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MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. ER-2021-0240

DIRECT TESTIMONY

OF

ANN E. BULKLEY

ON BEHALF OF

AMEREN MISSOURI

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DIRECT TESTIMONY

OF

ANN E. BULKLEY

I. INTRODUCTION

Q. Please state your name and business address.

A. 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.

Q. On whose behalf are you submitting this Prepared Direct Testimony?

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

Q. Please describe your education and experience.

A. 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.

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

A. 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

Q. Please describe the purpose of your testimony.

A. 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 12, which were prepared by me or under my direction.

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

Q. How is the remainder of your testimony organized?

A. 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 electric 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

Q. 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 electric utility companies that face risks generally comparable to those faced by Ameren Missouri. To that electric company proxy group, I applied the Constant Growth form of the Discounted Cash Flow ("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.

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

A. 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.

Q. Please explain how you considered those factors.

A. As shown in Figure 1, those ROE estimation models produce a wide range of results. Although I did not make any specific adjustments to my ROE estimates for the foregoing factors, I considered each of them when determining where the

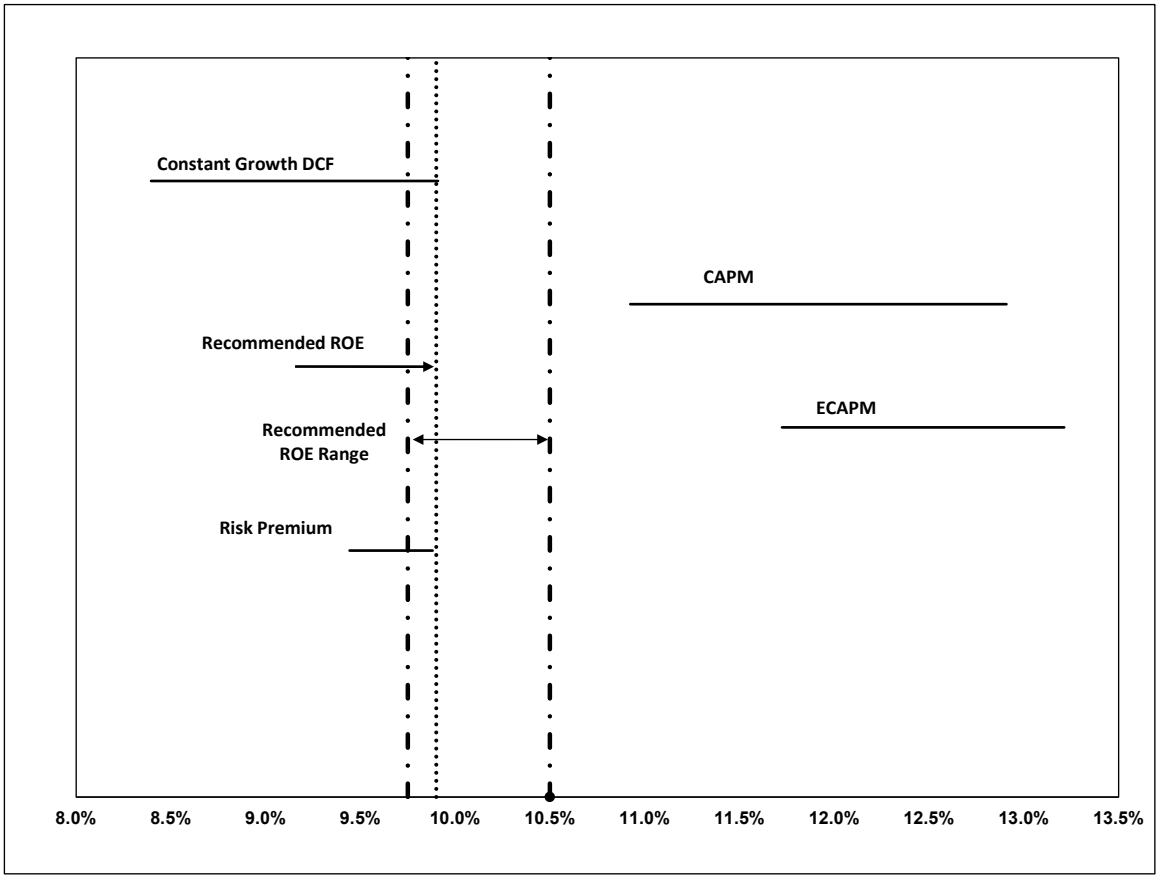
[2] *Federal Power Commission v. Hope Natural Gas Co*., 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

Company's ROE should fall within the range of analytical results. Although the companies in my proxy groups are generally comparable to Ameren Missouri, each company is unique, and no two companies have the exact same 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.

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

A. Figure 1 summarizes the range of results produced by the Constant Growth DCF, CAPM, ECAPM, and Bond Yield Plus Risk Premium analysis for the Electric 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.

Based on current market conditions, 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.

Q. What is your recommended ROE for Ameren Missouri?

A. Based on the analytical results presented in Figure 1, as well as the level of regulatory, business, and financial risk faced by Ameren Missouri's electric operations relative to the proxy group, I believe a range from 9.75 to 10.50 percent is reasonable. This recommendation reflects the range of results for the proxy group companies, the relative risk of Ameren Missouri's electric operations as compared to the proxy group, and current capital market conditions. Within that range, the Company is requesting an ROE of 9.90 percent, which is reasonable.

IV. REGULATORY GUIDELINES

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

A. 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).

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

A. 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.

Q. 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?

A. An ROE that is adequate to attract capital at reasonable terms enables the Company to continue to provide safe, reliable electric 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 equity investors will seek alternative investment opportunities for which the

[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.

expected return reflects the perceived risks, thereby inhibiting the Company's ability to attract capital at reasonable cost.

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

A. Yes. Ameren Missouri competes directly for capital with other investments of similar risk, which include other vertically integrated electric 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 vertically integrated electric utilities can inhibit Ameren Missouri's ability to attract capital for investment in Missouri.

Q. What are your conclusions regarding regulatory guidelines?

A. 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

Q. Why is it important to analyze capital market conditions?

A. 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.

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

A. 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

Q. Please summarize current market conditions.

A. 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]

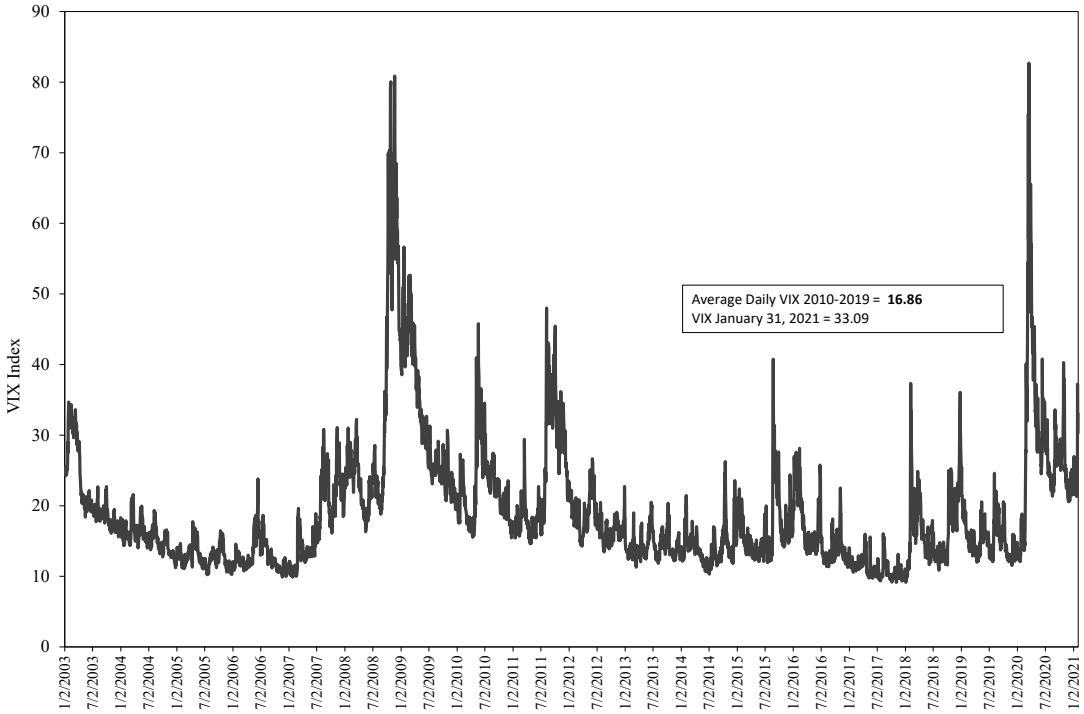
[5] FOMC, Press Release, March 17, 2021, at 1.

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

A. 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.

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



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

A. 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 consumers and businesses through the Term Asset-Backed Securities Loan

[6] Source: Bloomberg Professional.

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 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.

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

A. 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]

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

[8] *Ibid.*

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

A. 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]

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

A. 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 short-term interest rates. As shown in Figure 3, the yield curve has been

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

steepening and has increased to approximately 100 basis points, a level not seen since the first half of 2017.[10] 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[11]

[10] https://www.nasdaq.com/articles/treasuries-yield-curve-steepest-in-three-years-as-market-awaits-covid-19-stimulus-2020-12

[11] 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.

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

A. 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.[12] 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.[13]

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.[14]

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[12] 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.

[13] 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.

[14] 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.

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

A. 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.[15] Therefore, the market strategists surveyed by Barron's are projecting that utilities will underperform the broader market in 2021.

Q. 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?

A. 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.[16] 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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[15] 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.

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

increases in bond yields resulted in the decline of utility share prices).[17] 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.

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

A. 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.[18] 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.

[17] 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.

[18] *Ibid*.

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

A. 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.

Q. Are the valuations of the utilities sector currently considered high?

A. Yes. 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. [19]

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.

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

A. 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, including utility stocks. 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 that long-term interest rates cannot increase. In

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

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

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

A. 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.[20]

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

A. 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.[21, 22]

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

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

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

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

A. 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

Utility	Rating Agency	Credit Rating before TCJA	Credit Rating after TCJA	Downgrade Date
Vectren Utility Holdings	Moody's	A2	A3	10/25/2019
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

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

A. Yes. The Oregon Public Utilities Commission ("Oregon PUC"),[23] the Wyoming Public Service Commission ("Wyoming PSC")[24] and the Utah Public Service Commission ("Utah PSC")[25] have acknowledged the negative effect of the TCJA on the cash flow of utilities.

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

A. 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.[26] 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

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[23] *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).

[24] 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).

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

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

> 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, 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**.[27]

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.

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

A. 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

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

market conditions do not reflect the market conditions that are expected to be present when the rates for Ameren Missouri will be in effect.

- 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

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

A. In this proceeding, we focus on estimating the cost of equity for an electric 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.

Q. Please provide a brief profile of the Company.

A. Ameren Missouri (also known as Union Electric Company) is a wholly owned subsidiary of Ameren Corporation. The Company provides regulated retail electric service in more than 64 counties and 500 communities in the greater St. Louis area as well as a large portion of the eastern half of Missouri. The Company supplies electricity to 1.2 million customers. As of December 31, 2019, the Company's net utility electric plant in Missouri was approximately $10.6 billion.[28] In addition, the Company had total electric revenues of $3.1 billion in 2019.[29] Ameren Missouri is currently rated BBB+/Stable by Standard & Poor's and Baa1/Stable by Moody's.[30]

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

A. I began with the group of 37 companies that Value Line classifies as Electric 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;

[28] Source: Ameren Missouri.
[29] Source: S&P Global Market Intelligence and FERC Form 1 and FERC Form 2 annual reports.
[30] Source: S&P Global Market Intelligence credit ratings for Union Electric.

- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- own generation assets;
- have generation assets in rate base;
- derive at least 5.00 percent of their regulated generation capacity from coal;
- derive more than 60.00 percent of their total operating income from regulated operations;
- derive more than 80.00 percent of regulated operating income from electric 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.

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

A. 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 BBB+.[31] The average yield on Moody's Baa-rated utility bonds for the 30 trading days ending January 31, 2021, was 3.21 percent.[32] Thus, I have eliminated

[31] 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 8.0. This corresponds to a rating of BBB+ on the S&P scale.

[32] Source: Bloomberg Professional.

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 379 basis points above Baa-rated utility bonds.

Q. Did your 7 percent risk premium screen result in the exclusion of any additional companies from your electric proxy group?

A. Yes, I did. IDACORP, Inc. had a mean DCF result for the 30-day average price scenario of 6.38 percent and thus was excluded from the proxy group.

Q. What is the composition of your Electric Utility Proxy Group?

A. 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: Electric Utility Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Otter Tail Corporation	OTTR
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Xcel Energy Inc.	XEL

VII. COST OF EQUITY ESTIMATION

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

A. 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.

Q. How is the required ROE determined?

A. 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.

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

A. I considered the results of the Constant Growth 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

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

A. 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[33] suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[34] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.

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

A. 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 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 impact 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.

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[33] 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.

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

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

A. 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 experienced unprecedented volatility in recent months due to the economic effects of COVID-19. However, long-term interest rates have been increasing since August 2020 and this trend is expected to continue over the near-term as the economy enters the recovery phase of the business cycle. Therefore, the use of current average yields on Treasury bonds 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

Q. Please describe the DCF approach.

A. 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:

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

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.

Q. What assumptions are required for the Constant Growth DCF model?

A. 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.

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

A. 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.

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

A. 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 mean to mean-high results produced by my Constant Growth DCF model.

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

A. 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.

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

A. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth estimate in perpetuity. To reduce the long-term growth rate to a single measure, one must assume that the 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. Therefore, it is important to incorporate a variety of sources of long-term earnings growth rates into the Constant Growth DCF model.

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

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

C. Discounted Cash Flow Model Results

Q. How did you calculate the range of results for the Constant Growth DCF Models?

A. I calculated the low result for my DCF model 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.

Q. What were the results of your Constant Growth DCF analyses?

A. Figure 6 (see also Schedule AEB-D2, Attachment 3) summarizes the results of my DCF analyses. As shown in Figure 6, the mean DCF results for the Electric Utility Proxy Group range from 9.18 percent to 9.23 percent. The mean high DCF results range from 9.86 percent to 9.91 percent.

Figure 6: Constant Growth Discounted Cash Flow Results

	Mean Low	Mean	Mean High
30-Day Average	8.41%	9.20%	9.88%
90-Day Average	8.40%	9.18%	9.86%
180-Day Average	8.44%	9.23%	9.91%

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

A. One primary assumption of the Constant Growth DCF model is a constant P/E ratio. That assumption is heavily influenced by the market price of utility stocks. 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 DCF model, my recommendation also gives weight to the results of other ROE estimation models.

D. CAPM Analysis

Q. Please briefly describe the CAPM.

A. 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 a:

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

$$\beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)}$$

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.

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

A. 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;[35] (2) the average projected 30-year U.S. Treasury bond yield for the second quarter of 2021 through the second quarter of 2022, which is 2.06 percent;[36] and (3) the average projected 30-year U.S. Treasury bond yield for 2022 through 2026, which is 2.80 percent.[37]

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

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

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

Q. Would you place more weight on one of these scenarios?

A. 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.

Q. What Beta coefficients did you use in your CAPM analysis?

A. As shown on Schedule AEB-D2, Attachment 4, 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.

Additionally, as shown in Schedule AEB-D2, Attachment 5, 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.

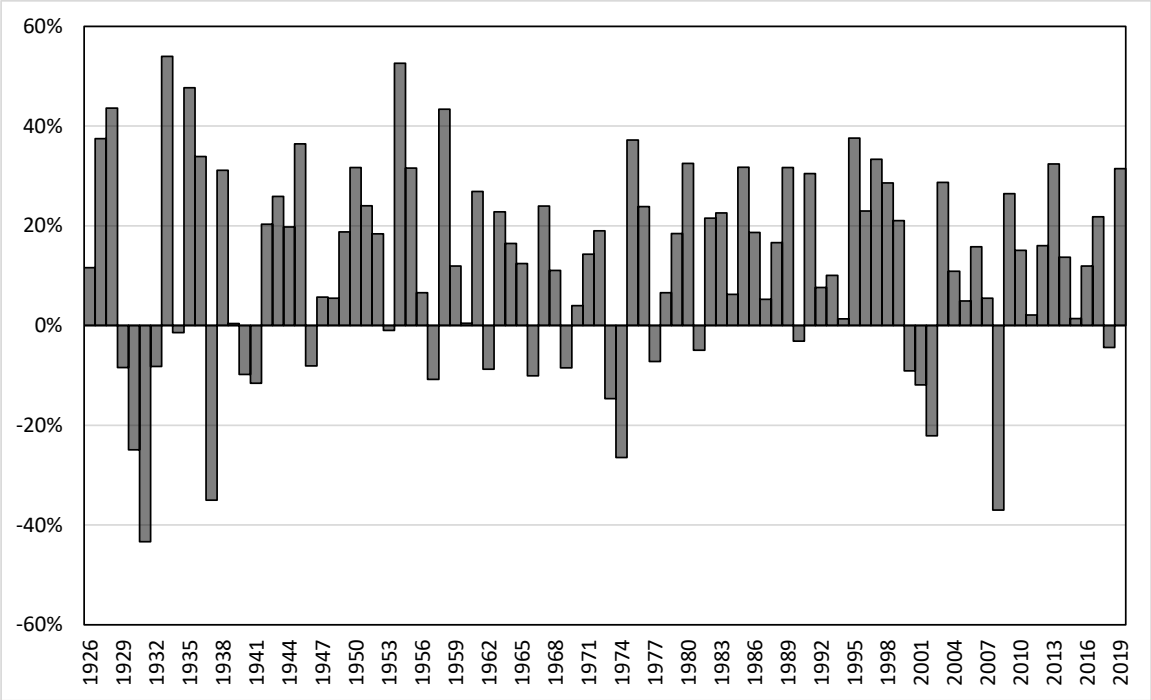
Q. How did you estimate the market risk premium in the CAPM?

A. 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.

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

A. 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) [38]



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

A. Yes. I have also considered the results of an ECAPM or alternatively referred to as the Zero-Beta CAPM[39] 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 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:

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

Where:

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

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

k_e = the required market ROE;

β = Adjusted Beta coefficient of an individual security;

rf = 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.[40]

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.

Q. What are the results of your CAPM analyses?

A. As shown in Figure 8 (see also Schedules AEB-D2, Attachment 4 and Attachment 5), my traditional CAPM analysis produces a range of returns from 10.92 percent

[40] *Id.*, at 191.

to 12.91 percent for the Electric Utility Proxy Group. The ECAPM analysis results range from 11.72 percent to 13.21 percent for the Electric Utility Proxy Group.

