that Company's rates will be in effect.

Why do utilities historically underperform in the early stage of the business cycle?

Utilities are considered a defensive sector and are therefore affected less by changes in the business cycle relative to other market sectors since consumers need energy during all phases of the business cycle. Therefore, utilities perform well during periods of uncertainty where the prospect of slowing economic growth increases. As Fidelity noted historically utilities outperform the market in latter and recession phases of the business cycle.[17] This relationship mostly held during the past few years as the share prices of utilities were bid up to unsustainable levels as investors responded to economic uncertainty due to the trade war between the U.S. and China and at the start of the COVID-19 pandemic.

What is the effect of high valuations of utility stocks on the DCF model?

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[16] Lee, Justina. "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks." Bloomberg.com, 11 Mar. 2021, www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks.

[17] Fidelity Investments, "The Business Cycle Approach to Equity Sector Investing," 2020.

High valuations have the effect of depressing dividend yields, which results in overall lower estimates of the cost of equity resulting from the DCF model. The relatively low dividend yields demonstrated over the longer historical period imply that the ROE calculated using historical market data in the DCF model may understate the forward-looking cost of equity.

Are the valuations of the utilities sector currently considered high?

While recently utilities have underperformed the broader market as a result of the economic effects of COVID-19, it is important to recognize the expected performance of utilities over the near-term. For example, the recent underperformance of utilities was due in part to the excessive valuations that existed prior to the start of the pandemic. These valuations as noted above are still above historical averages. As a result, Charles Schwab has classified the Utilities sector as "Underperform," noting that:

> The Utilities sector has tended to perform relatively better when concerns about slowing economic growth resurface, and to underperform when those worries fade. That's partly because of the sector's traditional defensive nature and steady revenues—people need water, gas and electric services during all phases of the business cycle. And low interest rates that typically come with a weak economy provide cheap funding for the large capital expeditions required in this industry.
>
> However, valuations have been driven up in recent years as investors have reached for yield in this new era of low interest rates; this may decrease the sector's traditional defensive characteristics. And while interest rates are expected to remain generally low, they could edge higher as the economy continues to expand. On the flip side, there is the potential for a renewed decline in the economy to push rates even lower, or there could be significant government

> funding to Utilities as part of clean-energy initiatives that would benefit the sector's profit outlook.[18]

As Charles Schwab noted the utility sector underperforms in periods of economic growth; however, Charles Schwab also believes that given the high valuations of the utility sector even if volatility were to increase again that the utility sector might still underperform in a market setting where utilities had traditional been overperformers.

Therefore, the current high valuations in the utilities sector which is expected to result in underperformance over the near-term means that the DCF model results must be interpreted with extreme caution so as to not understate the cost of equity during the period that Ameren Missouri's rates will be in effect.

What are your conclusions regarding the effect of current market conditions on the cost of equity for Ameren Missouri?

Given the uncertainty and volatility that characterized capital markets in 2020, it is reasonable that equity investors would now require a higher return on equity to compensate them for the additional risk associated with owning common stock under these market conditions. As shown in Figure 2 above, volatility as measured by the VIX is still above long-term averages. As a result, there is still uncertainty in the market which means greater risk and thus higher return requirements for investors. Further, while the Federal Reserve will keep short-term interest rates low over the next few years to support the economic recovery this does not indicate

[18] Charles Schwab, Utilities Sector Rating: Underperform, February 11, 2021.

that long-term interest rates cannot increase. In fact, many equity analysts believe long-term interest rates will increase in 2021 as the economy enters the early expansion phase of the business cycle. Historically, the utility sector has underperformed the broader market as interest rates increase and the economy recovers.

Investors' current expectations regarding the economy highlights the importance of using forward-looking inputs in the models used to estimate the cost of equity. While the share prices of utilities have declined in response to the economic effects of the COVID-19 pandemic, current utility valuations are still above the long-term average. The current high valuations result in low dividend yields for utilities, which means that DCF models using recent historical data likely underestimate investors' required return for Ameren Missouri over the period that rates will be in effect. This consideration regarding the DCF model is important especially in light of the expectation that the utility sector will underperform relative to the broader market as the economy recovers from the COVID-19 pandemic. Conversely, two out of three inputs (i.e., risk-free rate and market risk premium) in the CAPM can be estimated using forward-looking projections. Therefore, the CAPM is likely to capture more effectively the economic conditions expected by investors over the near-term. This highlights the importance of considering the results of each of the models to reflect investors' expectations of market conditions over the period that the rates established in this proceeding will be in effect.

B. Effect of Tax Reform on the ROE and Capital Structure

Are there other factors that should be considered in determining the cost of equity for Ameren Missouri?

Yes. The effect of the Tax Cuts and Jobs Act of 2017 ("TCJA") should also be considered in the determination of the cost of equity. The credit rating agencies have commented on the effect of the TCJA on regulated utilities. In summary, the TCJA has reduced utility revenues due to the lower federal income taxes, the end of bonus depreciation, and the requirement to return excess Accumulated Deferred Income Taxes ("ADIT"). This change in revenue reduces Funds From Operations ("FFO") metrics across the sector, and absent regulatory mitigation strategies, has led to weaker credit metrics and negative ratings actions for some utilities.[19]

Have credit or equity analysts commented on the effect of the TCJA on utilities?

Yes. Each of the credit rating agencies has indicated that the TCJA is having an overall negative credit impact on regulated operating companies of utilities and their holding companies due to the reduction in cash flow that results from the change in the federal tax rate and the loss of bonus depreciation. [20, 21]

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[19] FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector," January 24, 2018.

[20] Standard & Poor's Ratings, "Industry Top Trends 2019, North America Regulated Utilities", November 8, 2018.

[21] FitchRatings, Special Report, What Investors Want to Know, "Tax Reform Impact on the U.S. Utilities, Power & Gas Sector", January 24, 2018.

How has Moody's responded to the increased risk for utilities resulting from the TCJA?

Moody's downgraded the outlook for the entire regulated utility industry from Stable to Negative for the first time ever, citing ongoing concerns about the negative effect of the TCJA on cash flows of regulated utilities. Since mid-2018, Moody's has downgraded the credit ratings of several utilities based in part on the effects of tax reform on financial metrics. As shown in Figure 4, the downgrades continued in 2020. Furthermore, in recent ratings of utilities, credit rating agencies have considered the effects of tax reform as one factor that has weakened credit metrics for utilities in recent ratings reports.

Figure 4: Credit Rating Downgrades Resulting from TCJA

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
Boston Gas Company	Moody's	A3	Baa1	3/2/2021
Massachusetts Electric Company	Moody's	A3	Baa1	3/2/2021
Narragansett Electric Company	Moody's	A3	Baa1	3/2/2021
Southwest Gas Corporation	Moody's	A3	Baa1	1/29/2021
Brooklyn Union Gas Company (KEDNY)	Moody's	A3	Baa1	11/10/2020
AEP Texas	Moody's	Baa1	Baa2	8/6/2020
Ohio Power	Moody's	A2	A3	8/6/2020
Public Service of Oklahoma	Moody's	A3	Baa1	8/6/2020
Electric Transmission Texas	Moody's	Baa1	Baa2	3/24/2020
New Jersey Natural Gas Company	Moody's	Aa3	A1	3/18/2020
Consolidated Edison Company of New York	Moody's	A3	Baa1	3/17/2020
Consolidated Edison, Inc.	Moody's	Baa1	Baa2	3/17/2020
Washington Gas Light Company	Moody's	A2	A3	1/30/2020
Public Service Co. of North Carolina, Inc.	Moody's	A3	Baa1	1/30/2020
Wisconsin Power and Light Company	Moody's	A2	A3	12/11/2019
Wisconsin Gas LLC	Moody's	A2	A3	11/20/2019
Vectren Utility Holdings	Moody's	A2	A3	10/25/2019

