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Witness:	Ann E. Bulkley
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Case No.:	ER-2024-0189
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2024-0189

DIRECT TESTIMONY

OF

ANN E. BULKLEY

ON BEHALF OF

EVERGY MISSOURI WEST, INC.

Kansas City, Missouri

February 2024

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DIRECT TESTIMONY

OF

ANN E. BULKLEY

Case No. ER-2024-0189

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Ann E. Bulkley. I am a Principal at The Brattle Group ("Brattle"). My business address is One Beacon Street, Suite 2600, Boston, Massachusetts 02108.

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

A: I am submitting this testimony before the Missouri Public Service Commission ("Commission") on behalf of Evergy Missouri West, Inc. d/b/a Evergy Missouri West ("Evergy West" or the "Company"), a wholly-owned subsidiary of Evergy, Inc. ("Evergy").

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 over 25 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. My resume and a summary of testimony that I have filed in other proceedings are included as Attachment A.

Q: What is the purpose of your direct testimony?

A: The purpose of my direct testimony is to present evidence and provide a recommendation regarding the appropriate return on equity ("ROE") and overall rate of return to be used for ratemaking purposes. I also provide an assessment of the reasonableness of the proposed capital structure to be used for ratemaking purposes that is discussed in the testimony of Company witness Kirkland B. Andrews, Executive Vice President and Chief Financial Officer of Evergy.

Q: Are you sponsoring any exhibits or schedules in support of your direct testimony?

A: Yes. My analyses and recommendations are supported by the data presented in Schedule AEB-1 through Schedule AEB-13, which were prepared by me or under my direction.

Q: Please provide a brief overview of the analyses that lead to your ROE recommendation.

A: In developing my recommendation regarding the Company's proposed ROE in this proceeding, I have estimated the cost of equity by applying traditional estimation methodologies to a proxy group of comparable utilities. These models are 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 a Bond Yield Risk Premium ("BYRP" or "Risk Premium") analysis. My recommendation also takes into consideration the Company's relative business and regulatory risk as compared with the proxy group, and the Company's proposed capital structure as compared with the capital structures of the operating utilities of the proxy group companies. While I do not make specific adjustments to my ROE recommendation for these factors, I did consider

them in the aggregate when determining where my recommended ROE falls within the range of the analytical results.

Q: How is the remainder of your testimony organized?

A: The remainder of my direct testimony is organized as follows:

- Section II provides a summary of my analyses and conclusions.
- Section III reviews the regulatory guidelines pertinent to the development of the cost of capital.
- Section IV discusses current and prospective capital market conditions and the effect of those conditions on the Company's cost of equity.
- Section V explains my selection of a proxy group.
- Section VI describes my analyses and the basis for my recommendation regarding the appropriate ROE for the Company.
- Section VII 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 proceeding.
- Section VIII provides an assessment of the reasonableness of the Company's proposed capital structure and long-term cost of debt.
- Section IX presents my conclusions and recommendations.

II. SUMMARY OF ANALYSES AND CONCLUSIONS

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 Evergy West, I considered the following:

- The United States ("U.S.") Supreme Court's *Hope* and *Bluefield* decisions,[1] which established the standards for determining a fair and reasonable authorized ROE for public utilities, including consistency of the authorized return with other businesses having similar risk, adequacy of the return to ensure access to capital and support

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

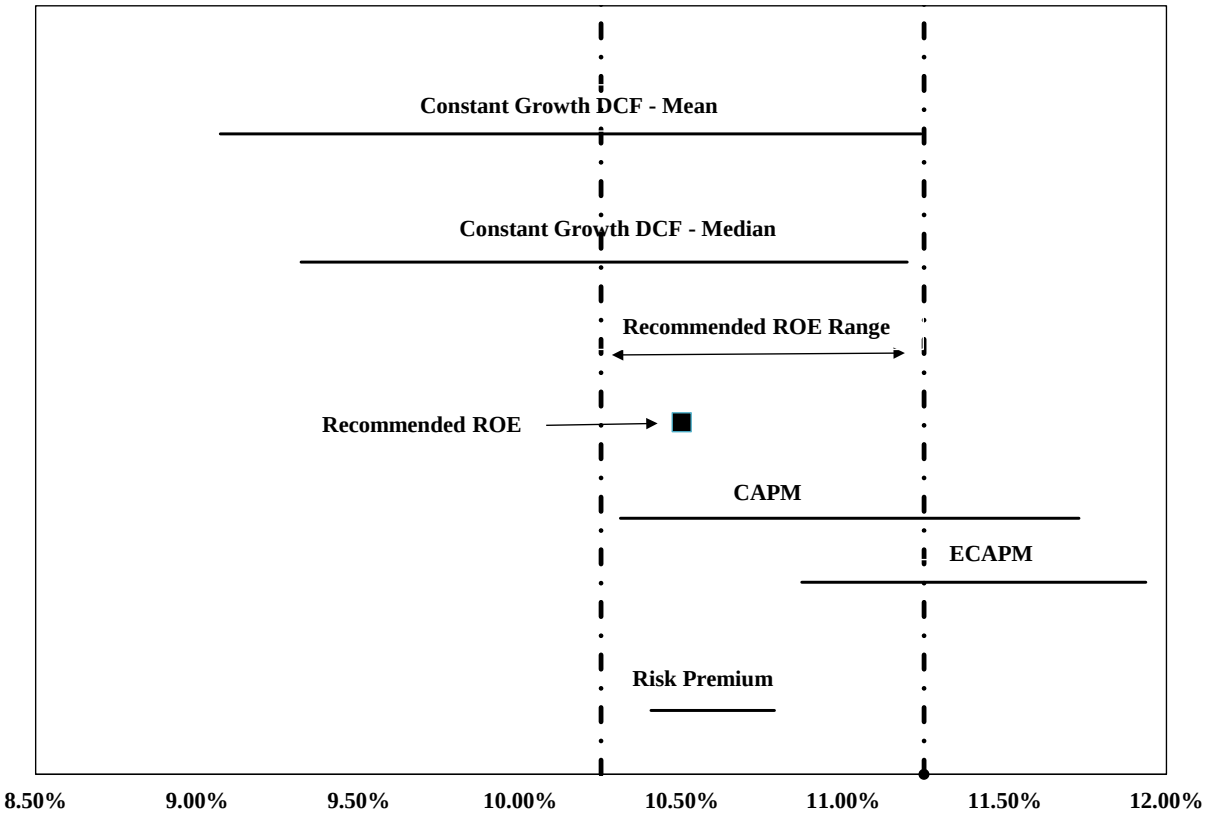
credit quality, and the necessity for the end result to lead to just and reasonable rates.

- The effect of current and prospective capital market conditions on the cost of equity estimation models and on investors' return requirements.
- The results of several analytical approaches that provide estimates of the Company's cost of equity. Because the Company's authorized ROE should be a forward-looking estimate over the period during which the rates will be in effect, these analyses rely on forward-looking inputs and assumptions (*e.g.*, projected analyst growth rates in the DCF model; forecasted risk-free rate and market risk premium in the CAPM analysis).
- Although the companies in my proxy group are generally comparable to Evergy West, each company is unique, and no two companies have the exact same business and financial risk profiles. Accordingly, I considered the Company's regulatory, business, and financial risks relative to the proxy group of comparable companies in determining where the Company's ROE should fall within the reasonable range of analytical results to appropriately account for any residual differences in risk.

Q: What are the results of the models that you have used to estimate the cost of equity for Evergy West?

A: Figure 1 summarizes the range of results of my cost of equity analyses.

Figure 1: Summary of the Range of Analytical Results



As shown, the range of results across all methodologies 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 varies considerably across methodologies.

Q: Are prospective capital market conditions expected to affect the results of the cost of equity analyses for the Company during the period in which the rates established in this proceeding will be in effect?

A: Yes. Capital market conditions are expected to affect the results of the cost of equity estimation models. Specifically:

- Long-term interest rates have increased substantially over the past two years and are expected to remain relatively high at least over the next year in response to inflation.
- Since (i) utility dividend yields are less attractive than the risk-free rates of government bonds; (ii) interest rates are expected to remain near current levels over the next year, and (iii) utility stock prices are inversely related to changes in interest rates; utility share prices may remain depressed.
- Rating agencies have responded to the risks of the utility sector, citing factors including elevated capital expenditures, interest rates, and inflation that create pressures for customer affordability and prompt rate recovery, and have noted the importance of regulatory support in their current outlooks. In fact, Evergy West was downgraded by Standard & Poor's ("S&P") from A- to BBB+ on November 29, 2023 due to similar factors of increased interest expenses and capital spending, and lower cost recovery.[2]
- Similarly, equity analysts have noted the increased risk for the utility sector as a result of elevated interest rates and expect the sector to underperform in 2024.
- Consequently, it is important to consider that if utility share prices decline, the results of the DCF model, which relies on current utility share prices, would understate the cost of equity during the period that the Company's rates will be in effect.

It is appropriate to consider all of these factors when estimating a reasonable range of the investor-required cost of equity and the recommended ROE for the Company.

Q: What is your recommended ROE for the Company in this proceeding?

A: Considering the analytical results of the cost of equity models, current and prospective capital market conditions, and the Company's regulatory, business, and financial risk relative to the proxy group, I conclude that an ROE in the range of 10.25 percent to 11.25 percent is reasonable, and within that range, an ROE of 10.50 percent is reasonable.

[2] S&P Global Ratings, "Evergy Inc. And Subsidiaries Downgraded By One Notch On Weakening Financials; Outlook Revised To Stable," November 29, 2023.

Q: Is Evergy West's requested capital structure is reasonable?

A: Yes. The Company's proposed capital structure of 52.04 percent equity and 47.96 percent long-term debt is within the range of the actual capital structures of the utility operating subsidiaries of the proxy group companies, and the Company's proposed equity ratio is below the average of the proxy group. Further, the Company's proposed equity ratio is reasonable considering credit rating agencies' continued concern with the negative effect on the cash flows and credit metrics associated with increasing interest rates, inflation and capital expenditures.

Q: Is the Company's requested long-term cost of debt rate reasonable?

A: Yes. Evergy West's embedded cost of long-term cost of 4.38 percent is consistent with the market cost of debt at the time of issuance and is thus reasonable.

III. REGULATORY GUIDELINES

Q: Please describe the principles that guide the establishment of the cost of capital for a regulated.

A: The U.S. Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness or reasonableness of a utility's authorized 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 specific means of arriving at a fair return are not important, as long as the end result leads to just and reasonable rates.[3]

Q: Has the 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. For example, 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 return 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 service while maintaining its financial integrity. That return should be commensurate with returns expected elsewhere in the market for

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[3] *Bluefield*, 262 U.S. at 692-93; *Hope*, 320 U.S. at 603.

[4] In re Kansas City Power & Light Co., No. ER-2012-0174, Report and Order at 11 (Jan. 9, 2013).

investments of equivalent risk. If it is not, debt and equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting the Company's ability to attract capital at reasonable cost.

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

A: Yes. Utilities compete directly for capital with other investments of similar risk, which include other electric, natural gas, and water utilities. Therefore, the ROE authorized for 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 elsewhere for other investments of comparable risk over the same time-period, investors have an incentive to direct their capital to those alternative investments. Thus, an authorized ROE that is not commensurate with authorized ROEs for other vertically-integrated electric utilities can inhibit Evergy West's ability to attract capital for investment in Missouri to transition away from fossil-fueled to renewable generation.

Q: What is the standard for setting the ROE in a jurisdiction?

A: The stand-alone ratemaking principle is the foundation of jurisdictional ratemaking. This principle requires that the rates that are charged in any operating jurisdiction be for the costs incurred in that jurisdiction. The stand-alone ratemaking principle ensures that customers in each jurisdiction only pay for the costs of the service provided in that jurisdiction, which is not influenced by the business operations in other operating companies. In order to maintain this principle, the cost of equity analysis is performed for

an individual operating company as a stand-alone entity. As such, I have evaluated the investor-required return for the Company's utility operations in Missouri.

Q: Does the fact that the Company is owned by Evergy, a publicly traded company, affect your analysis?

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

Q: Is the regulatory framework and the authorized ROE and equity ratio important to the financial community?

A: Yes. The regulatory framework is one of the most important factors in investors' assessments of risk. Specifically, the authorized ROE and equity ratio for regulated utilities is very important for determining the degree of regulatory support for supporting a utility's creditworthiness and financial stability in the jurisdiction. To the extent that authorized returns in a jurisdiction are lower than the returns that have been authorized more broadly, such decisions are considered by both debt and equity investors in the overall risk assessment of the regulatory jurisdiction in which the company operates.

Q: Does the ability to earn the return affect a company's overall risk profile?

A: Yes. The ability to earn the return affects the coverage ratios that are reviewed by the credit rating agencies, which can affect a company's overall credit rating.

Q: Has Evergy West consistently earned its authorized ROE?

A: No. As discussed in the direct testimony of Company Witness Darrin R. Ives, as a result of historical ratemaking treatment and disallowances that have occurred in prior rate decisions, Evergy West has significantly under-earned its authorized ROE. As shown in Witness Ives's testimony, while the 2022 rate determination resulted in an authorized ROE of 9.50 percent, the actual earned return was less than 6.00 percent. However, the 30-day average yield on the Moody's Baa-rated utility bonds as of November 30, 2023 was 6.44 percent, meaning that the actual earned return does not result in *any* equity risk premium.

Q: Are you aware of any utilities that have experienced a credit rating downgrade and/or a negative market response related to the financial effects of a rate decision?

A: Yes. There are numerous examples in which utilities have experienced a negative market response related to the financial effects of a rate decision, including credit rating downgrades and material stock price declines. For example, ALLETE, Inc.,[5] CenterPoint Energy Houston Electric,[6] and Pinnacle West Capital Corporation ("PNW")[7] each received credit rating downgrades following rate case decisions in the past few years for reasons that included below average authorized ROEs. The most recent example is the decision by the Illinois Commerce Commission ("ICC") in mid-December 2023 that rejected the multiyear grid plan proposals of Ameren Illinois Co. ("Ameren IL") and

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5 Moody's Investors Service, "Credit Opinion: ALLETE, Inc. Update following downgrade," April 3, 2019, at 3.

6 FitchRatings, "Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative," February 19, 2020.

7 S&P Capital IQ Pro; FitchRatings, "Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative," October 12, 2021; and Moody's Investors Service, "Rating Actions: Moody's downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative," November 17, 2021.

Commonwealth Edison Co. ("ComEd") and authorized lower-than-expected ROEs for both of these electric transmission and distribution utilities. Specifically, the ICC authorized an ROE for Ameren IL of 8.72 percent and 8.905 percent for ComEd, which was a significant reduction from the Administrative Law Judge's recommendations of 9.24 percent and 9.28 percent, respectively.[8]

Q: How did the market respond to the ICC's decisions for these utilities?

A: While the S&P 500 was increasing, the share prices of the parent companies of both Ameren IL and ComEd (*i.e.*, Ameren Corp. and Exelon Corp., respectively) each dropped more than 7 percent on December 14, 2023 after the ICC's decision, and declined again by more than 4.4 percent and 6.4 percent the following day, respectively.[9] As of the close on January 5, 2023, Ameren and Exelon's stock prices were, respectively, 8.9 percent and 11.4 percent below where their stock prices closed on December 13, 2023, or the day immediately prior to the ICC's decisions.[10]

In addition, the reactions of equity analysts were universally negative, and questioned whether the parents of both Ameren IL and ComEd (*i.e.*, Ameren Corp. and Exelon Corp., respectively) will shift their capital spending out of the jurisdiction as a result of the uncertainty associated with the multiyear rate plan and low authorized ROEs. For example:

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[8] Allison Good, "Ameren, Exelon shares fall after Illinois regulators reject grid plans," *Platts*, December 15, 2023. Unlike Missouri West, neither Ameren IL or ComEd own electric generation, and credit rating agencies have concluded that, all else equal, vertically-integrated utilities that own generation are more risky than electric transmission and distribution-only utilities.

[9] Yahoo! Finance.

[10] Ameren Corp.'s stock price closed at $81.32 on December 13, 2023 and $74.05 on January 5, 2023. Exelon Corp.'s stock price closed at $41.00 on December 13, 2023 and $36.31 on January 5, 2023.

- Barclays characterized the ICC's ROE authorizations as "draconian" and "one of the lowest awarded in recent memory, especially in an elevated interest rate and cost of capital environment."[11] Barclays also stated it found it hard to believe utilities "can deploy capital under the same magnitude on the updated grid plans to be filed, especially under the current proposed ROE framework."

- In its assessment of the impact on Exelon, the parent of ComEd, UBS stated that "[t]he actions taken by the ICC today call into question, in our view, the regulatory backdrop in which EXC operates."[12]

- Wells Fargo stated that it was not mincing words, and that the ICC's orders were "onerous" and that:

> We now view IL as one of the worst regulatory jurisdictions in the U.S. (nipping at CT's heels). We think the totality of the recent orders suggest that the regulatory balancing act between customers and investors is currently heavily skewed toward customers. As a result, we wonder if AEE & EXC will allocate capital away from IL. Keep in mind, IL represents ~25% of both AEE's & EXC's total rate base."[13]

- In its evaluation of Ameren IL, BofA Securities characterized the ICC's decision as "punitive" and stated that it was a surprise based on numerous conversations with investors that believed the ICC may authorize an ROE above the ALJ's recommendation, not substantially lower, and that the downside surprise was one of the biggest in recent memory for their regulated utility coverage.[14] While BofA Securities acknowledged that Ameren IL represents less than 20 percent of Ameren Corp.'s consolidated rate base, it will nonetheless need offsets or capital expenditures elsewhere in order to hit its earnings growth rate targets.[15]

- After the decisions, Guggenheim questioned, "Is Illinois Becoming the Next Connecticut?" Guggenheim noted that investors questioned whether Illinois was "slowly becoming a CT-esque jurisdiction," and that equity and debt holders are going to be wary of Illinois as a jurisdiction going forward and that the ICC is "simply sending a negative message to investors."[16]

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[11] Barclays, "AEE/EXC: Coal Stocking-Stuffer in Illinois," December 14, 2023.

[12] UBS, First Read Exelon Corp., "Negative Rate Case Outcome – Rating and PT Under Review," December 14, 2023.

[13] Wells Fargo, "The ICC Delivers a Lump of Coal for AEE & EXC," December 14, 2023.

[14] BofA Securities, Ameren Corporation, "Illinois delivers downside surprise," December 15, 2023.

[15] *Id*.

[16] Guggenheim, "IL: Is Illinois Becoming the Next Connecticut? To Be Determined, but Taking a Neutral Stance on the State," December 15, 2023.

Also, after the ICC's decisions, Regulatory Research Associates ("RRA") lowered its rating of the Illinois regulatory jurisdiction from Average/2 to Average/3 due to the "concerning pattern of restrictive" rate actions in the state.

Q: What are your conclusions regarding regulatory guidelines?

A: The ratemaking process is premised on the principle that in order for investors and companies to commit the capital needed to provide safe and reliable utility services, a utility must have a reasonable opportunity to recover the return of, and the market-required return on, its invested capital. Accordingly, the Commission's order in this proceeding should establish rates that provide the Company with a reasonable opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises with similar risk. It is important for the ROE authorized in this proceeding to take into consideration current and projected capital market conditions, as well as investors' expectations and requirements for both risks and returns. 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. Providing the opportunity to earn a market-based cost of capital supports the financial integrity of the Company, which is in the best interest of both customers and shareholders.

IV. CAPITAL MARKET CONDITIONS

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

A: The models used to estimate the cost of equity rely on market data and thus the results of those models can be affected by prevailing market conditions at the time the analysis is performed. While the ROE established in a rate proceeding is intended to be forward-looking, the analyst uses current and projected market data, including stock prices, dividends, growth rates, and interest rates in the cost of equity estimation models to estimate the investor-required return for the subject company.