Figure 8: 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	12.80%	12.83%	12.91%
Bloomberg Beta	11.82%	11.88%	12.02%
Long-term Avg. Beta	10.92%	11.00%	11.19%
ECAPM			
Value Line Beta	13.13%	13.15%	13.21%
Bloomberg Beta	12.40%	12.44%	12.54%
Long-term Avg. Beta	11.72%	11.78%	11.93%

E. Bond Yield Plus Risk Premium Analysis

Q. Please describe the Bond Yield Plus Risk Premium approach.

A. 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.

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

A. 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 electric 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 electric 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.[41]

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

A. 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

[41] *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.

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.

Q. What did your Bond Yield Plus Risk Premium analysis reveal?

A. 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:

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

Where:

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

a = intercept term

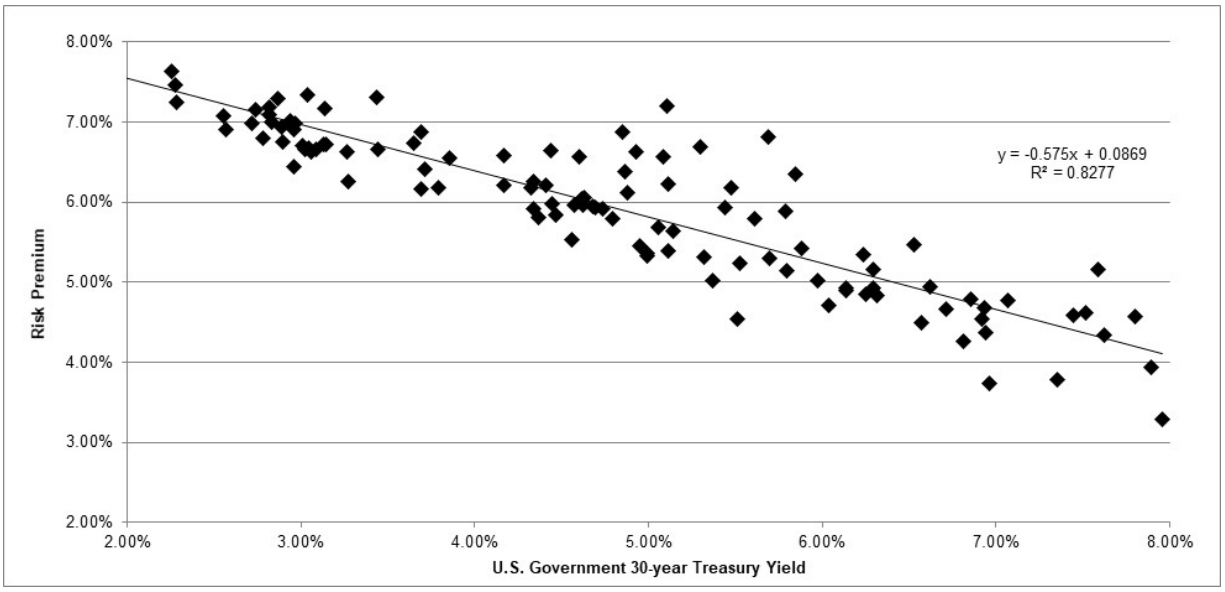
b = slope term

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

Data regarding allowed ROEs were derived from 653 vertically integrated electric utility rate cases from 1992 through January 2021 as reported by Regulatory Research Associates ("RRA").[42] This equation's coefficients were statistically significant at the 99.00 percent level.

[42] This analysis began with a total of 1,277 electric utility cases, which were screened to eliminate limited issue rider cases, transmission cases, distribution only cases, and cases that did not specify an authorized ROE. After applying those screening criteria, the analysis was based on data for 653 cases.

Figure 9: Risk Premium Results



As shown on Schedule AEB-D2, Attachment 8, 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 7.67 percent, resulting in an estimated ROE of 9.44 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 7.51 percent, resulting in an estimated ROE of 9.57 percent. Based on longer-term (2022 – 2026) projections of the 30-year U.S. Treasury bond yield (i.e., 2.80 percent), the risk premium would be 7.08 percent, resulting in an estimated ROE of 9.88 percent.

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

A. 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 electric utilities across the U.S.

VIII. REGULATORY AND BUSINESS RISKS

Q. 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?

A. 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. Capital Expenditures

Q. Please summarize the Company's capital expenditure requirements.

A. The Company's current projections for 2021 through 2025 include approximately $8.64 billion in capital investments for the period.[43] Based on the Company's net utility plant of approximately $10.57 billion as of December 31, 2019[44] the $8.64 billion of anticipated capital expenditures are approximately 81.72 percent of Ameren Missouri's net utility plant as of December 31, 2019.

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[43] Data provided by Ameren Missouri.

[44] *Ibid*.

Q. How is the Company's risk profile affected by its substantial capital expenditure requirements?

A. As with any utility faced with substantial capital expenditure requirements, the Company's risk profile may be adversely affected in two significant and related ways: (1) the heightened level of investment increases the risk of under-recovery or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics.

Q. Do credit rating agencies recognize the risks associated with elevated levels of capital expenditures?

A. Yes, they do. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. To that point, S&P explains the importance of regulatory support for a significant amount of capital projects:

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more

> favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[45]

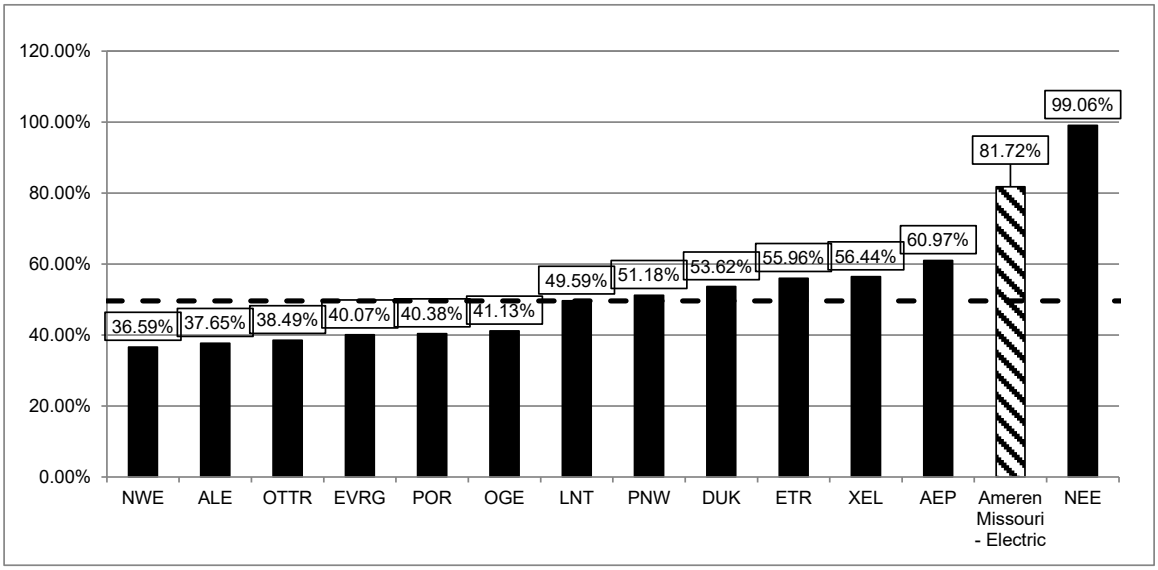
Therefore, to the extent that Ameren Missouri's rates do not continue to permit the recovery its capital investments on a regular basis, the Company would face increased recovery risk and thus increased pressure on its credit metrics.

Q. How do Ameren Missouri's capital expenditure requirements compare to those of the proxy group companies?

A. As shown in Schedule AEB-D2, Attachment 9, I calculated the ratio of expected capital expenditures to net utility plant for Ameren Missouri and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2021-2025 by its total net utility plant as of December 31, 2019. As shown in Schedule AEB-D2, Attachment 9 (see also Figure 10 below), Ameren Missouri's ratio of capital expenditures as a percentage of net utility plant is 81.72 percent, which is approximately 1.65 times the median for the proxy group companies of 49.59 percent. This result indicates a risk level for Ameren Missouri that is greater than the proxy group companies.

[45] S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

Figure 10: Comparison of Capital Expenditures – Proxy Group Companies



Q. Does Ameren Missouri have cost recovery mechanisms in place to recover the costs associated with its capital expenditures plan between rate cases?

A. Yes. Ameren Missouri has implemented Plant-In Service Accounting ("PISA") which was established in 2018 through Senate Bill 564 and provides for the deferral of 85 percent of the depreciation and return on capital investment between rate cases. Specifically, Senate Bill 564 provides that utilities who elect to use PISA shall:

> [D]efer to a regulatory asset eight-five percent of all depreciation expense and return associated with all qualifying electric plan recorded to plant-in-service on the utility's books… In each general rate proceeding concluded after the effective date of this section, the balance of the regulatory asset as of the rate base cutoff date shall be included in the electrical corporation's rate base without any offset, reduction, or adjustment based upon consideration of any other factor…[46]

[46] Senate Bill No. 564, General Assembly of the State of Missouri 2018.

Section 393.1400 of the Missouri Statute provides that companies electing the use of the PISA are required to submit a five-year capital investment plan setting forth the categories of capital expenditures that will be pursued. This statute limits the capital expenditures under PISA to certain types of investments, requiring 25 percent of the plan to be grid modernization investment. The statute also establishes an expiration date on the deferrals of December 31, 2023, after which time regulatory approval for continuance through December 31, 2028 is required.

Q. Does the implementation of PISA reduce Ameren Missouri's cost of equity?

A. No, it does not. It is important to recognize that while the PISA has provided for some cost recovery historically, there is a cap on the compound annual growth in rates of 2.85 percent as compared to what rates were as of April 1, 2017 through the end of 2023 (and through 2028 but only if PISA treatment is extended), which limits the recovery of capital through the PISA on a forward-looking basis. Further, it is important to recognize that the estimation of the cost of equity includes a comparative analysis of the risks and returns of the subject company and the proxy group of publicly traded utilities that are relied on in the ROE estimation models, and their utility operating subsidiaries. Therefore, the threshold question is not whether PISA reduces the risk of Ameren Missouri, but rather, is Ameren Missouri's risk reduced below that of the proxy group.

As shown in Schedule AEB-D2 Attachment 10, there are a number of cost recovery mechanisms in place for the proxy companies, including forecasted test year, year-end rate base, revenue decoupling and/or formula-based rates, capital cost recovery mechanisms, fuel/purchased power mechanisms, and/or Construction

Work In Progress ("CWIP") in rate base. Many of these mechanisms are not available to Ameren Missouri. Thus, the use of PISA does not reduce the Company's regulatory risk, relative to its peers. Rather, the implementation of PISA moves the Company closer to the risk profile of the operating utilities of the proxy group companies. Further, Ameren Missouri is limited from earning a return on CWIP by Missouri statutes, a mechanism that eliminates regulatory lag for many of the proxy companies.[47]

Q. Does the Company have any other cost recovery mechanisms?

A. Yes. The Company also has the Renewable Energy Standard rate adjustment mechanism ("RESRAM"). The RESRAM enables the Company to recover between rate cases the costs relating to compliance with Missouri's renewable energy standard, including investments in wind generation and other renewables.[48] Costs recovered through the RESRAM are subject to prudence review.[49]

Q. How do PISA and RESRAM compare with the capital investment trackers that have been implemented by the proxy companies?

A. As shown in Schedule AEB-D2 Attachment 10, 35 out of 65 (or approximately 54 percent) of the operating companies held by the Electric Utility Proxy Group recover costs through some form of capital tracking mechanisms and

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47 Regulatory Research Associates. "RRA Regulatory Focus: Missouri Regulatory Review" at 4. January 10, 2019.

48 Missouri Statute Section 393.1030.2(4).

49 Ameren Corporation, SEC Form 10-K, for the year ending December 31, 2019, at 3.

approximately 68 percent of the proxy group can earn a return on CWIP. However, as discussed previously, Ameren Missouri's capital cost recovery mechanism currently expires in 2023, and even if extended, permanently expires in 2028, and remains available only so long as Ameren Missouri's overall rates do not escalate (as compared to 2017 levels) at a rate in excess of 2.85 percent compounding annually. Furthermore, if Ameren Missouri were to exceed the rate cap, it would no longer benefit from the mechanism. As a result, Ameren Missouri would still depend on rate case filings for capital cost recovery.

Q. Is regulatory lag eliminated by the PISA and RESRAM mechanisms?

A. Not entirely. As noted previously, PISA is applied to only 85 percent of the depreciation and return for certain qualified investment. And while it does allow deferral or return on 85% of the eligible investment, the utility's net income is negatively impacted between rate cases because the equity portion of that return cannot be included in the utility's reported earnings. Moreover, the remaining 15 percent of the investment is not included in the recovery mechanism and therefore does not begin depreciation or earn a return until the next rate proceeding. Further, while PISA provides a process for including new projects in rate base, PISA does not provide the ability to put CWIP into rate base. PISA only provides a process for getting completed projects into rate base. Therefore, this mechanism does not provide cash flow relief similar to other jurisdictions where CWIP can be placed into rate base. Finally, PISA is a program that is set to expire in December 2023. Therefore, the Company has no assurance that the investment that is recovered through this mechanism will continue beyond that date.

Q. What are your conclusions regarding the effect of the Company's capital spending requirements on its risk profile and cost of capital?

A. The Company's capital expenditure requirements as a percentage of net utility plant are significant and will continue over the next few years. Additionally, while Ameren Missouri does have the PISA and RESRAM to recover qualifying capital costs, the mechanisms do not provide for timely recovery of all of Ameren Missouri's capital expenditures. Moreover, a number of the operating subsidiaries of the proxy group have a capital tracking mechanism and/or are able to include CWIP in rate base. As a result, the Company has greater risk relative to the proxy group companies which warrants an authorized ROE above the proxy group mean.

B. Regulatory Risk

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

A. 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 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.

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

A. 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.[50]

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."[51] 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.[52]

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

A. 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

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

[51] 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.

[52] *Id*., at 1.

adapts to that environment are the most important credit considerations."[53] 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."[54]

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

A. Yes. I have evaluated the regulatory framework in Missouri on several factors that are important in terms of providing a regulated utility an opportunity to earn its authorized ROE. These are: 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; 4) prevalence of capital cost recovery between rate cases; and CWIP allowances in rate base. The results of this regulatory risk assessment are shown in Schedule AEB-D2 Attachment 10 and are summarized below.

Test year convention: Ameren Missouri uses a historical test year with limited "known and measurable" changes through a true-up period.[55] By contrast, 30 out

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

[54] *Ibid*.

[55] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019.

of 65 (46.2 percent) of the operating companies held by the Electric Utility Proxy Group[56] provide service in jurisdictions that use either a fully or partially forecasted 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.[57]

Rate Base: The Company's rate base is determined using the year-end rate base method which is consistent with the Electric Utility Proxy Group since 31 out of 65 (47.7 percent) of the operating companies provide service in jurisdictions where rate base is determined using the year-end method.

Non-Volumetric Rate Design: Ameren Missouri does have partial protection against volumetric risk in Missouri through an Energy Efficiency Adjustment Charge, however this charge only allows the Company to recover the costs associated with the impact on sales from energy efficiency and does not address other volumetric risk. Roughly half the proxy group operating companies, as 30 out

[56] The Electric Utility Proxy includes 13 companies.

[57] 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.

of 65 (46.2 percent) of the operating companies held by the Electric Utility Proxy Group 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 capital tracking mechanisms (i.e., PISA and the RESRAM for RES compliance assets) to recover capital investment costs between rate cases. However, as discussed previously, Ameren Missouri's capital cost recovery mechanism is set to expire in 2023, and is only available as long as overall rates stay at or below the 2.85% cap discussed earlier. Ameren Missouri is expected to be significantly closer to the rate cap at the conclusion of this case, and if it exceeds the cap the Company will no longer benefit from the mechanism. Although 53 of 65 (81.5 percent) of the operating companies held by the Electric Utility Proxy have some form of capital cost recovery mechanism and/or are allowed to include CWIP in rate base.[58] 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, such as Ameren Missouri's capital expenditures plan.

Fuel Adjustment Clause: Ameren Missouri's fuel adjustment clause allows the Company to defer and recover 95 percent of the difference between the actual net energy costs and net base energy costs.[59] As shown in Schedule AEB-D2 Attachment 10, FAC mechanisms are prevalent in the Electric Utility Proxy. In fact,

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

[59] File No. ER-2019-0335, In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service, Non-Unanimous Stipulation and Agreement, Exhibit F.

93.8 percent of the operating companies in the proxy group are allowed to directly recover fuel costs and purchased power costs from customers, without either a dead band or sharing band. As discussed previously, for the purposes of determining the ROE, the risk of the company is considered in comparison to the proxy group. Since FAC mechanisms are prevalent in the proxy group, the continuation of a FAC for Ameren Missouri makes the Company more comparable to the proxy group. To the extent that the FAC were eliminated, or materially restructured to recover less of the fuel costs, Ameren Missouri would have greater risk than the proxy group and would likely require an upward adjustment to the ROE to reflect this incremental risk.

Q. Have you considered how Ameren Missouri compares to the proxy group on overall cost adjustment mechanisms?

A. Yes. As shown in Schedule AEB-D2, Attachment 10, the proxy group companies have implemented a number of adjustment mechanisms to mitigate the issue of regulatory lag, including forecasted test years, year-end rate base, decoupling mechanisms, formula-based rates, capital cost recovery mechanisms, fuel adjustment clauses, and CWIP allowances within rate base that specifically address the regulatory lag that may be unique to a given jurisdiction. However, Moody's recently noted that aside from the implementation of PISA, the Missouri regulatory environment has been challenging due to regulatory lag. Moody's identified that Missouri regulation authorizes limited interim base rate recovery mechanisms, requires the use of a historical test year, has limited capital trackers set to expire in 2023, cannot recover CWIP in rate base, and does not have a bad

debt recovery mechanism.[60] While Ameren Missouri has access to some regulatory mechanisms also available to operating companies within the proxy group, these mechanisms are limited. Further, Ameren Missouri lacks a comprehensive forward-looking mechanism or set of mechanisms, such as including CWIP in rate base, that would remedy the regulatory lag it faces.