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
Southern Indiana Gas & Electric Company	Moody's	A2	A3	10/25/2019
Indiana Gas Company	Moody's	A2	A3	10/25/2019
El Paso Electric Company	Moody's	Baa1	Baa2	9/17/2019
Questar Gas Company	Moody's	A2	A3	8/15/2019
DTE Gas Company	Moody's	A2	A3	7/22/2019
South Jersey Gas Company	Moody's	A2	A3	7/17/2019
Central Hudson Gas & Electric	Moody's	A2	A3	7/12/2019
Oklahoma Gas & Electric Company	Moody's	A2	A3	5/31/2019
American Water Works	Moody's	A3	Baa1	4/1/2019
Niagara Mohawk Power Corporation	Moody's	A2	A3	3/29/2019
KeySpan Gas East Corporation (KEDLI)	Moody's	A2	A3	3/29/2019
Xcel Energy	Moody's	A3	Baa1	3/28/2019
ALLETE, Inc.	Moody's	A3	Baa1	3/26/2019
Brooklyn Union Gas Company (KEDNY)	Moody's	A2	A3	2/22/2019
Avista Corp.	Moody's	Baa1	Baa2	12/30/2018
Consolidated Edison Company of New York	Moody's	A2	A3	10/30/2018
Consolidated Edison, Inc.	Moody's	A3	Baa1	10/30/2018
Orange and Rockland Utilities	Moody's	A3	Baa1	10/30/2018
Southwestern Public Service Company	Moody's	Baa1	Baa2	10/19/2018
Dominion Energy Gas Holdings	Moody's	A2	A3	9/20/2018
Piedmont Natural Gas Company, Inc.	Moody's	A2	A3	8/1/2018
WEC Energy Group, Inc.	Moody's	A3	Baa1	7/12/2018
Wisconsin Energy Capital	Moody's	A3	Baa1	7/12/2018
Integrys Holdings Inc.	Moody's	A3	Baa1	7/12/2018
OGE Energy Corp.	Moody's	A3	Baa1	7/5/2018
Oklahoma Gas & Electric Company	Moody's	A1	A2	7/5/2018

Have other utility commissions recognized that the TCJA has had an adverse impact on utility cash flows?

Yes. The Oregon Public Utilities Commission ("Oregon PUC"),[22] the Wyoming Public Service Commission ("Wyoming PSC")[23] and the Utah Public Service Commission ("Utah PSC")[24] have acknowledged the negative effect of the TCJA on the cash flow of utilities.

Have state regulatory commissions considered market events and the utility's ability to attract capital in determining the equity return?

Yes. In a rate case for Consumers Energy Company (Case No. U-20697), the Michigan Public Service Commission ("Michigan PSC") noted that it is important to consider how a utility's access to capital could be affected in the near-term as a result of market reactions to global events like those that have occurred in the recent past.[25] Specifically, the Michigan PSC noted that:

> [i]n setting the ROE at 9.90%, the Commission believes there is an opportunity for the company to earn a fair return during this period of atypical market conditions. This decision also reinforces the belief, as stated in the Commission's March 29 order, "that customers do not benefit from a lower ROE if it means the utility has difficulty accessing capital at attractive terms and in a timely manner." These conditions still hold true based on the evidence in the instant case. The fact that other utilities have been able to access capital despite lower ROEs, as argued by many intervenors,

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[22] See In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue 3,500,000 Shares of Common Stock, Docket UF 4308, Order No. 19-067 (Feb. 23, 2019); In the Matter of Avista Corporation, dba Avista Utilities, Application for Authorization to Issue and Sell $600,000,000 of Debt Securities, UF 4313, Order No. 19-249 (July 30, 2019); In the Matter of Portland General Electric Company, Request for Authority to Extend the Maturity of an Existing $500 Million Revolving Credit Agreement, Docket UF 4272(3), Order No. 19-025 (Jan. 23, 2019).

[23] In the Matter of Questar Gas Company dba Dominion Energy Wyoming's Application for Approval of Amended Stipulation Previously Approved in Docket No. 30010-150-GA-16, Docket No. 30010-180-GA-18 (Record No. 15138) (Aug. 20, 2019).

[24] Report and Order, Docket No. 19-057-02, Dominion Energy Utah, February 25, 2020, at 6.

[25] Michigan Public Service Commission Order, Cause No. U-20697, Consumers Energy Company, December 17, 2020, at 165.

> is also a relevant consideration. **It is also important to consider how extreme market reactions to global events, as have occurred in the recent past, may impact how easily capital will be able to be accessed during the future test period should an unforeseen market shock occur. The Commission will continue to monitor a variety of market factors in future rate cases to gauge whether volatility and uncertainty continue to be prevalent issues that merit more consideration in setting the ROE**.[26]

The Michigan PSC references "global events" and the overall effect the events could have on the ability of a utility to access capital. Consistent with the Michigan PSC's views, it is important to consider a) that the TCJA has had a negative effect on the cash flows of utilities and b) the effects of the increased volatility associated with the uncertainty surrounding the economic effects of COVID-19.

What conclusions do you draw from your analysis of capital market conditions?

The important conclusions regarding capital market conditions are:

- The assumptions used in the ROE estimation models have been affected by recent, historically atypical market conditions. Therefore, it is important to allow the results of multiple ROE estimation models to inform the decision on the appropriate ROE for Ameren Missouri in this proceeding.
- Recent market conditions reflect short-term exogenous shocks that are not expected to persist over the long term. As a result, the recent atypical market conditions do not reflect the market conditions that are expected to be present when the rates for Ameren Missouri will be in effect.

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[26] Michigan Public Service Commission Order, Cause No. U-20697, Consumers Energy Company, December 17, 2020, at 165-166. (Emphasis added).

- Credit rating agencies have demonstrated concern about the cash flow metrics of utilities, related to the negative effects of both current market conditions and the TCJA, which increases investor risk expectations for utilities. Therefore, it is increasingly important to consider a rate of return and capital structure that support the Company's cash flow metrics to enable Ameren Missouri the ability to attract capital at reasonable terms during the period that rates will be in effect.

VI. PROXY GROUP SELECTION

Why have you used a group of proxy companies to estimate the cost of equity for Ameren Missouri's natural gas operations?

In this proceeding, we focus on estimating the cost of equity for a natural gas utility company that is not itself publicly traded. Because the cost of equity is a market-based concept and because Ameren Missouri's operations do not make up the entirety of a publicly traded entity, it is necessary to establish a group of companies that is both publicly traded and comparable to the Company in certain fundamental business and financial respects to serve as its "proxy" in the ROE estimation process.

Even if Ameren Missouri was a publicly traded entity, it is possible that transitory events could bias its market value over a given period. A significant benefit of using a proxy group is that it moderates the effects of unusual events that may be associated with any one company. The proxy companies used in my analyses all possess a set of operating and risk characteristics that are substantially

comparable to the Company, and thus provide a reasonable basis to derive and estimate the appropriate ROE for Ameren Missouri.

Please provide a brief profile of the Company.

Ameren Missouri is a wholly owned subsidiary of Ameren Corporation. The Company supplies natural gas service to approximately 132,000 customers in more than 90 communities in southeast, central and eastern Missouri. As of December 31, 2019, the Company's net utility natural gas plant in Missouri was approximately $331.59 million.[27] In addition, the Company had total natural gas revenues as of December 31, 2019 of approximately $127 million.[28] Ameren Missouri is currently rated BBB+/Stable by Standard & Poor's and Baa1/Stable by Moody's. [29]

How did you select the companies included in your proxy group?

I began with the group of 10 companies that Value Line classifies as Natural Gas Distribution Utilities and applied the following screening criteria to select companies that:

- pay consistent quarterly cash dividends, because companies that do not cannot be analyzed using the Constant Growth DCF model;
- have investment grade long-term issuer ratings from S&P and/or Moody's;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;

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[27] Union Electric Company, 2019 FERC Form 2, at 5-6.

[28] Union Electric Company, 2019 FERC Form 2, at 7.

[29] Source: S&P Global Market Intelligence credit ratings for Union Electric

- derive more than 70.00 percent of their total operating income from regulated operations;
- derive more than 60.00 percent of regulated operating income from gas distribution operations;
- were not parties to a merger or transformative transaction during the analytical periods relied on; and
- have a mean Constant Growth DCF result greater than 7 percent.

Please explain why you excluded companies from your proxy group with a mean Constant Growth DCF result less than 7 percent?