Analysts and regulatory commissions recognize that current market conditions affect the results of the cost of equity estimation models. As a result, it is important to consider the effect of the market conditions on these models when determining an appropriate range for the ROE, and the ROE to be used for ratemaking purposes for a future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the cost of equity 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 are affecting 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) changes in monetary policy; (2) relatively high inflation; and (3) increased interest rates that are expected to remain

relatively high over the next few years. These factors affect the assumptions used in the cost of equity estimation models.

A. Inflationary Expectations in Current and Projected Capital Market Conditions

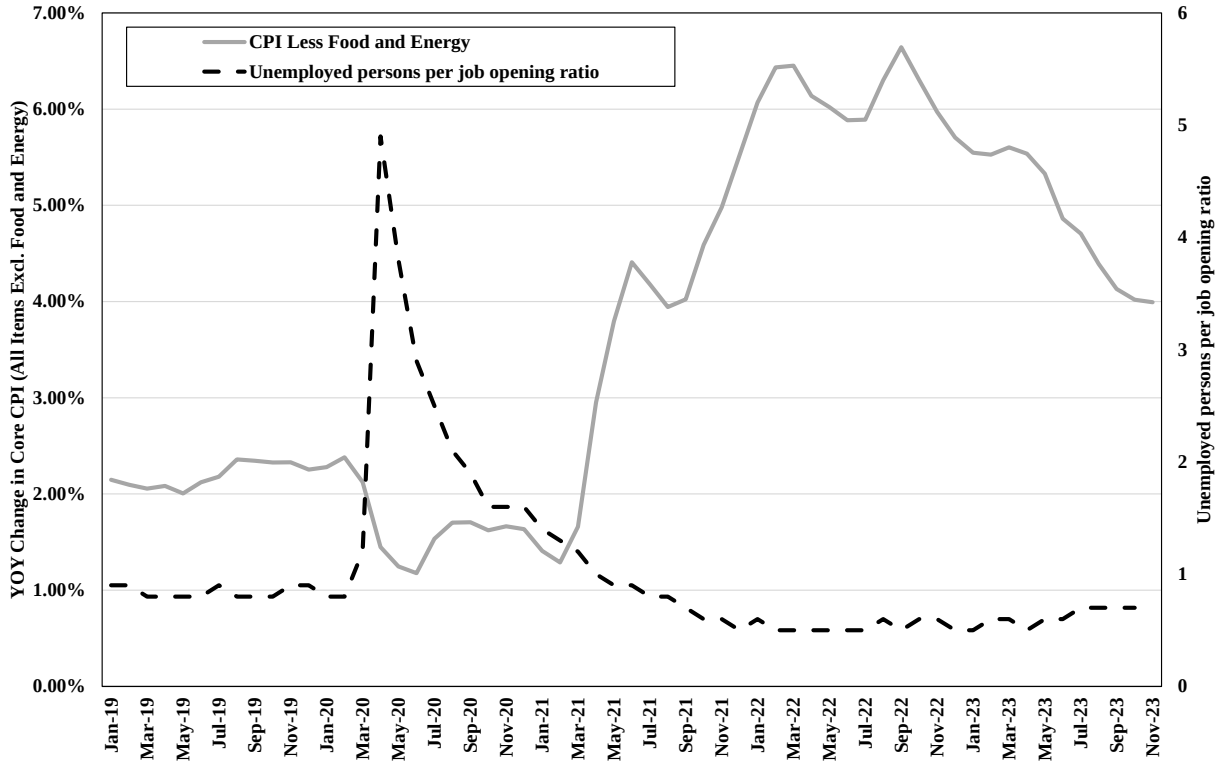
Q: What has the level of inflation been over the past few years?

A: As shown in Figure 2, core inflation increased steadily beginning in early 2021, rising from 1.41 percent in January 2021 to a high of 6.64 percent in September 2022. This was the largest 12-month increase since 1982.[17] While core inflation has declined in response to the Federal Reserve's monetary policy since September 2022, it continues to remain above the Federal Reserve's target level of 2.0 percent.

In addition, as shown in Figure 2, I also considered the ratio of unemployed persons per job opening, which is currently 0.7 and has been consistently below 1.0 since 2021, despite the Federal Reserve's accelerated policy normalization. This metric indicates sustained strength in the labor market. Given the Federal Reserve's dual mandate of maximum employment and price stability, the continued increased levels of core inflation coupled with the strength in the labor market has resulted in the Federal Reserve's sustained focus on the priority of reducing inflation.

[17] Figure 2 presents the year-over-year ("YOY") change in core inflation, as measured by the Consumer Price Index ("CPI") excluding food and energy prices as published by the Bureau of Labor Statistics. I considered core inflation because it is the preferred inflation indicator of the Federal Reserve for determining the direction of monetary policy. Core inflation is preferred by the Federal Reserve because it removes the effect of food and energy prices, which can be highly volatile and unpredictable.

Figure 2: Core Inflation and Unemployed Persons-to-Job Openings, January 2019 to November 2023[18]



Q: What are the expectations for inflation over the near-term?

A: The Federal Reserve has indicated that it expects inflation will remain elevated above its target level until 2026 and that the extent to which it maintains the restrictive monetary policy will depend on market indicators going forward. For example, Federal Reserve Chair Powell at the Federal Open Market Committee ("FOMC") meeting on December 13, 2023 observed that while inflation is off of its recent highs, it remains too high and noted that further policy firming is possible based on the data:

> Today, we decided to leave our policy interest rate unchanged and to continue to reduce our securities holdings. Given how far we have come, along with the uncertainties and risks that we face, the Committee is

[18] Bureau of Labor Statistics.

> proceeding carefully. We will make decisions about the extent of any additional policy firming and how long policy will remain restrictive based on the totality of the incoming data, the evolving outlook, and the balance of risks.[19]

Chair Powell reiterated that the FOMC was committed to bringing inflation down to the 2 percent target level, and that while the easing of inflation has been good news, it is currently projected to take until 2026 to reach the Federal Reserve's target of 2.0 percent:

> Inflation has eased over the past year but remains above our longer-run goal of 2 percent. Based on the Consumer Price Index and other data, we estimate that total PCE [*Personal Consumer Expenditures*] prices rose 2.6 percent over the 12 months ending in November; and that, excluding the volatile food and energy categories, core PCE prices rose 3.1 percent. The lower inflation readings over the past several months are welcome, but we will need to see further evidence to build confidence that inflation is moving down sustainably toward our goal. Longer-term inflation expectations appear to remain well anchored, as reflected in a broad range of surveys of households, businesses, and forecasters, as well as measures from financial markets. As is evident from the SEP [*Summary of Economic Projections*], we anticipate that the process of getting inflation all the way to 2 percent will take some time. The median projection in the SEP is 2.8 percent this year, falls to 2.4 percent next year, and reaches 2 percent in 2026.[20]

Chair Powell noted that the FOMC members project a gradual decline in the federal funds rates over time, although remain cautious and leave open the possibility of further monetary policy tightening as required:

> While we believe that our policy rate is likely at or near its peak for this tightening cycle, the economy has surprised forecasters in many ways since the pandemic, and ongoing progress toward our 2 percent inflation objective is not assured. We are prepared to tighten policy further if appropriate. We are committed to achieving a stance of monetary policy that is sufficiently restrictive to bring inflation sustainably down to 2 percent over time, and to keeping policy restrictive until we are confident that inflation is on a path to that objective.

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[19] Federal Reserve, Transcript of Chair Powell's Press Conference, December 13, 2023, at 1.

[20] *Id*., at 2-3; clarification added.

> In our SEP, FOMC participants wrote down their individual assessments of an appropriate path for the federal funds rate based on what each participant judges to be the most likely scenario going forward. While participants do not view it as likely to be appropriate to raise interest rates further, neither do they want to take the possibility off the table. If the economy evolves as projected, the median participant projects that the appropriate level of the federal funds rate will be 4.6 percent at the end of 2024, 3.6 percent at the end of 2025, and 2.9 percent at the end of 2026, still above the median longer-term rate. These projections are not a Committee decision or plan; if the economy does not evolve as projected, the path for policy will adjust as appropriate to foster our maximum employment and price stability goals.[21]

B. The Use of Monetary Policy to Address Inflation

Q: What policy actions has the Federal Reserve enacted to respond to increased inflation?

A: The dramatic increase in inflation has prompted the Federal Reserve to pursue an aggressive normalization of monetary policy, removing the accommodative policy programs used to mitigate the economic effects of COVID-19. Beginning in March 2022 and through May 3, 2023, the Federal Reserve increased the target federal funds rate through a series of increases from a range of 0.00 – 0.50 percent to a range of 5.00 percent to 5.25 percent.[22] Further, as noted above, while the Federal Reserve acknowledges that inflation has declined from its peak, it still is well above the Federal Reserve's target of 2 percent. Therefore, the Federal Reserve anticipates the continued need to maintain the federal funds rate at a restrictive level in order to achieve its goal of 2 percent inflation over the long-run.

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[21] *Id*., at 3-4; clarification added.

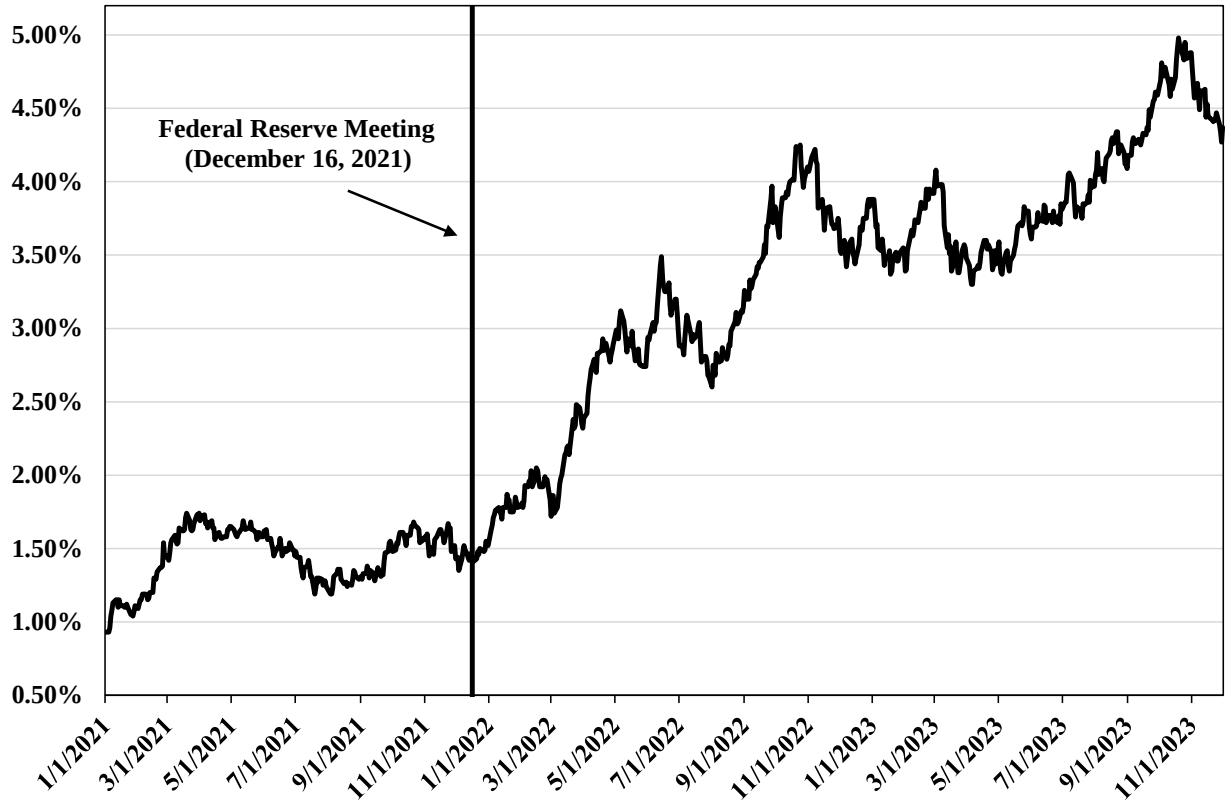
[22] https://www.federalreserve.gov/monetarypolicy/openmarket.htm.

C. The Effect of Inflation and Monetary Policy on Interest Rates and the Investor-Required Return

Q: Have yields on long-term government bonds increased in response to inflation and the Federal Reserve's normalization of monetary policy?

A: Yes. As the Federal Reserve has substantially increased the federal funds rate and decreased its holdings of Treasury bonds and mortgage-backed securities in response to increased levels of inflation, longer-term interest rates have also increased. As shown in Figure 3, since the Federal Reserve's December 2021 meeting, the yield on 10-year Treasury bonds has tripled, increasing from 1.47 percent on December 15, 2021 to 4.37 percent at the end of November 2023.

Figure 3: 10-Year Treasury Bond Yield, Janaury 2021– November 2023[23]



[23] S&P Capital IQ Pro.

Q: How have interest rates and inflation changed since the Company's last rate case?

A: As shown in Figure 4, both short-term and long-term interest rates have increased substantially since the Commission approved four separate partial settlement agreements resolving various issues in the Company's last rate proceeding in September 2022.[24] Specifically, long-term interest rates have increased 140 basis points over this period, which is indicative of an increase in the cost of equity relative to when the settlement concerning the Company's cost of capital was approved.[25] As discussed, as a result of the Federal Reserve's monetary policy of substantially increasing short-term interest rates, core inflation has declined since the Commission's decision on the settlements in the last rate proceeding, although inflation remains above the Federal Reserve's long-term target value of 2.0 percent.

Figure 4: Change in Market Conditions Since the Company's Last Rate Case [26]

Docket	Date	Federal Funds Rate	30-Day Avg of 30-Year Treasury Bond Yield	Core Inflation Rate
ER-2022-0130	9/22/2022	3.08%	3.35%	6.64%
Current	11/30/2023	5.33%	4.76%	3.99%

[24] In re Evergy Metro, Inc. and Evergy Mo. West, Inc., Nos. ER-2022-0129 and -0130, Order Approving Four Partial Stipulations and Agreements (Sept. 22, 2022) ("2022 Settlements Order").

[25] S&P Capital IQ Pro.

[26] Note, only a pre-tax rate of return for ratemaking was specified in the settlement approved in the Commission's 2022 Settlements Order, meaning the ROE and capital structure were not specified..

Q: What have equity analysts said about long-term government bond yields going forward?

A: Leading equity analysts have noted that they expect the yields on long-term government bonds to remain elevated. For example, in the most recent Big Money poll released by *Barron's* in October 2023, which surveys money managers regarding the outlook for the next twelve months, two-thirds of the money managers surveyed expect the yield on the 10-year Treasury bond to be at least 4.50 percent in October 2024.[27] Similarly, according to the *Blue Chip Financial Forecasts* report, the consensus estimate of the average yields on the 10-year and 30-year Treasury bonds are approximately 4.00 percent and 4.30 percent, respectively, through the first quarter of 2025.[28] Therefore, investors expect interest rates to remain elevated for at least the next 15 months. As a result, it is reasonable to expect that if government bond yields remain elevated, the cost of equity will remain materially higher than at the time of the Company's last rate proceeding.

D. Expected Performance of Utility Stocks and the Investor-Required Return on Utility Investments

Q: Are utility share prices correlated to changes in yields on long-term government bonds?

A: Yes. Interest rates and utility share prices are inversely correlated which means, for example, that an increase in interest rates will result in a decline in the share prices of utilities. For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices of different industries to changes in interest rates over the past five years. Both

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[27] Nicholas Jasinski, "Big Money Pros Are Split on the Outlook for Stocks. But They Are Fans of Bonds," October 27, 2023.

[28] *Blue Chip Financial Forecasts*, Vol. 42, No. 12, December 1, 2023, at 2.

Goldman Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships with bond yields (*i.e.*, increases in bond yields resulted in the decline of utility share prices).[29]

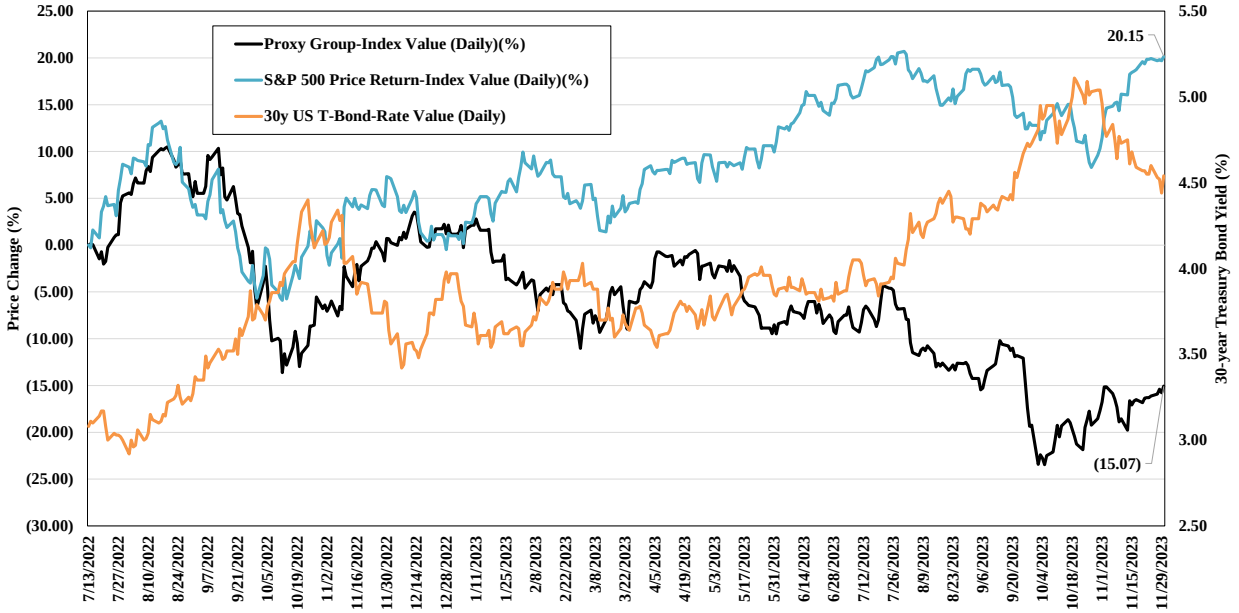
Q: In the Company's last rate proceeding, you discussed equity analysts' expected underperformance of the utility sector. Did that occur?

A: Yes. Since the filing of my rebuttal testimony in mid-July 2022 in the Company's last rate proceeding, utility stocks have significantly underperformed the broader market, as Treasury bond yields have increased to levels greater than the dividend yields of utility stocks. For example, as shown in Figure 5, since July 13, 2022, the yield on the 30-year Treasury bond has increased by approximately 145 basis points, while the share prices for the vertically-integrated electric utilities included in my proxy group (discussed in the following section) have *declined* by more than 15.0 percent and the S&P 500 Index has *increased* by more than 20.0 percent. In fact, on October 2, 2023, the utilities sector dropped by 4.7 percent, its single highest one-day percentage decline since April 2020.[30] The stock price under-performance for the utility sector indicates that the cost of equity has increased since the Company's last rate proceeding.

[29] Justina Lee, "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks," Bloomberg.com, March 11, 2021.

[30] Caroline Valetkevich, "S&P 500 ends near flat; utilities drop, focus on rate outlook," Reuters, October 2, 2023.

Figure 5: Relative Performance of the Proxy Group and the S&P 500 Index, Mid-July 2022 through November 2023[31]



Q: How do equity analysts expect the utilities sector to perform in 2024?

A: Equity analysts have recently projected the continued underperformance of the utility sector, and have not changed their views on the sector. For example, Fidelity Investments classifies the utility sector as underweight,[32] and Bank of America recently noted that they are "not so constructive on [u]tilities" given that the dividend yields for utilities are below both the yields available on long- and short-term treasury bonds.[33] Moreover, the professional investors surveyed by *Barron's* in its most recent Big Money poll selected the utility sector as one of the four equity sectors that they liked the least over the next twelve

[31] S&P Capital IQ Pro.

[32] Fidelity Investments, "Fourth Quarter 2023 Investment Research Update," October 19, 2023.