Q. 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?

A. 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.

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

A. 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

[60] Moody's Investors Service, Credit Opinion, Union Electric Company, April 3, 2020, p. 3-4.

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 11, the Missouri regulatory environment is ranked as "Average/3," while the proxy group is ranked as "Average/2".

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

A. 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 12, 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.

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

A. 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 mean.

IX. CONCLUSIONS AND RECOMMENDATION

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

A. Figure 11 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 9.75 percent to 10.50 percent and the Company's requested rate of return on common equity of 9.90 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 electric service to customers in Missouri.

Figure 11: Summary of Analytical Results

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.41%	9.20%	9.88%
90-Day Average	8.40%	9.18%	9.86%
180-Day Average	8.44%	9.23%	9.91%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.80%	12.83%	12.91%
Bloomberg Beta	11.82%	11.88%	12.02%
Long-term Avg. Beta	10.92%	11.00%	11.19%
ECAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	13.13%	13.15%	13.21%
Bloomberg Beta	12.40%	12.44%	12.54%
Long-term Avg. Beta	11.72%	11.78%	11.93%
Treasury 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 Results	9.44%	9.57%	9.88%

Q. Does this conclude your Direct Testimony?

A. 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

Litigation

Privacy Policy

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Foster Report ›

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.

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SUMMARY OF ROE ANALYSES RESULTS

Constant Growth DCF			
	Mean Low	Mean	Mean High
30-Day Average	8.41%	9.20%	9.88%
90-Day Average	8.40%	9.18%	9.86%
180-Day Average	8.44%	9.23%	9.91%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	12.80%	12.83%	12.91%
Bloomberg Beta	11.82%	11.88%	12.02%
Long-term Avg. Beta	10.92%	11.00%	11.19%
ECAPM			
Value Line Beta	13.13%	13.15%	13.21%
Bloomberg Beta	12.40%	12.44%	12.54%
Long-term Avg. Beta	11.72%	11.78%	11.93%
Treasury 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 Results	9.44%	9.57%	9.88%
Risk Premium Mean Result	9.63%		

PROXY GROUP SCREENING DATA AND RESULTS

Company		[1] Dividends	[2] S&P Credit Rating Between BBB- and AAA	[3] Covered by More Than 1 Analyst	[4] Positive Growth Rates from at least two sources (Value Line, Yahoo! First Call, and Zacks)	[5] Own Generation Assets	[6] Generation Assets Included in Rate Base	[7] % Regulated Coal Generation Capacity > 5%	[8] % Regulated Operating Income > 60%	[9] % Regulated Electric Operating Income > 80%	[10] Announced Merger	[11] Mean DCF ROE < 7%
ALLETE, Inc.	ALE	Yes	BBB	Yes	Yes	Yes	Yes	49.92%	84.28%	97.40%	No	9.77%
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	Yes	Yes	32.27%	96.01%	92.27%	No	9.05%
American Electric Power Company, Inc.	AEP	Yes	A-	Yes	Yes	Yes	Yes	51.92%	98.07%	100.00%	No	9.69%
Duke Energy Corporation	DUK	Yes	A-	Yes	Yes	Yes	Yes	27.95%	100.00%	92.08%	No	8.41%
Entergy Corporation	ETR	Yes	BBB+	Yes	Yes	Yes	Yes	13.07%	100.00%	98.83%	No	8.51%
Evergy, Inc.	EVRG	Yes	A-	Yes	Yes	Yes	Yes	50.00%	100.00%	100.00%	No	10.62%
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	Yes	Yes	8.56%	68.66%	100.00%	No	10.49%
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	Yes	Yes	32.54%	100.00%	82.80%	No	7.44%
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	Yes	Yes	37.97%	99.76%	100.00%	No	8.10%
Otter Tail Corporation	OTTR	Yes	BBB	Yes	Yes	Yes	Yes	66.95%	70.89%	100.00%	No	11.41%
Pinnacle West Capital Corporation	PNW	Yes	A-	Yes	Yes	Yes	Yes	25.20%	100.00%	100.00%	No	8.24%
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	Yes	Yes	20.81%	100.00%	100.00%	No	8.98%
Xcel Energy Inc.	XEL	Yes	A-	Yes	Yes	Yes	Yes	32.85%	100.00%	86.98%	No	8.85%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional
[3] Source: Yahoo! Finance and Zacks
[4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
[5] to [7] Source: SNL Financial
[8] to [9] Source: Form 10-Ks for 2019, 2018 & 2017
[10] SNL Financial News Releases
[11] Source: Schedule AEB-D2, Attachment 3, Constant DCF, 30-day Average Share Price

30-DAY CONSTANT GROWTH DCF -- AMEREN MISSOURI ELECTRIC PROXY GROUP

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$2.47	$63.25	3.91%	4.02%	4.50%	7.00%	NA%	5.75%	8.49%	9.77%	11.04%
Alliant Energy Corporation	LNT	$1.61	$49.88	3.23%	3.32%	5.50%	5.80%	5.90%	5.73%	8.82%	9.05%	9.22%
American Electric Power Company, Inc.	AEP	$2.96	$81.06	3.65%	3.76%	6.00%	6.00%	5.80%	5.93%	9.56%	9.69%	9.76%
Duke Energy Corporation	DUK	$3.86	$90.68	4.26%	4.34%	5.00%	2.81%	4.40%	4.07%	7.13%	8.41%	9.36%
Entergy Corporation	ETR	$3.80	$96.03	3.96%	4.05%	3.00%	5.20%	5.20%	4.47%	7.02%	8.51%	9.26%
Evergy, Inc.	EVRG	$2.14	$53.61	3.99%	4.12%	7.50%	5.90%	6.10%	6.50%	10.01%	10.62%	11.64%
NextEra Energy, Inc.	NEE	$1.40	$79.01	1.77%	1.85%	9.50%	8.63%	7.80%	8.64%	9.64%	10.49%	11.36%
NorthWestern Corporation	NWE	$2.40	$56.65	4.24%	4.30%	2.50%	3.20%	3.70%	3.13%	6.79%	7.44%	8.01%
OGE Energy Corporation	OGE	$1.61	$31.38	5.13%	5.20%	3.00%	2.10%	3.60%	2.90%	7.28%	8.10%	8.82%
Otter Tail Corporation	OTTR	$1.48	$42.01	3.52%	3.66%	6.50%	9.00%	NA%	7.75%	10.14%	11.41%	12.68%
Pinnacle West Capital Corporation	PNW	$3.32	$77.93	4.26%	4.34%	4.50%	3.70%	3.50%	3.90%	7.83%	8.24%	8.86%
Portland General Electric Company	POR	$1.63	$41.97	3.88%	3.98%	4.00%	5.50%	5.50%	5.00%	7.96%	8.98%	9.49%
Xcel Energy Inc.	XEL	$1.72	$65.14	2.64%	2.72%	6.00%	6.20%	6.20%	6.13%	8.72%	8.85%	8.92%
Mean				3.73%	3.82%	5.19%	5.46%	5.25%	5.38%	8.41%	9.20%	9.88%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of January 31, 2021.
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

90-DAY CONSTANT GROWTH DCF -- AMEREN MISSOURI ELECTRIC PROXY GROUP

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$2.47	$57.99	4.26%	4.38%	4.50%	7.00%	NA%	5.75%	8.86%	10.13%	11.41%
Alliant Energy Corporation	LNT	$1.61	$52.61	3.06%	3.15%	5.50%	5.80%	5.90%	5.73%	8.64%	8.88%	9.05%
American Electric Power Company, Inc.	AEP	$2.96	$84.96	3.48%	3.59%	6.00%	6.00%	5.80%	5.93%	9.39%	9.52%	9.59%
Duke Energy Corporation	DUK	$3.86	$91.45	4.22%	4.31%	5.00%	2.81%	4.40%	4.07%	7.09%	8.38%	9.33%
Entergy Corporation	ETR	$3.80	$102.42	3.71%	3.79%	3.00%	5.20%	5.20%	4.47%	6.77%	8.26%	9.01%
Evergy, Inc.	EVRG	$2.14	$54.23	3.95%	4.07%	7.50%	5.90%	6.10%	6.50%	9.96%	10.57%	11.59%
NextEra Energy, Inc.	NEE	$1.40	$75.78	1.85%	1.93%	9.50%	8.63%	7.80%	8.64%	9.72%	10.57%	11.44%
NorthWestern Corporation	NWE	$2.40	$55.29	4.34%	4.41%	2.50%	3.20%	3.70%	3.13%	6.90%	7.54%	8.12%
OGE Energy Corporation	OGE	$1.61	$31.90	5.05%	5.12%	3.00%	2.10%	3.60%	2.90%	7.20%	8.02%	8.74%
Otter Tail Corporation	OTTR	$1.48	$40.60	3.65%	3.79%	6.50%	9.00%	NA%	7.75%	10.26%	11.54%	12.81%
Pinnacle West Capital Corporation	PNW	$3.32	$80.68	4.11%	4.20%	4.50%	3.70%	3.50%	3.90%	7.69%	8.10%	8.71%
Portland General Electric Company	POR	$1.63	$40.60	4.02%	4.12%	4.00%	5.50%	5.50%	5.00%	8.10%	9.12%	9.63%
Xcel Energy Inc.	XEL	$1.72	$68.54	2.51%	2.59%	6.00%	6.20%	6.20%	6.13%	8.58%	8.72%	8.79%
Mean				3.71%	3.80%	5.19%	5.46%	5.25%	5.38%	8.40%	9.18%	9.86%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 90-day average as of January 31, 2021.
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

180-DAY CONSTANT GROWTH DCF -- AMEREN MISSOURI ELECTRIC PROXY GROUP

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	$2.47	$57.17	4.32%	4.44%	4.50%	7.00%	NA%	5.75%	8.92%	10.19%	11.47%
Alliant Energy Corporation	LNT	$1.61	$51.78	3.11%	3.20%	5.50%	5.80%	5.90%	5.73%	8.70%	8.93%	9.10%
American Electric Power Company, Inc.	AEP	$2.96	$83.62	3.54%	3.64%	6.00%	6.00%	5.80%	5.93%	9.44%	9.58%	9.65%
Duke Energy Corporation	DUK	$3.86	$87.35	4.42%	4.51%	5.00%	2.81%	4.40%	4.07%	7.29%	8.58%	9.53%
Entergy Corporation	ETR	$3.80	$100.68	3.77%	3.86%	3.00%	5.20%	5.20%	4.47%	6.83%	8.33%	9.07%
Evergy, Inc.	EVRG	$2.14	$56.12	3.81%	3.94%	7.50%	5.90%	6.10%	6.50%	9.83%	10.44%	11.46%
NextEra Energy, Inc.	NEE	$1.40	$70.94	1.97%	2.06%	9.50%	8.63%	7.80%	8.64%	9.85%	10.70%	11.57%
NorthWestern Corporation	NWE	$2.40	$55.16	4.35%	4.42%	2.50%	3.20%	3.70%	3.13%	6.91%	7.55%	8.13%
OGE Energy Corporation	OGE	$1.61	$31.72	5.08%	5.15%	3.00%	2.10%	3.60%	2.90%	7.23%	8.05%	8.77%
Otter Tail Corporation	OTTR	$1.48	$40.01	3.70%	3.84%	6.50%	9.00%	NA%	7.75%	10.32%	11.59%	12.87%
Pinnacle West Capital Corporation	PNW	$3.32	$78.52	4.23%	4.31%	4.50%	3.70%	3.50%	3.90%	7.80%	8.21%	8.82%
Portland General Electric Company	POR	$1.63	$41.26	3.95%	4.05%	4.00%	5.50%	5.50%	5.00%	8.03%	9.05%	9.56%
Xcel Energy Inc.	XEL	$1.72	$67.49	2.55%	2.63%	6.00%	6.20%	6.20%	6.13%	8.62%	8.76%	8.83%
Mean				3.75%	3.85%	5.19%	5.46%	5.25%	5.38%	8.44%	9.23%	9.91%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 180-day average as of January 31, 2021.
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VL BETA

$K = Rf + \beta \times (Rm - Rf)$
$K = Rf + 0.25 \times (Rm) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	1.77%	0.85	14.13%	12.36%	12.27%	12.74%
Alliant Energy Corporation	LNT	1.77%	0.85	14.13%	12.36%	12.27%	12.74%
American Electric Power Company, Inc.	AEP	1.77%	0.75	14.13%	12.36%	11.04%	11.81%
Duke Energy Corporation	DUK	1.77%	0.85	14.13%	12.36%	12.27%	12.74%
Entergy Corporation	ETR	1.77%	0.95	14.13%	12.36%	13.51%	13.66%
Evergy, Inc.	EVRG	1.77%	1.00	14.13%	12.36%	14.13%	14.13%
NextEra Energy, Inc.	NEE	1.77%	0.90	14.13%	12.36%	12.89%	13.20%
NorthWestern Corporation	NWE	1.77%	0.95	14.13%	12.36%	13.51%	13.66%
OGE Energy Corporation	OGE	1.77%	1.10	14.13%	12.36%	15.36%	15.05%
Otter Tail Corporation	OTTR	1.77%	0.85	14.13%	12.36%	12.27%	12.74%
Pinnacle West Capital Corporation	PNW	1.77%	0.90	14.13%	12.36%	12.89%	13.20%
Portland General Electric Company	POR	1.77%	0.85	14.13%	12.36%	12.27%	12.74%
Xcel Energy Inc.	XEL	1.77%	0.80	14.13%	12.36%	11.66%	12.27%
Mean						12.80%	13.13%

Notes:
[1] Source: Bloomberg Professional, as of January 31, 2021
[2] Source: Value Line
[3] Source: Schedule AEB-D2, Attachment 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & VL BETA

$K = Rf + \beta \times (Rm - Rf)$
$K = Rf + 0.25 \times (Rm) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q2 2021 - Q2 2022)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	2.06%	0.85	14.13%	12.07%	12.32%	12.77%
Alliant Energy Corporation	LNT	2.06%	0.85	14.13%	12.07%	12.32%	12.77%
American Electric Power Company, Inc.	AEP	2.06%	0.75	14.13%	12.07%	11.11%	11.87%
Duke Energy Corporation	DUK	2.06%	0.85	14.13%	12.07%	12.32%	12.77%
Entergy Corporation	ETR	2.06%	0.95	14.13%	12.07%	13.52%	13.68%
Evergy, Inc.	EVRG	2.06%	1.00	14.13%	12.07%	14.13%	14.13%
NextEra Energy, Inc.	NEE	2.06%	0.90	14.13%	12.07%	12.92%	13.22%
NorthWestern Corporation	NWE	2.06%	0.95	14.13%	12.07%	13.52%	13.68%
OGE Energy Corporation	OGE	2.06%	1.10	14.13%	12.07%	15.33%	15.03%
Otter Tail Corporation	OTTR	2.06%	0.85	14.13%	12.07%	12.32%	12.77%
Pinnacle West Capital Corporation	PNW	2.06%	0.90	14.13%	12.07%	12.92%	13.22%
Portland General Electric Company	POR	2.06%	0.85	14.13%	12.07%	12.32%	12.77%
Xcel Energy Inc.	XEL	2.06%	0.80	14.13%	12.07%	11.71%	12.32%
Mean						12.83%	13.15%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 2, February 1, 2021, at 2
[2] Source: Value Line
[3] Source: Schedule AEB-D2, Attachment 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VL BETA

$K = Rf + \beta \times (Rm - Rf)$
$K = Rf + 0.25 \times (Rm) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2022 - 2026)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	2.80%	0.85	14.13%	11.33%	12.43%	12.85%
Alliant Energy Corporation	LNT	2.80%	0.85	14.13%	11.33%	12.43%	12.85%
American Electric Power Company, Inc.	AEP	2.80%	0.75	14.13%	11.33%	11.30%	12.00%
Duke Energy Corporation	DUK	2.80%	0.85	14.13%	11.33%	12.43%	12.85%
Entergy Corporation	ETR	2.80%	0.95	14.13%	11.33%	13.56%	13.70%
Evergy, Inc.	EVRG	2.80%	1.00	14.13%	11.33%	14.13%	14.13%
NextEra Energy, Inc.	NEE	2.80%	0.90	14.13%	11.33%	13.00%	13.28%
NorthWestern Corporation	NWE	2.80%	0.95	14.13%	11.33%	13.56%	13.70%
OGE Energy Corporation	OGE	2.80%	1.10	14.13%	11.33%	15.26%	14.98%
Otter Tail Corporation	OTTR	2.80%	0.85	14.13%	11.33%	12.43%	12.85%
Pinnacle West Capital Corporation	PNW	2.80%	0.90	14.13%	11.33%	13.00%	13.28%
Portland General Electric Company	POR	2.80%	0.85	14.13%	11.33%	12.43%	12.85%
Xcel Energy Inc.	XEL	2.80%	0.80	14.13%	11.33%	11.86%	12.43%
Mean						12.91%	13.21%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14
[2] Source: Value Line
[3] Source: Schedule AEB-D2, Attachment 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & BLOOMBERG BETA

$K = Rf + \beta \times (Rm - Rf)$
$K = Rf + 0.25 \times (Rm) + 0.75 \times \beta \times (Rm - Rf)$

Company	Ticker	[1] Current 30-day average of 30-year U.S. Treasury bond yield	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] CAPM ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	1.77%	0.83	14.13%	12.36%	12.07%	12.58%
Alliant Energy Corporation	LNT	1.77%	0.80	14.13%	12.36%	11.60%	12.24%
American Electric Power Company, Inc.	AEP	1.77%	0.76	14.13%	12.36%	11.17%	11.91%
Duke Energy Corporation	DUK	1.77%	0.71	14.13%	12.36%	10.54%	11.43%
Entergy Corporation	ETR	1.77%	0.84	14.13%	12.36%	12.11%	12.62%
Evergy, Inc.	EVRG	1.77%	0.79	14.13%	12.36%	11.51%	12.17%
NextEra Energy, Inc.	NEE	1.77%	0.76	14.13%	12.36%	11.22%	11.95%
NorthWestern Corporation	NWE	1.77%	0.91	14.13%	12.36%	12.96%	13.25%
OGE Energy Corporation	OGE	1.77%	0.93	14.13%	12.36%	13.32%	13.52%
Otter Tail Corporation	OTTR	1.77%	0.87	14.13%	12.36%	12.52%	12.93%
Pinnacle West Capital Corporation	PNW	1.77%	0.83	14.13%	12.36%	12.07%	12.59%
Portland General Electric Company	POR	1.77%	0.81	14.13%	12.36%	11.79%	12.37%
Xcel Energy Inc.	XEL	1.77%	0.73	14.13%	12.36%	10.83%	11.65%
Mean						11.82%	12.40%