It is appropriate to exclude companies from the proxy group with a mean Constant Growth DCF result below a specified threshold at which equity investors would consider such returns to provide an insufficient return increment above long-term debt costs. For example, the average credit rating for the companies in my proxy group is A-.[30] The average yield on Moody's A-rated utility bonds for the 30 trading days ending January 31, 2021, was 2.86 percent.[31] Thus, I have eliminated companies from my proxy group with mean Constant Growth DCF results lower than 7.00% because such returns would provide equity investors a risk premium only 414 basis points above A-rated utility bonds.

Did your 7 percent risk premium screen result in the exclusion of any additional companies from your natural gas proxy group.

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[30] The average credit rating is calculated by assigning a numerical scale of 1 to 22 to the range of S&P and Moody's rating tiers. For the proxy group, the average is 16.0 which corresponds to a rating of A- on the S&P scale.

[31] Source: Bloomberg Professional.

No, it did not. While I applied the screening criterion to my proxy group, each of the natural gas distribution companies shown in Figure 5 had a mean Constant Growth DCF result greater than 7 percent.

What is the composition of your Natural Gas Utility Proxy Group?

The screening criteria discussed above are shown in Schedule AEB-D2 Attachment 2 and resulted in a proxy group consisting of the companies shown in Figure 5 below.

Figure 5: Natural Gas Utility Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
NiSource, Inc.	NI
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
South Jersey Industries, Inc.	SJI
Southwest Gas Corporation	SWX
Spire, Inc.	SR

VII. COST OF EQUITY ESTIMATION

Please briefly discuss the ROE in the context of the regulated rate of return ("ROR").

The ROE is the cost rate applied to the equity capital in the ROR. The ROR for a regulated utility is the weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the cost of

equity is market-based and, therefore, must be estimated based on observable market data.

How is the required ROE determined?

The required ROE is estimated by using one or more analytical techniques that rely on market-based data to quantify investor expectations regarding equity returns, adjusted for certain incremental costs and risks. Informed judgment is then applied to determine where the company's cost of equity falls within the range of results. The key consideration in determining the cost of equity is to ensure that the methodologies employed reasonably reflect investors' views of the financial markets in general, as well as the subject company (in the context of the proxy group), in particular.

What methods did you use to determine Ameren Missouri's ROE?

I considered the results of the Constant Growth DCF model, the Multi-Stage DCF model, the CAPM, the ECAPM, and a Bond Yield Plus Risk Premium analysis. As discussed in more detail below, a reasonable ROE estimate appropriately considers alternative methodologies and the reasonableness of their individual and collective results.

A. Importance of Multiple Analytical Approaches

Why is it important to use more than one analytical approach?

Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin[32] suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[33] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches**.**

Do current market conditions increase the importance of using more than one analytical approach?

Yes. Low interest rates and the effects of the investor "flight to quality" can be seen in high utility share valuations, relative to historical levels and relative to the broader market. Higher utility stock valuations produce lower dividend yields and result in lower cost of equity estimates from a DCF analysis. Low interest rates also affect the CAPM in two ways: (1) the risk-free rate is lower, and (2) because the market risk premium is a function of interest rates, (i.e., it is the return on the

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[32] Tom Copeland, Tim Koller and Jack Murrin, Valuation: Measuring and Managing the Value of Companies, 3rd Ed. (New York: McKinsey & Company, Inc., 2000), at 214.

[33] Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

broad stock market less the risk-free interest rate), the risk premium should move higher when interest rates are lower. Therefore, it is important to use multiple analytical approaches to moderate the effect that the current low interest rate environment is having on the ROE estimates for the proxy group and, where possible, consider using projected market data in the models to estimate the return for the forward-looking period.

What are your conclusions about the results of the DCF and CAPM models?

Recent market data that is used as the basis for the assumptions for both models have been affected by market conditions. As a result, relying exclusively on historical assumptions in these models, without considering whether these assumptions are consistent with investors' future expectations, will underestimate the cost of equity that investors would require over the period that the rates in this case are to be in effect. In this instance, relying on the historically low dividend yields that are not expected to continue over the period that the new rates will be in effect will underestimate the ROE for Ameren Missouri.

Furthermore, as discussed in Section V above, Treasury bond yields have been increasing since August 2020 and are expected to continue to increase over the near-term as the economy recovers from COVID-19. Therefore, the use of current averages of Treasury bond yields as the estimate of the risk-free rate in the CAPM is not appropriate since recent market conditions are not expected to continue over the long-term. Instead, analysts should rely on projected yields of Treasury Bonds in the CAPM. The projected Treasury Bond yields results in CAPM estimates that

are more reflective of the market conditions that investors expect during the period that the Company's rates will be in effect.

B. Constant Growth DCF Model

Please describe the DCF approach.

The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its most general form, the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_\infty}{(1+k)^\infty} \qquad [1]$$

Where P_0 represents the current stock price, $D_1 \ldots D_\infty$ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

$$k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

Equation [2] is often referred to as the Constant Growth DCF model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

What assumptions are required for the Constant Growth DCF model?

The Constant Growth DCF model requires the following four assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the

expected growth rate. To the extent that any of these assumptions are violated, considered judgment and/or specific adjustments should be applied to the results.

What market data did you use to calculate the dividend yield in your Constant Growth DCF model?

The dividend yield in my Constant Growth DCF model is based on the proxy companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended January 31, 2021.

Why did you use 30-, 90-, and 180-day averaging periods?

In my Constant Growth DCF model, I use an average of recent trading days to calculate the term P_0 in the DCF model to ensure that the ROE is not skewed by anomalous events that may affect stock prices on any given trading day. The averaging period should also be reasonably representative of expected capital market conditions over the long-term. However, the averaging periods that I use rely on historical data that are not consistent with the forward-looking market expectations. Therefore, the results of my Constant Growth DCF model using historical data may underestimate the forward-looking cost of equity. As a result, I place more weight on the median to median-high results produced by my Constant Growth DCF model.

Did you make any adjustments to the dividend yield to account for periodic growth in dividends?

Yes, I did. Because utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected first-year dividend yield is, on average, representative of the coming twelve-month period, and does not overstate the aggregated dividends to be paid during that time.

Why is it important to select appropriate measures of long-term growth in applying the DCF model?

In its Constant Growth form, the DCF model (i.e., Equation [2]) assumes a single long-term growth rate in perpetuity. In order to reduce the long-term growth rate to a single measure, one must assume that the dividend payout ratio remains constant and that earnings per share, dividends per share, and book value per share all grow at the same constant rate. Over the long run, however, dividend growth can only be sustained by earnings growth. For example, earnings growth rates tend to be least influenced by capital allocation decisions that companies may make in response to near-term changes in the business environment. Since such decisions may directly affect near-term dividend payout ratios, estimates of earnings growth are more indicative of long-term investor expectations than are dividend or book value growth estimates.

Which sources of long-term earnings growth rates did you use?

My Constant Growth DCF model incorporates three sources of long-term earnings growth rates: (1) Zacks Investment Research; (2) Yahoo! Finance; and (3) Value Line Investment Survey.

Have you made any adjustments to the earnings growth rates data from third party sources?

Yes, I have. Schedule AEB-D2, Attachment 3 details the adjustment that I made to the EPS growth rate for Northwest Natural Gas ("NWN") as projected by Value Line. Value Line calculates its projection as the compound annual growth rate between (a) the historical actual average EPS over the 2017-2019 period, and (b) its own projected EPS level for the 2023-2025 period. However, NWN had a negative 1.94 EPS in 2017 (compared to positive EPS values in 2018 and 2019), which materially changes the starting point for the compound annual growth rate calculation.

In my adjustment, I use the mean EPS for 2018 and 2019 (rather than 2017, 2018, and 2019). The resulting compound annual growth rate for NWN equals 5.97 percent (instead of 24.48 percent). I have used this adjusted growth rate for NWN in my Constant Growth DCF model.

C. Multi-Stage DCF model

What other forms of the DCF model have you considered?