[33] Julien Dumoulin-Smith, *et. al.*, "US Electric Utilities & IPPs: As the leaves fall, preparing for Autumn utility outlook. Macro still has potholes," BofA Securities, September 6, 2023.

months, indicating they are projecting that utilities will underperform the broader market in 2024.[34]

Q: Why do equity analysts expect the utilities sector to underperform over the near term?

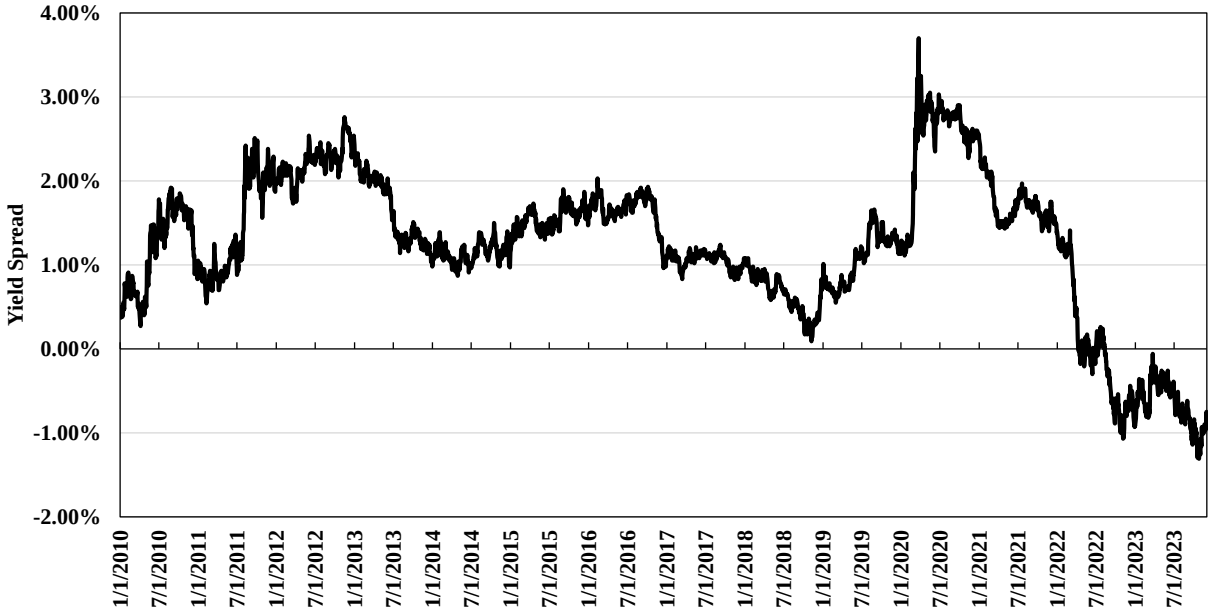
A: Equity analysts expect the utility sector to continue to underperform given that utility dividend yields remain lower than the yields on long-term government bonds. To illustrate this point, I examined the difference between the dividend yields of utility stocks and the yields on long-term government bonds from January 2010 through November 2023 ("yield spread"). I selected the dividend yield on the S&P Utilities Index as the measure of the dividend yields for the utility sector and the yield on the 10-year Treasury bond as the estimate of the yield on long-term government bonds.

As shown in Figure 6, the recent significant increase in long-term government bonds yields has resulted in the yield on long-term government bonds exceeding the dividend yields of utilities. Specifically, the yield spread as of November 30, 2023 was negative 0.87 percent, meaning that the yield on the 10-year Treasury bond exceeds the dividend yield for the S&P Utilities Index. However, the long-term average yield spread from 2010 to 2023 is 1.23 percent. Therefore, the current yield spread is well below the long-term average. Because the yield spread is currently well below the long-term average, and the expectation is that interest rates will remain relatively high through at least the next year, it is reasonable to conclude that the utility sector may continue to underperform in 2024. This is because investors that purchased utility stocks as an

[34] Nicholas Jasinski, "Big Money Pros Are Split on the Outlook for Stocks. But They Are Fans of Bonds," *Barron's*. October 27, 2023.

alternative to the lower yields on long-term government bonds would otherwise be inclined to rotate into government bonds given that the yields on long-term government bonds remain elevated and higher than utility dividend yields, thus resulting in a decrease in the share prices of utilities.

Figure 6: Spread between the S&P Utilities Index Dividend Yield and the 10-year Treasury Bond Yield, January 2010 – November 2023[35]



E. Conclusion

Q: What are your conclusions regarding the effect of current market conditions on the cost of equity for the Company?

A: Due to their impact on the cost of equity, it is important that current and projected market conditions be considered in setting the forward-looking ROE in this proceeding. The combination of persistently high inflation and the Federal Reserve's changes in monetary policy that have increased interest rates indicate that the cost of equity has increased since

[35] S&P Capital IQ Pro and Bloomberg Professional.

the Company's last rate proceeding given that (i) there is a strong historical inverse correlation between interest rates (*i.e.*, yields on long-term government bonds) and the share prices of utility stocks (*i.e.*, as interest rates increase, utility share prices decline, and thus utility dividend yields increase); and (ii) the yields on long-term government bonds currently exceed the dividend yields of utilities, when historically long-term government bond yields have been lower than the dividend yields of utilities. Because the cost of equity has increased since the Company's last rate proceeding, cost of equity estimates based in whole or in part on historical or current market conditions, as opposed to projected market conditions, may understate the cost of equity during the future period that the Company's rates will be in effect. Therefore, these current and expected market conditions support the Commission's consideration of the higher end of the range of cost of equity results produced by the DCF models, and warrant consideration of forward-looking cost of equity estimation models such as the CAPM and ECAPM that better reflect expected market conditions.

V. PROXY GROUP SELECTION

Q: Please provide a brief profile of Evergy West.

A: Evergy West is a wholly-owned subsidiary of Evergy, and provides regulated retail electric service to approximately 340,300 customers in Missouri.[36] As of December 31, 2022, the Company's net utility electric plant was approximately $4.5 billion.[37] In addition, the

[36] Evergy Missouri West, Inc., 2022 Annual Report to the Missouri Public Service Commission, at 3c.

[37] *Id*.

Company had total electric revenues from sales to ultimate customers of $861 million in 2022.[38] Evergy West is currently rated BBB+/Stable by S&P and Baa2/Stable by Moody's.[39] As noted previously, Evergy West was downgraded by S&P from A- to BBB+ on November 29, 2023.

Q: Why have you used a group of proxy companies to estimate the cost of equity for Evergy West?

A: In this proceeding, the cost of equity is being estimated for an electric utility company that is not itself publicly traded. Because the cost of equity is a market-based concept and because Evergy West'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" for purposes of estimating the cost of equity.

Even if Evergy West 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 mitigates the effects of anomalous events that may be associated with any one company. The proxy companies used in my analyses all possess a set of operating and financial risk characteristics that are substantially comparable to Evergy West, and, therefore, provide a reasonable basis to estimate the appropriate cost of equity for the Company.

[38] *Id*.

[39] S&P Capital IQ Pro; Moody's Investors Service, accessed November 30, 2023.

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

A: I began with the group of 36 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 pay a dividend cannot be analyzed using the constant growth DCF model;
- have investment grade long-term issuer ratings from S&P and/or Moody's;
- are covered by at least two utility industry analysts;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- own regulated generation assets that are included in rate base;
- derive more than 40 percent of its megawatt-hour sales from its owned generation facilities.
- derive more than 60 percent of their total operating income from regulated electric operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

Q: Did you include Evergy in your analysis?

A: No. In order to avoid the circular logic that otherwise would occur, it is my practice to exclude the subject company, or its parent holding company, from the proxy group.

Q: What is the composition of your proxy group?

A: The screening criteria just discussed results in a proxy group consisting of the companies shown in Figure 7 (as well as in Schedule AEB-2).

Figure 7: Proxy Group

Company	Ticker
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Avista Corporation	AVA
CMS Energy Corporation	CMS
Duke Energy Corporation	DUK
Entergy Corporation	ETR
IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Southern Company	SO
Xcel Energy Inc.	XEL

VI. COST OF EQUITY ESTIMATION

Q: Please briefly discuss the ROE in the context of the regulated rate of return.

A: The rate of return for a regulated utility is the weighted average cost of capital, in which the costs of the individual sources of capital are weighted by their respective proportion (*i.e.*, book values) in the utility's capital structure. The ROE is the cost rate applied to the equity capital in calculating the rate of return. 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 cost of equity determined?

A: The required cost of equity is estimated by using 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 produced by multiple analytical techniques. 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 have you used to estimate Evergy West's cost of equity?

A: I consider the results of the constant growth DCF model, the CAPM, the ECAPM, and a BYRP approach. A reasonable cost of equity estimate appropriately considers alternative methodologies and the reasonableness of their individual and collective results.

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 of 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[40] suggest using the CAPM and Arbitrage Pricing Theory model, while Brigham and Gapenski[41] recommend the CAPM, DCF, and BYRP approaches.

Further, the recent changes in market conditions discussed previously highlight the benefit of using multiple models since each model relies on different assumptions, certain of which better reflect current and projected market conditions at different times. For example, the CAPM, ECAPM, and BYRP analyses rely directly on interest rates as an assumption in the models and therefore may more directly reflect the market conditions expected when the Company's rates are in effect. Accordingly, it is important to use multiple analytical approaches to ensure that the cost of equity results reflect market conditions that are expected during the period that the Company's rates will be in effect.

Q: Has the Commission recognized that it is important to consider the results of multiple cost of equity estimation models?

A: Yes. For example, in 2018 the Commission stated:

> In order to set a fair rate of return for Spire, the Commission must determine the weighted cost of each component of the utility's capital structure. One component at issue in this case is the estimated cost of common equity, or the return on equity. Based on the competent and substantial evidence in the record, on its analysis of the expert testimony offered by the parties, and on its balancing of the interests of the company's ratepayers and shareholders, as fully explained in its findings of fact and conclusions of law, the Commission finds that 9.8 percent is a fair and reasonable return on equity for Spire Missouri. That rate is nearly the midpoint of all the experts' recommendations and is consistent with the national average, the growing economy, and the anticipated increasing interest rates. The Commission finds that this rate of return will allow Spire Missouri to

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

[41] Eugene Brigham and Louis Gapenski, *Financial Management: Theory and Practice*, Orlando, Dryden Press, 1994, at 341.

compete in the capital market for the funds needed to maintain its financial health.[42]

Thus, the Commission recognized the importance of considering: (1) the results of each model presented in the rate case, which included the DCF, CAPM and Risk Premium analyses; (2) capital market conditions since changes in market conditions can affect the model results and; (3) the returns awarded to comparable utilities in other jurisdictions across the United States.

A. 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.

[42] In re Laclede Gas Co., No. GR-2017-0215, Report and Order at 35 (March 7, 2018).

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 do 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 group companies' current annual dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended November 30, 2023.

Q: Why do 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 cost of equity 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.

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

A: Yes. 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 long-term growth rate in perpetuity. In order to reduce the long-term growth rate to a single measure, one must assume that the dividend payout ratio remains constant and that earnings per share ("EPS"), dividends per share, and book value per share all grow at the same constant rate. However, over the long run, dividend growth can only be sustained by earnings growth, meaning earnings are the fundamental driver of a company's ability to pay dividends. therefore, projected EPS growth is the appropriate measure of a company's long-term growth. In contrast, changes in a company's dividend payments are based on management decisions related to cash management and other factors. For example, a company may decide to retain earnings rather than pay out a portion of those earnings to shareholders through dividends. Therefore, dividend growth rates are less likely than earnings growth rates to accurately reflect investor perceptions of a company's growth prospects. Accordingly, I have incorporated a number of sources of long-term EPS growth rates into the constant growth DCF model.

Q: What sources of long-term EPS growth rates do you use?

A: My constant growth DCF model incorporates three sources of long-term projected EPS growth rates: (1) *Zacks Investment Research* ("*Zacks*"); (2) Yahoo! Finance; and (3) *Value Line*.

Q: How do you calculate the range of results for the constant growth DCF models?

A: I calculate the low-end result for the constant growth DCF model using the minimum growth rate of the three sources (*i.e.*, the lowest of the *Zacks*, Yahoo! Finance, and *Value Line* projected EPS growth rates) for each of the proxy group companies. I use a similar approach to calculate a high-end result, using the maximum growth rate of the three sources for each proxy group company. Lastly, I also calculate results using the average EPS growth rate from all three sources for each proxy group company.

Q: What are the results of your DCF analyses?

A: Figure 8 (see also Schedule AEB-3) summarizes the results of my DCF analyses. While I also summarize the DCF results using the minimum growth rates, given the market response to the recent ICC decisions for Ameren IL and ComEd as discussed previously, it is evident that the market would not consider these DCF results reflective of the investor-required return, and thus I do not give these DCF results any material weight at this time.

Figure 8: Summary of DCF Results

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.16%	10.32%	11.33%
90-Day Avg. Stock Price	9.12%	10.28%	11.29%
180-Day Avg. Stock Price	8.93%	10.09%	11.10%
Average	9.07%	10.23%	11.24%
Median Results:			
30-Day Avg. Stock Price	9.48%	10.09%	11.29%
90-Day Avg. Stock Price	9.34%	10.13%	11.26%
180-Day Avg. Stock Price	9.15%	10.04%	11.05%
Average	9.32%	10.09%	11.20%

Q: Have regulatory commissions acknowledged that the DCF model might understate the cost of equity given the current capital market conditions of high inflation and increasing interest rates?

A: Yes. For example, in its May 2022 decision in establishing the cost of equity for Aqua Pennsylvania, Inc., the Pennsylvania Public Utility Commission ("PPUC") specifically concluded that the current capital market conditions of high inflation and increasing interest rates has resulted in the DCF model understating the utility cost of equity, and that weight should be placed on risk premium models, such as the CAPM, in the determination of the ROE.

> To help control rising inflation, the Federal Open Market Committee has signaled that it is ending its policies designed to maintain low interest rates. Aqua Exc. at 9. Because the DCF model does not directly account for interest rates, consequently, it is slow to respond to interest rate changes. However, I&E's [*the PPUC's Bureau of Investigation and Enforcement*] CAPM model uses forecasted yields on ten-year Treasury bonds, and accordingly, its methodology captures forward looking changes in interest rates.

> Therefore, our methodology for determining Aqua's ROE shall utilize both I&E's DCF and CAPM methodologies. As noted above, the Commission recognizes the importance of informed judgment and information provided by other ROE models. In the 2012 PPL Order, the Commission considered PPL's CAPM and RP methods, tempered by informed judgment, instead of DCF-only results. We conclude that methodologies other than the DCF can be used as a check upon the reasonableness of the DCF derived ROE calculation. Historically, we have relied primarily upon the DCF methodology in arriving at ROE determinations and have utilized the results of the CAPM as a check upon the reasonableness of the DCF derived equity return. As such, where evidence based on other methods suggests that the DCF-only results may understate the utility's ROE, we will consider those other methods, to some degree, in determining the appropriate range of reasonableness for our equity return determination. In light of the above, we shall determine an appropriate ROE for Aqua using informed judgement based on I&E's DCF and CAPM methodologies.[43]

Similarly, the Massachusetts Department of Public Utilities in a recent rate case for NSTAR Electric Company concluded that given the recent increase in interest rates there was "greater certainty" that the results of the DCF model were understating the cost of equity for the utility.[44]

B. CAPM and ECAPM 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 or "systematic" risk of that security.[45] This second component is the product of the market risk premium and the beta coefficient, which measures the relative riskiness of the security being evaluated.

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[43] In re Aqua Pennsylvania Inc., Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order at 154-155 (Pa. PUC, May 12, 2022); clarification added.

[44] In re NSTAR Electric Co., D.P.U. 22-22, Order at 385-386 (Mass. D.P.U., November 30, 2022).

[45] 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 = the beta coefficient of an individual security;

r_f = the risk-free rate of return; and

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

In 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, which is a measure of the volatility of a security as compared to the overall market. Beta is defined as:

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

Variance (r_m) represents the variance of the market return, which is a measure of the uncertainty of the general market. *Covariance* (r_e, r_m) represents the covariance between the return on a specific security and the general market, which 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 do you use in your CAPM analysis?

A: I rely on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds;[46] (2) the average projected 30-year Treasury bond yield

[46] *Bloomberg*, as of November 30, 2023.

for the first quarter of 2024 through the first quarter of 2025;[47] and (3) the average projected 30-year Treasury bond yield for 2025 through 2029.[48]

Q: What beta coefficients do you use in your CAPM analysis?

A: As shown on Schedule AEB-4, I use the beta coefficients for the proxy group companies as reported by *Bloomberg Professional* ("*Bloomberg")* and *Value Line*. The beta coefficients reported by *Bloomberg* are calculated using ten years of weekly returns relative to the S&P 500 Index. The beta coefficients reported by *Value Line* are calculated based on five years of weekly returns relative to the New York Stock Exchange Composite Index. Additionally, as shown in Attachments AEB-5 and AEB-6, I also consider an additional CAPM analysis that relies on the long-term average beta coefficient reported by *Value Line* for the companies in my proxy group from 2013 through 2022.

Q: How do you estimate the market risk premium in the CAPM?

A: I estimate the market risk premium as the difference between the implied expected equity market return and the risk-free rate. As shown on Schedule AEB-6, the expected return on the S&P 500 Index is calculated using the constant growth DCF model discussed previously as applied to the companies in the S&P 500 Index. Based on an estimated market capitalization-weighted dividend yield of 1.69 percent and a weighted long-term growth rate of 10.78 percent, the estimated required market return for the S&P 500 Index as of November 30, 2023 is 12.56 percent.

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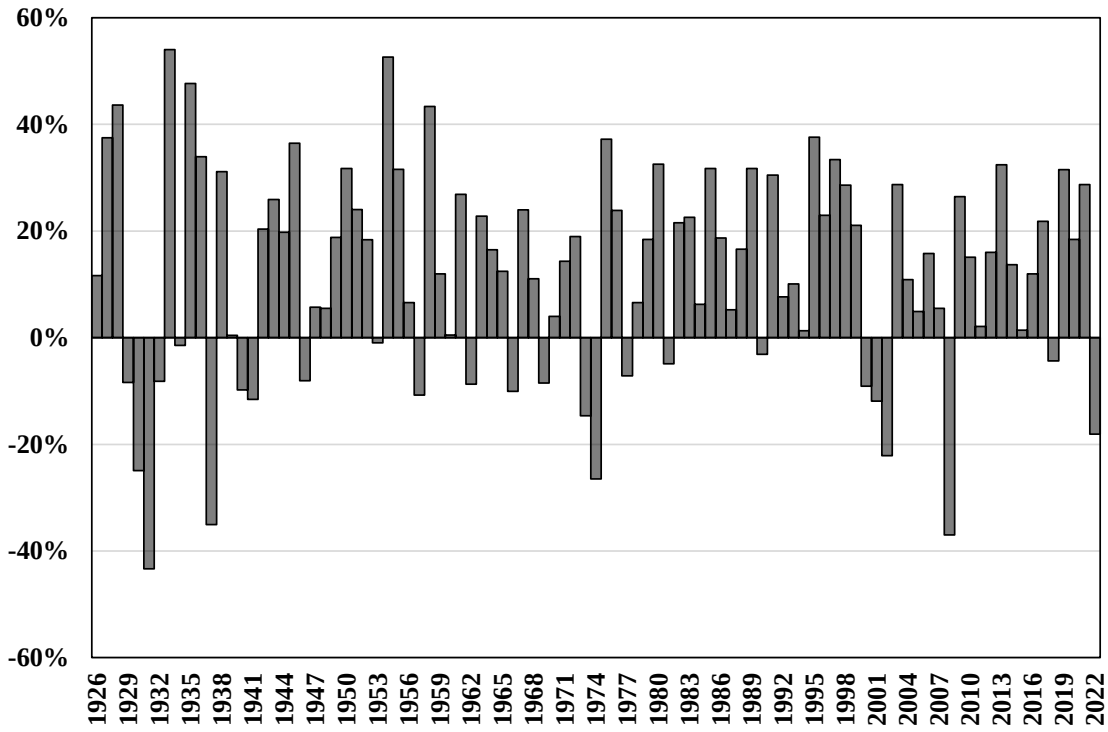
[47] *Blue Chip Financial Forecasts,* Vol. 42, No. 12, December 1, 2023, at 2.