Notes:
[1] Source: Bloomberg Professional, as of January 31, 2021
[2] Source: Bloomberg Professional, as of January 31, 2021
[3] Source: Schedule AEB-D2, Attachment 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$K = Rf + \beta \times (Rm - Rf)$
$K = Rf + 0.25 \times (Rm) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q2 2021 - Q2 2022)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	2.06%	0.83	14.13%	12.07%	12.12%	12.62%
Alliant Energy Corporation	LNT	2.06%	0.80	14.13%	12.07%	11.66%	12.28%
American Electric Power Company, Inc.	AEP	2.06%	0.76	14.13%	12.07%	11.24%	11.96%
Duke Energy Corporation	DUK	2.06%	0.71	14.13%	12.07%	10.62%	11.50%
Entergy Corporation	ETR	2.06%	0.84	14.13%	12.07%	12.16%	12.65%
Evergy, Inc.	EVRG	2.06%	0.79	14.13%	12.07%	11.57%	12.21%
NextEra Energy, Inc.	NEE	2.06%	0.76	14.13%	12.07%	11.29%	12.00%
NorthWestern Corporation	NWE	2.06%	0.91	14.13%	12.07%	12.99%	13.27%
OGE Energy Corporation	OGE	2.06%	0.93	14.13%	12.07%	13.34%	13.54%
Otter Tail Corporation	OTTR	2.06%	0.87	14.13%	12.07%	12.56%	12.95%
Pinnacle West Capital Corporation	PNW	2.06%	0.83	14.13%	12.07%	12.12%	12.62%
Portland General Electric Company	POR	2.06%	0.81	14.13%	12.07%	11.84%	12.41%
Xcel Energy Inc.	XEL	2.06%	0.73	14.13%	12.07%	10.90%	11.71%
Mean						11.88%	12.44%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 40, No. 2, February 1, 2021, at 2
[2] Source: Bloomberg Professional, as of January 31, 2021
[3] Source: Schedule AEB-D2, Attachment 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$K = Rf + \beta \times (Rm - Rf)$
$K = Rf + 0.25 \times (Rm) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2022 - 2026)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	CAPM ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	2.80%	0.83	14.13%	11.33%	12.24%	12.71%
Alliant Energy Corporation	LNT	2.80%	0.80	14.13%	11.33%	11.82%	12.39%
American Electric Power Company, Inc.	AEP	2.80%	0.76	14.13%	11.33%	11.42%	12.09%
Duke Energy Corporation	DUK	2.80%	0.71	14.13%	11.33%	10.84%	11.66%
Entergy Corporation	ETR	2.80%	0.84	14.13%	11.33%	12.28%	12.74%
Evergy, Inc.	EVRG	2.80%	0.79	14.13%	11.33%	11.73%	12.33%
NextEra Energy, Inc.	NEE	2.80%	0.76	14.13%	11.33%	11.46%	12.13%
NorthWestern Corporation	NWE	2.80%	0.91	14.13%	11.33%	13.06%	13.33%
OGE Energy Corporation	OGE	2.80%	0.93	14.13%	11.33%	13.39%	13.57%
Otter Tail Corporation	OTTR	2.80%	0.87	14.13%	11.33%	12.66%	13.03%
Pinnacle West Capital Corporation	PNW	2.80%	0.83	14.13%	11.33%	12.24%	12.71%
Portland General Electric Company	POR	2.80%	0.81	14.13%	11.33%	11.98%	12.52%
Xcel Energy Inc.	XEL	2.80%	0.73	14.13%	11.33%	11.10%	11.86%
Mean						12.02%	12.54%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14
[2] Source: Bloomberg Professional, as of January 31, 2021
[3] Source: Schedule AEB-D2, Attachment 7
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM AVERAGE BETA

CAPM: $K = R_f + \beta (R_m - R_f)$ / ECAPM: $K = Rf + 0.25(Rm - Rf) + 0.75\beta (Rm - Rf)$

	[4]	[5]	[6]	[7]	[8]	[9]
	Risk-Free Rate (R_f)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	CAPM (K)	ECAPM (K)
Current 30-day average of 30-year U.S. Treasury bond yield [1]	1.77%	0.741	14.13%	12.36%	10.92%	11.72%
Near-term projected 30-year U.S. Treasury bond yield (Q2 2021 - Q2 2022) [2]	2.06%	0.741	14.13%	12.07%	11.00%	11.78%
Projected 30-year U.S. Treasury bond yield (2022 - 2026) [3]	2.80%	0.741	14.13%	11.33%	11.19%	11.93%
				Average:	**11.04%**	**11.81%**

Notes:

[1] Source: Bloomberg Professional, as of January 31, 2021
[2] Source: Blue Chip Financial Forecasts, Vol. 40, No. 2, February 1, 2021, at 2
[3] Source: Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14
[4] See Notes [1], [2], and [3]
[5] Source: Schedule AEB-D2, Attachment 6
[6] Source: Schedule AEB-D2, Attachment 7
[7] Equals [6] − [4]
[8] Equals [4] + [5] x [7]
[9] Equals [4] + 0.25 x ([7]) + 0.75 x ([5] x [7])

HISTORICAL BETA - 2011 - 2020

Company	Ticker	[1] 12/31/2011	[2] 12/31/2012	[3] 12/31/2013	[4] 12/31/2014	[5] 12/31/2015	[6] 12/31/2016	[7] 12/31/2017	[8] 12/31/2018	[9] 12/31/2019	[10] 12/31/2020	[11] Average
ALLETE, Inc.	ALE	0.70	0.70	0.75	0.80	0.80	0.75	0.80	0.65	0.65	0.85	0.75
Alliant Energy Corporation	LNT	0.75	0.70	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.73
American Electric Power Company, Inc.	AEP	0.70	0.65	0.70	0.70	0.70	0.65	0.65	0.55	0.55	0.75	0.66
Duke Energy Corporation	DUK	0.65	0.60	0.65	0.60	0.65	0.60	0.60	0.50	0.50	0.85	0.62
Entergy Corporation	ETR	0.70	0.70	0.70	0.70	0.70	0.65	0.65	0.60	0.60	0.95	0.70
Evergy, Inc.	EVRG								NMF	NMF	1.00	1.00
NextEra Energy, Inc.	NEE	0.75	0.70	0.70	0.70	0.75	0.65	0.65	0.55	0.55	0.90	0.69
NorthWestern Corporation	NWE		0.70	0.70	0.70	0.70	0.70	0.70	0.60	0.60	0.90	0.70
OGE Energy Corporation	OGE	0.80	0.75	0.85	0.90	0.95	0.90	0.95	0.85	0.75	1.10	0.88
Otter Tail Corporation	OTTR	0.90	0.90	0.95	0.90	0.85	0.85	0.90	0.75	0.70	0.85	0.86
Pinnacle West Capital Corporation	PNW	0.70	0.70	0.70	0.70	0.75	0.70	0.70	0.60	0.55	0.85	0.70
Portland General Electric Company	POR	0.75	0.75	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.73
Xcel Energy Inc.	XEL	0.65	0.65	0.65	0.70	0.65	0.60	0.60	0.55	0.50	0.80	0.64
Mean		0.73	0.71	0.74	0.75	0.76	0.70	0.72	0.62	0.60	0.88	0.74

Notes:
[1] Value Line, dated November 4, 2011, November 25, 2011, and Dcember 23, 2011.
[2] Value Line, dated November 2, 2012, November 23, 2012, and December 21, 2012.
[3] Value Line, dated November 1, 2013, November 22, 2013, and December 20, 2013.
[4] Value Line, dated October 31, 2014, November 21, 2014, and December 19, 2014.
[5] Value Line, dated October 30,2015, November 20, 2015, and December 18, 2015.
[6] Value Line, dated October 28, 2016, November 18, 2016, and December 16, 2016.
[7] Value Line, dated October 27, 2017, November 17, 2017, and December 15, 2017.
[8] Value Line, dated October 18, 2018, November 16, 2018, and Decenber 14, 2018.
[9] Value Line, dated October 25, 2019, November 15, 2019, and December 13, 2019.
[10] Value Line, dated October 23, 2020, November 13, 2020, and December 11, 2020.
[11] Average ([1] - [10])