While it is possible to adjust the Value Line projected earnings growth rate for NWN to remove the effect of the negative earnings per share in 2017, I am unable to adjust the growth rates published by either Yahoo! Finance or Zacks given that the published growth rates are consensus estimates. As shown in Schedule AEB-D2, Attachment 3, South Jersey Industries ("SJI") has a projected earnings growth rate from Yahoo! Finance and Zacks of 24.50 percent while Spire, Inc. ("SR") has a 16.50 percent projected earnings growth rate from Zacks. While the projected earnings growth rates for SJI and SR are higher than the range established for the other proxy companies, the growth rates are based on analysts' projections and therefore should be considered in the analyses. Absent an error, such as discussed in the Value Line calculation above, there are other alternatives for addressing disparate data. One approach is to select a measure of central tendency other than the mean, as I have done by reporting the median results for my Constant Growth DCF analysis. In general, the median is not affected to a large degree by the presence of outliers on both the high and low end. Another alternative, is to consider the results of a Multi-Stage form of the DCF model, which is an extension of the Constant Growth form, and enables the analyst to specify different growth rates over multiple stages. As with the Constant Growth DCF model, the Multi-Stage form defines the cost of equity as the discount rate that sets the current price equal to the discounted value of future cash flows.

Please generally describe the structure of your Multi-Stage DCF model.

The Multi-Stage DCF model sets a company's current stock price equal to the present value of future cash flows received over three "stages." In all three stages,

cash flows are equal to the annual dividend payments that stockholders receive. Stage One is a short-term growth period that consists of the first five years; Stage Two is a transition period from the short-term growth rate to the long-term growth rate (i.e., years six through 10); and Stage Three is a long-term growth period that begins in year 11 and continues in perpetuity (i.e., year 200). The ROE is then calculated as the rate of return that results from the initial stock investment and the dividend payments over the analytical period.

Please summarize the EPS growth rates used in your Multi-Stage DCF model.

As shown in Schedule AEB-D2, Attachment 4, I began with the current annualized dividend as of January 31, 2021 for each proxy group company. In the first stage of the model, the current annualized dividend is escalated based on the average of the three- to five-year earnings growth estimates reported by Zacks, Yahoo! Finance, and Value Line. For the third stage, I relied on long-term projected growth in Gross Domestic Product ("GDP"). The second stage growth rate is a transition from the first stage growth rate to the long-term growth rate on a geometric average basis.

How did you calculate the long-term GDP growth rate?

As shown in Schedule AEB-D2, Attachment 5, the long-term growth rate of 5.56 percent is based on real GDP growth rate of 3.21 percent from 1929 through

2019,[34] and a projected inflation rate of 2.27 percent. The projected inflation rate is based on three measures: (1) the average long-term projected growth rate in the Consumer Price Index ("CPI") of 2.20 percent;[35] (2) the compound annual growth rate of the CPI for all urban consumers for 2031-2050 of 2.32 percent as projected by the Energy Information Administration ("EIA"); and (3) the compound annual growth rate of the GDP chain-type price index for 2031-2050 of 2.30 percent, also reported by the EIA.[36]

Do the assumptions in the Multi-Stage DCF model address the effect of low dividend yields on the DCF results?

No, they do not. While the Multi-Stage DCF model provides for changes in growth over time, it does not address the abnormally low dividend yields for utility stocks and the effect of those low dividend yields on the DCF model, specifically the understated ROEs that result from the use of these assumptions. For that reason, I have also considered the results of alternative risk-premium based methodologies, which I will discuss later in my Direct Testimony.

D. Discounted Cash Flow Model Results

What were the results of your DCF analyses?

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[34] U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Tables, Table 1.1.1, December 22, 2020.

[35] Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14.

[36] Energy Information Administration, Annual Energy Outlook 2020 at Table 20, January 29, 2020.

Figure 6 (see also Schedule AEB-D2, Attachment 3 and Attachment 4) presents the range of the Constant Growth and Multi-Stage DCF results produced by my proxy group. As shown in Figure 6, for the Constant Growth DCF, the median DCF results range from 9.61 percent to 9.92 percent, and the median high results are in the range of 12.58 percent to 12.98 percent, while for the Multi-Stage DCF, the median DCF results range from 9.44 percent to 9.88 percent, and the median high results are in the range of 10.24 percent to 10.76 percent.

Figure 6: Discounted Cash Flow Results

	Median Low	Median	Median High
Constant Growth DCF			
30-Day Average	7.98%	9.92%	12.98%
90-Day Average	7.98%	9.68%	12.71%
180-Day Average	7.94%	9.61%	12.58%
Multi-Stage DCF			
30-Day Average	9.36%	9.88%	10.76%
90-Day Average	9.09%	9.71%	10.41%
180-Day Average	8.97%	9.44%	10.24%

How did you calculate the range of results for the Constant Growth and Multi-Stage DCF Models?

I calculated the low result for my DCF models using the minimum growth rate (*i.e.*, the lowest of the Value Line, Yahoo! Finance, and Zacks earnings growth rates) for each of the proxy group companies. Thus, the low result reflects the minimum DCF result for the proxy group. I used a similar approach to calculate the high results, using the highest growth rate for each proxy group company. The mean results were calculated using the average growth rates from all sources.

What are your conclusions about the results of the DCF models?

To the extent that utility valuations are high and may not be sustainable, it is important to consider the results of the DCF models with caution. The results of the current DCF models are below more normal market conditions. Therefore, while I have given weight to the results of the Constant Growth and Multi-Stage DCF models, my recommendation also gives weight to the results of other ROE estimation models.

E. CAPM Analysis

Please briefly describe the CAPM.

The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable, systematic risk of that security. Systematic risk is the risk inherent in the entire market or market segment—which cannot be diversified away using a portfolio of assets. Unsystematic risk is the risk of a specific company that can, theoretically, be mitigated through portfolio diversification.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

K_e = the required market ROE;

β = Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

In this specification, the term (r_m – r_f) represents the market risk premium. According to the theory underlying the CAPM because unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Systematic risk is measured by Beta. Beta is a measure of the volatility of a security as compared to the market as a whole. Beta is defined as:

$$\beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [4]$$

The variance of the market return (i.e., Variance (r_m)) is a measure of the uncertainty of the general market, and the covariance between the return on a specific security and the general market (i.e., Covariance (r_e, r_m)) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, Beta represents the risk of the security relative to the general market.

What risk-free rate did you use in your CAPM analysis?

I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds, which is 1.77 percent;[37] (2) the average projected 30-year U.S. Treasury bond yield for the second quarter of 2021

[37] Bloomberg Professional, as of January 31, 2021.

through the second quarter of 2022, which is 2.06 percent;[38] and (3) the average projected 30-year U.S. Treasury bond yield for 2022 through 2026, which is 2.80 percent.[39]

Would you place more weight on one of these scenarios?

Yes. Based on current market conditions, I place more weight on the results of the projected yields on the 30-year Treasury bonds. As discussed previously, the estimation of the cost of equity in this case should be forward-looking because it is the return that investors would receive over the future rate period. Therefore, the inputs and assumptions used in the CAPM analysis should reflect the expectations of the market at that time. While I have included the results of a CAPM analysis that relies on the current average risk-free rate, this analysis fails to take into consideration the effect of the market's expectations for interest rate increases on the cost of equity.

What Beta coefficients did you use in your CAPM analysis?

As shown on Schedule AEB-D2, Attachment 6, I used the Beta coefficients for the proxy group companies as reported by Bloomberg and Value Line. The Beta coefficients reported by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500 Index. Value Line's calculation is based on five years of weekly returns relative to the New York Stock Exchange Composite Index.

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[38] Blue Chip Financial Forecasts, Vol. 40, No. 2, February 1, 2021, at 2.

[39] Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14.

Additionally, as shown in Schedule AEB-D2, Attachment 7, I also considered an additional CAPM analysis which relies on the long-term average utility Beta coefficient for the companies in my proxy group. The long-term average utility Beta coefficient was calculated as an average of the Value Line Beta coefficients for the companies in my proxy group from 2011 through 2020.

How did you estimate the market risk premium in the CAPM?