[48] *Blue Chip Financial Forecasts,* Vol. 42, No. 6, June 1, 2023, at 14.

Q: How does the current expected market return you have calculated compare to observed historical market returns?

A: As shown in Figure 9, given the range of annual equity returns that have been observed over the past century, a current expected return of 12.56 percent is not unreasonable. In 50 out of the past 97 years (or roughly 52 percent of observations), the realized equity return was at least 12.56 percent or greater.

Figure 9: Realized U.S. equity market returns (1926-2022) [49]



Q: Do you also consider another form of the CAPM in your analysis?

A: Yes. I have also considered the results of an ECAPM in estimating the cost of equity for the Company.[50] The ECAPM calculates the product of the adjusted beta coefficient and

[49] Depicts total annual returns on large company stocks, as reported in the 2022 *Kroll* SBBI Yearbook.

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

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:

k_e = the required market ROE;
β = the 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.

The ECAPM 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 in the traditional CAPM, but rather it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, meaning that the CAPM underestimates the "alpha," or the constant return term.[51]

Consistent with my CAPM, my application of the ECAPM uses the same three yields on the 30-year Treasury bonds as the risk-free rate, forward-looking market risk premium estimates, and beta coefficients.

Q: What are the results of your CAPM and ECAPM analyses?

A: The results of my CAPM and ECAPM analyses are summarized in Figure 10, as well as presented in Schedule AEB-4.

[51] *Id*. at 191.

Figure 10: Summary of CAPM and ECAPM Results

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Current *Value Line* Beta	11.73%	11.70%	11.66%
Current Bloomberg Beta	10.96%	10.90%	10.82%
Long-term Avg. *Value Line* Beta	10.49%	10.41%	10.31%
ECAPM:			
Current *Value Line* Beta	11.94%	11.91%	11.88%
Current Bloomberg Beta	11.36%	11.31%	11.25%
Long-term Avg. *Value Line* Beta	11.01%	10.95%	10.87%

C. BYRP Analysis

Q: Please describe the BYRP analysis.

A: In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as bondholders. In other words, because returns to equity holders have greater risk than returns to bondholders, equity holders require a higher return for that incremental risk. Thus, risk premium approaches estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds. In my analysis, I use actual authorized returns for electric utilities as the historical measure of the cost of equity to determine the risk premium.

Q: What is the fundamental relationship between the equity risk premium and interest rates?

A: 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 (*i.e.*, 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. The analysis presented in Schedule AEB-7 establishes that relationship using a regression of the risk premium as a function of Treasury bond yields. When the authorized ROEs serve as the measure of required equity returns and the long-term Treasury bond yield is defined as the relevant measure of interest rates, the risk premium is the difference between those two points.[52]

Q: Is the BYRP analysis relevant to investors?

A: Yes. Investors are aware of authorized ROEs 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. As discussed previously, utilities have experienced credit rating downgrades and been subject to a negative market reaction related to the financial effects of a rate case decision that included a below average authorized ROE. Because my BYRP 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 in the current interest rate environment.

[52] *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 (the author used a similar methodology, including using authorized 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 Shareholder Required Rates of Return," *Financial Management*, Spring 1986, at 66.

Q: What does your BYRP analysis reveal?

A: As shown in Figure 11, from 1980 through November 2023, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I have conducted a regression analysis using the following equation:

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

Where:

RP = Risk Premium (difference between authorized ROEs and the yield on 30-year Treasury bonds)

a = intercept term

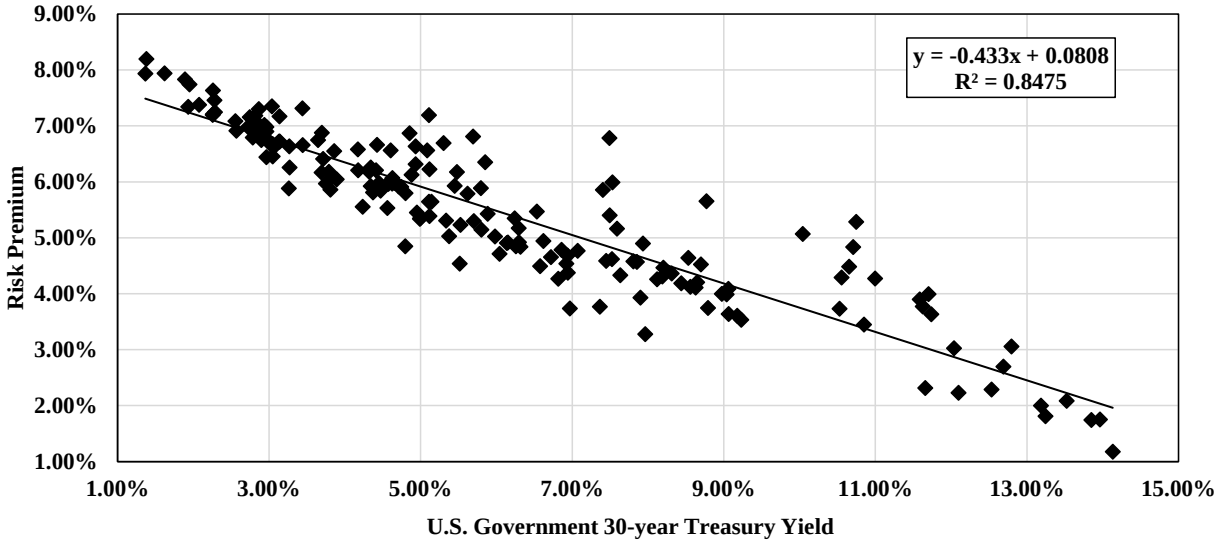
b = slope term

T = 30-year Treasury bond yield

Data regarding authorized ROEs were derived from all of the vertically-integrated electric utility rate cases over this period as reported by Regulatory Research Associates ("RRA").[53] The equation's coefficients are statistically significant at the 99.00 percent level.

[53] The data was screened to eliminate limited issue rider cases, transmission cases, electric distribution-only (*i.e.*, no generation) cases, and cases that were silent with respect to the authorized ROE.

Figure 11: Risk Premium Regression Analysis



Q: What are the results of your BYRP analysis?

A: Figure 12 presents the results of my BYRP analysis, which are also presented in more detail in Schedule AEB-7.

Figure 12: Summary of BYRP Results

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
Bond Yield Risk Premium	10.79%	10.62%	10.40%

VII. BUSINESS AND REGULATORY RISKS

Q: Do the results of the cost of equity analyses alone provide an appropriate estimate of the cost of equity for Evergy West?

A: No. The model results provide only a range of the appropriate estimate of Evergy West's cost of equity. Several additional factors must be considered when determining where the Company's cost of equity falls within the range of analytical results. These risk factors, discussed below, should be considered with respect to their overall effect on the Company's risk profile relative to the proxy group.

A. Capital Expenditures

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

A: The Company's current projection of capital expenditures for 2024 through 2027 totals approximately $1.45 billion, which represents approximately 43 percent of the Company's approximate $3.37 billion in net utility plant as of December 31, 2022.[54]

Q: How do the Company's capital expenditure requirements compare to those of the proxy group companies?

A: As shown on Schedule AEB-8, I have calculated the ratio of expected capital expenditures to net utility plant for Evergy West and each of the companies in the proxy group by dividing each company's projected capital expenditures for the period from 2024 through 2027 by its total net utility plant as of December 31, 2022. As shown, Evergy West's ratio of capital expenditures as a percentage of net utility plant is slightly higher than the median for the proxy group companies.

[54] Data provided by the Company.

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. 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.[55]

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

Recently, S&P evaluated the capital expenditure trends in the utility sector, noting that the balance between operating with negative discretionary cash flow from operations offset by reliable access to capital markets for financing may be tested through ever-increasing capital expenditure requirements as a result of the transformation of the energy sector through the focus on low/no carbon generation, electrification, and the replacement of aging infrastructure:

> Some companies have been unable to support financial metrics consistent with former ratings as their discretionary cash flow deteriorated. This trend was a significant contributor to the sector seeing the median rating decline to 'BBB+' from 'A-' for the first time in 2022. What is less clear is whether or not management teams will take steps to forestall another step down in credit quality as high capital outlays persist. So far in 2023, we have not seen evidence that equity issuance is keeping pace with debt issuance to fill ever-deepening discretionary cash flow shortfalls, but time will tell.
>
> …..
>
> Despite the improvement in the economic outlook, we expect inflation, high interest rates, higher capital spending, and the strategic decision by many companies to operate with only minimal financial cushion from their downgrade thresholds to continue to pressure the industry's credit quality. We are cautious about the durability of the current stable ratings outlook given persistently high capital spending that now supports a trend of deterioration in discretionary cash flow. Without a commensurate focus on balance sheet preservation through equity support of discretionary cash flow deficits, limited financial cushions could give rise to another round of negative rating actions. The question then comes back to management priorities and financial policy decisions, or utilities may be faced with another step down in the median ratings. [56]

Therefore, to the extent that the Company's rates do not continue to reasonably permit the recovery its prudently-incurred capital investments on a timely basis, Evergy West would face increased recovery risk and thus increased pressure on its credit metrics.

[56] S&P Global Ratings, "Record CapEx Fuels Growth Along With Credit Risk For North American Investor-Owned Utilities," September 12, 2023, at 5, 7-8.

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

A: Yes. Evergy West has implemented Plant-In-Service Accounting ("PISA"), which was established in 2018 through Senate Bill 564 and amended by Senate Bill 745 in 2022. PISA provides for the deferral of 85 percent of the depreciation and return on capital investment between rate cases. Specifically, Section 393.1400.2(1) provides that utilities who elect to use PISA shall:

> [D]efer to a regulatory asset eighty-five percent of all depreciation expense and return associated with all qualifying electric plant 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... [57]

Thus, the PISA permits the Company to defer and recover 85 percent of the depreciation expense and earn a return at the applicable weighted average cost of capital ("WACC") on investments in certain property, plant, and equipment placed in service and not included in base rates. The regulatory asset for accumulated PISA deferrals also earns a return at the applicable WACC, with all approved PISA deferrals added to rate base prospectively and recovered over a period of 20 years following a regulatory rate review.

Q: Is PISA limited in any respects?

A: Yes. The amended statute governing PISA has an expiration date on the deferrals of December 31, 2028, after which time regulatory approval for continuance through December 31, 2033 is required, and even if extended, the mechanism is set to permanently

[57] Mo. Rev. Stat. § 393.1400.2(1).

expire at the end of 2033. Also, there is a cap on the impact to rates and the revenue requirement that limits the recovery through the PISA. After December 31, 2023, there is a cap on the revenue requirement impact of the PISA deferrals, whereby the revenue requirement impact cap grows at a rate of 2.50 percent annually between rate reviews (*e.g.*, if there are two years between rate reviews the PISA deferrals are capped at 5 percent).

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

A: Yes. The Company also has a 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.[58] Costs recovered through the RESRAM are subject to prudence review.[59]

Q: Have credit rating agencies commented on PISA and the Company's ability to recover its capital expenditures?

A: Yes. Moody's has noted that strengths of the Company include its generally credit supportive regulatory framework in Missouri, including the adoption of PISA that reduces regulatory lag; however, also has noted that the ongoing elevated capital spending program and cost recovery being limited by a cap also poses a credit challenge.[60]

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[58] 20 CSR 4240-20.100(1)(P).

[59] Evergy West Tariff, Renewable Energy Standard Adjustment Mechanism – Rider RESRAM, Second Revised Sheet No. 137.2.

[60] Moody's Investors Service. Credit Opinion, Evergy Missouri West, Inc., December 21, 2023, at 2.

Q: Does the implementation of PISA and RESRAM reduce Evergy West's cost of equity?

A: No. 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 cost of equity estimation models, including their utility operating subsidiaries. Therefore, the threshold question is not whether PISA reduces the risk of Evergy Missouri West, but rather is Evergy Missouri West's risk reduced below that of the proxy group. As shown in Schedule AEB-9, the majority of the operating utilities of the proxy group companies (*i.e.*, approximately 66 percent) also have some form of a capital cost recovery mechanism. Thus, Evergy West is similar to the proxy group with respect to the recovery of capital investments, and the use of PISA does not reduce the Company's regulatory risk relative to its peers. Rather, the implementation of PISA means the Company's risk profile is more consistent with the operating utilities of the proxy group companies. As noted, however, it is important to recognize that while the PISA has provided for certain cost recovery, it remains subject to an annual cap and thus could limit the recovery of capital on a forward-looking basis.

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

A: No. While PISA and RESRAM help mitigate regulatory lag, as noted previously, PISA is not applied to all of the depreciation and return for certain qualified investment. Although PISA provides for the deferral of the depreciation and return on 85 percent 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 return associated with the remaining 15 percent of investment not included in the PISA recovery mechanism is foregone until rates are reset in the next rate proceeding.

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 relative to the proxy group and will continue over the next few years. While Evergy West has PISA and the RESRAM to recover certain qualifying capital costs, these mechanisms do not provide for timely recovery of all of the Company's capital expenditures between rate cases. As a result, the Company has moderately greater risk of timely cost recovery and earnings potential relative to the proxy group companies.

B. Regulatory Risk

Q: How does the regulatory environment affect 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 commissions recognize that because utility operations are capital intensive, their decisions should enable the utility to attract capital at reasonable terms, and that doing so balances the long-term interests of investors and customers. Utilities must finance their operations and thus require the opportunity to earn a reasonable return on their invested capital to maintain their financial profiles. The Company is no exception. Therefore, 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, a 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 (*i.e.*, 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: Do credit rating agencies consider regulatory risk in establishing a company's credit rating?

A: Yes. 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.[61]

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

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."[62] 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.[63]

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, for utilities, which are rate regulated, "the regulatory environment and how the utility adapts to that environment are the most important credit considerations."[64] 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."[65]

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[62] 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.

[63] *Id*., at 1.

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

[65] *Id*.

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 considering five factors that are important in terms of providing a regulated utility a reasonable opportunity to earn its authorized ROE: (1) the test year convention (*i.e.*, forecast vs. historical) for ratemaking; (2) the use of rate design or other mechanisms that mitigate volumetric risk and stabilize revenue; (3) the ability to recover capital costs between rate cases; (4) the ability to recover fuel and purchased power costs; and (5) the ability to recover changes in property tax expenses between rate cases. Each of these are described below:

Test Year Convention: Evergy West uses a historical test year with limited "known and measurable" changes through a true-up period. As shown in Schedule AEB-9, approximately 47 percent of the utility operating subsidiaries of the proxy group companies use a partially for fully forecast test year, while the remainder use a historical test year. Forecast test years result in more prompt recovery of incurred costs and thus mitigates the regulatory lag associated with historical test years. As Lowry, Hovde, Getachew, and Makos (2010) explain:

> 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.[66]

[66] Mark Newton Lowry, David Hovde, Lullit Getachew, and Matt Makos. "Forward Test Years for US Electric Utilities," Prepared for the Edison Electric Institute, August 2010 at 1.

Non-Volumetric Rate Design/Revenue Stabilization: Evergy West has partial protection against volumetric risk in Missouri through a Demand Side Investment Mechanism ("DSIM") Rider; however, this charge only allows the Company to recover the costs associated with the effect of energy efficiency on sales and does not address other volumetric risk. As shown on Schedule AEB-9, approximately 59 percent of the utility operating subsidiaries of the proxy group companies have some form of revenue stabilization through either decoupling, formula-based rates, and/or straight-fixed variable rate design that allow them to break the link between customer usage and revenues.

Capital Cost Recovery: Evergy West has capital tracking mechanisms (*i.e.*, PISA and the RESRAM for RES compliance assets) to recover capital investment costs between rate cases, although, as discussed previously, Evergy West's PISA capital cost recovery is subject to a 2.5 percent annual rate increase cap. As shown in Schedule AEB-9, approximately 66 percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism.

Fuel Cost Recovery: Evergy West has a fuel adjustment clause ("FAC") that allows the Company to defer and recover 95 percent of the difference between the actual net energy costs and net base energy costs in rates without the need for a time-consuming and costly rate proceeding.[67] As shown in Schedule AEB-9, approximately 93 percent of the operating companies in the proxy group recover the full cost of fuel and purchased power costs from customers through a fuel cost

[67] Evergy West Tariff, Fuel Adjustment Clause – Rider FAC, Original Sheet No. 127.24 through 127.33 (p230). 50.10.

recovery mechanism without a sharing band, while only 7 percent of the companies are subject to a fuel cost recovery mechanism in which the utility has the risk of over/under recovery of fuel costs similar to Evergy West.

Property Tax Cost Recovery: Evergy West has a property tax rider, and as discussed in the Company's testimony in its last rate proceeding, there are at least 11 jurisdictions that also have approved property tax trackers similar to the mechanism that approved for the Company, and three other jurisdictions that have broader cost recovery mechanisms that include the recovery of property tax expenses.

Q: What have the credit rating agencies concluded regarding the Missouri regulatory environment?

A: S&P has recently lowered the issuer credit rating for Evergy and its subsidiaries one notch as a result of weakening financials. Specifically, S&P reduced both Evergy's and the Company's credit rating one notch from A- to BBB+, citing high capital expenditures, regulatory lag, inflation, and higher interest rates:

> Although we expect the company will continue to implement its cost-management strategy, we expect high capital expenditure (approximately $2.0 billion-$2.5 billion annually), regulatory lag, inflation, and higher interest rates to pressure consolidated financial measures through at least 2026.
>
> …..
>
> We expect capital spending at Evergy and its subsidiaries to remain higher as the utilities continue to execute on their energy transition plans by closing coal-fired generation and replacing it with new generations including renewables.
>
> …..
>
> We continue to assess Evergy's business risk profile as excellent. While Evergy and its subsidiaries operate mostly as fully regulated utilities, higher

> reliance on coal weakens our business risk profile assessment. Currently, coal constitutes about 38% of Evergy's total capacity.
>
> …..
>
> The stable outlook on Evergy and its subsidiaries including Evergy Missouri West, Evergy Kansas Central, and Evergy Kansas South reflects our expectation that financial measures, specifically FFO to debt, will remain consistently above our downgrade threshold, albeit with a minimal financial cushion.[68]

Q: Have you conducted any additional analyses to evaluate the regulatory environment in Missouri as compared to the jurisdictions in which the companies in the 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 RRA evaluates the regulatory environment in each jurisdiction.

A: RRA evaluates the regulatory environment from an investor perspective, considering the relative regulatory risk associated with ownership of securities issued by the companies that are regulated in each jurisdiction. RRA considers several factors that affect the regulatory process including gubernatorial, legislative and court activity, rate case decisions and other regulatory decisions, and information obtained through contact with commissioners, staff, company and government outreach.

[68] S&P Global Ratings, Ratings Direct, "Evergy Inc. and Subsidiaries Downgraded by One Notch on Weakening Financials; Outlook Revised to Stable," November 29, 2023, at 2.

Q: How do you use the RRA ratings to compare the regulatory jurisdictions of the proxy group companies with the Company's regulatory jurisdiction?

A: RRA assigns a ranking for each regulatory jurisdiction as "Above Average", "Average" or "Below Average", and then within each of those categories, a numeric ranking from 1 to 3. Thus, there are a total of nine RRA rankings, with the rankings for each jurisdiction ranging from "Above Average/1", which is considered the most supportive, to "Below Average/3," which is the least supportive. I have applied a numeric ranking system to the RRA rankings with "Above Average/1" assigned the highest ranking (*i.e.*, a "1") and "Below Average/3" assigned the lowest ranking (*i.e.*, a "9"). As shown on Schedule AEB-10, the Missouri jurisdictional ranking is "Average / 3" (*i.e.*, a "6"), which is below the proxy group average ranking of between "Average/1" and "Average/2" (*i.e.*, a "4.63").