MARKET RISK PREMIUM DERIVED FROM ANALYSTS' LONG-TERM GROWTH ESTIMATES

[1] Estimated Weighted Average Dividend Yield	1.58%
[2] Estimated Weighted Average Long-Term Growth Rate	12.45%
[3] S&P 500 Estimated Required Market Return	14.13%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Weight in Index	[5] Current Dividend Yield	[6] Cap-Weighted Dividend Yield	[7] Value Line Long-Term Growth Est.	[8] Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	0.09%	4.90%	0.00%	3.50%	0.00%
American Express Co	AXP	0.30%	1.48%	0.00%	6.00%	0.02%
Verizon Communications Inc	VZ	0.74%	4.58%	0.03%	4.00%	0.03%
Broadcom Inc	AVGO	0.59%	3.20%	0.02%	18.50%	0.11%
Boeing Co/The	BA	0.36%	n/a	n/a	-1.50%	-0.01%
Caterpillar Inc	CAT	0.32%	2.25%	0.01%	4.00%	0.01%
JPMorgan Chase & Co	JPM	1.27%	2.80%	0.04%	5.50%	0.07%
Chevron Corp	CVX	0.53%	6.06%	0.03%	10.50%	0.06%
Coca-Cola Co/The	KO	0.67%	3.41%	0.02%	6.50%	0.04%
AbbVie Inc	ABBV	0.59%	5.07%	0.03%	10.50%	0.06%
Walt Disney Co/The	DIS	0.99%	n/a	n/a	17.00%	0.17%
FleetCor Technologies Inc	FLT	0.07%	n/a	n/a	14.00%	0.01%
Extra Space Storage Inc	EXR	0.05%	3.16%	0.00%	3.00%	0.00%
Exxon Mobil Corp	XOM	0.62%	7.76%	0.05%	4.50%	0.03%
Phillips 66	PSX	0.10%	5.31%	0.01%	4.00%	0.00%
General Electric Co	GE	0.30%	0.37%	0.00%	4.00%	0.01%
HP Inc	HPQ	0.10%	3.18%	0.00%	10.00%	0.01%
Home Depot Inc/The	HD	0.95%	2.22%	0.02%	8.50%	0.08%
International Business Machines Corp	IBM	0.34%	5.47%	0.02%	-0.50%	0.00%
Johnson & Johnson	JNJ	1.39%	2.48%	0.03%	10.00%	0.14%
McDonald's Corp	MCD	0.50%	2.48%	0.01%	9.00%	0.05%
Merck & Co Inc	MRK	0.63%	3.37%	0.02%	9.00%	0.06%
3M Co	MMM	0.33%	3.35%	0.01%	4.50%	0.01%
American Water Works Co Inc	AWK	0.09%	1.38%	0.00%	8.50%	0.01%
Bank of America Corp	BAC	0.83%	2.43%	0.02%	4.00%	0.03%
Baker Hughes Co	BKR	0.00%	3.58%	0.00%	n/a	n/a
Pfizer Inc	PFE	0.65%	4.35%	0.03%	8.50%	0.06%
Procter & Gamble Co/The	PG	1.02%	2.47%	0.03%	8.00%	0.08%
AT&T Inc	T	0.66%	7.27%	0.05%	5.50%	0.04%
Travelers Cos Inc/The	TRV	0.11%	2.49%	0.00%	9.50%	0.01%
Raytheon Technologies Corp	RTX	0.33%	2.85%	0.01%	-6.00%	-0.02%
Analog Devices Inc	ADI	0.18%	1.68%	0.00%	8.50%	0.02%
Walmart Inc	WMT	1.29%	1.54%	0.02%	8.00%	0.10%
Cisco Systems Inc/Delaware	CSCO	0.61%	3.23%	0.02%	7.00%	0.04%
Intel Corp	INTC	0.73%	2.50%	0.02%	7.00%	0.05%
General Motors Co	GM	0.24%	n/a	n/a	4.00%	0.01%
Microsoft Corp	MSFT	5.68%	0.97%	0.05%	13.50%	0.77%
Dollar General Corp	DG	0.15%	0.74%	0.00%	13.00%	0.02%
Cigna Corp	CI	0.25%	1.84%	0.00%	11.50%	0.03%
Kinder Morgan Inc	KMI	0.10%	7.46%	0.01%	18.50%	0.02%
Citigroup Inc	C	0.39%	3.52%	0.01%	10.00%	0.04%
American International Group Inc	AIG	0.10%	3.42%	0.00%	28.50%	0.03%
Honeywell International Inc	HON	0.44%	1.90%	0.01%	8.00%	0.04%
Altria Group Inc	MO	0.25%	8.37%	0.02%	6.50%	0.02%
HCA Healthcare Inc	HCA	0.18%	n/a	n/a	11.00%	0.02%
Under Armour Inc	UAA	0.01%	n/a	n/a	11.00%	0.00%
International Paper Co	IP	0.06%	4.07%	0.00%	6.50%	0.00%
Hewlett Packard Enterprise Co	HPE	0.05%	3.89%	0.00%	2.50%	0.00%
Abbott Laboratories	ABT	0.71%	1.46%	0.01%	12.00%	0.09%
Aflac Inc	AFL	0.10%	2.92%	0.00%	8.50%	0.01%
Air Products and Chemicals Inc	APD	0.19%	2.25%	0.00%	12.50%	0.02%
Royal Caribbean Cruises Ltd	RCL	0.05%	n/a	n/a	-0.50%	0.00%
Hess Corp	HES	0.00%	1.85%	0.00%	n/a	n/a
Archer-Daniels-Midland Co	ADM	0.09%	2.96%	0.00%	9.00%	0.01%
Automatic Data Processing Inc	ADP	0.23%	2.25%	0.01%	9.00%	0.02%
Verisk Analytics Inc	VRSK	0.10%	0.59%	0.00%	11.50%	0.01%
AutoZone Inc	AZO	0.08%	n/a	n/a	12.00%	0.01%
Avery Dennison Corp	AVY	0.04%	1.64%	0.00%	11.00%	0.00%
Enphase Energy Inc	ENPH	0.07%	n/a	n/a	40.00%	0.03%
MSCI Inc	MSCI	0.11%	0.79%	0.00%	17.00%	0.02%
Ball Corp	BLL	0.09%	0.68%	0.00%	18.00%	0.02%
Carrier Global Corp	CARR	0.00%	1.25%	0.00%	n/a	n/a
Bank of New York Mellon Corp/The	BK	0.11%	3.11%	0.00%	3.00%	0.00%
Otis Worldwide Corp	OTIS	0.00%	1.24%	0.00%	n/a	n/a
Baxter International Inc	BAX	0.13%	1.28%	0.00%	9.00%	0.01%
Becton Dickinson and Co	BDX	0.25%	1.27%	0.00%	9.00%	0.02%
Berkshire Hathaway Inc	BRK/B	1.01%	n/a	n/a	6.00%	0.06%
Best Buy Co Inc	BBY	0.09%	2.02%	0.00%	9.00%	0.01%
Boston Scientific Corp	BSX	0.16%	n/a	n/a	12.50%	0.02%
Bristol-Myers Squibb Co	BMY	0.45%	3.19%	0.01%	12.50%	0.06%
Fortune Brands Home & Security Inc	FBHS	0.04%	1.21%	0.00%	8.50%	0.00%
Brown-Forman Corp	BF/B	0.07%	1.00%	0.00%	12.00%	0.01%
Cabot Oil & Gas Corp	COG	0.02%	2.18%	0.00%	11.50%	0.00%
Campbell Soup Co	CPB	0.05%	3.08%	0.00%	4.00%	0.00%
Kansas City Southern	KSU	0.06%	0.87%	0.00%	11.50%	0.01%
Hilton Worldwide Holdings Inc	HLT	0.09%	n/a	n/a	11.00%	0.01%
Carnival Corp	CCL	0.06%	n/a	n/a	-10.00%	-0.01%
Qorvo Inc	QRVO	0.06%	n/a	n/a	37.00%	0.02%
Lumen Technologies Inc	LUMN	0.04%	8.08%	0.00%	2.50%	0.00%
UDR Inc	UDR	0.04%	3.75%	0.00%	3.50%	0.00%
Clorox Co/The	CLX	0.09%	2.12%	0.00%	5.00%	0.00%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Weight in Index	[5] Current Dividend Yield	[6] Cap-Weighted Dividend Yield	[7] Value Line Long-Term Growth Est.	[8] Cap-Weighted Long-Term Growth Est.
Paycom Software Inc	PAYC	0.07%	n/a	n/a	23.00%	0.02%
CMS Energy Corp	CMS	0.05%	3.06%	0.00%	7.50%	0.00%
Newell Brands Inc	NWL	0.03%	3.83%	0.00%	4.50%	0.00%
Colgate-Palmolive Co	CL	0.22%	2.26%	0.00%	5.00%	0.01%
Comerica Inc	CMA	0.03%	4.76%	0.00%	0.50%	0.00%
IPG Photonics Corp	IPGP	0.04%	n/a	n/a	10.00%	0.00%
Conagra Brands Inc	CAG	0.05%	3.18%	0.00%	5.50%	0.00%
Consolidated Edison Inc	ED	0.08%	4.38%	0.00%	3.00%	0.00%
SL Green Realty Corp	SLG	0.02%	5.39%	0.00%	-1.50%	0.00%
Corning Inc	GLW	0.09%	2.45%	0.00%	13.50%	0.01%
Cummins Inc	CMI	0.11%	2.30%	0.00%	4.00%	0.00%
Danaher Corp	DHR	0.55%	0.30%	0.00%	17.00%	0.09%
Target Corp	TGT	0.29%	1.50%	0.00%	13.00%	0.04%
Deere & Co	DE	0.29%	1.05%	0.00%	5.00%	0.01%
Dominion Energy Inc	D	0.19%	3.46%	0.01%	6.00%	0.01%
Dover Corp	DOV	0.05%	1.70%	0.00%	6.50%	0.00%
Alliant Energy Corp	LNT	0.04%	3.31%	0.00%	5.50%	0.00%
Duke Energy Corp	DUK	0.22%	4.11%	0.01%	5.00%	0.01%
Regency Centers Corp	REG	0.03%	5.04%	0.00%	14.50%	0.00%
Eaton Corp PLC	ETN	0.15%	2.48%	0.00%	4.00%	0.01%
Ecolab Inc	ECL	0.19%	0.94%	0.00%	8.50%	0.02%
PerkinElmer Inc	PKI	0.05%	0.19%	0.00%	17.50%	0.01%
Emerson Electric Co	EMR	0.15%	2.55%	0.00%	9.50%	0.01%
EOG Resources Inc	EOG	0.10%	2.94%	0.00%	7.50%	0.01%
Aon PLC	AON	0.15%	0.91%	0.00%	7.50%	0.01%
Entergy Corp	ETR	0.06%	3.99%	0.00%	3.00%	0.00%
Equifax Inc	EFX	0.07%	0.88%	0.00%	6.50%	0.00%
IQVIA Holdings Inc	IQV	0.11%	n/a	n/a	11.00%	0.01%
Gartner Inc	IT	0.04%	n/a	n/a	12.00%	0.01%
FedEx Corp	FDX	0.20%	1.10%	0.00%	8.50%	0.02%
FMC Corp	FMC	0.05%	1.77%	0.00%	11.50%	0.01%
Ford Motor Co	F	0.13%	n/a	n/a	11.50%	0.02%
NextEra Energy Inc	NEE	0.51%	1.73%	0.01%	9.50%	0.05%
Franklin Resources Inc	BEN	0.04%	4.26%	0.00%	11.50%	0.00%
Freeport-McMoRan Inc	FCX	0.13%	n/a	n/a	23.00%	0.03%
Gap Inc/The	GPS	0.02%	4.79%	0.00%	2.50%	0.00%
DexCom Inc	DXCM	0.00%	n/a	n/a	n/a	n/a
General Dynamics Corp	GD	0.14%	3.00%	0.00%	6.00%	0.01%
General Mills Inc	GIS	0.12%	3.51%	0.00%	4.00%	0.00%
Genuine Parts Co	GPC	0.04%	3.37%	0.00%	7.00%	0.00%
Atmos Energy Corp	ATO	0.04%	2.81%	0.00%	7.00%	0.00%
WW Grainger Inc	GWW	0.06%	1.68%	0.00%	7.50%	0.00%
Halliburton Co	HAL	0.05%	1.02%	0.00%	1.50%	0.00%
L3Harris Technologies Inc	LHX	0.00%	2.38%	0.00%	n/a	n/a
Healthpeak Properties Inc	PEAK	0.05%	4.99%	0.00%	-15.00%	-0.01%
Catalent Inc	CTLT	0.06%	n/a	n/a	21.00%	0.01%
Fortive Corp	FTV	0.07%	0.42%	0.00%	8.50%	0.01%
Hershey Co/The	HSY	0.07%	2.21%	0.00%	5.00%	0.00%
Synchrony Financial	SYF	0.06%	2.62%	0.00%	4.50%	0.00%
Hormel Foods Corp	HRL	0.08%	2.09%	0.00%	10.00%	0.01%
Arthur J Gallagher & Co	AJG	0.07%	1.66%	0.00%	13.00%	0.01%
Mondelez International Inc	MDLZ	0.26%	2.27%	0.01%	8.00%	0.02%
CenterPoint Energy Inc	CNP	0.04%	3.03%	0.00%	5.00%	0.00%
Humana Inc	HUM	0.16%	0.65%	0.00%	10.50%	0.02%
Willis Towers Watson PLC	WLTW	0.08%	1.40%	0.00%	11.50%	0.01%
Illinois Tool Works Inc	ITW	0.20%	2.35%	0.00%	9.00%	0.02%
CDW Corp/DE	CDW	0.06%	1.22%	0.00%	11.00%	0.01%
Trane Technologies PLC	TT	0.00%	1.48%	0.00%	n/a	n/a
Interpublic Group of Cos Inc/The	IPG	0.03%	4.24%	0.00%	10.00%	0.00%
International Flavors & Fragrances Inc	IFF	0.04%	2.74%	0.00%	6.00%	0.00%
Jacobs Engineering Group Inc	J	0.04%	0.83%	0.00%	14.50%	0.01%
Hanesbrands Inc	HBI	0.02%	3.92%	0.00%	3.50%	0.00%
Kellogg Co	K	0.07%	3.87%	0.00%	2.50%	0.00%
Broadridge Financial Solutions Inc	BR	0.05%	1.63%	0.00%	10.50%	0.01%
Perrigo Co PLC	PRGO	0.02%	2.11%	0.00%	3.50%	0.00%
Kimberly-Clark Corp	KMB	0.15%	3.45%	0.01%	6.50%	0.01%
Kimco Realty Corp	KIM	0.02%	3.88%	0.00%	5.00%	0.00%
Oracle Corp	ORCL	0.58%	1.59%	0.01%	10.50%	0.06%
Kroger Co/The	KR	0.09%	2.09%	0.00%	7.50%	0.01%
Leggett & Platt Inc	LEG	0.02%	3.90%	0.00%	8.00%	0.00%
Lennar Corp	LEN	0.07%	1.20%	0.00%	9.50%	0.01%
Eli Lilly and Co	LLY	0.65%	1.63%	0.01%	10.00%	0.06%
L Brands Inc	LB	0.04%	n/a	n/a	16.00%	0.01%
Charter Communications Inc	CHTR	0.38%	n/a	n/a	36.50%	0.14%
Lincoln National Corp	LNC	0.03%	3.69%	0.00%	9.50%	0.00%
Loews Corp	L	0.04%	0.55%	0.00%	13.00%	0.01%
Lowe's Cos Inc	LOW	0.40%	1.44%	0.01%	14.50%	0.06%
Xerox Holdings Corp	XRX	0.01%	4.76%	0.00%	5.00%	0.00%
IDEX Corp	IEX	0.05%	1.07%	0.00%	7.50%	0.00%
Marsh & McLennan Cos Inc	MMC	0.18%	1.69%	0.00%	9.00%	0.02%
Masco Corp	MAS	0.05%	1.03%	0.00%	9.00%	0.00%
S&P Global Inc	SPGI	0.25%	0.97%	0.00%	8.50%	0.02%
Medtronic PLC	MDT	0.49%	2.08%	0.01%	6.50%	0.03%
Viatris Inc	VTRS	0.00%	n/a	n/a	n/a	n/a
CVS Health Corp	CVS	0.30%	2.79%	0.01%	6.00%	0.02%
DuPont de Nemours Inc	DD	0.00%	1.51%	0.00%	n/a	n/a
Micron Technology Inc	MU	0.28%	n/a	n/a	11.50%	0.03%
Motorola Solutions Inc	MSI	0.09%	1.70%	0.00%	8.00%	0.01%
Cboe Global Markets Inc	CBOE	0.03%	1.83%	0.00%	12.50%	0.00%
Laboratory Corp of America Holdings	LH	0.07%	n/a	n/a	8.00%	0.01%
Newmont Corp	NEM	0.16%	2.68%	0.00%	19.50%	0.03%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Weight in Index	[5] Current Dividend Yield	[6] Cap-Weighted Dividend Yield	[7] Value Line Long-Term Growth Est.	[8] Cap-Weighted Long-Term Growth Est.
NIKE Inc	NKE	0.55%	0.82%	0.00%	27.00%	0.15%
NiSource Inc	NI	0.03%	3.97%	0.00%	13.00%	0.00%
Norfolk Southern Corp	NSC	0.19%	1.67%	0.00%	10.50%	0.02%
Principal Financial Group Inc	PFG	0.04%	4.55%	0.00%	5.50%	0.00%
Eversource Energy	ES	0.10%	2.59%	0.00%	5.50%	0.01%
Northrop Grumman Corp	NOC	0.16%	2.02%	0.00%	11.00%	0.02%
Wells Fargo & Co	WFC	0.40%	1.34%	0.01%	5.00%	0.02%
Nucor Corp	NUE	0.05%	3.32%	0.00%	3.00%	0.00%
PVH Corp	PVH	0.02%	n/a	n/a	3.50%	0.00%
Occidental Petroleum Corp	OXY	0.06%	0.20%	0.00%	14.50%	0.01%
Omnicom Group Inc	OMC	0.04%	4.17%	0.00%	5.50%	0.00%
ONEOK Inc	OKE	0.06%	9.39%	0.01%	10.00%	0.01%
Raymond James Financial Inc	RJF	0.04%	1.56%	0.00%	6.00%	0.00%
Parker-Hannifin Corp	PH	0.11%	1.33%	0.00%	11.50%	0.01%
Rollins Inc	ROL	0.06%	0.89%	0.00%	12.00%	0.01%
PPL Corp	PPL	0.07%	6.00%	0.00%	2.50%	0.00%
ConocoPhillips	COP	0.18%	4.30%	0.01%	10.50%	0.02%
PulteGroup Inc	PHM	0.04%	1.29%	0.00%	10.00%	0.00%
Pinnacle West Capital Corp	PNW	0.03%	4.41%	0.00%	4.50%	0.00%
PNC Financial Services Group Inc/The	PNC	0.20%	3.21%	0.01%	3.00%	0.01%
PPG Industries Inc	PPG	0.10%	1.60%	0.00%	3.00%	0.00%
Progressive Corp/The	PGR	0.17%	0.46%	0.00%	9.50%	0.02%
Public Service Enterprise Group Inc	PEG	0.09%	3.47%	0.00%	5.00%	0.00%
Robert Half International Inc	RHI	0.02%	2.01%	0.00%	6.00%	0.00%
Edison International	EIX	0.07%	4.56%	0.00%	12.00%	0.01%
Schlumberger NV	SLB	0.10%	2.25%	0.00%	0.00%	0.00%
Charles Schwab Corp/The	SCHW	0.30%	1.40%	0.00%	7.50%	0.02%
Sherwin-Williams Co/The	SHW	0.20%	0.77%	0.00%	10.00%	0.02%
West Pharmaceutical Services Inc	WST	0.07%	0.23%	0.00%	17.00%	0.01%
J M Smucker Co/The	SJM	0.04%	3.09%	0.00%	2.50%	0.00%
Snap-on Inc	SNA	0.03%	2.73%	0.00%	5.00%	0.00%
AMETEK Inc	AME	0.08%	0.64%	0.00%	12.50%	0.01%
Southern Co/The	SO	0.20%	4.34%	0.01%	3.00%	0.01%
Truist Financial Corp	TFC	0.21%	3.75%	0.01%	7.00%	0.01%
Southwest Airlines Co	LUV	0.08%	n/a	n/a	0.00%	0.00%
W R Berkley Corp	WRB	0.04%	0.77%	0.00%	10.00%	0.00%
Stanley Black & Decker Inc	SWK	0.09%	1.61%	0.00%	7.50%	0.01%
Public Storage	PSA	0.13%	3.51%	0.00%	4.00%	0.01%
Arista Networks Inc	ANET	0.08%	n/a	n/a	5.50%	0.00%
Sysco Corp	SYY	0.12%	2.52%	0.00%	11.50%	0.01%
Corteva Inc	CTVA	0.00%	1.30%	0.00%	n/a	n/a
Texas Instruments Inc	TXN	0.49%	2.46%	0.01%	4.00%	0.02%
Textron Inc	TXT	0.03%	0.18%	0.00%	8.50%	0.00%
Thermo Fisher Scientific Inc	TMO	0.66%	0.17%	0.00%	17.00%	0.11%
TJX Cos Inc/The	TJX	0.25%	1.62%	0.00%	12.00%	0.03%
Globe Life Inc	GL	0.03%	0.83%	0.00%	8.00%	0.00%
Johnson Controls International plc	JCI	0.12%	2.09%	0.00%	8.00%	0.01%
Ulta Beauty Inc	ULTA	0.05%	n/a	n/a	7.00%	0.00%
Union Pacific Corp	UNP	0.43%	1.96%	0.01%	10.50%	0.05%
Keysight Technologies Inc	KEYS	0.09%	n/a	n/a	17.00%	0.01%
UnitedHealth Group Inc	UNH	1.03%	1.50%	0.02%	12.00%	0.12%
Unum Group	UNM	0.02%	4.91%	0.00%	3.50%	0.00%
Marathon Oil Corp	MRO	0.02%	1.66%	0.00%	13.00%	0.00%
Varian Medical Systems Inc	VAR	0.05%	n/a	n/a	13.50%	0.01%
Bio-Rad Laboratories Inc	BIO	0.05%	n/a	n/a	11.50%	0.01%
Ventas Inc	VTR	0.06%	3.91%	0.00%	1.50%	0.00%
VF Corp	VFC	0.10%	2.55%	0.00%	6.00%	0.01%
Vornado Realty Trust	VNO	0.02%	5.33%	0.00%	-20.00%	0.00%
Vulcan Materials Co	VMC	0.06%	0.91%	0.00%	12.50%	0.01%
Weyerhaeuser Co	WY	0.08%	2.18%	0.00%	20.50%	0.02%
Whirlpool Corp	WHR	0.04%	2.70%	0.00%	5.00%	0.00%
Williams Cos Inc/The	WMB	0.08%	7.72%	0.01%	12.00%	0.01%
WEC Energy Group Inc	WEC	0.09%	3.05%	0.00%	6.00%	0.01%
Adobe Inc	ADBE	0.71%	n/a	n/a	14.00%	0.10%
AES Corp/The	AES	0.05%	2.47%	0.00%	24.00%	0.01%
Amgen Inc	AMGN	0.46%	2.92%	0.01%	6.50%	0.03%
Apple Inc	AAPL	7.19%	0.62%	0.04%	16.00%	1.15%
Autodesk Inc	ADSK	0.00%	n/a	n/a	n/a	n/a
Cintas Corp	CTAS	0.11%	0.94%	0.00%	13.50%	0.01%
Comcast Corp	CMCSA	0.73%	2.02%	0.01%	8.00%	0.06%
Molson Coors Beverage Co	TAP	0.03%	n/a	n/a	5.50%	0.00%
KLA Corp	KLAC	0.14%	1.29%	0.00%	15.50%	0.02%
Marriott International Inc/MD	MAR	0.12%	n/a	n/a	4.00%	0.00%
McCormick & Co Inc/MD	MKC	0.07%	1.52%	0.00%	6.50%	0.00%
PACCAR Inc	PCAR	0.10%	1.40%	0.00%	3.50%	0.00%
Costco Wholesale Corp	COST	0.51%	0.79%	0.00%	11.00%	0.06%
First Republic Bank/CA	FRC	0.08%	0.55%	0.00%	10.50%	0.01%
Stryker Corp	SYK	0.27%	1.14%	0.00%	11.00%	0.03%
Tyson Foods Inc	TSN	0.06%	2.77%	0.00%	6.50%	0.00%
Lamb Weston Holdings Inc	LW	0.04%	1.26%	0.00%	4.00%	0.00%
Applied Materials Inc	AMAT	0.29%	0.91%	0.00%	8.50%	0.02%
American Airlines Group Inc	AAL	0.03%	n/a	n/a	-6.50%	0.00%
Cardinal Health Inc	CAH	0.05%	3.62%	0.00%	13.00%	0.01%
Cerner Corp	CERN	0.08%	1.10%	0.00%	9.00%	0.01%
Cincinnati Financial Corp	CINF	0.04%	3.00%	0.00%	10.50%	0.00%
ViacomCBS Inc	VIAC	0.09%	1.98%	0.00%	8.00%	0.01%
DR Horton Inc	DHI	0.09%	1.04%	0.00%	12.00%	0.01%
Flowserve Corp	FLS	0.02%	2.25%	0.00%	12.50%	0.00%
Electronic Arts Inc	EA	0.13%	0.47%	0.00%	9.50%	0.01%
Expeditors International of Washington Inc	EXPD	0.05%	1.16%	0.00%	6.50%	0.00%
Fastenal Co	FAST	0.08%	2.46%	0.00%	8.00%	0.01%