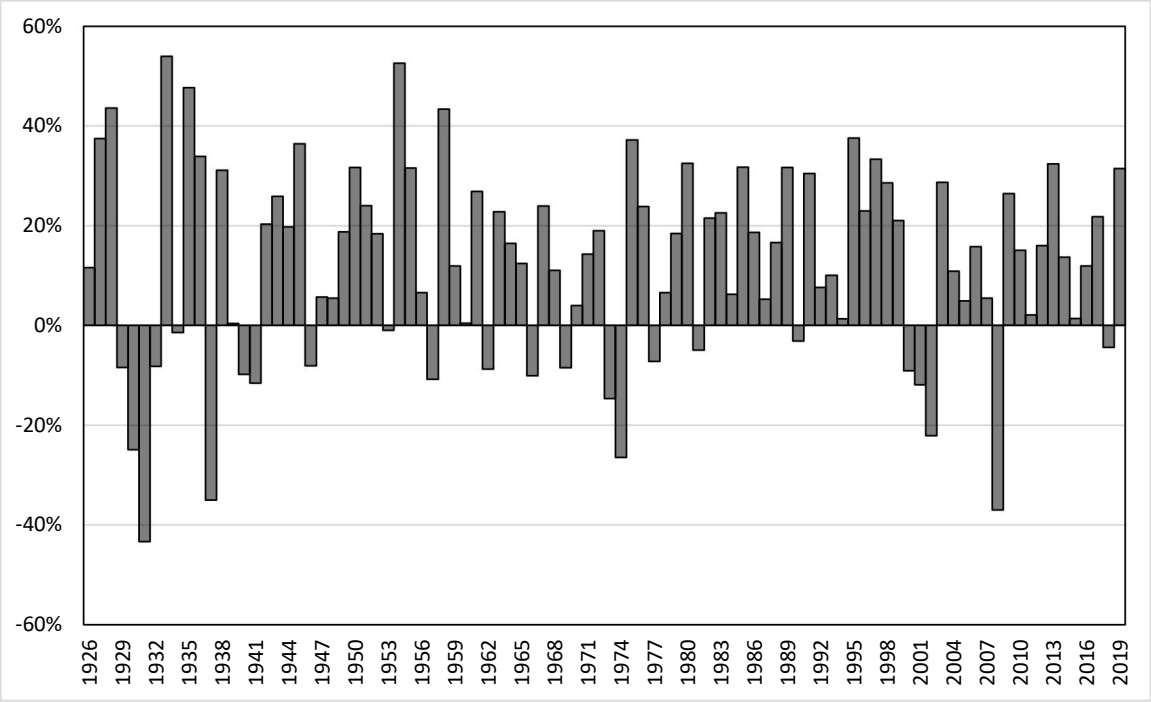
I estimated the Market Risk Premium ("MRP") as the difference between the implied expected equity market return and the risk-free rate. The expected return on the S&P 500 Index is calculated using the Constant Growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index for which dividend yields and Value Line long-term earnings projections are available. Based on an estimated market capitalization-weighted dividend yield of 1.58 percent and a weighted long-term growth rate of 12.45 percent, the estimated required market return for the S&P 500 Index is 14.13 percent. The implied market risk premium over the current 30-day average of the 30-year U.S. Treasury bond yield, and projected yields on the 30-year U.S. Treasury bond, ranges from 11.33 percent to 12.36 percent.

How does the current expected market return of 14.13 percent compare to observed historical market returns?

Given the range of annual equity returns that have been observed over the past century (shown in Figure 7), a current expected return of 14.13 percent is not

unreasonable. In 47 out of the past 94 years (or roughly 50 percent of observations), the realized equity return was at least 14.13 percent or greater.

Figure 7: Realized U.S. equity market returns (1926-2019) [40]



Did you consider another form of the CAPM in your analysis?

Yes. I have also considered the results of an ECAPM or alternatively referred to as the Zero-Beta CAPM[41] in estimating the cost of equity for Ameren Missouri. The ECAPM calculates the product of the adjusted Beta coefficient and the market risk premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the market risk premium, without any effect from

[40] Depicts total annual returns on large company stocks, as reported in the 2020 Duff and Phelps SBBI Yearbook.

[41] See e.g., Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 189.

the Beta coefficient. The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

Where:

k_e = the required market ROE;

β = Adjusted Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market as a whole.

In essence, the Empirical form of the CAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low Beta coefficients such as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted Betas; rather, it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[42]

As with the CAPM, my application of the ECAPM uses the forward-looking market risk premium estimates, the three yields on 30-year Treasury securities noted earlier as the risk-free rate, and the Bloomberg, Value Line and long-term average Beta coefficients.

[42] Id., at 191.

What are the results of your CAPM analyses?

As shown in Figure 8 (see also Schedule AEB-D2, Attachment 6 and Attachment 7), my traditional CAPM analyses produces a range of returns from 10.68 percent to 12.67 percent. The ECAPM analysis results range from 11.54 percent to 13.04 percent.

Figure 8: Forward-Looking CAPM Results

	Current Risk-Free Rate (1.77%)	Q2 2021 – Q2 2022 Projected Risk-Free Rate (2.06%)	2022-2026 Projected Risk-Free Rate (2.80%)
CAPM			
Value Line Beta	12.54%	12.58%	12.67%
Bloomberg Beta	11.59%	11.65%	11.80%
Long-term Avg. Beta	10.68%	10.76%	10.97%
ECAPM			
Value Line Beta	12.94%	12.96%	13.04%
Bloomberg Beta	12.23%	12.27%	12.38%
Long-term Avg. Beta	11.54%	11.60%	11.76%

F. Bond Yield Plus Risk Premium Analysis

Please describe the Bond Yield Plus Risk Premium approach.

This approach is based on the fundamental principle that because bondholders have a superior right to be repaid, equity investors bear a residual risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, because returns to equity holders have greater risk than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the cost of equity as the sum of the equity risk premium and the yield on a “risk-free” class of bonds.

Are there other considerations that should be addressed in conducting this analysis?

Yes, there are. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates. That is, as interest rates increase, the equity risk premium decreases, and vice versa. Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on recent and expected market conditions. Such an analysis can be developed based on a regression of the risk premium as a function of U.S. Treasury bond yields. In my analysis, I used actual authorized returns for natural gas utility companies and corresponding long-term Treasury yields as the historical measure of the cost of equity to determine the risk premium. If we let authorized ROEs for natural gas utilities serve as the measure of required equity returns and define the yield on the long-term U.S. Treasury bond as the relevant measure of interest rates, the risk premium simply would be the difference between those two points.[43]

Is the Bond Yield Plus Risk Premium analysis relevant to investors?

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[43] See e.g., S. Keith Berry, Interest Rate Risk and Utility Risk Premia during 1982-93, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. See also Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return, Financial Management, Spring 1986, at 66.

Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they consider those awards as a benchmark for a reasonable level of equity returns for utilities of comparable risk operating in other jurisdictions. Because my Bond Yield Plus Risk Premium analysis is based on authorized ROEs for utility companies relative to corresponding Treasury yields, it provides relevant information to assess the return expectations of investors.

What did your Bond Yield Plus Risk Premium analysis reveal?