Q: How do you conduct your analysis of the S&P credit supportiveness ranking?

A: For credit supportiveness, S&P classifies each regulatory jurisdiction into five categories that range from "Most Credit Supportive" down to "Credit Supportive." My analysis of the credit supportiveness of the regulatory jurisdictions in which the proxy companies operate as compared to the Company's regulatory jurisdiction is similar to the analysis of the RRA overall regulatory ranking discussed above. Specifically, I have assigned a numerical ranking to each category, from Most Credit Supportive (*i.e.*, a "1") to Credit Supportive (*i.e.*, a "5"). As shown on Schedule AEB-11, similar to the RRA regulatory rankings discussed above, the Missouri jurisdictional classification of "Very Credit Supportive" (*i.e.*, a "3") is below the proxy group average ranking, which is classified between "Highly Credit Supportive" and "Very Credit Supportive" (*i.e.*, a "2.53").

Q: Is it important that the Commission consider how the ROE to be authorized for the Company in this proceeding compares to other comparable utilities?

A: Yes. As discussed previously, Evergy West must compete for discretionary capital within the Evergy corporate structure, which must in turn compete for capital with other utilities and businesses. Investors consider the business and financial risks for a company like Evergy West relative to other comparable investments. Therefore, the Commission should consider how the authorized ROE for the Company in this proceeding compares to the ROEs authorized for other vertically-integrated utilities, as well as consider the specific business and regulatory risks of the Company relative to the proxy group, so that the Company's future access to capital is not negatively impacted. To the extent that the returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk assessment of the regulatory jurisdiction in which the company operates. As noted, there are various examples of utilities that have experienced a credit rating downgrade and/or a negative market response related to the financial effects of a rate decision.

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

A: 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. Based on my analysis, the Company's regulatory risk and the ability to timely recover its prudently incurred costs is generally consistent with the operating utilities of the proxy group, albeit moderately higher given the lack of full fuel cost recovery, and the

limitations on capital cost recovery associated with PISA. In addition, both the RRA and S&P rankings for Missouri indicate a greater risk than the average for the proxy group.

C. Generation Ownership

Q: How does the business risk of vertically-integrated electric utilities, which own generation, compare to the business risk of other regulated electric transmission and distribution utilities?

A: According to Moody's, generation ownership causes vertically-integrated electric utilities to have higher business risk than either electric transmission and distribution companies, or natural gas distribution or transportation companies.[69] As a result of this higher business risk, vertically-integrated electric utilities typically require a higher ROE or percentage of equity in the capital structure than electric transmission, electric distribution, or natural gas utilities.

Q: Are there other risk factors specific to vertically-integrated electric utilities that the credit rating agencies consider when determining the credit rating of a company that owns generation?

A: Yes. As previously discussed, 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. Diversification, which Moody's assigns a 10.00 percent weighting in the overall assessment of a company's business risk, considers the fuel source diversity of a utility with generation:

[69] Moody's Investors Service, "Rating Methodology: Regulated Electric and Gas Utilities," June 23, 2017, at 21-22.

> For utilities with electric generation, fuel source diversity can mitigate the impact (to the utility and to its rate-payers) of changes in commodity prices, hydrology and water flow, and environmental or other regulations affecting plant operations and economics. We have observed that utilities' regulatory environments are most likely to become unfavorable during periods of rapid rate increases (which are more important than absolute rate levels) and that fuel diversity leads to more stable rates over time.
>
> For that reason, fuel diversity can be important even if fuel and purchased power expenses are an automatic pass-through to the utility's ratepayers. Changes in environmental, safety and other regulations have caused vulnerabilities for certain technologies and fuel sources during the past five years. These vulnerabilities have varied widely in different countries and have changed over time.[70]

Q: Is Evergy's generation portfolio currently in a state of transition?

A: Yes. As described in its 2023 Integrated Resource Plan ("IRP") Update, Evergy is taking actions to retire the fossil generation that it owns and invest in new renewable generation.[71] Specifically, Evergy expects to retire approximately 1,916 MW of coal fueled generation[72] and add approximately 3,200 MW of renewable solar and wind generation over the next ten years.[73] Further, Evergy projects that it will retire nearly all remaining coal generation by 2040 with the goal to achieve net-zero carbon emissions by 2045, assuming necessary technology, regulatory, and policy enablers are in place.[74]

Q: How does Evergy's owned generation portfolio compare the generation owned by the companies in the proxy group?

A: As shown in Figure 13, Evergy currently owns a significant amount of coal- and gas-fired generation that will need to be transitioned in the next two decades. Specifically, Evergy

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[70] *Id.*, at 16.

[71] Evergy, "2023 Integrated Resource Plan Update," June 15, 2023.

[72] *Id.*

[73] Evergy, "Evergy 2021 Integrated Resource Plan Overview," April 29, 2021, at 4.

[74] *Id.*, at 4-5.

has more coal-fired generation and overall fossil generation (in MW) than the median of the proxy group, and the proportion of its owned generation that is fossil fueled is the highest of the proxy group. As noted previously, S&P has noted that the higher reliance on coal weakens its business risk assessment.[75]

Figure 13: Regulated Owned Generation – Evergy and Proxy Group[76]

Company	Total Owned Generation (MW)	Total Owned Fossil Generation (MW)	Fossil Generation as % of Total
Duke Energy Corporation	51,895	39,011	75%
NextEra Energy, Inc.	37,206	28,747	77%
Southern Company	32,790	25,292	77%
Entergy Corporation	25,148	20,838	83%
American Electric Power Co.	23,999	19,158	80%
Xcel Energy Inc.	22,261	15,373	69%
Evergy, Inc.	**11,812**	**9,827**	**83%**
Ameren Corporation	11,176	8,154	73%
OGE Energy Corporation	7,212	6,731	93%
Alliant Energy Corporation	7,821	5,708	73%
CMS Energy Corporation	7,097	5,186	73%
Pinnacle West Capital Corporation	6,496	4,950	76%
Portland General Electric Company	3,511	2,258	64%
IDACORP, Inc.	3,478	1,604	46%
ALLETE, Inc.	1,688	947	56%
Avista Corporation	2,140	937	44%
NorthWestern Corporation	1,327	741	56%

Q: How does Evergy's generation transition plan and accompanying investment requirements affect its business risk?

A: Missouri's 2021 Securitization Financing Law, Sections 393.1700-.1715, allows electric utilities to securitize their investment in coal generation facilities that has yet to be

[75] S&P Global Ratings. Ratings Direct, "Evergy Inc. and Subsidiaries Downgraded by One Notch on Weakening Financials; Outlook Revised to Stable," November 29, 2023, at 2.

[76] S&P CapIQ Pro.

recovered from customers after the generation facility has been retired, as well as in renewable generating facilities that qualify as "replacement resources," which will help accelerate the transition in Missouri from coal generation to renewable generation.[77] However, Evergy generates a significant percentage of its electricity using fossil generation, including approximately 5,800 MW of coal-fired generation. The proportion and magnitude of the Company's owned generation portfolio that will be required to transition is relatively higher than the proxy group, meaning the Company's proposed generation transition and accompanying investment plans moderately increase the overall risk profile of the Company relative to the proxy group and highlight that it is important that the ROE and equity ratio established for the Company in this proceeding be sufficient to attract capital at reasonable terms.

VIII. CAPITAL STRUCTURE, COST OF DEBT, RATE OF RETURN

A. Capital Structure

Q: Is the capital structure of the Company an important consideration in the determination of the appropriate ROE?

A: Yes. The equity ratio is a primary indicator of financial risk for a regulated utility. All else equal, a higher debt ratio increases the risk to investors. For debt holders, higher debt ratios result in a greater portion of the available cash flow being required to meet debt service, thereby increasing the risk associated with the payments on debt. The result of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more

[77] Mo. Rev. Stat. §§ 393.1700, 393.1705 and 393.1715.

significant for common equity shareholders, whose claim on the cash flow of the Company is secondary to debt holders. Therefore, the greater the debt service requirement, the less cash flow is available for common equity holders.

Q: What is the Company's proposed capital structure?

A: The Company proposes to establish a projected capital structure of 52.04 percent common equity and 47.96 percent long-term debt.

Q: Did you conduct any analysis to determine if the requested equity ratio was reasonable?

A: Yes. I compared the Company's proposed capital structure relative to the actual capital structures of the utility operating subsidiaries of the companies in the proxy group. The cost of equity is estimated based on the return that is derived from companies in the proxy group that are deemed to be comparable in risk to the Company; however, those companies must be publicly-traded in order to apply the cost of equity models. The operating utility subsidiaries of the proxy group companies are most risk-comparable to the Company, and thus it is reasonable to look to the average capital structure of the operating utilities of the proxy group to benchmark the equity ratios for the Company. Specifically, I have calculated the average proportion of common equity, long-term debt, preferred equity and short-term debt for the most recent three years for each of the utility operating subsidiaries of the proxy group companies. As shown in Schedule AEB-12, the equity ratios for the utility operating subsidiaries of the proxy group range from 45.73 percent to 60.71 percent, with an average of 52.41 percent. Evergy West's proposed equity ratio of 52.04 percent is well within the range of equity ratios of the proxy group, and slightly below the average.

Q: Are there other factors to be considered in setting the Company's capital structure?

A: Yes, there are other factors that should be considered in setting the Company's capital structure, namely the challenges that the credit rating agencies have highlighted as placing pressure on the credit metrics for utilities.

For example, while Moody's recently revised its outlook for the utility sector from "negative" to "stable", Moody's continues to note that high interest rates and increased capital spending will place pressure on credit metrics. Thus, Moody's highlights constructive regulatory outcomes that promote timely cost recovery as a key factor in supporting utility credit quality.[78]

Likewise, while S&P also recently revised its outlook for the industry from negative to stable, S&P continues to see significant risks over the near-term for the industry as a result of inflation and increased levels of capital spending. Specifically, S&P noted:

> Despite the improvement in economic data, we expect inflation, rising interest rates, higher capital spending, and the strategic decision by many companies to operate with only minimal financial cushion from their downgrade thresholds to continue to pressure the industry's credit quality. Throughout 2022 and so far in 2023, the Federal Reserve has consistently raised interest rates to reduce the pace of inflation. While these actions appear to have had a positive effect on slowing inflation, there's still been a modest weakening in the industry's financial measures because of inflation and rising interest rates. An environment of continuously rising costs tends to weaken the industry's financial measures because of the timing difference between when the higher costs are incurred and when they are ultimately recovered from ratepayers.[79]

S&P has also recently concluded:

> The confluence of higher operating costs due to rising inflation, higher interest rates, storm restoration costs, increasing capital spending, and the

[78] Moody's Investors Service, Outlook, "Outlook turns stable on low prices and credit-supportive regulation," September 7, 2023.

[79] S&P Global Ratings, "The Outlook for North American Regulated Utilities Turns Stable," May 18, 2023, at 8.

> recovery of previously deferred higher commodity costs, has resulted in growing rate case filings and increased rate rider recovery requests from state regulators. We expect to closely monitor the industry's ability to not just recover these rising costs but to do so in such a manner that minimizes the regulatory lag. However, given the impact of these higher costs to the customer bill, the industry's ability to effectively manage regulatory risk could become increasingly challenging, possibly pressuring its credit quality.[80]

Fitch Ratings ("Fitch") has stated that it is maintaining a "deteriorating outlook" on the U.S. utility sector in 2024 based on elevated capital spending and continuing higher interest rates that place pressure on credit metrics. Fitch noted that bill affordability will remain a major issue for the industry that could affect future regulatory outcomes, and that while it expects authorized ROEs to start trending up with the increase in interest rates, albeit with a lag, given the uncertain macroeconomic environment and bill pressure on customers, the lag could be longer than in previous cycles.[81]

The credit ratings agencies' continued concerns over the negative effects of inflation and increased capital expenditures underscore the importance of maintaining adequate cash flow metrics for the industry as a whole, and for Evergy West in particular.

Q: Have the rating agencies specifically identified any concerns with the coverage ratios for Evergy?

A: Yes. On November 29, 2023 S&P downgraded Evergy Inc. and its subsidiaries by one notch. S&P noted that the downgrade "reflects weaker financials and an expectation of ongoing weaker financial measures through 2026. The recent rate case outcomes for the

[80] S&P Global Ratings, "Regulatory Friction Is Constraining Cost Recovery For North American Investor-Owned Utilities," November 6, 2023, at 8.

[81] Fitch Ratings, "North American Utilities, Power & Gas Outlook," S&P Market Intelligence, November 13, 2023.

two Kansas utilities were settled below our base case, driving the weaker-than-expected financial metrics."[82]

Q: Will the capital structure and ROE authorized in this proceeding affect the Company's access to capital at reasonable rates?

A: Yes. The level of earnings authorized by the Commission directly affects the Company's ability to fund its operations with internally-generated funds. Both bond investors and rating agencies expect a significant portion of ongoing capital investments to be financed with internally-generated funds. In addition, it is important to recognize that because a utility's investment horizon is very long, investors require the assurance of a sufficiently high return to satisfy the long-term financing requirements of the assets placed into service. Those assurances, which often are measured by the relationship between internally-generated cash flows and debt (or interest expense), depend quite heavily on the capital structure. As a consequence, both the ROE and capital structure are very important to debt and equity investors, particularly given the capital market conditions discussed previously and the credit rating agencies' recently stated concerns about the Company's financial metrics.

B. Cost of Long-term Debt

Q: What is Evergy West's proposed cost of long-term debt?

A: The Company is proposing a weighted-average cost of long-term debt of 4.3826 percent.

[82] S&P Global Ratings, Research Updates, Evergy Inc. And Subsidiaries Downgraded By One Notch On Weakening Financials; Outlook Revised To Stable, November 29, 2023 at 1.

Q: Have you evaluated the Company's proposed cost of long-term debt?

A: Yes, I have evaluated the embedded cost of the Company's long-term debt at the time of each issuance as compared to the cost of long-term debt in the market at that time as reflected by the yield on the Moody's A-rated and Baa- utility bond indices. As shown in Schedule AEB-13, when comparing the actual utility bond yields to the Company's actual coupon rates at the time of issuance, this analysis demonstrates that the Company's embedded cost of long-term debt is reasonable.

C. Overall Rate of Return

Q: Based on the Company's proposed capital structure, long-term debt cost and your recommended ROE, what is the overall rate of return?

A: As shown in Figure 14, the overall rate of return is 7.57 percent.

Figure 14: Overall Rate of Return

	Capital Structure	Cost Rate	Total
Long-Term Debt	47.96%	4.38%	2.10%
Equity	52.04%	10.50%	5.46%
Wgtd. Avg. Cost of Capital			7.57%

IX. CONCLUSIONS AND RECOMMENDATIONS

Q: What is your conclusion regarding a fair ROE for Evergy West?

A: Based on the various quantitative analyses summarized in Figure 15, a reasonable range for the Company's ROE is from 10.25 percent to 11.25 percent. Considering the qualitative

analyses presented in my direct testimony, and the Company's specific risk factors, an ROE of 10.50 percent within that range is reasonable.

Figure 15: Summary of Analytical Results

Constant Growth DCF

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.16%	10.32%	11.33%
90-Day Avg. Stock Price	9.12%	10.28%	11.29%
180-Day Avg. Stock Price	8.93%	10.09%	11.10%
Average	9.07%	10.23%	11.24%
Median Results:			
30-Day Avg. Stock Price	9.48%	10.09%	11.29%
90-Day Avg. Stock Price	9.34%	10.13%	11.26%
180-Day Avg. Stock Price	9.15%	10.04%	11.05%
Average	9.32%	10.09%	11.20%

CAPM / ECAPM / Bond Yield Risk Premium

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Current *Value Line* Beta	11.73%	11.70%	11.66%
Current Bloomberg Beta	10.96%	10.90%	10.82%
Long-term Avg. *Value Line* Beta	10.49%	10.41%	10.31%
ECAPM:			
Current *Value Line* Beta	11.94%	11.91%	11.88%
Current Bloomberg Beta	11.36%	11.31%	11.25%
Long-term Avg. *Value Line* Beta	11.01%	10.95%	10.87%
Bond Yield Risk Premium	10.79%	10.62%	10.40%

Q: What is your conclusion with respect to Evergy West's proposed capital structure?

A: Evergy West's requested capital structure consisting of 52.04 percent common equity and 47.96 percent long-term debt is consistent with the actual capital structures of the operating utilities of the proxy group companies. Further, taking into consideration the impact of current and projected market conditions on the cash flows of utilities as raised by the credit rating agencies, I conclude that the Company's proposal is reasonable and should be adopted for ratemaking purposes.

Q: Does this conclude your direct testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Evergy Missouri West, Inc. d/b/a Evergy Missouri West's Request for Authority to Implement A General Rate Increase for Electric Service	))))	Case No. ER-2024-0189

AFFIDAVIT OF ANN E. BULKLEY

COMMONWEALTH OF MASSACHUSETTS)
) **ss**
COUNTY OF SUFFOLK)

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

1. My name is Ann E. Bulkley and I am employed by The Brattle Group, Inc. as Principal.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Evergy Missouri West consisting of seventy-three (73) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Ann E Bulkley
Ann E. Bulkley

Subscribed and sworn before me this 1st day of February 2024.

Gerard M Rooney
Notary Public

My commission expires: 6/30/2028

GERARD M. ROONEY NOTARY PUBLIC MY COMMISSION EXPIRES 6/30/2028 COMMONWEALTH OF MASSACHUSETTS

Gerard M. Rooney
NOTARY PUBLIC
Commonwealth of
Massachusetts
My Commission Expires
6/30/2028

Ann E. Bulkley

PRINCIPAL

Boston 508.981.0866 Ann.Bulkley@brattle.com

With more than 25 years of experience in the energy industry, Ms. Bulkley specializes in regulatory economics for the electric and natural gas and water utility sectors, including valuation of regulated and unregulated utility assets, cost of capital, and capital structure issues.

Ms. Bulkley has extensive state and federal regulatory experience, and she has provided expert testimony on the cost of capital in nearly 100 regulatory proceedings before 32 state regulatory commissions and the Federal Energy Regulatory Commission (FERC).

In addition to her regulatory experience, Ms. Bulkley has provided valuation and appraisal services for a variety of purposes, including the sale or acquisition of utility assets, regulated ratemaking, ad valorem tax disputes, and other litigation purposes. In addition, she has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring, and regulatory and litigation support.

Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

Prior to joining Brattle, Ms. Bulkley was a Senior Vice President at an economic consultancy and held senior positions at several other consulting firms.

AREAS OF EXPERTISE

- Regulatory Economics, Finance & Rates
- Regulatory Investigations & Enforcement
- Tax Controversy & Transfer Pricing
- Electricity Litigation & Regulatory Disputes
- M&A Litigation

EDUCATION

- **Boston University**
  MA in Economics
- **Simmons College**
  BA in Economics and Finance

PROFESSIONAL EXPERIENCE

- **The Brattle Group (2022–Present)**
  Principal
- **Concentric Energy Advisors, Inc. (2002–2021)**
  Senior Vice President
  Vice President
  Assistant Vice President
  Project Manager
- **Navigant Consulting, Inc. (1997–2002)**
  Project Manager
- **Reed Consulting Group (1995-1997)**
  Consultant- Project Manager
- **Cahners Publishing Company (1995)**
  Economist

SELECTED CONSULTING EXPERIENCE & EXPERT TESTIMONY

REGULATORY ANALYSIS AND RATEMAKING

Have provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking, with specific services including:

- Cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies
- Development of merchant function exit strategies

- Analysis and program development to address residual energy supply and/or provider of last resort obligations
- Stranded costs assessment and recovery
  Performance-based ratemaking analysis and design
- Many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation)

COST OF CAPITAL

Have provided expert testimony on the cost of capital and capital structure in nearly 100 regulatory proceedings before state and federal regulatory commissions in the United States.