STANDARD AND POOR'S 500 INDEX

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M&T Bank Corp	MTB	0.06%	3.32%	0.00%	4.00%	0.00%
Xcel Energy Inc	XEL	0.11%	2.69%	0.00%	6.00%	0.01%
Fiserv Inc	FISV	0.22%	n/a	n/a	14.00%	0.03%
Fifth Third Bancorp	FITB	0.07%	3.73%	0.00%	1.00%	0.00%
Gilead Sciences Inc	GILD	0.27%	4.15%	0.01%	3.50%	0.01%
Hasbro Inc	HAS	0.04%	2.90%	0.00%	9.00%	0.00%
Huntington Bancshares Inc/OH	HBAN	0.04%	4.54%	0.00%	2.50%	0.00%
Welltower Inc	WELL	0.08%	4.03%	0.00%	3.50%	0.00%
Biogen Inc	BIIB	0.14%	n/a	n/a	7.00%	0.01%
Northern Trust Corp	NTRS	0.06%	3.14%	0.00%	4.50%	0.00%
Packaging Corp of America	PKG	0.04%	2.97%	0.00%	4.00%	0.00%
Paychex Inc	PAYX	0.10%	2.84%	0.00%	6.50%	0.01%
People's United Financial Inc	PBCT	0.02%	5.27%	0.00%	2.50%	0.00%
QUALCOMM Inc	QCOM	0.58%	1.66%	0.01%	15.50%	0.09%
Roper Technologies Inc	ROP	0.13%	0.57%	0.00%	10.00%	0.01%
Ross Stores Inc	ROST	0.13%	n/a	n/a	7.50%	0.01%
IDEXX Laboratories Inc	IDXX	0.13%	n/a	n/a	15.00%	0.02%
Starbucks Corp	SBUX	0.37%	1.86%	0.01%	13.50%	0.05%
KeyCorp	KEY	0.05%	4.39%	0.00%	4.50%	0.00%
Fox Corp	FOXA	0.00%	1.48%	0.00%	n/a	n/a
Fox Corp	FOX	0.00%	1.54%	0.00%	n/a	n/a
State Street Corp	STT	0.08%	2.97%	0.00%	5.00%	0.00%
Norwegian Cruise Line Holdings Ltd	NCLH	0.02%	n/a	n/a	-4.50%	0.00%
US Bancorp	USB	0.21%	3.92%	0.01%	0.50%	0.00%
A O Smith Corp	AOS	0.02%	1.92%	0.00%	5.00%	0.00%
NortonLifeLock Inc	NLOK	0.04%	2.37%	0.00%	6.50%	0.00%
T Rowe Price Group Inc	TROW	0.12%	2.30%	0.00%	8.00%	0.01%
Waste Management Inc	WM	0.15%	1.96%	0.00%	7.50%	0.01%
Constellation Brands Inc	STZ	0.12%	1.42%	0.00%	7.50%	0.01%
Xilinx Inc	XLNX	0.10%	n/a	n/a	7.50%	0.01%
DENTSPLY SIRONA Inc	XRAY	0.04%	0.75%	0.00%	5.50%	0.00%
Zions Bancorp NA	ZION	0.02%	3.08%	0.00%	6.50%	0.00%
Alaska Air Group Inc	ALK	0.02%	n/a	n/a	0.50%	0.00%
Invesco Ltd	IVZ	0.03%	3.01%	0.00%	2.50%	0.00%
Linde PLC	LIN	0.00%	1.73%	0.00%	n/a	n/a
Intuit Inc	INTU	0.31%	0.65%	0.00%	15.50%	0.05%
Morgan Stanley	MS	0.39%	2.09%	0.01%	7.50%	0.03%
Microchip Technology Inc	MCHP	0.12%	1.08%	0.00%	9.00%	0.01%
Chubb Ltd	CB	0.21%	2.14%	0.00%	9.50%	0.02%
Hologic Inc	HOLX	0.07%	n/a	n/a	20.50%	0.01%
Citizens Financial Group Inc	CFG	0.05%	4.28%	0.00%	12.00%	0.01%
O'Reilly Automotive Inc	ORLY	0.10%	n/a	n/a	14.00%	0.01%
Allstate Corp/The	ALL	0.11%	2.02%	0.00%	9.00%	0.01%
FLIR Systems Inc	FLIR	0.02%	1.31%	0.00%	8.00%	0.00%
Equity Residential	EQR	0.07%	3.91%	0.00%	1.00%	0.00%
BorgWarner Inc	BWA	0.03%	1.62%	0.00%	4.00%	0.00%
Host Hotels & Resorts Inc	HST	0.03%	n/a	n/a	-9.00%	0.00%
Incyte Corp	INCY	0.00%	n/a	n/a	n/a	n/a
Simon Property Group Inc	SPG	0.10%	5.60%	0.01%	-1.00%	0.00%
Eastman Chemical Co	EMN	0.04%	2.81%	0.00%	5.00%	0.00%
Twitter Inc	TWTR	0.13%	n/a	n/a	29.00%	0.04%
AvalonBay Communities Inc	AVB	0.07%	3.89%	0.00%	1.00%	0.00%
Prudential Financial Inc	PRU	0.10%	5.62%	0.01%	5.00%	0.01%
United Parcel Service Inc	UPS	0.36%	2.61%	0.01%	8.00%	0.03%
Walgreens Boots Alliance Inc	WBA	0.14%	3.72%	0.01%	6.00%	0.01%
STERIS PLC	STE	0.05%	0.86%	0.00%	10.00%	0.01%
McKesson Corp	MCK	0.09%	0.96%	0.00%	9.00%	0.01%
Lockheed Martin Corp	LMT	0.29%	3.23%	0.01%	8.50%	0.02%
AmerisourceBergen Corp	ABC	0.07%	1.69%	0.00%	7.00%	0.00%
Capital One Financial Corp	COF	0.16%	0.38%	0.00%	5.50%	0.01%
Waters Corp	WAT	0.05%	n/a	n/a	6.00%	0.00%
Dollar Tree Inc	DLTR	0.08%	n/a	n/a	8.50%	0.01%
Darden Restaurants Inc	DRI	0.05%	1.27%	0.00%	7.50%	0.00%
Domino's Pizza Inc	DPZ	0.05%	0.84%	0.00%	14.00%	0.01%
NVR Inc	NVR	0.05%	n/a	n/a	9.50%	0.01%
NetApp Inc	NTAP	0.05%	2.89%	0.00%	6.00%	0.00%
Citrix Systems Inc	CTXS	0.05%	1.11%	0.00%	9.00%	0.00%
DXC Technology Co	DXC	0.02%	n/a	n/a	2.50%	0.00%
Old Dominion Freight Line Inc	ODFL	0.07%	0.31%	0.00%	9.00%	0.01%
DaVita Inc	DVA	0.04%	n/a	n/a	13.00%	0.01%
Hartford Financial Services Group Inc/The	HIG	0.06%	2.71%	0.00%	8.50%	0.00%
Iron Mountain Inc	IRM	0.03%	7.35%	0.00%	8.50%	0.00%
Estee Lauder Cos Inc/The	EL	0.17%	0.90%	0.00%	12.00%	0.02%
Cadence Design Systems Inc	CDNS	0.12%	n/a	n/a	13.00%	0.02%
Tyler Technologies Inc	TYL	0.06%	n/a	n/a	10.50%	0.01%
Universal Health Services Inc	UHS	0.03%	n/a	n/a	11.00%	0.00%
Skyworks Solutions Inc	SWKS	0.09%	1.18%	0.00%	11.50%	0.01%
NOV Inc	NOV	0.00%	n/a	n/a	n/a	n/a
Quest Diagnostics Inc	DGX	0.06%	1.73%	0.00%	9.00%	0.01%
Activision Blizzard Inc	ATVI	0.23%	0.45%	0.00%	14.50%	0.03%
Rockwell Automation Inc	ROK	0.09%	1.72%	0.00%	7.00%	0.01%
Kraft Heinz Co/The	KHC	0.13%	4.77%	0.01%	-0.50%	0.00%
American Tower Corp	AMT	0.33%	2.13%	0.01%	7.50%	0.02%
HollyFrontier Corp	HFC	0.00%	4.92%	0.00%	n/a	n/a
Regeneron Pharmaceuticals Inc	REGN	0.17%	n/a	n/a	10.50%	0.02%
Amazon.com Inc	AMZN	5.22%	n/a	n/a	35.50%	1.85%
Jack Henry & Associates Inc	JKHY	0.04%	1.19%	0.00%	10.50%	0.00%
Ralph Lauren Corp	RL	0.02%	n/a	n/a	6.50%	0.00%
Boston Properties Inc	BXP	0.05%	4.29%	0.00%	4.00%	0.00%
Amphenol Corp	APH	0.12%	0.93%	0.00%	11.00%	0.01%
Howmet Aerospace Inc	HWM	0.03%	n/a	n/a	12.00%	0.00%

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Pioneer Natural Resources Co	PXD	0.08%	1.82%	0.00%	10.50%	0.01%
Valero Energy Corp	VLO	0.07%	6.95%	0.01%	2.50%	0.00%
Synopsys Inc	SNPS	0.13%	n/a	n/a	13.50%	0.02%
Western Union Co/The	WU	0.03%	4.04%	0.00%	6.00%	0.00%
Etsy Inc	ETSY	0.08%	n/a	n/a	32.00%	0.03%
CH Robinson Worldwide Inc	CHRW	0.04%	2.38%	0.00%	8.00%	0.00%
Accenture PLC	ACN	0.52%	1.46%	0.01%	8.00%	0.04%
TransDigm Group Inc	TDG	0.10%	n/a	n/a	8.00%	0.01%
Yum! Brands Inc	YUM	0.10%	1.85%	0.00%	10.50%	0.01%
Prologis Inc	PLD	0.25%	2.25%	0.01%	6.00%	0.01%
FirstEnergy Corp	FE	0.05%	5.07%	0.00%	8.50%	0.00%
VeriSign Inc	VRSN	0.07%	n/a	n/a	9.50%	0.01%
Quanta Services Inc	PWR	0.03%	0.34%	0.00%	12.50%	0.00%
Henry Schein Inc	HSIC	0.03%	n/a	n/a	5.00%	0.00%
Ameren Corp	AEE	0.06%	2.83%	0.00%	6.00%	0.00%
ANSYS Inc	ANSS	0.10%	n/a	n/a	10.00%	0.01%
NVIDIA Corp	NVDA	1.04%	0.12%	0.00%	13.50%	0.14%
Sealed Air Corp	SEE	0.02%	1.51%	0.00%	26.00%	0.01%
Cognizant Technology Solutions Corp	CTSH	0.14%	1.13%	0.00%	5.00%	0.01%
SVB Financial Group	SIVB	0.07%	n/a	n/a	19.50%	0.01%
Intuitive Surgical Inc	ISRG	0.29%	n/a	n/a	12.50%	0.04%
Take-Two Interactive Software Inc	TTWO	0.07%	n/a	n/a	16.50%	0.01%
Republic Services Inc	RSG	0.09%	1.88%	0.00%	9.00%	0.01%
eBay Inc	EBAY	0.13%	1.13%	0.00%	18.50%	0.02%
Goldman Sachs Group Inc/The	GS	0.30%	1.84%	0.01%	6.50%	0.02%
SBA Communications Corp	SBAC	0.10%	0.69%	0.00%	36.50%	0.04%
Sempra Energy	SRE	0.12%	3.38%	0.00%	11.00%	0.01%
Moody's Corp	MCO	0.16%	0.84%	0.00%	9.50%	0.02%
Booking Holdings Inc	BKNG	0.26%	n/a	n/a	7.00%	0.02%
F5 Networks Inc	FFIV	0.04%	n/a	n/a	7.00%	0.00%
Akamai Technologies Inc	AKAM	0.06%	n/a	n/a	15.00%	0.01%
MarketAxess Holdings Inc	MKTX	0.07%	0.49%	0.00%	17.00%	0.01%
Devon Energy Corp	DVN	0.00%	2.67%	0.00%	n/a	n/a
Alphabet Inc	GOOGL	0.00%	n/a	n/a	n/a	n/a
Teleflex Inc	TFX	0.06%	0.36%	0.00%	15.00%	0.01%
Allegion plc	ALLE	0.03%	1.20%	0.00%	9.00%	0.00%
Netflix Inc	NFLX	0.77%	n/a	n/a	24.00%	0.18%
Agilent Technologies Inc	A	0.12%	0.65%	0.00%	10.50%	0.01%
Trimble Inc	TRMB	0.05%	n/a	n/a	14.50%	0.01%
Anthem Inc	ANTM	0.24%	1.52%	0.00%	14.00%	0.03%
CME Group Inc	CME	0.21%	1.87%	0.00%	2.50%	0.01%
Juniper Networks Inc	JNPR	0.03%	3.28%	0.00%	5.50%	0.00%
BlackRock Inc	BLK	0.35%	2.36%	0.01%	9.50%	0.03%
DTE Energy Co	DTE	0.07%	3.66%	0.00%	6.00%	0.00%
Celanese Corp	CE	0.05%	2.23%	0.00%	5.50%	0.00%
Nasdaq Inc	NDAQ	0.07%	1.45%	0.00%	7.00%	0.01%
Philip Morris International Inc	PM	0.40%	6.03%	0.02%	5.00%	0.02%
Ingersoll Rand Inc	IR	0.00%	n/a	n/a	n/a	n/a
salesforce.com Inc	CRM	0.67%	n/a	n/a	46.50%	0.31%
Huntington Ingalls Industries Inc	HII	0.02%	2.90%	0.00%	7.00%	0.00%
MetLife Inc	MET	0.14%	3.82%	0.01%	6.50%	0.01%
Under Armour Inc	UA	0.00%	n/a	n/a	n/a	n/a
Tapestry Inc	TPR	0.03%	n/a	n/a	4.00%	0.00%
CSX Corp	CSX	0.21%	1.21%	0.00%	9.00%	0.02%
Edwards Lifesciences Corp	EW	0.17%	n/a	n/a	13.50%	0.02%
Ameriprise Financial Inc	AMP	0.08%	2.10%	0.00%	12.00%	0.01%
Zebra Technologies Corp	ZBRA	0.07%	n/a	n/a	11.00%	0.01%
TechnipFMC PLC	FTI	0.00%	1.63%	0.00%	n/a	n/a
Zimmer Biomet Holdings Inc	ZBH	0.10%	0.62%	0.00%	6.00%	0.01%
CBRE Group Inc	CBRE	0.07%	n/a	n/a	7.50%	0.00%
Mastercard Inc	MA	1.01%	0.56%	0.01%	12.00%	0.12%
CarMax Inc	KMX	0.06%	n/a	n/a	8.50%	0.01%
Intercontinental Exchange Inc	ICE	0.20%	1.09%	0.00%	9.50%	0.02%
Fidelity National Information Services Inc	FIS	0.25%	1.13%	0.00%	28.00%	0.07%
Chipotle Mexican Grill Inc	CMG	0.13%	n/a	n/a	15.50%	0.02%
Wynn Resorts Ltd	WYNN	0.03%	n/a	n/a	27.00%	0.01%
Live Nation Entertainment Inc	LYV	0.00%	n/a	n/a	n/a	n/a
Assurant Inc	AIZ	0.03%	1.95%	0.00%	11.50%	0.00%
NRG Energy Inc	NRG	0.03%	3.14%	0.00%	-1.50%	0.00%
Monster Beverage Corp	MNST	0.15%	n/a	n/a	12.50%	0.02%
Regions Financial Corp	RF	0.05%	3.64%	0.00%	8.50%	0.00%
Mosaic Co/The	MOS	0.03%	0.77%	0.00%	21.00%	0.01%
Expedia Group Inc	EXPE	0.05%	n/a	n/a	12.00%	0.01%
Evergy Inc	EVRG	0.04%	3.98%	0.00%	7.50%	0.00%
Discovery Inc	DISCA	0.02%	n/a	n/a	15.50%	0.00%
CF Industries Holdings Inc	CF	0.03%	2.90%	0.00%	24.00%	0.01%
Leidos Holdings Inc	LDOS	0.05%	1.28%	0.00%	10.50%	0.01%
Alphabet Inc	GOOG	1.97%	n/a	n/a	14.50%	0.28%
TE Connectivity Ltd	TEL	0.13%	1.59%	0.00%	5.50%	0.01%
Cooper Cos Inc/The	COO	0.06%	0.02%	0.00%	14.50%	0.01%
Discover Financial Services	DFS	0.08%	2.11%	0.00%	5.50%	0.00%
Visa Inc	V	1.06%	0.66%	0.01%	15.00%	0.16%
Mid-America Apartment Communities Inc	MAA	0.05%	3.09%	0.00%	1.00%	0.00%
Xylem Inc/NY	XYL	0.06%	1.08%	0.00%	8.50%	0.00%
Marathon Petroleum Corp	MPC	0.09%	5.38%	0.00%	3.00%	0.00%
Advanced Micro Devices Inc	AMD	0.34%	n/a	n/a	27.00%	0.09%
Tractor Supply Co	TSCO	0.05%	1.47%	0.00%	10.50%	0.01%
ResMed Inc	RMD	0.10%	0.77%	0.00%	8.50%	0.01%
Mettler-Toledo International Inc	MTD	0.09%	n/a	n/a	11.00%	0.01%
Copart Inc	CPRT	0.08%	n/a	n/a	12.00%	0.01%
Fortinet Inc	FTNT	0.08%	n/a	n/a	21.00%	0.02%