As shown in Figure 9 below, from 1992 through January 2021, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(T) \mathrm{RP} = \mathrm{a} + \mathrm{b}(\mathrm{T}) \quad [6]$$

Where:

RP = Risk Premium (difference between allowed ROEs and the yield on 30-year U.S. Treasury bonds)

a = intercept term

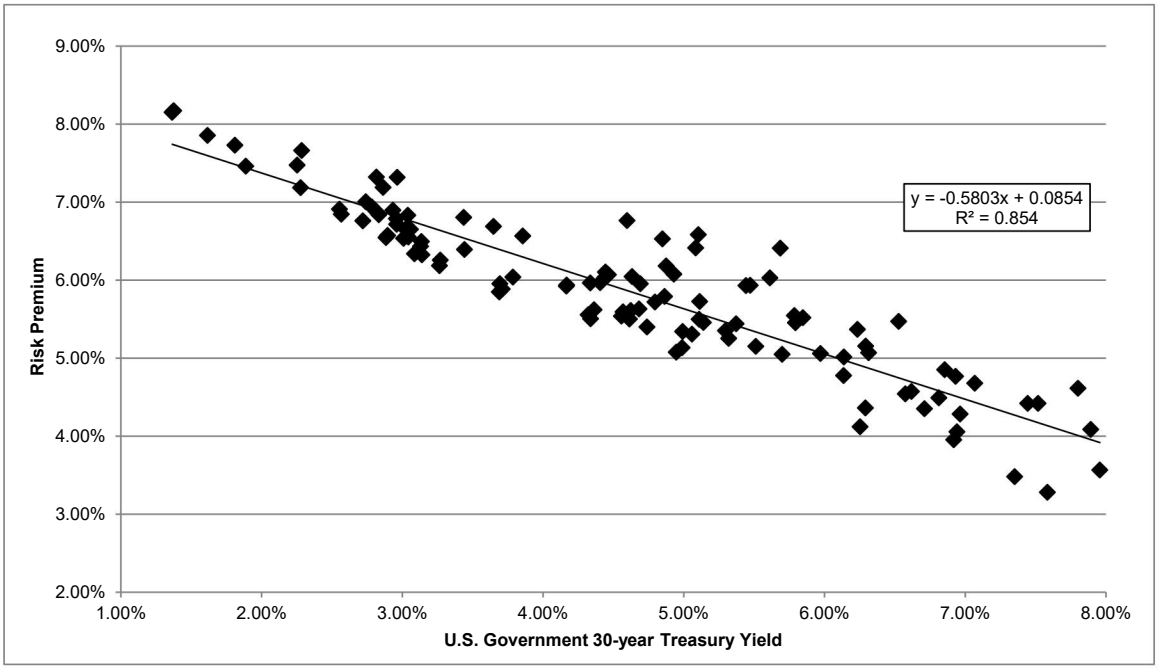
b = slope term

T = 30-year U.S. Treasury bond yield

Data regarding allowed ROEs were derived from 678 natural gas utility rate cases from 1992 through January 2021 as reported by Regulatory Research Associates

("RRA").[44] This equation's coefficients were statistically significant at the 99.00 percent level.

Figure 9: Risk Premium Results



As shown on Schedule AEB-D2, Attachment 10, based on the current 30-day average of the 30-year U.S. Treasury bond yield (i.e., 1.77 percent), the risk premium would be 7.51 percent, resulting in an estimated ROE of 9.28 percent. Based on the near-term (Q2 2021 – Q2 2022) projections of the 30-year U.S. Treasury bond yield (i.e., 2.06 percent), the risk premium would be 7.34 percent, resulting in an estimated ROE of 9.40 percent. Based on longer-term (2022 – 2026) projections of the 30-year U.S. Treasury bond yield (i.e., 2.80 percent), the

[44] This analysis began with a total of 1,084 natural gas cases, which were screened to eliminate limited issue rider cases, transmission cases, and cases that did not specify an authorized ROE. After applying those screening criteria, the analysis was based on data for 678 cases.

risk premium would be 6.91 percent, resulting in an estimated ROE of 9.71 percent.

How did the results of the Bond Yield Risk Premium inform your recommended ROE for Ameren Missouri?

I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for Ameren Missouri. As noted above, investors consider the ROE award of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions. The Risk Premium analysis considers this comparison by estimating the return expectations of investors based on the current and past ROE awards of natural gas utilities across the U.S.

VIII. REGULATORY AND BUSINESS RISKS

Do the DCF, CAPM, and ECAPM results for the proxy group, taken alone, provide an appropriate estimate of the cost of equity for Ameren Missouri?

No. These results provide only a range of the appropriate estimate of the Company's cost of equity. There are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

A. Small Size Risk

Please explain the risk associated with small size.

Both the financial and academic communities have long accepted the proposition that the cost of equity for small firms is subject to a "size effect." While empirical evidence of the size effect often is based on studies of industries other than regulated utilities, utility analysts also have noted the risk associated with small market capitalizations. Specifically, an analyst for Ibbotson Associates noted:

> For small utilities, investors face additional obstacles, such as a smaller customer base, limited financial resources, and a lack of diversification across customers, energy sources, and geography. These obstacles imply a higher investor return.[45]

How does the smaller size of a utility affect its business risk?

In general, smaller companies are less able to withstand adverse events that affect their revenues and expenses. The impact of weather variability, the loss of large customers to bypass opportunities, or the destruction of demand as a result of general macroeconomic conditions or fuel price volatility will have a proportionately greater impact on the earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue producing investments, such as system maintenance and replacements, will put proportionately greater pressure on customer costs, potentially leading to customer attrition or demand reduction. Taken together, these risks affect the return required by investors for smaller companies.

How does Ameren Missouri's natural gas distribution operations compare in size to the proxy group companies?

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[45] Michael Annin, Equity and the Small-Stock Effect, Public Utilities Fortnightly, October 15, 1995.

As noted previously, Ameren Missouri provides natural gas service to approximately 132,000 customers in Missouri and as of year-end 2019, had net natural gas utility plant in Missouri of approximately $331.59 million.[46] Ameren Missouri's natural gas distribution operations are substantially smaller than the median for the proxy group companies in terms of market capitalization. Schedule AEB-D2, Attachment 11 provides the actual market capitalization for the proxy group companies and estimates the implied market capitalization for Ameren Missouri (i.e., the implied market capitalization if Ameren Missouri's natural gas distribution operations were a stand-alone publicly-traded entity). To estimate the size of the Company's market capitalization, relative to the proxy group, I calculated Ameren Missouri's projected capital structure equity component of $161.21 million by multiplying Ameren Missouri's test year rate base of approximately $310.46 million by Ameren Missouri's proposed common equity ratio of 51.93 percent.

I then applied the median market-to-book ratio for the proxy group of 1.60 to Ameren Missouri's implied common equity balance and arrived at an implied market capitalization of approximately $258.72 million, or 7.63 percent of the median market capitalization for the proxy group.

How did you estimate the size premium for Ameren Missouri?

Given this relative size information, it is possible to estimate the impact of size on the ROE for Ameren Missouri using Duff and Phelps data that estimates the stock

[46] Union Electric Company, 2019 FERC Form 2, at 5-7.

risk premia based on the size of a company's market capitalization. As shown in Schedule AEB-D2, Attachment 11, the median market capitalization of the proxy group of approximately $3.39 billion corresponds to the fifth decile of the Duff and Phelps market capitalization data. Based on Duff and Phelps' analysis, that decile corresponds to a size premium of 1.08 percent (i.e., 108 basis points). Ameren Missouri's implied market capitalization of approximately $258.72 million falls within the ninth decile**,** which comprises market capitalization levels up to $515.60 million and corresponds to a size premium of 2.26 percent (i.e., 226 basis points)**.** The difference between those size premia is 118 basis points (i.e., 2.26 percent minus 1.08 percent)**.**

Were utility companies included in the size premium study conducted by Duff and Phelps?

Yes. In fact, as shown in Exhibit 7.2 of Duff and Phelps' 2019 Valuation Handbook, OGE Energy Corp. had the largest market capitalization of the companies contained in the fourth decile.[47] Therefore, Duff and Phelps did include utility companies in its size risk premium study.

Is the size premium applicable to companies in regulated industries such as natural gas utilities?

[47] Duff &Phelps, Valuation Handbook: Guide to Cost of Capital, 2019, Exhibit 7.2.

Yes, it is. In fact, Stéphane Chrétien and Frank Coggins in the article "Cost of Equity for Energy Utilities: Beyond the CAPM",[48] recently studied the CAPM and its ability to estimate the risk premium for the utility industry in particular subgroups of utilities. One of the subgroups was a group of natural gas distribution companies that contained many of the same natural gas distribution companies included in my proxy group.[49] The article considered the CAPM, the Fama-French three-factor model and a model similar to the ECAPM that I have also considered above. In the article, the Fama-French three-factor model explicitly included an adjustment to the CAPM for risk associated with size. As Chrétien and Coggins show, the Beta coefficient on the size variable for the U.S. natural gas utility group was positive and statistically significant indicating that small size risk was relevant for regulated natural gas utilities.[50] This demonstrates that the traditional CAPM model would not account for risk associated with small size.

Have regulators in other jurisdictions made a specific risk adjustment to the ROE results based on a company's small size?