RATEMAKING

Have assisted several clients with analysis to support investor-owned and municipal utility clients in the preparation of rate cases. Sample engagements include:

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.
- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Along with analyzing and evaluating rate application, attended hearings and conducted investigation of rate application for regulatory staff and prepared, supported, and defended recommendations for revenue requirements and rates for the company. Additionally, developed rates for gas utility for transportation program and ancillary services.

VALUATION

Have provided valuation services to utility clients, unregulated generators, and private equity clients for a variety of purposes, including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. Appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal Practice.

Representative projects/clients have included:

- Prepared appraisals of electric utility transmission and distribution assets for ad valorem tax purposes.
- Prepared appraisals of hydroelectric generating facilities for ad valorem tax purposes.
- Conducted appraisals of fossil fuel generating facilities for ad valorem tax purposes.
- Conducted appraisals of generating assets for the purposes of unwinding sale-leaseback agreements.
- For a confidential utility client, prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.

- Conducted a strategic review of the acquisition of nuclear generation assets. Review included the evaluation of the operating costs of the facilities and the long-term liabilities associated with the assets including the decommissioning of the assets.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis, and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract.
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, and a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Conducted a valuation of regulated utility assets for the fair value rate base estimate used in electric rate proceedings in Indiana.
- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Prepared feasibility reports analyzing the expected net benefits resulting from municipal ownership of investor-owned utility operations.
- Prepared independent analyses of proposal for the proposed government condemnation of the investor-owned utilities in Maine and the formation of a public power district.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

STRATEGIC AND FINANCIAL ADVISORY SERVICES

Have assisted several clients across North America with analytically-based strategic planning, due diligence, and financial advisory services.

Representative projects include:

- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.
- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.

Brattle

BULKLEY TESTIMONY LISTING

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
Southwest Gas Corporation	02/24	Southwest Gas Corporation	Docket No. G-01551A-23-0341	Return on Equity
UNS Electric	11/22	UNS Electric	Docket No. E-04204A-15-0251	Return on Equity
Tucson Electric Power Company	6/22	Tucson Electric Power Company	Docket No. G-01933A-22-0107	Return on Equity
Southwest Gas Corporation	12/21	Southwest Gas Corporation	Docket No. G-01551A-21-0368	Return on Equity
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
Arkansas Public Service Commission				
Oklahoma Gas and Electric Co	10/21	Oklahoma Gas and Electric Co	Docket No. D-18-046-FR	Return on Equity
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
California Public Utilities Commission				
PacifiCorp, d/b/a Pacific Power	5/22	PacifiCorp, d/b/a Pacific Power	Docket No. A-22-05-006	Return on Equity
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity
Colorado Public Utilities Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Public Service Company of Colorado	01/24	Public Service Company of Colorado	Docket No. 24AL-___G	Return on Equity
Public Service Company of Colorado	11/22	Public Service Company of Colorado	Docket No. 22AL-0530E	Return on Equity
Public Service Company of Colorado	01/22	Public Service Company of Colorado	Docket No. 22AL-0046G	Return on Equity
Public Service Company of Colorado	07/21	Public Service Company of Colorado	21AL-0317E	Return on Equity
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
Connecticut Public Utilities Regulatory Authority				
The Southern Connecticut Gas Company	11/23	The Southern Connecticut Gas Company	Docket No. 23-11-02	Return on Equity
Connecticut Natural Gas Corporation	11/23	Connecticut Natural Gas Corporation	Docket No. 23-11-02	Return on Equity
Connecticut Water Company	10/23	Connecticut Water Company	Docket No. 23-08-32	Return on Equity
United Illuminating	09/22	United Illuminating	Docket No. 22-08-08	Return on Equity
United Illuminating	05/21	United Illuminating	Docket No. 17-12-03RE11	Return on Equity
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
Federal Energy Regulatory Commission				
Sea Robin Pipeline	12/22	Sea Robin Pipeline	Docket No. RP22-___	Return on Equity
Northern Natural Gas Company	07/22	Northern Natural Gas Company	Docket No. RP22-___	Return on Equity
Transwestern Pipeline Company, LLC	07/22	Transwestern Pipeline Company, LLC	Docket No. RP22-___	Return on Equity
Florida Gas Transmission	02/21	Florida Gas Transmission	Docket No. RP21-441	Return on Equity
TransCanyon	01/21	TransCanyon	Docket No. ER21-1065	Return on Equity
Duke Energy	12/20	Duke Energy	Docket No. EL21-9-000	Return on Equity
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
Idaho Public Utilities Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/24	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-24-04	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-24-04	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Intermountain Gas Co	12/22	Intermountain Gas Co	C-INT-G-22-07	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-21-07	Return on Equity
Illinois Commerce Commission				
Illinois American Water	01/24	Illinois American Water	Docket No. 24-0097	Return on Equity
Peoples Gas Light & Coke Company	01/23	Peoples Gas Light & Coke Company	D-23-0069	Return on Equity
North Shore Gas Company	01/23	North Shore Gas Company	D-23-0068	Return on Equity
Illinois American Water	02/22	Illinois American Water	Docket No. 22-0210	Return on Equity
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
Indiana Utility Regulatory Commission				
Ohio Valley Gas Corporation and Ohio Valley Gas, Inc.	02/24	Ohio Valley Gas Corporation and Ohio Valley Gas, Inc.	Cause No. 46011	Return on Equity
Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South	12/23	Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South	IURC Cause No. 45990	Return on Equity
Indiana Michigan Power Co.	08/23	Indiana Michigan Power Co.	IURC Cause No. 45933	Return on Equity
Indiana American Water Company	03/23	Indiana and Michigan American Water Company	IURC Cause No. 45870	Return on Equity
Indiana Michigan Power Co.	07/21	Indiana Michigan Power Co.	IURC Cause No. 45576	Return on Equity
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
Iowa Department of Commerce Utilities Board				
Iowa-American Water Company	04/24	Iowa-American Water Company	Docket No. RPU-2024-000_	Return on Equity
MidAmerican Energy Company	06/23	MidAmerican Energy Company	Docket No. RPU-2023-___	Return on Equity
MidAmerican Energy Company	01/22	MidAmerican Energy Company	Docket No. RPU-2022-0001	Return on Equity
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
Kansas Corporation Commission				
Evergy Kansas	04/23	Evergy Kansas	Docket No. 23-EKCE-775-RTS	Return on Equity
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Kentucky American Water Company	06/23	Kentucky American Water Company	Docket No. 2023-____	Return on Equity
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
Maine Public Utilities Commission				
Central Maine Power	08/22	Central Maine Power	Docket No. 2022-00152	Return on Equity
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
Maryland Public Service Commission				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
Massachusetts Appellate Tax Board				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
Massachusetts Department of Public Utilities				
Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid	11/23	Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid	DPU 23-150	Return on Equity
National Grid USA	11/20	Boston Gas Company	DPU 20-120	Return on Equity
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Upper Michigan Energy Resources Corporation	05/24	Upper Michigan Energy Resources Corporation	Case No. U-21541	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Michigan Gas Utilities Corporation	03/24	Michigan Gas Utilities Corporation	Case No. U-21540	Return on Equity
Indiana Michigan Power Co.	09/23	Indiana Michigan Power Co.	Case No. U-21461	Return on Equity
Michigan Gas Utilities Corporation	03/23	Michigan Gas Utilities Corporation	Case No. U-21366	Return on Equity
Michigan Gas Utilities Corporation	03/21	Michigan Gas Utilities Corporation	Case No. U-20718	Return on Equity
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
Minnesota Public Utilities Commission				
ALLETE, Inc. d/b/a Minnesota Power	11/23	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-23-155	Return on Equity
CenterPoint Energy Resources	11/23	CenterPoint Energy Resources	D-G-008/GR-23-173	Return on Equity
Minnesota Energy Resources Corporation	11/22	Minnesota Energy Resources Corporation	Docket No. G011/GR-22-504	Return on Equity
CenterPoint Energy Resources	11/21	CenterPoint Energy Resources	D-G-008/GR-21-435	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/21	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-21-630	Return on Equity
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
Missouri Public Service Commission				
Ameren Missouri	06/24	Ameren Missouri	File No. ER-2024-0319	Return on Equity
Evergy Missouri West	02/24	Evergy Missouri West	File No. ER-2024-0189	Return on Equity
Ameren Missouri	08/22	Ameren Missouri	File No. ER-2022-0337	Return on Equity
Missouri American Water Company	07/22	Missouri American Water Company	Case No. WR-2022-0303 Case No. SR-2022-0304	Return on Equity
Evergy Missouri West	01/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity
Evergy Missouri Metro	01/22	Evergy Missouri Metro	File No. ER-2022-0129	Return on Equity
Ameren Missouri	03/21	Ameren Missouri	Docket No. ER-2021-0240 Docket No. GR-2021-0241	Return on Equity
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Montana-Dakota Utilities Co.	11/22	Montana-Dakota Utilities Co.	D2022.11.099	Return on Equity
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
Public Utilities Commission of Nevada				
Sierra Pacific Power Company d/b/a NV Energy	02/24	Sierra Pacific Power Company d/b/a NV Energy	24-02026	Return on Equity
Nevada Power Company d/b/a NV Energy	06/23	Nevada Power Company d/b/a NV Energy	23-06007	Return on Equity
Nevada Power Company d/b/a NV Energy	03/23	Nevada Power Company d/b/a NV Energy	22-03028	Merger benefits
New Hampshire - Board of Tax and Land Appeals				
Liberty Utilities (EnergyNorth Natural Gas)	07/23	Liberty Utilities (EnergyNorth Natural Gas)	Docket No. DG 23-067	Return on Equity
Liberty Utilities (Granite State Electric)	05/23	Liberty Utilities (Granite State Electric)	Docket No. DE 23-039	Return on Equity
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
New Hampshire-Merrimack County Superior Court				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New Hampshire-Rockingham Superior Court				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
New Jersey American Water Company, Inc.	02/24	New Jersey American Water Company, Inc.	WR2401056	Return on Equity
Elizabethtown Gas Company	2/24	Elizabethtown Gas Company	GR24020158	Return on Equity
Public Service Electric and Gas Company	12/23	Public Service Electric and Gas Company	ER23120924 GR23120925	Return on Equity
New Jersey American Water Company, Inc.	01/22	New Jersey American Water Company, Inc.	WR22010019	Return on Equity
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	EO18101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
New Mexico Public Regulation Commission				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
New York State Department of Public Service				
Liberty Utilities (New York Water)	5/23	Liberty Utilities (New York Water)	Case 23-W-0235	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/22	New York State Electric and Gas Company Rochester Gas and Electric	22-E-0317 22-G-0318 22-E-0319 22-G-0320	Return on Equity
Corning Natural Gas Corporation	07/21	Corning Natural Gas Corporation	Case No. 21-G-0394	Return on Equity
Central Hudson Gas and Electric Corporation	08/20	Central Hudson Gas and Electric Corporation	Electric 20-E-0428 Gas 20-G-0429	Return on Equity
Niagara Mohawk Power Corporation	07/20	National Grid USA	Case No. 20-E-0380 20-G-0381	Return on Equity
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/19	New York State Electric and Gas Company Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Electric 17-E-0459 Gas 17-G-0460	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-E-0283 Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
North Dakota Public Service Commission				
Otter Tail Power Company	11/23	Otter Tail Power Company	Case No. PU-23-___	Return on Equity
Montana-Dakota Utilities Co.	11/23	Montana-Dakota Utilities Co.	Case No. PU-23-___	Return on Equity
Montana-Dakota Utilities Co.	05/22	Montana-Dakota Utilities Co.	C-PU-22-194	Return on Equity
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-379	Return on Equity
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
Oklahoma Corporation Commission				
Oklahoma Gas & Electric	12/23	Oklahoma Gas & Electric	Cause No. PUD2023-000087	Return on Equity
Oklahoma Gas & Electric	12/21	Oklahoma Gas & Electric	Cause No. PUD 202100164	Return on Equity
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Oregon Public Service Commission				
PacifiCorp d/b/a Pacific Power & Light	02/24	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-433	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	03/22	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-399	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
Pennsylvania Public Utility Commission				
American Water Works Company Inc.	11/23	Pennsylvania-American Water Company	Docket No. R-2023-3043189 (water) Docket No. R-2023-3043190 (wastewater)	Return on Equity
American Water Works Company Inc.	04/22	Pennsylvania-American Water Company	Docket No. R-2020-3031672 (water) Docket No. R-2020-3031673 (wastewater)	Return on Equity
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
South Dakota Public Utilities Commission				
MidAmerican Energy Company	05/22	MidAmerican Energy Company	D-NG22-005	Return on Equity
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				
CenterPoint Energy Houston	03/24	CenterPoint Energy Houston	D-56211	Return on Equity
AEP Texas	02/24	AEP Texas	D-56165	Return on Equity
Entergy Texas, Inc.	07/22	Entergy Texas, Inc.	D-53719	Return on Equity
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
Texas Railroad Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
CenterPoint Energy Entex and CenterPoint Energy Texas Gas	10/23	CenterPoint Energy Entex and CenterPoint Energy Texas Gas	2023 Texas Division Rate Case Case No. OS-23-00015513	Return on Equity
Utah Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	06/24	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 24-035-04	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/23	Virginia American Water Company, Inc.	Docket No. PUR-2023-00194	Return on Equity
Virginia American Water Company, Inc.	11/21	Virginia American Water Company, Inc.	Docket No. PUR-2021-00255	Return on Equity
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				
Cascade Natural Gas Corporation	03/24	Cascade Natural Gas Corporation	Docket No. UG-240008	Return on Equity
Puget Sound Energy Inc.	02/24	Puget Sound Energy Inc.	Docket No. UE-240004 UG-240005	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	03/23	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-230172	Return on Equity
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
West Virginia Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
West Virginia American Water Company	05/23	West Virginia American Water Company	Case No. 23-0383-W-42T	Return on Equity
West Virginia American Water Company	04/21	West Virginia American Water Company	Case No. 21-02369-W-42T	Return on Equity
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
Wisconsin Public Service Commission				
Wisconsin Power and Light	04/24	Wisconsin Power and Light	Docket No. 6680-UR-128	Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/24	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-111	Return on Equity
Wisconsin Power and Light	05/23	Wisconsin Power and Light	Docket No. 6680-UR-124	Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/22	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-110	Return on Equity
Wisconsin Public Service Corp.	04/22	Wisconsin Public Service Corp.	6690-UR-127	Return on Equity
Alliant Energy		Alliant Energy		Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
Wyoming Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	08/24	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-671-ER-24	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	02/23	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-633-ER-23	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity

CERTIFICATIONS/ACCREDITATIONS

Certified General Appraiser, licensed in the Commonwealth of Massachusetts

COST OF EQUITY ANALYSES
SUMMARY OF RESULTS

Constant Growth DCF

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.16%	10.32%	11.33%
90-Day Avg. Stock Price	9.12%	10.28%	11.29%
180-Day Avg. Stock Price	8.93%	10.09%	11.10%
Average	9.07%	10.23%	11.24%
Median Results:			
30-Day Avg. Stock Price	9.48%	10.09%	11.29%
90-Day Avg. Stock Price	9.34%	10.13%	11.26%
180-Day Avg. Stock Price	9.15%	10.04%	11.05%
Average	9.32%	10.09%	11.20%

CAPM / ECAPM / Bond Yield Risk Premium

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Current *Value Line* Beta	11.73%	11.70%	11.66%
Current Bloomberg Beta	10.96%	10.90%	10.82%
Long-term Avg. *Value Line* Beta	10.49%	10.41%	10.31%
ECAPM:			
Current *Value Line* Beta	11.94%	11.91%	11.88%
Current Bloomberg Beta	11.36%	11.31%	11.25%
Long-term Avg. *Value Line* Beta	11.01%	10.95%	10.87%
Bond Yield Risk Premium	10.79%	10.62%	10.40%

PROXY GROUP SCREENING DATA AND RESULTS

Company	Ticker	[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] Generation Assets Included in Rate Base	[6] % Company-Owned Generation >40%	[7] % Regulated Electric Operating Income > 60% of Total Oper. Income	[8] Announced Merger
ALLETE, Inc.	ALE	Yes	BBB	Yes	Yes	Yes	43.27%	100.00%	No
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	Yes	72.75%	87.90%	No
Ameren Corporation	AEE	Yes	BBB+	Yes	Yes	Yes	75.34%	84.57%	No
American Electric Power Company, Inc.	AEP	Yes	A-	Yes	Yes	Yes	51.62%	97.34%	No
Avista Corporation	AVA	Yes	BBB	Yes	Yes	Yes	59.47%	73.85%	No
CMS Energy Corporation	CMS	Yes	BBB+	Yes	Yes	Yes	42.50%	65.48%	No
Duke Energy Corporation	DUK	Yes	BBB+	Yes	Yes	Yes	81.53%	91.02%	No
Entergy Corporation	ETR	Yes	BBB+	Yes	Yes	Yes	71.43%	98.21%	No
IDACORP, Inc.	IDA	Yes	BBB	Yes	Yes	Yes	65.35%	99.91%	No
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	Yes	96.40%	92.16%	No
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	Yes	55.82%	84.28%	No
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	Yes	50.65%	100.00%	No
Pinnacle West Capital Corporation	PNW	Yes	BBB+	Yes	Yes	Yes	76.09%	100.00%	No
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	Yes	54.88%	100.00%	No
Southern Company	SO	Yes	BBB+	Yes	Yes	Yes	76.85%	75.31%	No
Xcel Energy Inc.	XEL	Yes	A-	Yes	Yes	Yes	57.97%	86.47%	No

Notes:
[1] Bloomberg Professional
[2] Bloomberg Professional
[3] Yahoo! Finance and Zacks
[4] Yahoo! Finance, Value Line Investment Survey, and Zacks
[5] S&P Capital IQ Pro
[6] S&P Capital IQ Pro
[7] Form 10-Ks for 2022, 2021 & 2020
[8] SNL Financial News Releases

30-DAY CONSTANT GROWTH DCF

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	$2.71	$54.18	5.00%	5.19%	6.00%	8.10%	8.10%	7.40%	11.15%	12.59%	13.30%
Alliant Energy Corporation	LNT	$1.81	$49.32	3.67%	3.79%	6.50%	6.65%	6.30%	6.48%	10.09%	10.27%	10.44%
Ameren Corporation	AEE	$2.52	$76.88	3.28%	3.38%	6.50%	6.20%	6.60%	6.43%	9.58%	9.82%	9.99%
American Electric Power Company, Inc.	AEP	$3.52	$76.65	4.59%	4.71%	6.50%	3.70%	4.80%	5.00%	8.38%	9.71%	11.24%
Avista Corporation	AVA	$1.84	$33.32	5.52%	5.69%	6.00%	5.90%	5.90%	5.93%	11.59%	11.62%	11.69%
CMS Energy Corporation	CMS	$1.95	$55.46	3.52%	3.64%	6.50%	7.70%	7.50%	7.23%	10.13%	10.88%	11.35%
Duke Energy Corporation	DUK	$4.10	$88.52	4.63%	4.77%	5.00%	6.55%	6.10%	5.88%	9.75%	10.65%	11.33%
Entergy Corporation	ETR	$4.52	$96.53	4.68%	4.82%	0.50%	11.00%	6.40%	5.97%	5.19%	10.79%	15.94%
IDACORP, Inc.	IDA	$3.32	$96.12	3.45%	3.52%	4.00%	3.70%	4.10%	3.93%	7.22%	7.46%	7.62%
NextEra Energy, Inc.	NEE	$1.87	$56.48	3.31%	3.45%	9.50%	8.15%	8.20%	8.62%	11.60%	12.07%	12.97%
NorthWestern Corporation	NWE	$2.56	$49.46	5.18%	5.29%	3.50%	4.08%	5.20%	4.26%	8.77%	9.55%	10.51%
OGE Energy Corporation	OGE	$1.67	$34.43	4.86%	4.98%	6.50%	negative	3.70%	5.10%	8.65%	10.08%	11.52%
Pinnacle West Capital Corporation	PNW	$3.52	$72.98	4.82%	4.94%	2.50%	5.90%	5.90%	4.77%	7.38%	9.70%	10.87%
Portland General Electric Company	POR	$1.90	$40.73	4.66%	4.79%	5.00%	4.60%	6.00%	5.20%	9.37%	9.99%	10.80%
Southern Company	SO	$2.80	$68.05	4.11%	4.24%	6.50%	7.10%	4.00%	5.87%	8.20%	10.10%	11.36%
Xcel Energy Inc.	XEL	$2.08	$59.77	3.48%	3.59%	6.00%	6.80%	6.10%	6.30%	9.58%	9.89%	10.40%
Mean				4.30%	4.42%	5.44%	6.41%	5.93%	5.90%	9.16%	10.32%	11.33%
Median				4.61%	4.74%	6.00%	6.55%	6.05%	5.91%	9.48%	10.09%	11.29%