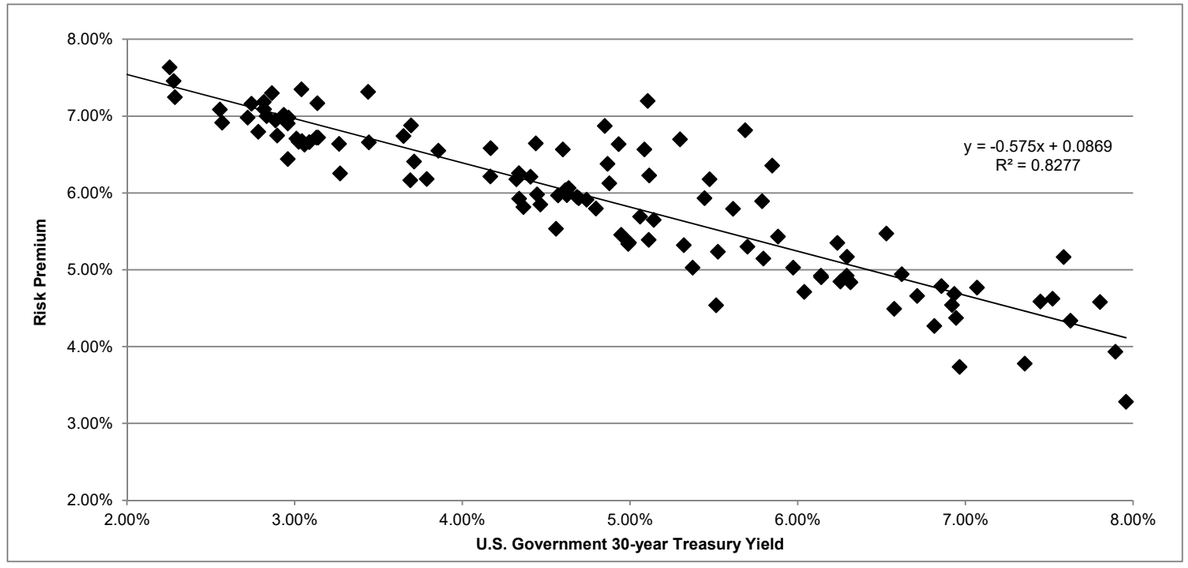
STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Weight in Index	[5] Current Dividend Yield	[6] Cap-Weighted Dividend Yield	[7] Value Line Long-Term Growth Est.	[8] Cap-Weighted Long-Term Growth Est.
Albemarle Corp	ALB	0.06%	0.95%	0.00%	4.00%	0.00%
Apache Corp	APA	0.02%	0.70%	0.00%	8.50%	0.00%
Essex Property Trust Inc	ESS	0.05%	3.47%	0.00%	1.00%	0.00%
Realty Income Corp	O	0.07%	4.76%	0.00%	6.50%	0.00%
Seagate Technology PLC	STX	0.05%	4.05%	0.00%	4.00%	0.00%
Westrock Co	WRK	0.04%	1.93%	0.00%	6.50%	0.00%
IHS Markit Ltd	INFO	0.11%	0.92%	0.00%	12.00%	0.01%
Westinghouse Air Brake Technologies Corp	WAB	0.05%	0.65%	0.00%	10.50%	0.00%
Pool Corp	POOL	0.05%	0.66%	0.00%	17.50%	0.01%
Western Digital Corp	WDC	0.06%	n/a	n/a	1.00%	0.00%
PepsiCo Inc	PEP	0.61%	2.99%	0.02%	6.00%	0.04%
Diamondback Energy Inc	FANG	0.03%	2.65%	0.00%	0.50%	0.00%
Maxim Integrated Products Inc	MXIM	0.08%	n/a	n/a	7.00%	0.01%
ServiceNow Inc	NOW	0.34%	n/a	n/a	46.00%	0.16%
Church & Dwight Co Inc	CHD	0.07%	1.20%	0.00%	8.50%	0.01%
Duke Realty Corp	DRE	0.05%	2.58%	0.00%	-3.00%	0.00%
Federal Realty Investment Trust	FRT	0.02%	4.84%	0.00%	-0.50%	0.00%
MGM Resorts International	MGM	0.05%	0.04%	0.00%	25.00%	0.01%
American Electric Power Co Inc	AEP	0.13%	3.66%	0.00%	6.00%	0.01%
Vontier Corp	VNT	0.00%	n/a	n/a	n/a	n/a
JB Hunt Transport Services Inc	JBHT	0.05%	0.83%	0.00%	6.50%	0.00%
Lam Research Corp	LRCX	0.22%	1.07%	0.00%	12.50%	0.03%
Mohawk Industries Inc	MHK	0.03%	n/a	n/a	-1.50%	0.00%
Pentair PLC	PNR	0.03%	1.47%	0.00%	5.50%	0.00%
Vertex Pharmaceuticals Inc	VRTX	0.19%	n/a	n/a	32.00%	0.06%
Amcor PLC	AMCR	0.00%	4.30%	0.00%	n/a	n/a
Facebook Inc	FB	2.02%	n/a	n/a	15.50%	0.31%
T-Mobile US Inc	TMUS	0.51%	n/a	n/a	9.50%	0.05%
United Rentals Inc	URI	0.06%	n/a	n/a	7.00%	0.00%
Alexandria Real Estate Equities Inc	ARE	0.08%	2.61%	0.00%	14.50%	0.01%
ABIOMED Inc	ABMD	0.05%	n/a	n/a	9.50%	0.00%
Delta Air Lines Inc	DAL	0.08%	n/a	n/a	5.00%	0.00%
United Airlines Holdings Inc	UAL	0.04%	n/a	n/a	2.00%	0.00%
News Corp	NWS	0.00%	1.06%	0.00%	n/a	n/a
Centene Corp	CNC	0.11%	n/a	n/a	13.00%	0.01%
Martin Marietta Materials Inc	MLM	0.06%	0.79%	0.00%	8.50%	0.00%
Teradyne Inc	TER	0.06%	0.35%	0.00%	14.50%	0.01%
PayPal Holdings Inc	PYPL	0.89%	n/a	n/a	19.00%	0.17%
Tesla Inc	TSLA	0.00%	n/a	n/a	n/a	n/a
DISH Network Corp	DISH	0.03%	n/a	n/a	3.00%	0.00%
Alexion Pharmaceuticals Inc	ALXN	0.11%	n/a	n/a	19.50%	0.02%
Dow Inc	DOW	0.00%	5.39%	0.00%	n/a	n/a
Everest Re Group Ltd	RE	0.03%	2.94%	0.00%	10.50%	0.00%
Teledyne Technologies Inc	TDY	0.04%	n/a	n/a	8.00%	0.00%
News Corp	NWSA	0.00%	1.03%	0.00%	n/a	n/a
Exelon Corp	EXC	0.13%	3.68%	0.00%	3.50%	0.00%
Global Payments Inc	GPN	0.17%	0.44%	0.00%	11.50%	0.02%
Crown Castle International Corp	CCI	0.22%	3.34%	0.01%	12.50%	0.03%
Aptiv PLC	APTV	0.12%	n/a	n/a	9.50%	0.01%
Advance Auto Parts Inc	AAP	0.03%	0.67%	0.00%	11.00%	0.00%
Align Technology Inc	ALGN	0.13%	n/a	n/a	17.00%	0.02%
Illumina Inc	ILMN	0.20%	n/a	n/a	9.50%	0.02%
LKQ Corp	LKQ	0.03%	n/a	n/a	10.00%	0.00%
Nielsen Holdings PLC	NLSN	0.00%	1.07%	0.00%	n/a	n/a
Garmin Ltd	GRMN	0.07%	2.12%	0.00%	10.50%	0.01%
Zoetis Inc	ZTS	0.24%	0.65%	0.00%	12.00%	0.03%
Digital Realty Trust Inc	DLR	0.13%	3.11%	0.00%	7.00%	0.01%
Equinix Inc	EQIX	0.21%	1.44%	0.00%	14.50%	0.03%
Las Vegas Sands Corp	LVS	0.12%	n/a	n/a	5.50%	0.01%
Discovery Inc	DISCK	0.00%	n/a	n/a	n/a	n/a

Notes:
[1] Equals Sum ([6])
[2] Equals Sum ([8])
[3] Equals ([1] x (1 + (0.5 x [2]))) + [2]
[4] Equals weight in S&P 500 based on market capitalization
[5] Source: Bloomberg Professional
[6] Equals [4] x [5]
[7] Source: Value Line
[8] Equals [4] x [8]

Risk Premium -- Vertically Integrated Electric Utilities

	[1] Average Authorized VI Electric ROE	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1992.1	12.38%	7.80%	4.58%
1992.2	11.83%	7.89%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.77%
1993.2	11.64%	6.86%	4.79%
1993.3	11.15%	6.31%	4.84%
1993.4	11.04%	6.14%	4.90%
1994.1	11.07%	6.57%	4.49%
1994.2	11.13%	7.35%	3.78%
1994.3	12.75%	7.58%	5.17%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.34%
1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.71%	4.66%
1995.4	11.58%	6.23%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.96%	3.74%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.81%	4.27%
1997.2	11.62%	6.93%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.14%	4.92%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.47%	6.18%
1998.4	12.30%	5.10%	7.20%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.79%	5.15%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.25%	4.85%
2000.1	11.21%	6.29%	4.92%
2000.2	11.00%	5.97%	5.03%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.44%	5.93%
2001.2	11.00%	5.70%	5.30%
2001.3	10.76%	5.52%	5.23%
2001.4	11.99%	5.30%	6.70%
2002.1	10.05%	5.51%	4.54%
2002.2	11.41%	5.61%	5.79%
2002.3	11.65%	5.08%	6.57%
2002.4	11.57%	4.93%	6.64%
2003.1	11.72%	4.85%	6.87%
2003.2	11.16%	4.60%	6.56%
2003.3	10.50%	5.11%	5.39%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.909775
R Square	0.827691
Adjusted R Square	0.826180
Standard Error	0.004262
Observations	116

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.009947	0.009947	547.602224	0.000000
Residual	114	0.002071	0.000018		
Total	115	0.012018			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0869	0.0012181	71.35	0.000000	0.084496	0.089323	0.084496	0.089323
U.S. Govt. 30-year Treasury	(0.5750)	0.0245721	(23.40)	0.000000	(0.623686)	(0.526332)	(0.623686)	(0.526332)

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	1.77%	7.67%	9.44%
Blue Chip Near-Term Projected Forecast (Q2 2021 - Q2 2022) [5]	2.06%	7.51%	9.57%
Blue Chip Long-Term Projected Forecast (2022-2026) [6]	2.80%	7.08%	9.88%
AVERAGE			9.63%

Risk Premium -- Vertically Integrated Electric Utilities

	[1]	[2]	[3]
	Average Authorized VI Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
2003.4	11.34%	5.11%	6.23%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.32%	5.32%
2004.3	10.75%	5.06%	5.69%
2004.4	11.24%	4.86%	6.38%
2005.1	10.63%	4.69%	5.93%
2005.2	10.31%	4.47%	5.85%
2005.3	11.08%	4.44%	6.65%
2005.4	10.63%	4.68%	5.95%
2006.1	10.70%	4.63%	6.06%
2006.2	10.79%	5.14%	5.65%
2006.3	10.35%	4.99%	5.35%
2006.4	10.65%	4.74%	5.91%
2007.1	10.59%	4.80%	5.80%
2007.2	10.33%	4.99%	5.34%
2007.3	10.40%	4.95%	5.45%
2007.4	10.65%	4.61%	6.04%
2008.1	10.62%	4.41%	6.21%
2008.2	10.54%	4.57%	5.97%
2008.3	10.43%	4.44%	5.98%
2008.4	10.39%	3.65%	6.74%
2009.1	10.75%	3.44%	7.31%
2009.2	10.75%	4.17%	6.58%
2009.3	10.50%	4.32%	6.18%
2009.4	10.59%	4.34%	6.26%
2010.1	10.59%	4.62%	5.97%
2010.2	10.18%	4.36%	5.82%
2010.3	10.40%	3.86%	6.55%
2010.4	10.38%	4.17%	6.21%
2011.1	10.09%	4.56%	5.53%
2011.2	10.26%	4.34%	5.92%
2011.3	10.57%	3.69%	6.88%
2011.4	10.39%	3.04%	7.35%
2012.1	10.30%	3.14%	7.17%
2012.2	9.95%	2.93%	7.02%
2012.3	9.90%	2.74%	7.16%
2012.4	10.16%	2.86%	7.30%
2013.1	9.85%	3.13%	6.72%
2013.2	9.86%	3.14%	6.72%
2013.3	10.12%	3.71%	6.41%
2013.4	9.97%	3.79%	6.18%
2014.1	9.86%	3.69%	6.17%
2014.2	10.10%	3.44%	6.66%
2014.3	9.90%	3.26%	6.64%
2014.4	9.94%	2.96%	6.98%
2015.1	9.64%	2.55%	7.08%
2015.2	9.83%	2.88%	6.94%

Notes:
[1] Source: Regulatory Research Associates, rate cases through January 31, 2021
[2] Source: Bloomberg Professional, quarterly bond yields are the average of each trading day in the quarter
[3] Equals Column [1] − Column [2]
[4] Source: Bloomberg Professional, 30-day average as of January 31, 2021
[5] Source: Blue Chip Financial Forecasts, Vol. 40, No. 2, February 1, 2021, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 39, No. 12, December 1, 2020, at 14
[7] See notes [4], [5] & [6]
[8] Equals 0.086910 + (-0.575009 x Column [7])
[9] Equals Column [7] + Column [8]

Risk Premium -- Vertically Integrated Electric Utilities

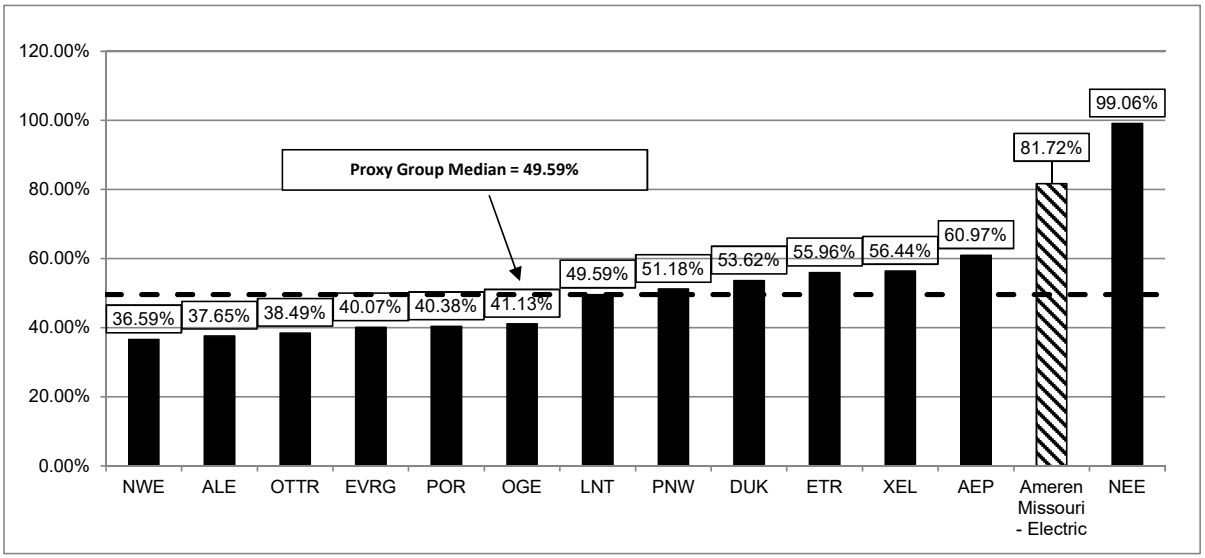
	[1]	[2]	[3]
	Average Authorized VI Electric ROE	U.S. Govt. 30-year Treasury	Risk Premium
2015.3	9.40%	2.96%	6.44%
2015.4	9.86%	2.96%	6.90%
2016.1	9.70%	2.72%	6.98%
2016.2	9.48%	2.57%	6.91%
2016.3	9.74%	2.28%	7.46%
2016.4	9.83%	2.83%	7.00%
2017.1	9.72%	3.04%	6.67%
2017.2	9.64%	2.90%	6.75%
2017.3	10.00%	2.82%	7.18%
2017.4	9.91%	2.82%	7.09%
2018.1	9.69%	3.02%	6.66%
2018.2	9.75%	3.09%	6.66%
2018.3	9.69%	3.06%	6.63%
2018.4	9.52%	3.27%	6.25%
2019.1	9.72%	3.01%	6.71%
2019.2	9.58%	2.78%	6.79%
2019.3	9.53%	2.29%	7.24%
2019.4	9.89%	2.25%	7.63%
2020.1	9.72%	1.89%	7.83%
2020.2	9.58%	1.38%	8.20%
2020.3	9.30%	1.37%	7.93%
2020.4	9.56%	1.62%	7.94%
AVERAGE	10.68%	4.69%	6.00%
MEDIAN	10.62%	4.69%	6.15%

2021-2025 CAPITAL EXPENDITURES AS A PERCENT OF 2019 NET PLANT
($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	
		2019	2021	2022	2023	2024	2025	2021-25 Cap. Ex. / 2019 Net Plant	Rank
ALLETE, Inc.	ALE								
Capital Spending per Share			$9.45	$7.10	$4.75	$4.75	$4.75		
Common Shares Outstanding			52.50	$53.38	54.25	54.25	54.25		
Capital Expenditures			$496.1	$379.0	$257.7	$257.7	$257.7	37.65%	2
Net Plant		$4,377.0							
Alliant Energy Corporation	LNT								
Capital Spending per Share			$5.05	$5.10	$5.15	$5.15	$5.15		
Common Shares Outstanding			255.00	260.00	265.00	265.00	265.00		
Capital Expenditures			$1,287.8	$1,326.0	$1,364.8	$1,364.8	$1,364.8	49.59%	7
Net Plant		$13,527.0							
American Electric Power Company, Inc.	AEP								
Capital Spending per Share			$15.35	$14.30	$13.25	$13.25	$13.25		
Common Shares Outstanding			504.00	522.00	540.00	540.00	540.00		
Capital Expenditures			$7,736.4	$7,464.6	$7,155.0	$7,155.0	$7,155.0	60.97%	12
Net Plant		$60,138.0							
Duke Energy Corporation	DUK								
Capital Spending per Share			$14.70	$14.23	$13.75	$13.75	$13.75		
Common Shares Outstanding			770.00	777.50	785.00	785.00	785.00		
Capital Expenditures			$11,319.0	$11,059.9	$10,793.8	$10,793.8	$10,793.8	53.62%	9
Net Plant		$102,127.0							
Entergy Corporation	ETR								
Capital Spending per Share			$18.70	$18.85	$19.00	$19.00	$19.00		
Common Shares Outstanding			204.00	207.00	210.00	210.00	210.00		
Capital Expenditures			$3,814.8	$3,902.0	$3,990.0	$3,990.0	$3,990.0	55.96%	10
Net Plant		$35,183.0							
Evergy, Inc.	EVRG								
Capital Spending per Share			$7.60	$7.05	$6.50	$6.50	$6.50		
Common Shares Outstanding			227.00	227.00	227.00	227.00	227.00		
Capital Expenditures			$1,725.2	$1,600.4	$1,475.5	$1,475.5	$1,475.5	40.07%	4
Net Plant		$19,346.0							
NextEra Energy, Inc.	NEE								
Capital Spending per Share			$7.15	$7.83	$8.50	$8.50	$8.50		
Common Shares Outstanding			1960.00	1992.50	2025.00	2025.00	2025.00		
Capital Expenditures			$14,014.0	$15,591.3	$17,212.5	$17,212.5	$17,212.5	99.06%	14
Net Plant		$82,010.0							
NorthWestern Corporation	NWE								
Capital Spending per Share			$7.85	$6.93	$6.00	$6.00	$6.00		
Common Shares Outstanding			51.50	52.25	53.00	53.00	53.00		
Capital Expenditures			$404.3	$361.8	$318.0	$318.0	$318.0	36.59%	1
Net Plant		$4,700.9							
OGE Energy Corporation	OGE								
Capital Spending per Share			$3.65	$3.70	$3.75	$3.75	$3.75		
Common Shares Outstanding			200.00	200.00	200.00	200.00	200.00		
Capital Expenditures			$730.0	$740.0	$750.0	$750.0	$750.0	41.13%	6
Net Plant		$9,044.6							
Otter Tail Corporation	OTTR								
Capital Spending per Share			$ 3.75	$ 3.38	$ 3.00	$ 3.00	$ 3.00		
Common Shares Outstanding			41.60	41.80	42.00	42.00	42.00		
Capital Expenditures			$156.0	$141.1	$126.0	$126.0	$126.0	38.49%	3
Net Plant		$1,753.8							
Pinnacle West Capital Corporation	PNW								
Capital Spending per Share			$15.20	$13.48	$11.75	$11.75	$11.75		
Common Shares Outstanding			113.00	115.50	118.00	118.00	118.00		
Capital Expenditures			$1,717.6	$1,556.4	$1,386.5	$1,386.5	$1,386.5	51.18%	8
Net Plant		$14,523.0							
Portland General Electric Company	POR								
Capital Spending per Share			$7.45	$6.73	$6.00	$6.00	$6.00		
Common Shares Outstanding			89.65	89.83	90.00	90.00	90.00		
Capital Expenditures			$667.9	$604.1	$540.0	$540.0	$540.0	40.38%	5
Net Plant		$7,161.0							
Xcel Energy Inc.	XEL								
Capital Spending per Share			$7.70	$7.98	$8.25	$8.25	$8.25		
Common Shares Outstanding			542.00	548.50	555.00	555.00	555.00		
Capital Expenditures			$4,173.4	$4,374.3	$4,578.8	$4,578.8	$4,578.8	56.44%	11
Net Plant		$39,483.0							
Ameren Missouri - Electric	Ameren Missouri - Electric								
Capital Expenditures [8]			2,145.1	1,580.7	1,588.5	1,623.3	1,699.6	81.72%	13
Net Plant [9]		$10,569.3							
Ameren CapEx Total (2021 - 2025)								$8,637.2	
Ameren Missouri CapEx Annual Average								$1,727.4	
Proxy Group Median								49.59%	

Notes:
[1] - [6] Source: Value Line, dated November 13, 2020; December 11, 2020; and January 22, 2021.
[7] Equals (Column [2] + [3] + [4] + [5] + [6]) / Column [1]
[8] Data provided by Ameren Missouri
[9] Ameren Missouri net electric utility plant as of December 31, 2019 provided by Ameren Missouri.