Yes. In Order No. 15, the Regulatory Commission of Alaska ("RCA") concluded that Alaska Electric Light and Power Company ("AEL&P") was riskier than the proxy group companies due to small size as well as other business risks. The

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[48] Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." Energy Studies Review, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531.

[49] The U.S. natural gas utility group included: AGL Resources Inc., Atmos Energy Corp., Laclede Group, New Jersey Resources Corp., Northwest Natural Gas Co., Piedmont Natural Gas Co., South Jersey Industries, Southwest Gas Corp. and WGL Holdings Inc.

[50] Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." Energy Studies Review, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531, at 31.

RCA did "not believe that adopting the upper end of the range of ROE analyses in this case, without an explicit adjustment, would adequately compensate AEL&P for its greater risk."[51] Thus, the RCA awarded AEL&P an ROE of 12.875 percent which was 108 basis points above the highest return on equity estimate from any model presented in the case.[52] Similarly, in Order No. 19, the RCA noted that small size as well as other business risks such as structural regulatory lag, weather risk, alternative rate mechanisms, gas supply risk, geographic isolation and economic conditions increased the risk of ENSTAR Natural Gas Company.[53] Ultimately, the RCA concluded that:

> Although we agree that the risk factors identified by ENSTAR increase its risk, we do not attempt to quantify the amount of that increase. Rather, we take the factors into consideration when evaluating the remainder of the record and the recommendations presented by the parties. After applying our reasoned judgment to the record, we find that 11.875% represents a fair ROE for ENSTAR.[54]

Additionally, in Docket No. E017/GR-15-1033 for Otter Tail Power Company ("Otter Tail"), the Minnesota Public Utilities Commission ("Minnesota PUC") selected an ROE above the mean DCF results, as a result of multiple factors including Otter Tail's small size. The Minnesota PUC stated:

> The record in this case establishes a compelling basis for selecting an ROE above the mean average within the DCF range, given Otter

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[51] Docket No. U-10-29, In the Matter of the Revenue Requirement and Cost of Service Study Designated as TA381-1 Filed by Alaska Electric Light and Power Company, Order entered September 2, 2011 (Order No. 15), at 37.

[52] *Id.*, at 32 and 37.

[53] Docket No. U-16-066, In the Matter of the Tariff Revision Designated as TA285-4 Filed by ENSTAR Natural Gas Company, A Division of SEMCO Energy, Inc., Order entered September 22, 2017 (Order No. 19), at 50-52.

[54] Ibid.

> Tail's unique characteristics and circumstances relative to other utilities in the proxy group. These factors include the company's relatively smaller size, geographically diffuse customer base, and the scope of the Company's planned infrastructure investments.[55]

How have you considered the smaller size of Ameren Missouri in your recommendation?

While I have estimated the effect of Ameren Missouri's small size on the ROE, I am not proposing a specific adjustment for this risk factor. Rather, I believe it is important to consider the small size of the Company's natural gas distribution operations in the determination of where, within the range of analytical results, the Company's required ROE falls. Therefore, the additional risk associated with small size indicates that the Company's ROE should be established above the mean results for the proxy group companies.

B. <u>Regulatory Risk</u>

Please explain how the regulatory environment affects investors' risk assessments.

The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because utility operations are capital intensive, regulatory decisions should enable

[55] Order in Docket No. E017/GR-15-1033, In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota (May 1, 2017), at 55.

the utility to attract capital at reasonable terms; doing so balances the long-term interests of investors and customers. Utilities must finance their operations and require the opportunity to earn a reasonable return on their invested capital to maintain their financial profiles. Ameren Missouri is no exception. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

From the perspective of debt investors, the authorized return should enable the utility to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its systems, and maintain the necessary levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally generated funds, but also by efficient access to capital markets. Moreover, because fixed income investors have many investment alternatives, even within a given market sector, the utility's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

Equity investors require that the authorized return be adequate to provide a risk-comparable return on the equity portion of the utility's capital investments. Because equity investors are the residual claimants on the utility's cash flows (which is to say that the equity return is subordinate to interest payments), they are particularly concerned with the strength of regulatory support and its effect on future cash flows.

Please explain how credit rating agencies consider regulatory risk in establishing a company's credit rating.

Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4) financial strength, liquidity, and key financial metrics. Of these criteria, regulatory framework, and the ability to recover costs and earn returns are each given a broad rating factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00 percent weighting in the overall assessment of business and financial risk for regulated utilities.[56]

S&P also identifies the regulatory framework as an important factor in credit ratings for regulated utilities, stating: "One significant aspect of regulatory risk that influences credit quality is the regulatory environment in the jurisdictions in which a utility operates."[57] S&P identifies four specific factors that it uses to assess the credit implications of the regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting procedures and design; (3) financial stability; and (4) regulatory independence and insulation.[58]

How does the regulatory environment in which a utility operates affect its access to and cost of capital?

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[56] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

[57] Standard & Poor's Global Ratings, Ratings Direct, U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others, June 25, 2018, at 2.

[58] *Id*., at 1.

The regulatory environment can significantly affect both the access to, and cost of capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "[f]or rate regulated utilities, which typically operate as a monopoly, the regulatory environment and how the utility adapts to that environment are the most important credit considerations." [59] Moody's further highlighted the relevance of a stable and predictable regulatory environment to a utility's credit quality, noting: "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions that affect utilities are made (including the setting of rates), as well as the predictability and consistency of decision-making provided by that foundation."[60]

Have you conducted any analysis of the regulatory framework in Missouri relative to the jurisdictions in which the companies in your proxy group operate?

Yes. I have evaluated the regulatory framework in Missouri on four mechanisms that are important because they provide a regulated utility an opportunity to earn its authorized ROE: 1) test year convention (i.e., forecast vs. historical); 2) method for determining rate base (i.e., average vs. year-end); 3) use of revenue decoupling mechanisms or formula based rates that mitigate volumetric risk; and 4) prevalence of capital cost recovery between rate cases and/or Construction Work

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[59] Moody's Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.

[60] Ibid.

in Progress ("CWIP") allowances in rate bases. The results of this regulatory risk assessment are shown in Schedule AEB-D2, Attachment 12 and are summarized below.

Test year convention: Ameren Missouri uses a historical test year with "known and measurable" changes through a true-up period. However, 52.00 percent of the operating companies held by the proxy group provide service in jurisdictions that use a fully or partially forecast test year. Forecast test years have been relied on for several years and produce cost estimates that are more reflective of future costs which results in more accurate recovery of incurred costs and mitigates the regulatory lag associated with historical test years. As Lowry, Hovde, Getachew, and Makos explain in their 2010 report, *Forward Test Years for US Electric Utilities*:

> This report provides an in depth discussion of the test year issue. It includes the results of empirical research which explores why the unit costs of electric IOUs are rising and shows that utilities operating under forward test years realize higher returns on capital and have credit ratings that are materially better than those of utilities operating under historical test years. The research suggests that shifting to a future test year is a prime strategy for rebuilding utility credit ratings as insurance against an uncertain future.[61]

Rate Base: The Company's rate base is determined using the year end rate base method, which is consistent with the proxy group since 15 out of 25 (60 percent) of the operating companies provide service in jurisdictions where rate base is determined using the year-end method.

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[61] M.N. Lowry, D. Hovde, L. Getachew, and M. Makos, Forward Test Years for US Electric Utilities, prepared for Edison Electric Institute, August 2010, at 1.

Non-Volumetric Rate Design: Ameren Missouri does have some protection against volumetric risk through the Delivery Charge Adjustment ("DCA") which is a partial revenue decoupling mechanism for the Company's residential and general service rate classes. Similarly, roughly 88 percent of the proxy group operating companies have non-volumetric rate design through either straight fixed variable rate design, revenue decoupling mechanisms or formula rate plans that allow them to break the link between customer usage and revenues.

Capital Cost Recovery/CWIP in rate base**:** Ameren Missouri has a capital tracking mechanism ("Infrastructure System Replacement Surcharge ("ISRS") rider") to recover a portion of the Company's capital investment costs between rate cases. This is consistent with the proxy group where 84.00 percent of the operating companies have some form of capital cost recovery mechanism and/or are allowed to include CWIP in rate base.[62] The inclusion of CWIP in rate base reduces regulatory lag associated with new construction, which can be very important particularly when a company is undertaking a large capital investment plan.