Notes:

[1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of November 30, 2023
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Value Line
[6] Yahoo! Finance
[7] 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

Company		[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	$2.71	$54.27	4.99%	5.18%	6.00%	8.10%	8.10%	7.40%	11.14%	12.58%	13.30%
Alliant Energy Corporation	LNT	$1.81	$49.86	3.63%	3.75%	6.50%	6.65%	6.30%	6.48%	10.04%	10.23%	10.40%
Ameren Corporation	AEE	$2.52	$78.29	3.22%	3.32%	6.50%	6.20%	6.60%	6.43%	9.52%	9.76%	9.92%
American Electric Power Company, Inc.	AEP	$3.52	$77.17	4.56%	4.68%	6.50%	3.70%	4.80%	5.00%	8.35%	9.68%	11.21%
Avista Corporation	AVA	$1.84	$33.50	5.49%	5.66%	6.00%	5.90%	5.90%	5.93%	11.55%	11.59%	11.66%
CMS Energy Corporation	CMS	$1.95	$55.55	3.51%	3.64%	6.50%	7.70%	7.50%	7.23%	10.12%	10.87%	11.35%
Duke Energy Corporation	DUK	$4.10	$89.10	4.60%	4.74%	5.00%	6.55%	6.10%	5.88%	9.72%	10.62%	11.30%
Entergy Corporation	ETR	$4.52	$95.22	4.75%	4.89%	0.50%	11.00%	6.40%	5.97%	5.26%	10.86%	16.01%
IDACORP, Inc.	IDA	$3.32	$95.86	3.46%	3.53%	4.00%	3.70%	4.10%	3.93%	7.23%	7.46%	7.63%
NextEra Energy, Inc.	NEE	$1.87	$61.29	3.05%	3.18%	9.50%	8.15%	8.20%	8.62%	11.33%	11.80%	12.70%
NorthWestern Corporation	NWE	$2.56	$50.42	5.08%	5.19%	3.50%	4.08%	5.20%	4.26%	8.67%	9.45%	10.41%
OGE Energy Corporation	OGE	$1.67	$34.14	4.90%	5.03%	6.50%	negative	3.70%	5.10%	8.69%	10.13%	11.56%
Pinnacle West Capital Corporation	PNW	$3.52	$75.15	4.68%	4.80%	2.50%	5.90%	5.90%	4.77%	7.24%	9.56%	10.72%
Portland General Electric Company	POR	$1.90	$42.56	4.46%	4.58%	5.00%	4.60%	6.00%	5.20%	9.17%	9.78%	10.60%
Southern Company	SO	$2.80	$67.52	4.15%	4.27%	6.50%	7.10%	4.00%	5.87%	8.23%	10.14%	11.39%
Xcel Energy Inc.	XEL	$2.08	$58.79	3.54%	3.65%	6.00%	6.80%	6.10%	6.30%	9.64%	9.95%	10.46%
Mean				4.26%	4.38%	5.44%	6.41%	5.93%	5.90%	9.12%	10.28%	11.29%
Median				4.51%	4.63%	6.00%	6.55%	6.05%	5.91%	9.34%	10.13%	11.26%

Notes:

[1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of November 30, 2023
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Value Line
[6] Yahoo! Finance
[7] 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

Company		[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	$2.71	$56.88	4.76%	4.94%	6.00%	8.10%	8.10%	7.40%	10.91%	12.34%	13.06%
Alliant Energy Corporation	LNT	$1.81	$51.12	3.54%	3.66%	6.50%	6.65%	6.30%	6.48%	9.95%	10.14%	10.31%
Ameren Corporation	AEE	$2.52	$81.27	3.10%	3.20%	6.50%	6.20%	6.60%	6.43%	9.40%	9.63%	9.80%
American Electric Power Company, Inc.	AEP	$3.52	$81.52	4.32%	4.43%	6.50%	3.70%	4.80%	5.00%	8.10%	9.43%	10.96%
Avista Corporation	AVA	$1.84	$36.89	4.99%	5.14%	6.00%	5.90%	5.90%	5.93%	11.04%	11.07%	11.14%
CMS Energy Corporation	CMS	$1.95	$57.38	3.40%	3.52%	6.50%	7.70%	7.50%	7.23%	10.01%	10.75%	11.23%
Duke Energy Corporation	DUK	$4.10	$90.33	4.54%	4.67%	5.00%	6.55%	6.10%	5.88%	9.65%	10.56%	11.24%
Entergy Corporation	ETR	$4.52	$97.81	4.62%	4.76%	0.50%	11.00%	6.40%	5.97%	5.13%	10.73%	15.88%
IDACORP, Inc.	IDA	$3.32	$100.25	3.31%	3.38%	4.00%	3.70%	4.10%	3.93%	7.07%	7.31%	7.48%
NextEra Energy, Inc.	NEE	$1.87	$67.60	2.77%	2.89%	9.50%	8.15%	8.20%	8.62%	11.03%	11.50%	12.40%
NorthWestern Corporation	NWE	$2.56	$53.59	4.78%	4.88%	3.50%	4.08%	5.20%	4.26%	8.36%	9.14%	10.10%
OGE Energy Corporation	OGE	$1.67	$34.93	4.79%	4.91%	6.50%	negative	3.70%	5.10%	8.58%	10.01%	11.44%
Pinnacle West Capital Corporation	PNW	$3.52	$76.59	4.60%	4.71%	2.50%	5.90%	5.90%	4.77%	7.15%	9.47%	10.63%
Portland General Electric Company	POR	$1.90	$45.25	4.20%	4.31%	5.00%	4.60%	6.00%	5.20%	8.90%	9.51%	10.32%
Southern Company	SO	$2.80	$68.47	4.09%	4.21%	6.50%	7.10%	4.00%	5.87%	8.17%	10.08%	11.33%
Xcel Energy Inc.	XEL	$2.08	$61.98	3.36%	3.46%	6.00%	6.80%	6.10%	6.30%	9.46%	9.76%	10.27%
Mean				4.07%	4.19%	5.44%	6.41%	5.93%	5.90%	8.93%	10.09%	11.10%
Median				4.26%	4.37%	6.00%	6.55%	6.05%	5.91%	9.15%	10.04%	11.05%

Notes:

[1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of November 30, 2023
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Value Line
[6] Yahoo! Finance
[7] 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

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

		[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)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.77%	0.90	12.56%	7.78%	11.78%	11.97%
Alliant Energy Corporation	LNT	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
Ameren Corporation	AEE	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
American Electric Power Company, Inc.	AEP	4.77%	0.80	12.56%	7.78%	11.00%	11.39%
Avista Corporation	AVA	4.77%	0.90	12.56%	7.78%	11.78%	11.97%
CMS Energy Corporation	CMS	4.77%	0.80	12.56%	7.78%	11.00%	11.39%
Duke Energy Corporation	DUK	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
Entergy Corporation	ETR	4.77%	0.95	12.56%	7.78%	12.17%	12.26%
IDACORP, Inc.	IDA	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
NextEra Energy, Inc.	NEE	4.77%	0.95	12.56%	7.78%	12.17%	12.26%
NorthWestern Corporation	NWE	4.77%	0.95	12.56%	7.78%	12.17%	12.26%
OGE Energy Corporation	OGE	4.77%	1.05	12.56%	7.78%	12.95%	12.85%
Pinnacle West Capital Corporation	PNW	4.77%	0.95	12.56%	7.78%	12.17%	12.26%
Portland General Electric Company	POR	4.77%	0.90	12.56%	7.78%	11.78%	11.97%
Southern Company	SO	4.77%	0.90	12.56%	7.78%	11.78%	11.97%
Xcel Energy Inc.	XEL	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
Mean						11.73%	11.94%

Notes:
[1] Bloomberg Professional, as of November 30, 2023
[2] Value Line
[3] Schedule AEB-6
[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

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

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q1 2024 - Q1 2025)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.48%	0.90	12.56%	8.08%	11.75%	11.95%
Alliant Energy Corporation	LNT	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
Ameren Corporation	AEE	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
American Electric Power Company, Inc.	AEP	4.48%	0.80	12.56%	8.08%	10.94%	11.34%
Avista Corporation	AVA	4.48%	0.90	12.56%	8.08%	11.75%	11.95%
CMS Energy Corporation	CMS	4.48%	0.80	12.56%	8.08%	10.94%	11.34%
Duke Energy Corporation	DUK	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
Entergy Corporation	ETR	4.48%	0.95	12.56%	8.08%	12.15%	12.25%
IDACORP, Inc.	IDA	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
NextEra Energy, Inc.	NEE	4.48%	0.95	12.56%	8.08%	12.15%	12.25%
NorthWestern Corporation	NWE	4.48%	0.95	12.56%	8.08%	12.15%	12.25%
OGE Energy Corporation	OGE	4.48%	1.05	12.56%	8.08%	12.96%	12.86%
Pinnacle West Capital Corporation	PNW	4.48%	0.95	12.56%	8.08%	12.15%	12.25%
Portland General Electric Company	POR	4.48%	0.90	12.56%	8.08%	11.75%	11.95%
Southern Company	SO	4.48%	0.90	12.56%	8.08%	11.75%	11.95%
Xcel Energy Inc.	XEL	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
Mean						11.70%	11.91%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[2] Value Line
[3] Schedule AEB-6
[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

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

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2025 - 2029)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.90	12.56%	8.46%	11.71%	11.92%
Alliant Energy Corporation	LNT	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
Ameren Corporation	AEE	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
American Electric Power Company, Inc.	AEP	4.10%	0.80	12.56%	8.46%	10.86%	11.29%
Avista Corporation	AVA	4.10%	0.90	12.56%	8.46%	11.71%	11.92%
CMS Energy Corporation	CMS	4.10%	0.80	12.56%	8.46%	10.86%	11.29%
Duke Energy Corporation	DUK	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
Entergy Corporation	ETR	4.10%	0.95	12.56%	8.46%	12.13%	12.24%
IDACORP, Inc.	IDA	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
NextEra Energy, Inc.	NEE	4.10%	0.95	12.56%	8.46%	12.13%	12.24%
NorthWestern Corporation	NWE	4.10%	0.95	12.56%	8.46%	12.13%	12.24%
OGE Energy Corporation	OGE	4.10%	1.05	12.56%	8.46%	12.98%	12.87%
Pinnacle West Capital Corporation	PNW	4.10%	0.95	12.56%	8.46%	12.13%	12.24%
Portland General Electric Company	POR	4.10%	0.90	12.56%	8.46%	11.71%	11.92%
Southern Company	SO	4.10%	0.90	12.56%	8.46%	11.71%	11.92%
Xcel Energy Inc.	XEL	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
Mean						11.66%	11.88%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023, at 14
[2] Value Line
[3] Schedule AEB-6
[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

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

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] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.77%	0.83	12.56%	7.78%	11.20%	11.54%
Alliant Energy Corporation	LNT	4.77%	0.79	12.56%	7.78%	10.92%	11.33%
Ameren Corporation	AEE	4.77%	0.75	12.56%	7.78%	10.61%	11.10%
American Electric Power Company, Inc.	AEP	4.77%	0.76	12.56%	7.78%	10.65%	11.13%
Avista Corporation	AVA	4.77%	0.76	12.56%	7.78%	10.70%	11.16%
CMS Energy Corporation	CMS	4.77%	0.75	12.56%	7.78%	10.58%	11.08%
Duke Energy Corporation	DUK	4.77%	0.72	12.56%	7.78%	10.34%	10.89%
Entergy Corporation	ETR	4.77%	0.86	12.56%	7.78%	11.46%	11.73%
IDACORP, Inc.	IDA	4.77%	0.80	12.56%	7.78%	10.99%	11.38%
NextEra Energy, Inc.	NEE	4.77%	0.81	12.56%	7.78%	11.10%	11.46%
NorthWestern Corporation	NWE	4.77%	0.87	12.56%	7.78%	11.52%	11.78%
OGE Energy Corporation	OGE	4.77%	0.92	12.56%	7.78%	11.90%	12.06%
Pinnacle West Capital Corporation	PNW	4.77%	0.82	12.56%	7.78%	11.14%	11.50%
Portland General Electric Company	POR	4.77%	0.79	12.56%	7.78%	10.92%	11.33%
Southern Company	SO	4.77%	0.77	12.56%	7.78%	10.80%	11.24%
Xcel Energy Inc.	XEL	4.77%	0.74	12.56%	7.78%	10.51%	11.02%
Mean						10.96%	11.36%

Notes:
[1] Bloomberg Professional, as of November 30, 2023
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Schedule AEB-6
[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

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

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q1 2024 - Q1 2025)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.48%	0.83	12.56%	8.08%	11.15%	11.50%
Alliant Energy Corporation	LNT	4.48%	0.79	12.56%	8.08%	10.85%	11.28%
Ameren Corporation	AEE	4.48%	0.75	12.56%	8.08%	10.53%	11.04%
American Electric Power Company, Inc.	AEP	4.48%	0.76	12.56%	8.08%	10.58%	11.07%
Avista Corporation	AVA	4.48%	0.76	12.56%	8.08%	10.63%	11.11%
CMS Energy Corporation	CMS	4.48%	0.75	12.56%	8.08%	10.51%	11.02%
Duke Energy Corporation	DUK	4.48%	0.72	12.56%	8.08%	10.26%	10.83%
Entergy Corporation	ETR	4.48%	0.86	12.56%	8.08%	11.42%	11.70%
IDACORP, Inc.	IDA	4.48%	0.80	12.56%	8.08%	10.93%	11.34%
NextEra Energy, Inc.	NEE	4.48%	0.81	12.56%	8.08%	11.05%	11.42%
NorthWestern Corporation	NWE	4.48%	0.87	12.56%	8.08%	11.48%	11.75%
OGE Energy Corporation	OGE	4.48%	0.92	12.56%	8.08%	11.87%	12.04%
Pinnacle West Capital Corporation	PNW	4.48%	0.82	12.56%	8.08%	11.09%	11.46%
Portland General Electric Company	POR	4.48%	0.79	12.56%	8.08%	10.86%	11.28%
Southern Company	SO	4.48%	0.77	12.56%	8.08%	10.74%	11.19%
Xcel Energy Inc.	XEL	4.48%	0.74	12.56%	8.08%	10.43%	10.96%
Mean						10.90%	11.31%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Schedule AEB-6
[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

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

Company	Ticker	[1] Projected 30-year U.S. Treasury bond yield (2025 - 2029)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.83	12.56%	8.46%	11.08%	11.45%
Alliant Energy Corporation	LNT	4.10%	0.79	12.56%	8.46%	10.77%	11.22%
Ameren Corporation	AEE	4.10%	0.75	12.56%	8.46%	10.44%	10.97%
American Electric Power Company, Inc.	AEP	4.10%	0.76	12.56%	8.46%	10.49%	11.01%
Avista Corporation	AVA	4.10%	0.76	12.56%	8.46%	10.54%	11.04%
CMS Energy Corporation	CMS	4.10%	0.75	12.56%	8.46%	10.41%	10.95%
Duke Energy Corporation	DUK	4.10%	0.72	12.56%	8.46%	10.15%	10.75%
Entergy Corporation	ETR	4.10%	0.86	12.56%	8.46%	11.36%	11.66%
IDACORP, Inc.	IDA	4.10%	0.80	12.56%	8.46%	10.85%	11.28%
NextEra Energy, Inc.	NEE	4.10%	0.81	12.56%	8.46%	10.97%	11.37%
NorthWestern Corporation	NWE	4.10%	0.87	12.56%	8.46%	11.43%	11.71%
OGE Energy Corporation	OGE	4.10%	0.92	12.56%	8.46%	11.84%	12.02%
Pinnacle West Capital Corporation	PNW	4.10%	0.82	12.56%	8.46%	11.02%	11.41%
Portland General Electric Company	POR	4.10%	0.79	12.56%	8.46%	10.78%	11.22%
Southern Company	SO	4.10%	0.77	12.56%	8.46%	10.65%	11.13%
Xcel Energy Inc.	XEL	4.10%	0.74	12.56%	8.46%	10.33%	10.89%
Mean						10.82%	11.25%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023, at 14
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Schedule AEB-6
[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 & VALUE LINE LT AVERAGE BETA

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

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] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.77%	0.79	12.56%	7.78%	10.88%	11.30%
Alliant Energy Corporation	LNT	4.77%	0.75	12.56%	7.78%	10.61%	11.10%
Ameren Corporation	AEE	4.77%	0.73	12.56%	7.78%	10.42%	10.95%
American Electric Power Company, Inc.	AEP	4.77%	0.68	12.56%	7.78%	10.03%	10.66%
Avista Corporation	AVA	4.77%	0.79	12.56%	7.78%	10.88%	11.30%
CMS Energy Corporation	CMS	4.77%	0.69	12.56%	7.78%	10.14%	10.75%
Duke Energy Corporation	DUK	4.77%	0.67	12.56%	7.78%	9.95%	10.60%
Entergy Corporation	ETR	4.77%	0.75	12.56%	7.78%	10.57%	11.07%
IDACORP, Inc.	IDA	4.77%	0.73	12.56%	7.78%	10.46%	10.98%
NextEra Energy, Inc.	NEE	4.77%	0.73	12.56%	7.78%	10.46%	10.98%
NorthWestern Corporation	NWE	4.77%	0.75	12.56%	7.78%	10.57%	11.07%
OGE Energy Corporation	OGE	4.77%	0.93	12.56%	7.78%	12.01%	12.15%
Pinnacle West Capital Corporation	PNW	4.77%	0.74	12.56%	7.78%	10.49%	11.01%
Portland General Electric Company	POR	4.77%	0.75	12.56%	7.78%	10.61%	11.10%
Southern Company	SO	4.77%	0.66	12.56%	7.78%	9.87%	10.54%
Xcel Energy Inc.	XEL	4.77%	0.66	12.56%	7.78%	9.87%	10.54%
Mean						10.49%	11.01%

Notes:
[1] Bloomberg Professional, as of November 30, 2023
[2] Schedule AEB-5
[3] Schedule AEB-6
[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 & VALUE LINE LT AVERAGE BETA

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

Company	Ticker	[1] Near-term projected 30-year U.S. Treasury bond yield (Q1 2024 - Q1 2025)	[2] Beta (β)	[3] Market Return (Rm)	[4] Market Risk Premium (Rm − Rf)	[5] ROE (K)	[6] ECAPM ROE (K)
ALLETE, Inc.	ALE	4.48%	78.50%	12.56%	8.08%	10.82%	11.25%
Alliant Energy Corporation	LNT	4.48%	75.00%	12.56%	8.08%	10.54%	11.04%
Ameren Corporation	AEE	4.48%	72.50%	12.56%	8.08%	10.34%	10.89%
American Electric Power Company, Inc.	AEP	4.48%	67.50%	12.56%	8.08%	9.93%	10.59%
Avista Corporation	AVA	4.48%	78.50%	12.56%	8.08%	10.82%	11.25%
CMS Energy Corporation	CMS	4.48%	69.00%	12.56%	8.08%	10.05%	10.68%
Duke Energy Corporation	DUK	4.48%	66.50%	12.56%	8.08%	9.85%	10.53%
Entergy Corporation	ETR	4.48%	74.50%	12.56%	8.08%	10.50%	11.01%
IDACORP, Inc.	IDA	4.48%	73.00%	12.56%	8.08%	10.38%	10.92%
NextEra Energy, Inc.	NEE	4.48%	73.00%	12.56%	8.08%	10.38%	10.92%
NorthWestern Corporation	NWE	4.48%	74.50%	12.56%	8.08%	10.50%	11.01%
OGE Energy Corporation	OGE	4.48%	93.00%	12.56%	8.08%	11.99%	12.13%
Pinnacle West Capital Corporation	PNW	4.48%	73.50%	12.56%	8.08%	10.42%	10.95%
Portland General Electric Company	POR	4.48%	75.00%	12.56%	8.08%	10.54%	11.04%
Southern Company	SO	4.48%	65.50%	12.56%	8.08%	9.77%	10.47%
Xcel Energy Inc.	XEL	4.48%	65.50%	12.56%	8.08%	9.77%	10.47%
Mean						10.41%	10.95%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[2] Schedule AEB-5
[3] Schedule AEB-6
[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 & VALUE LINE LT BETA