2021-2025 CAPITAL EXPENDITURES AS A PERCENT OF 2019 NET PLANT



Projected CAPEX / 2019 Net Plant

Rank	Company		2021-2025
1	NorthWestern Corporation	NWE	36.59%
2	ALLETE, Inc.	ALE	37.65%
3	Otter Tail Corporation	OTTR	38.49%
4	Evergy, Inc.	EVRG	40.07%
5	Portland General Electric Company	POR	40.38%
6	OGE Energy Corporation	OGE	41.13%
7	Alliant Energy Corporation	LNT	49.59%
8	Pinnacle West Capital Corporation	PNW	51.18%
9	Duke Energy Corporation	DUK	53.62%
10	Entergy Corporation	ETR	55.96%
11	Xcel Energy Inc.	XEL	56.44%
12	American Electric Power Company, Inc.	AEP	60.97%
13	Ameren Missouri - Electric	Ameren Missouri - Electric	81.72%
14	NextEra Energy, Inc.	NEE	99.06%
	Proxy Group Median		49.59%
	Ameren Missouri - Electric / Proxy Group		1.65

Notes:
Source: Schedule AEB-D2, Attachment 9, page 1 col. [7]

COMPARISON OF AMEREN AND PROXY GROUP COMPANIES
RISK ASSESSMENT

				[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]
						Non-Volumetric Rate Design			Capital Cost Recovery			
Proxy Group Company	**Operating Subsidiary**	**Jurisdiction**	**Service**	**Forward Test Year**	**Year-End Rate Base**	**Decoupling**	**Formula-Based Rates**	**Non-Volumetric Rate Design**	**Capital Tracking Mechanism**	**CWIP Allowed in Rate Base or Equivalent**	**Capital Cost Recovery**	**Fuel/ Purchased Power**
ALLETE, Inc.	ALLETE (Minnesota Power)	Minnesota	Electric	Yes	No	No	No	No	No	Yes	Yes	Yes
Alliant Energy Corporation	Interstate Power & Light Co.	Iowa	Electric	No	No	No	No	No	No	No	No	Yes
	Interstate Power & Light Co.	Iowa	Gas	No	No	No	No	No	No	No	No	Yes
	Wisconsin Power & Light Co.	Wisconsin	Electric	Yes	No	No	No	No	No	Yes	Yes	Yes
	Wisconsin Power & Light Co.	Wisconsin	Gas	Yes	No	No	No	No	No	Yes	Yes	Yes
American Electric Power Company	Southwestern Electric Power Co.	Arkansas	Electric	No	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes
	Indiana Michigan Power Co.	Indiana	Electric	Yes	Yes	Partial	No	Yes	Yes	Yes	Yes	Yes
	Kentucky Power Co.	Kentucky	Electric	Yes	Yes	Partial	No	Yes	No	No	No	Yes
	Southwestern Electric Power Co.	Louisiana	Electric	No	No	Partial	No	Yes	No	Yes	Yes	Yes
	Indiana Michigan Power Co.	Michigan	Electric	Yes	No	No	No	No	No	Yes	Yes	Yes
	Ohio Power Co.	Ohio	Electric	Yes	Yes	Partial	No	Yes	Yes	Yes	Yes	N/A
	Public Service Co. of Oklahoma	Oklahoma	Electric	No	Yes	Partial	No	Yes	Yes	Yes	Yes	Yes
	Kingsport Power Co.	Tennessee	Electric	Yes	No	No	No	No	No	No	No	Yes
	AEP Texas	Texas	Electric	No	Yes	No	No	No	Yes	No	Yes	N/A
	Southwestern Electric Power Co.	Texas	Electric	No	Yes	No	No	No	Yes	No	Yes	Yes
	Appalachian Power Co.	Virginia	Electric	No	Yes	No	No	No	Yes	Yes	Yes	Yes
	Appalachian Power Co./Wheeling Power Co.	West Virginia	Electric	No	No	No	No	No	No	No	No	Yes
Duke Energy Corporation	Duke Energy Florida LLC	Florida	Electric	Yes	No	No	No	No	Yes	Yes	Yes	Yes
	Duke Energy Indiana LLC	Indiana	Electric	No	Yes	Partial	No	Yes	Yes	Yes	Yes	Yes
	Duke Energy Kentucky Inc.	Kentucky	Electric	Yes	Yes	Partial	No	Yes	No	No	No	Yes
	Duke Energy Kentucky Inc.	Kentucky	Gas	Yes	No	Partial	No	Yes	No	No	No	Yes
	Duke Energy Carolinas LLC/Duke Energy Progress LLC	North Carolina	Electric	No	Yes	No	No	No	No	Yes	Yes	Yes
	Piedmont Natural Gas Co. Inc.	North Carolina	Gas	No	Yes	Full	No	Yes	Yes	Yes	Yes	Yes
	Duke Energy Ohio Inc.	Ohio	Electric	Yes	Yes	Partial	No	Yes	Yes	Yes	Yes	N/A
	Duke Energy Ohio Inc.	Ohio	Gas	Yes	Yes	SFV	No	Yes	Yes	Yes	Yes	Yes
	Duke Energy Carolinas LLC/Duke Energy Progress LLC	South Carolina	Electric	No	Yes	No	No	No	No	Yes	Yes	Yes
	Piedmont Natural Gas Co. Inc.	South Carolina	Gas	No	Yes	Partial	No	Yes	No	Yes	Yes	Yes
	Piedmont Natural Gas Co. Inc.	Tennessee	Gas	Yes	No	Partial	No	Yes	Yes	No	Yes	Yes
Entergy Corporation	Entergy Arkansas LLC	Arkansas	Electric	Yes	No	Partial	Yes	Yes	Yes	Yes	Yes	Yes
	Entergy New Orleans LLC	Louisiana-NOCC	Electric	No	Yes	Partial	Yes	Yes	Yes	No	Yes	Yes
	Entergy New Orleans LLC	Louisiana-NOCC	Gas	No	Yes	No	Yes	Yes	No	No	No	Yes
	Entergy Louisiana LLC	Louisiana	Electric	No	No	Partial	Yes	Yes	Yes	Yes	Yes	Yes
	Entergy Louisiana LLC	Louisiana	Gas	No	No	Partial	Yes	Yes	Yes	Yes	Yes	Yes
	Entergy Mississippi LLC	Mississippi	Electric	Yes	No	Partial	Yes	Yes	No	Yes	Yes	Yes
	Entergy Texas Inc.	Texas	Electric	No	Yes	No	No	No	Yes	No	Yes	Yes
Evergy, Inc.	Evergy Kansas Central Inc./Evergy Kansas South Inc.	Kansas	Electric	No	Yes	Partial	No	Yes	No	Yes	Yes	Yes
	Evergy Metro Inc.	Kansas	Electric	No	Yes	No	No	No	Yes	Yes	Yes	Yes
	Evergy Metro Inc./Evergy Missouri West Inc.	Missouri	Electric	No	Yes	Partial	No	Yes	Yes	No	Yes	Yes - Sharing Band
NextEra Energy, Inc.	Florida Power & Light Co.	Florida	Electric	Yes	No	No	No	No	Yes	Yes	Yes	Yes
	Gulf Power Co.	Florida	Electric	Yes	No	No	No	No	Yes	Yes	Yes	Yes
	Pivotal Utility Holdings Inc.	Florida	Gas	Yes	No	No	No	No	Yes	Yes	Yes	Yes
	Lone Star Transmission LLC	Texas	Electric	No	Yes	No	No	No	Yes	No	Yes	N/A
NorthWestern Corporation	NorthWestern Corporation	Montana	Electric	No	No	No	No	No	No	No	No	Yes - Sharing Band
	NorthWestern Corporation	Montana	Gas	No	No	No	No	No	No	No	No	Yes
	NorthWestern Corporation	Nebraska	Gas	No	Yes	No	No	No	No	Yes	Yes	Yes
	NorthWestern Corporation	South Dakota	Electric	No	No	No	No	No	No	Yes	Yes	Yes
	NorthWestern Corporation	South Dakota	Gas	No	No	No	No	No	No	Yes	Yes	Yes
OGE Energy Corporation	Oklahoma Gas and Electric Co.	Arkansas	Electric	Yes	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes
	Oklahoma Gas and Electric Co.	Oklahoma	Electric	Yes	Yes	Partial	No	Yes	Yes	Yes	Yes	Yes
Otter Tail Corporation	Otter Tail Power Co.	Minnesota	Electric	Yes	No	No	No	No	No	Yes	Yes	Yes
	Otter Tail Power Co.	North Dakota	Electric	Yes	No	No	No	No	No	Yes	Yes	Yes
	Otter Tail Power Co.	South Dakota	Electric	No	No	No	No	No	No	Yes	Yes	Yes
Pinnacle West Capital Corporation	Arizona Public Service Co.	Arizona	Electric	No	Yes	Partial	No	Yes	No	No	No	Yes - Sharing Band
Portland General Electric Company	Portland General Electric Co.	Oregon	Electric	Yes	Yes	Partial	No	Yes	Yes	No	Yes	Yes - Sharing Band
Xcel Energy Inc.	Public Service Co. of Colorado	Colorado	Electric	No	No	No	No	No	Yes	Yes	Yes	Yes
	Public Service Co. of Colorado	Colorado	Gas	No	Yes	Partial	No	Yes	Yes	Yes	Yes	Yes
	Northern States Power Co.-Minnesota	Minnesota	Electric	Yes	No	Partial	Yes	Yes	No	Yes	Yes	Yes
	Northern States Power Co.-Minnesota	Minnesota	Gas	Yes	No	No	No	No	Yes	Yes	Yes	Yes
	Southwestern Public Service Co.	New Mexico	Electric	No	Yes	No	No	No	No	No	No	Yes
	Northern States Power Co. -Minnesota	North Dakota	Electric	Yes	No	No	No	No	Yes	Yes	Yes	Yes
	Northern States Power Co. -Minnesota	North Dakota	Gas	Yes	No	SFV	No	Yes	No	Yes	Yes	Yes
	Northern States Power Co. -Minnesota	South Dakota	Electric	No	No	Partial	No	Yes	Yes	Yes	Yes	Yes
	Southwestern Public Service Co.	Texas	Electric	No	Yes	No	No	No	Yes	No	Yes	Yes
	Northern States Power Co. -Wisconsin	Wisconsin	Electric	Yes	No	No	No	No	No	Yes	Yes	Yes
	Northern States Power Co. -Wisconsin	Wisconsin	Gas	Yes	No	No	No	No	No	Yes	Yes	Yes
Proxy Group Average				Yes 30	Yes 31	SFV 2	Yes 9	Yes 30	Yes 35	Yes 44	Yes 53	Yes 57
				No 35	No 34	Full 1	No 56	No 35	No 30	No 21	No 12	Yes - Sharing Band 4
						Partial 26						N/A 4
						No 36						
				Yes 46.2%	Yes 47.7%	RSM 44.6%	Yes 13.8%	Yes 46.2%	Yes 53.8%	Yes 67.7%	Yes 81.5%	Yes / N/A 93.8%
Ameren Corporation	**Ameren Missouri**	**Missouri**	**Electric**	**No**	**Yes**	**Partial**	**No**	**Yes**	**Yes**	**No**	**Yes**	**Yes - Sharing Band**

Notes:
[1] - [2] Source: Regulatory Research Associates, effective as of January 31, 2021.
[3] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.
[4] Source: S&P Global Market Intelligence, Alternative Ratemaking Plans in the U.S., dated April 16, 2020.
[5] Equals Yes if either [3] or [4] equal Yes
[6] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.
[7] Sources: Regulatory Research Associates, "Regulatory Focus: Construction Work in Progress." April 22, 2013; Regulatory Research Associates, "Regulatory Focus: Missouri Regulatory Review." January 10, 2019. Regulatory Research Associates, "Regulatory Focus: Wisconsin Regulatory Review." August 12, 2020 (Wisconsin's PSC typically authorizes a premium to allow for a rate of return equivalent to a certain CWIP level in rate base).
[8] Equals Yes if either [6] or [7] equal Yes
[9] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries not covered in this report were excluded from this exhibit.

COMPARISON OF AMEREN MISSOURI AND PROXY GROUP COMPANIES
RRA JURISDICTIONAL RANKINGS

		[1] RRA Rank	[2] RRA Numeric Rank
ALLETE, Inc.	Minnesota	Average / 2	5
Alliant Energy Corporation	Iowa	Above Average / 3	3
	Minnesota	Average / 2	5
	Wisconsin	Above Average / 2	2
American Electric Power Company, Inc.	Arkansas	Average / 1	4
	Indiana	Average / 1	4
	Kentucky	Average / 1	4
	Louisiana	Average / 1	4
	Michigan	Above Average / 3	3
	Ohio	Average / 2	5
	Oklahoma	Average / 3	6
	Tennessee	Above Average / 3	3
	Texas	Average / 2	5
	Virginia	Average / 1	4
	West Virginia	Below Average / 2	8
Duke Energy	Florida	Above Average / 2	2
	Indiana	Average / 1	4
	Kentucky	Average / 1	4
	North Carolina	Average / 1	4
	Ohio	Average / 3	6
	South Carolina	Average / 3	6
	Tennessee	Above Average / 3	3
Entergy	Arkansas	Average / 1	4
	Louisiana	Average / 2	5
	Mississippi	Average / 1	4
	Texas	Average / 2	5
Evergy	Kansas	Below Average / 1	7
	Missouri	Average / 3	6
NextEra Energy, Inc.	Florida	Above Average / 2	2
	Texas	Average / 2	5
NorthWestern Corporation	Montana	Below Average / 1	7
	Nebraska	Average / 1	4
	South Dakota	Average / 2	5
OGE Energy Corporation	Arkansas	Average / 1	4
	Oklahoma	Average / 3	6
Otter Tail Corporation	Minnesota	Average / 2	5
	North Dakota	Average / 1	4
	South Dakota	Average / 2	5
Pinnacle West Capital Corporation	Arizona	Average / 3	6
Portland General Electric Company	Oregon	Average / 2	5
Xcel Energy Inc.	Colorado	Average / 2	5
	Minnesota	Average / 2	5
	North Dakota	Average / 1	4
	New Mexico	Below Average / 2	8
	South Dakota	Average / 2	5
	Texas	Average / 2	5
	Wisconsin	Above Average / 2	2
Proxy Group Average		Average / 2	4.62
Ameren Missouri	Missouri	Average / 3	6

Ranking Legend

Description	Value
Below Average / 3	9
Below Average / 2	8
Below Average / 1	7
Average / 3	6
Average / 2	5
Average / 1	4
Above Average / 3	3
Above Average / 2	2
Above Average / 1	1

Notes
[1] Source: State Regulatory Evaluations, Regulatory Research Associates, as of December 3, 2020.
[2] AA/1= 1, AA/2= 2, AA/3= 3, A/1= 4, A/2= 5, A/3=6, BA/1= 7, BA/2= 8, BA/3= 9

COMPARISON OF AMEREN MISSOURI AND PROXY GROUP COMPANIES
S&P JURISDICTIONAL RANKINGS

		[1]	[2]
		S&P	
		Rank	Numeric Rank
ALLETE, Inc.	Minnesota	Highly credit supportive	2
Alliant Energy Corporation	Iowa	Most credit supportive	1
	Minnesota	Highly credit supportive	2
	Wisconsin	Most credit supportive	1
American Electric Power Company, Inc.	Arkansas	Highly credit supportive	2
	Indiana	Highly credit supportive	2
	Kentucky	Most credit supportive	1
	Louisiana	Highly credit supportive	2
	Michigan	Most credit supportive	1
	Ohio	Very credit supportive	3
	Oklahoma	More credit supportive	4
	Tennessee	Highly credit supportive	2
	Texas (PUC)	Very credit supportive	3
	Virginia	Highly credit supportive	2
	West Virginia	Very credit supportive	3
Duke Energy	Florida	Most credit supportive	1
	Indiana	Highly credit supportive	2
	Kentucky	Most credit supportive	1
	North Carolina	Most credit supportive	1
	Ohio	Very credit supportive	3
	South Carolina	More credit supportive	4
	Tennessee	Highly credit supportive	2
Entergy	Arkansas	Highly credit supportive	2
	Louisiana	Highly credit supportive	2
	Mississippi	More Credit supportive	4
	Texas (PUC)	Very credit supportive	3
Evergy	Kansas	Highly credit supportive	2
	Missouri	Very credit supportive	3
NextEra Energy, Inc.	Florida	Most credit supportive	1
	Texas (PUC)	Very credit supportive	3
NorthWestern Corporation	Montana	More credit supportive	4
	Nebraska	Very credit supportive	3
	South Dakota	Very credit supportive	3
OGE Energy Corporation	Arkansas	Highly credit supportive	2
	Oklahoma	More credit supportive	4
Otter Tail Corporation	Minnesota	Highly credit supportive	2
	North Dakota	Highly credit supportive	2
	South Dakota	Very credit supportive	3
Pinnacle West Capital Corporation	Arizona	More credit supportive	4
Portland General Electric Company	Oregon	Highly credit supportive	2
Xcel Energy Inc.	Colorado	Most credit supportive	1
	Minnesota	Highly credit supportive	2
	North Dakota	Highly credit supportive	2
	New Mexico	Credit supportive	5
	South Dakota	Very credit supportive	3
	Texas (PUC)	Very credit supportive	3
	Wisconsin	Most credit supportive	1
Proxy Group Average		Highly credit supportive / Very credit supportive	2.36
Ameren Missouri	Missouri	Very Credit Supportive	3

Ranking Legend

Description	Value
Most credit supportive	1
Highly credit supportive	2
Very credit supportive	3
More credit supportive	4
Credit supportive	5

Notes
[1] Source: U.S. And Canadian Regulatory Jurisdiction Updates And Insights, Standard and Poor's Ratings Services, November 9, 2020
[2] Most= 1, Highly= 2, Very= 3, More= 4, Credit Supportive= 5

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 Electric Service.	)))	Case No. ER-2021-0240

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.