Have you developed any additional analyses to evaluate the regulatory environment in Missouri as compared to the jurisdictions in which the companies in your proxy group operate?

[62] Wisconsin's PSC typically authorizes a premium to allow for a rate of return equivalent to a certain CWIP level in rate base.

Yes. I have conducted two additional analyses to compare the regulatory framework of Missouri to the jurisdictions in which the companies in the proxy group operate. Specifically, I considered two different rankings: (1) the Regulatory Research Associates ("RRA") ranking of regulatory jurisdictions; and (2) S&P's ranking of the credit supportiveness of regulatory jurisdictions.

Please explain how you used the RRA ratings to compare the regulatory jurisdictions of the proxy group companies with the Company's regulatory jurisdiction.

RRA develops their ranking based on their assessment of how investors perceive the regulatory risk associated with ownership of utility securities in that jurisdiction, specifically reflecting their assessment of the probable level and quality of earnings to be realized by the State's utilities as a result of regulatory, legislative, and court actions. RRA assigns a ranking for each regulatory jurisdiction between "Above Average/1" to "Below Average/3," with nine total rankings between these categories. I applied a numeric ranking system to the RRA rankings with "Above Average/1" assigned the highest ranking ("1") and "Below Average/3" assigned the lowest ranking ("9"). As shown in Schedule AEB-D2, Attachment 13, the Missouri regulatory environment is ranked as "Average/3," while the proxy group is ranked as "Average/2".

How did you conduct your analysis of the S&P Credit Supportiveness?

S&P classifies the regulatory jurisdictions into five categories ranging from “Credit Supportive” to “Most Credit Supportive” based on the level of credit supportiveness. Similar to the RRA regulatory ranking analysis discussed above, I assigned a numerical ranking to each jurisdiction ranked by S&P, from most credit supportive (“1”) to credit supportive (“5”). As shown in Schedule AEB-D2, Attachment 14, the proxy group is ranked between very credit supportive and highly credit supportive while the Missouri regulatory jurisdiction is only ranked as very credit supportive. Thus, similar to the results using the RRA regulatory rankings, Missouri is perceived as being below the average for the proxy group.

What are your conclusions regarding the perceived risks related to the Missouri regulatory environment?

As discussed throughout this section of my testimony, both Moody’s and S&P have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Considering the regulatory adjustment mechanisms, many of the companies in the proxy group have cost recovery mechanisms that are more robust than those implemented by Ameren Missouri. In addition, the RRA jurisdictional ranking and the S&P credit supportiveness ranking for Missouri indicates greater risk than the average for the proxy group. Therefore, the average ROE for the proxy group would understate the return on equity that an investor would require in Missouri because the risks of timely and full cost recovery are greater for Ameren Missouri in Missouri than for the proxy group. For that reason, I conclude that the authorized ROE for Ameren Missouri should be higher than the proxy group median.

IX. CONCLUSIONS AND RECOMMENDATION

What is your conclusion regarding a fair ROE for Ameren Missouri?

Figure 10 below provides a summary of my analytical results. Based these results and the qualitative analyses presented in my Direct Testimony, a reasonable range of ROE results for Ameren Missouri is from 9.65 percent to 10.40 percent and the Company's requested rate of return on common equity of 9.80 percent is reasonable taking into consideration Ameren Missouri's company-specific risks relative to the proxy group, as discussed in my Direct Testimony. This ROE would enable the company to maintain its financial integrity and therefore its ability to attract capital at reasonable terms under a variety of economic and financial market conditions, while continuing to provide safe, reliable and affordable natural gas service to customers in Missouri.

Figure 10: Summary of Analytical Results

Constant Growth DCF			
	Median Low	Median	Median High
30-Day Average	7.98%	9.92%	12.98%
90-Day Average	7.98%	9.68%	12.71%
180-Day Average	7.94%	9.61%	12.58%
Multi-Stage DCF			
	Median Low	Median	Median High
30-Day Average	9.36%	9.88%	10.76%
90-Day Average	9.09%	9.71%	10.41%
180-Day Average	8.97%	9.44%	10.24%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.54%	12.58%	12.67%
Bloomberg Beta	11.59%	11.65%	11.80%
Long-term Average Beta	10.68%	10.76%	10.97%
ECAPM			
Value Line Beta	12.94%	12.96%	13.04%
Bloomberg Beta	12.23%	12.27%	12.38%
Long-term Average Beta	11.54%	11.60%	11.76%
Bond Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Analysis	9.28%	9.40%	9.71%

Does this conclude your testimony?

Yes, it does.

Expertise

Financial Advisory:
Appraisals, Valuations

Regulation:
Cost of capital and return on equity, Stranded cost recovery

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Summary of Experience

Ms. Bulkley has more than two decades of management and economic consulting experience in the energy industry, with extensive state and federal regulatory experience on both electric and natural gas issues including rate of return, cost of equity, and capital structure issues. She has provided expert testimony on the cost of capital in more than 30 proceedings before regulatory commissions in over 15 U.S. States and the Federal Energy Regulatory Commission, and prepared and provided supporting analysis for over forty Federal and State regulatory proceedings.

Ms. Bulkley has worked on acquisition teams with investors seeking to acquire utility assets, providing valuation services including an understanding of regulation, market expected returns, and the assessment of utility risk factors. She has assisted clients with valuations of public utility and industrial properties for ratemaking, purchase and sale considerations, ad valorem tax assessments, and accounting and financial purposes. Additionally, Ms. Bulkley has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring, and regulatory and litigation support.

Prior to joining Concentric, Ms. Bulkley held senior expertise-based consulting positions at several firms, including Reed Consulting Group and Navigant Consulting, Inc. where she specialized in valuation. Ms. Bulkley holds an M.A. in economics from Boston University and a B.A. in economics and finance from Simmons College, and is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

Education

M.A., Economics, Boston University

B.A., Economics and Finance, Simmons College

Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of Michigan

Testified Before

Arizona Corporation Commission; Arkansas Public Service Commission; Colorado Public Utilities Commission; Connecticut Public Utilities Regulatory Authority; Federal Energy Regulatory Commission; Indiana Utility Regulatory Commission; Kansas Corporation Commission; Maine Public Utilities Commission; Maryland Public Service Commission; Massachusetts Appellate Tax Board; Massachusetts Department of Public Utilities; Michigan Public Service Commission; Michigan Tax Tribunal; Minnesota Public Utilities Commission; Missouri Public Service Commission; Montana Public Service Commission; New Hampshire – Merrimack County Superior Court; New Hampshire – Rockingham Superior Court; New Mexico Public Regulation Commission; New York State Department of Public Service; North Dakota Public Service Commission; Oklahoma Corporation Commission; Public

Service Commission of West Virginia; Public Utility Commission of Pennsylvania; Public Utility Commission of Texas; South Dakota Public Utilities Commission; Virginia State Corporation Commission

Publications

Electric Utility Privatization: An Analysis of Why Municipalization Efforts Fail
PDF

Regulation

Markets & Resource Planning

Financial Advisory

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A weekly publication providing in-depth reporting on the energy industry.

CE Capital Advisors ›

A securities firm that provides services relating to corporate mergers and acquisitions, the valuation of securities, and capital market advisory support.

Concentric Advisors, ULC ›

A Canadian subsidiary firm that focuses on the depreciation and valuation practices.

Our Offices

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues for Gas Service.	)))	Case No. GR-2021-0241

AFFIDAVIT OF ANN E. BULKLEY

COMMONWEALTH OF MASSACHUSETTS)
) ss
TOWN OF SHREWSBURY)

Ann E. Bulkley, being first duly sworn on her oath, states:

My name is Ann E. Bulkley, and on her oath declare that she is of sound mind and lawful age; that she has prepared the foregoing *Direct Testimony*; and further, under the penalty of perjury, that the same is true and correct to the best of my knowledge and belief.

Ann E. Bulkley

Sworn to me this 30th day of March, 2021.