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

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025 - 2029)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.79	12.56%	8.46%	10.74%	11.19%
Alliant Energy Corporation	LNT	4.10%	0.75	12.56%	8.46%	10.44%	10.97%
Ameren Corporation	AEE	4.10%	0.73	12.56%	8.46%	10.23%	10.81%
American Electric Power Company, Inc.	AEP	4.10%	0.68	12.56%	8.46%	9.81%	10.49%
Avista Corporation	AVA	4.10%	0.79	12.56%	8.46%	10.74%	11.19%
CMS Energy Corporation	CMS	4.10%	0.69	12.56%	8.46%	9.93%	10.59%
Duke Energy Corporation	DUK	4.10%	0.67	12.56%	8.46%	9.72%	10.43%
Entergy Corporation	ETR	4.10%	0.75	12.56%	8.46%	10.40%	10.94%
IDACORP, Inc.	IDA	4.10%	0.73	12.56%	8.46%	10.27%	10.84%
NextEra Energy, Inc.	NEE	4.10%	0.73	12.56%	8.46%	10.27%	10.84%
NorthWestern Corporation	NWE	4.10%	0.75	12.56%	8.46%	10.40%	10.94%
OGE Energy Corporation	OGE	4.10%	0.93	12.56%	8.46%	11.96%	12.11%
Pinnacle West Capital Corporation	PNW	4.10%	0.74	12.56%	8.46%	10.32%	10.88%
Portland General Electric Company	POR	4.10%	0.75	12.56%	8.46%	10.44%	10.97%
Southern Company	SO	4.10%	0.66	12.56%	8.46%	9.64%	10.37%
Xcel Energy Inc.	XEL	4.10%	0.66	12.56%	8.46%	9.64%	10.37%
Mean						10.31%	10.87%

Notes:
[1] Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023, at 14
[2] Schedule AEB-5
[3] Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

HISTORICAL BETA - 2013 - 2022

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022	Average
ALLETE, Inc.	ALE	0.75	0.80	0.80	0.75	0.80	0.65	0.65	0.85	0.90	0.90	0.79
Alliant Energy Corporation	LNT	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.85	0.85	0.75
Ameren Corporation	AEE	0.80	0.75	0.75	0.65	0.70	0.55	0.55	0.85	0.80	0.85	0.73
American Electric Power Company, Inc.	AEP	0.70	0.70	0.70	0.65	0.65	0.55	0.55	0.75	0.75	0.75	0.68
Avista Corporation	AVA	0.75	0.80	0.80	0.70	0.75	0.65	0.60	0.95	0.95	0.90	0.79
CMS Energy Corporation	CMS	0.70	0.70	0.75	0.65	0.65	0.55	0.50	0.80	0.80	0.80	0.69
Duke Energy Corporation	DUK	0.65	0.60	0.65	0.60	0.60	0.50	0.50	0.85	0.85	0.85	0.67
Entergy Corporation	ETR	0.70	0.70	0.70	0.65	0.65	0.60	0.60	0.95	0.95	0.95	0.75
IDACORP, Inc.	IDA	0.75	0.80	0.80	0.75	0.70	0.55	0.55	0.80	0.80	0.80	0.73
NextEra Energy, Inc.	NEE	0.70	0.70	0.75	0.65	0.65	0.55	0.55	0.90	0.90	0.95	0.73
NorthWestern Corporation	NWE	0.70	0.70	0.70	0.70	0.70	0.55	0.60	0.95	0.95	0.90	0.75
OGE Energy Corporation	OGE	0.85	0.90	0.95	0.90	0.95	0.85	0.75	1.10	1.05	1.00	0.93
Pinnacle West Capital Corporation	PNW	0.75	0.70	0.75	0.70	0.70	0.55	0.50	0.90	0.90	0.90	0.74
Portland General Electric Company	POR	0.75	0.80	0.80	0.70	0.70	0.60	0.55	0.85	0.90	0.85	0.75
Southern Company	SO	0.55	0.55	0.60	0.55	0.55	0.50	0.50	0.90	0.95	0.90	0.66
Xcel Energy Inc.	XEL	0.65	0.65	0.65	0.60	0.60	0.50	0.50	0.80	0.80	0.80	0.66
Mean		0.72	0.73	0.75	0.68	0.69	0.58	0.57	0.88	0.88	0.87	0.73

Notes:
[1] Value Line, dated December 26, 2013.
[2] Value Line, dated December 31, 2014.
[3] Value Line, dated December 30, 2015.
[4] Value Line, dated December 29, 2016.
[5] Value Line, dated December 28, 2017.
[6] Value Line, dated December 27, 2018.
[7] Value Line, dated December 26, 2019.
[8] Value Line, dated December 30, 2020.
[9] Value Line, dated December 29, 2021.
[10] Value Line, dated December 30, 2022.
[11] Average ([1] - [10])

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

[1] Estimated Weighted Average Dividend Yield	1.69%
[2] Estimated Weighted Average Long-Term Growth Rate	10.78%
[3] S&P 500 Estimated Required Market Return	12.56%

STANDARD AND POOR'S 500 INDEX

		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outst'g	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Bloomberg Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	324.36	95.10	30,846.83	0.11%	5.26%	0.01%	8.00%	0.01%
American Express Co	AXP	728.75	170.77	124,447.95	0.42%	1.41%	0.01%	14.01%	0.06%
Verizon Communications Inc	VZ	4,204.10	38.33	161,143.23		6.94%			
Broadcom Inc	AVGO	469.43	925.73	434,561.73	1.48%	1.99%	0.03%	13.89%	0.21%
Boeing Co/The	BA	604.98	231.63	140,130.82				183.61%	
Caterpillar Inc	CAT	509.09	250.72	127,637.79	0.43%	2.07%	0.01%	20.00%	0.09%
JPMorgan Chase & Co	JPM	2,891.01	156.08	451,228.53	1.54%	2.69%	0.04%	1.00%	0.02%
Chevron Corp	CVX	1,887.75	143.60	271,080.76	0.92%	4.21%	0.04%	7.27%	0.07%
Coca-Cola Co/The	KO	4,323.41	58.44	252,660.31	0.86%	3.15%	0.03%	6.51%	0.06%
AbbVie Inc	ABBV	1,765.54	142.39	251,394.81	0.86%	4.35%	0.04%	0.19%	0.00%
Walt Disney Co/The	DIS	1,830.32	92.69	169,651.99	0.58%	0.65%	0.00%	18.88%	0.11%
FleetCor Technologies Inc	FLT	72.20	240.50	17,365.06	0.06%			12.92%	0.01%
Extra Space Storage Inc	EXR	211.28	130.17	27,502.06	0.09%	4.98%	0.00%	1.10%	0.00%
Exxon Mobil Corp	XOM	4,006.13	102.74	411,590.10		3.70%		45.59%	
Phillips 66	PSX	439.96	128.89	56,705.93	0.19%	3.26%	0.01%	15.21%	0.03%
General Electric Co	GE	1,088.39	121.80	132,565.41		0.26%		22.50%	
HP Inc	HPQ	988.27	29.34	28,995.81	0.10%	3.76%	0.00%	3.00%	0.00%
Home Depot Inc/The	HD	995.26	313.49	312,004.68	1.06%	2.67%	0.03%	1.69%	0.02%
Monolithic Power Systems Inc	MPWR	47.91	548.72	26,290.27	0.09%	0.73%	0.00%	8.00%	0.01%
International Business Machines Corp	IBM	913.12	158.56	144,784.15	0.49%	4.19%	0.02%	2.77%	0.01%
Johnson & Johnson	JNJ	2,407.28	154.66	372,309.77	1.27%	3.08%	0.04%	3.86%	0.05%
Lululemon Athletica Inc	LULU	121.43	446.80	54,252.69	0.18%			16.00%	0.03%
McDonald's Corp	MCD	725.34	281.84	204,430.39	0.70%	2.37%	0.02%	9.34%	0.07%
Merck & Co Inc	MRK	2,534.02	102.48	259,686.68	0.88%	3.01%	0.03%	9.08%	0.08%
3M Co	MMM	552.32	99.07	54,718.05	0.19%	6.06%	0.01%	4.00%	0.01%
American Water Works Co Inc	AWK	194.71	131.84	25,669.91	0.09%	2.15%	0.00%	8.00%	0.01%
Bank of America Corp	BAC	7,913.73	30.49	241,289.69		3.15%		-5.00%	
Pfizer Inc	PFE	5,646.41	30.47	172,046.20		5.38%		50.40%	
Procter & Gamble Co/The	PG	2,356.89	153.52	361,829.14	1.23%	2.45%	0.03%	7.51%	0.09%
AT&T Inc	T	7,150.02	16.57	118,475.83	0.40%	6.70%	0.03%	3.36%	0.01%
Travelers Cos Inc/The	TRV	228.40	180.62	41,253.43	0.14%	2.21%	0.00%	15.33%	0.02%
RTX Corp	RTX	1,437.90	81.48	117,160.17	0.40%	2.90%	0.01%	8.61%	0.03%
Analog Devices Inc	ADI	496.26	182.52	90,577.69	0.31%	1.88%	0.01%	4.50%	0.01%
Walmart Inc	WMT	2,692.23	155.69	419,153.91	1.43%	1.46%	0.02%	3.00%	0.04%
Cisco Systems Inc	CSCO	4,063.48	48.38	196,590.97	0.67%	3.22%	0.02%	10.00%	0.07%
Intel Corp	INTC	4,216.00	44.70	188,455.20		1.12%		-1.82%	
General Motors Co	GM	1,369.48	31.60	43,275.60		1.14%		-4.65%	
Microsoft Corp	MSFT	7,432.26	378.91	2,816,158.39	9.59%	0.79%	0.08%	15.72%	1.51%
Dollar General Corp	DG	219.48	131.12	28,777.69		1.80%		-2.50%	
Cigna Group/The	CI	292.62	262.88	76,923.95	0.26%	1.87%	0.00%	9.80%	0.03%
Kinder Morgan Inc	KMI	2,222.77	17.57	39,054.14	0.13%	6.43%	0.01%	2.00%	0.00%
Citigroup Inc	C	1,913.88	46.10	88,229.96		4.60%		-9.70%	
American International Group Inc	AIG	702.04	65.81	46,201.25	0.16%	2.19%	0.00%	10.00%	0.02%
Altria Group Inc	MO	1,768.65	42.04	74,353.92	0.25%	9.32%	0.02%	4.50%	0.01%
HCA Healthcare Inc	HCA	267.66	250.48	67,043.73	0.23%	0.96%	0.00%	7.56%	0.02%
International Paper Co	IP	346.02	36.94	12,781.87		5.01%		-2.00%	
Hewlett Packard Enterprise Co	HPE	1,283.00	16.91	21,695.53	0.07%	3.08%	0.00%	3.03%	0.00%
Abbott Laboratories	ABT	1,736.06	104.29	181,053.59	0.62%	1.96%	0.01%	3.27%	0.02%
Aflac Inc	AFL	584.38	82.71	48,334.07	0.16%	2.42%	0.00%	8.04%	0.01%
Air Products and Chemicals Inc	APD	222.21	270.55	60,118.37	0.20%	2.59%	0.01%	12.55%	0.03%
Royal Caribbean Cruises Ltd	RCL	256.24	107.46	27,535.01					
Hess Corp	HES	307.15	140.56	43,173.29	0.15%	1.25%	0.00%	13.00%	0.02%
Archer-Daniels-Midland Co	ADM	533.38	73.73	39,326.18		2.44%		-7.07%	
Automatic Data Processing Inc	ADP	411.31	229.92	94,567.25	0.32%	2.44%	0.01%	16.00%	0.05%
Verisk Analytics Inc	VRSK	144.99	241.43	35,004.21	0.12%	0.56%	0.00%	12.15%	0.01%
AutoZone Inc	AZO	17.63	2,609.93	46,023.51	0.16%			13.72%	0.02%
Linde PLC	LIN	484.89	412.50	200,014.80	0.68%	1.24%	0.01%	14.00%	0.10%
Avery Dennison Corp	AVY	80.53	194.50	15,663.28	0.05%	1.67%	0.00%	7.00%	0.00%
Enphase Energy Inc	ENPH	136.55	101.02	13,794.38				28.59%	
MSCI Inc	MSCI	79.09	520.85	41,194.55	0.14%	1.06%	0.00%	14.48%	0.02%
Ball Corp	BALL	315.30	55.29	17,432.99	0.06%	1.45%	0.00%	10.30%	0.01%
Axon Enterprise Inc	AXON	74.93	229.87	17,225.08					
Ceridian HCM Holding Inc	CDAY	156.13	68.90	10,757.15					
Carrier Global Corp	CARR	839.05	51.96	43,596.88	0.15%	1.42%	0.00%	10.80%	0.02%
Bank of New York Mellon Corp/The	BK	769.07	48.32	37,161.61	0.13%	3.48%	0.00%	10.00%	0.01%
Otis Worldwide Corp	OTIS	409.26	85.79	35,110.33	0.12%	1.59%	0.00%	9.00%	0.01%
Baxter International Inc	BAX	507.32	36.08	18,304.25		3.22%		-1.17%	
Becton Dickinson & Co	BDX	290.41	236.18	68,587.85		1.61%		-2.02%	
Berkshire Hathaway Inc	BRK/B	1,308.41	360.00	471,029.04					
Best Buy Co Inc	BBY	217.64	70.94	15,439.24	0.05%	5.19%	0.00%	2.93%	0.00%
Boston Scientific Corp	BSX	1,464.98	55.89	81,877.90	0.28%			12.10%	0.03%
Bristol-Myers Squibb Co	BMY	2,034.76	49.38	100,476.35	0.34%	4.62%	0.02%	9.92%	0.03%
Brown-Forman Corp	BF/B	310.14	58.74	18,217.39	0.06%	1.48%	0.00%	6.42%	0.00%
Coterra Energy Inc	CTRA	752.19	26.25	19,745.04		3.05%		55.04%	
Campbell Soup Co	CPB	297.62	40.18	11,958.45	0.04%	3.68%	0.00%	2.81%	0.00%
Hilton Worldwide Holdings Inc	HLT	256.44	167.52	42,958.83	0.15%	0.36%	0.00%	17.09%	0.03%
Carnival Corp	CCL	1,119.45	15.06	16,858.84					
Qorvo Inc	QRVO	97.35	96.50	9,393.89	0.03%			10.04%	0.00%
UDR Inc	UDR	328.93	33.40	10,986.20	0.04%	5.03%	0.00%	6.08%	0.00%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Clorox Co/The	CLX	124.06	143.35	17,783.86	0.06%	3.35%	0.00%	11.53%	0.01%
Paycom Software Inc	PAYC	60.23	181.66	10,941.02	0.04%	0.83%	0.00%	15.19%	0.01%
CMS Energy Corp	CMS	291.76	56.76	16,560.52	0.06%	3.44%	0.00%	7.75%	0.00%
Colgate-Palmolive Co	CL	823.37	78.77	64,857.01	0.22%	2.44%	0.01%	7.21%	0.02%
EPAM Systems Inc	EPAM	57.70	258.19	14,897.56	0.05%			4.87%	0.00%
Comerica Inc	CMA	131.87	45.22	5,963.30	0.02%	6.28%	0.00%	10.63%	0.00%
Conagra Brands Inc	CAG	477.97	28.29	13,521.71	0.05%	4.95%	0.00%	0.84%	0.00%
Airbnb Inc	ABNB	434.75	126.34	54,925.68	0.19%			18.20%	0.03%
Consolidated Edison Inc	ED	344.92	90.11	31,081.10	0.11%	3.60%	0.00%	4.88%	0.01%
Corning Inc	GLW	853.18	28.49	24,306.96	0.08%	3.93%	0.00%	1.57%	0.00%
Cummins Inc	CMI	141.75	224.16	31,773.56	0.11%	3.00%	0.00%	9.15%	0.01%
Caesars Entertainment Inc	CZR	215.71	44.72	9,646.60				110.92%	
Danaher Corp	DHR	738.93	223.31	165,009.79		0.48%		-7.03%	
Target Corp	TGT	461.66	133.81	61,774.99	0.21%	3.29%	0.01%	0.15%	0.00%
Deere & Co	DE	288.00	364.41	104,950.44	0.36%	1.48%	0.01%	3.96%	0.01%
Dominion Energy Inc	D	836.77	45.34	37,939.29		5.89%		-0.72%	
Dover Corp	DOV	139.89	141.16	19,746.87	0.07%	1.45%	0.00%	10.00%	0.01%
Alliant Energy Corp	LNT	252.72	50.57	12,780.00	0.04%	3.58%	0.00%	6.26%	0.00%
Steel Dynamics Inc	STLD	161.82	119.13	19,277.14		1.43%		-13.17%	
Duke Energy Corp	DUK	771.00	92.28	71,147.88	0.24%	4.44%	0.01%	6.06%	0.01%
Regency Centers Corp	REG	184.58	62.78	11,587.68	0.04%	4.27%	0.00%	4.64%	0.00%
Eaton Corp PLC	ETN	399.30	227.69	90,916.62	0.31%	1.51%	0.00%	15.00%	0.05%
Ecolab Inc	ECL	285.14	191.73	54,669.89	0.19%	1.11%	0.00%	16.00%	0.03%
Revvity Inc	RVTY	123.41	88.90	10,970.88		0.31%		-26.69%	
Emerson Electric Co	EMR	570.10	88.90	50,681.89	0.17%	2.36%	0.00%	12.01%	0.02%
EOG Resources Inc	EOG	583.15	123.07	71,768.27	0.24%	2.96%	0.01%	17.83%	0.04%
Aon PLC	AON	200.22	328.49	65,768.95	0.22%	0.75%	0.00%	11.58%	0.03%
Entergy Corp	ETR	211.46	101.41	21,443.75	0.07%	4.46%	0.00%	6.22%	0.00%
Equifax Inc	EFX	123.22	217.71	26,825.57	0.09%	0.72%	0.00%	12.33%	0.01%
EQT Corp	EQT	411.33	39.96	16,436.83		1.58%		20.04%	
IQVIA Holdings Inc	IQV	182.50	214.10	39,073.25				-13.67%	
Gartner Inc	IT	77.95	434.84	33,895.34	0.12%			7.35%	0.01%
FedEx Corp	FDX	251.42	258.83	65,075.04	0.22%	1.95%	0.00%	14.50%	0.03%
FMC Corp	FMC	124.76	53.66	6,694.57		4.32%		-4.00%	
Brown & Brown Inc	BRO	284.60	74.74	21,270.85	0.07%	0.70%	0.00%	11.00%	0.01%
Ford Motor Co	F	3,932.10	10.26	40,343.37		5.85%		-2.52%	
NextEra Energy Inc	NEE	2,023.71	58.51	118,407.51	0.40%	3.20%	0.01%	8.10%	0.03%
Franklin Resources Inc	BEN	494.58	24.80	12,265.68		4.84%		-9.00%	
Garmin Ltd	GRMN	191.33	122.24	23,388.30	0.08%	2.39%	0.00%	5.60%	0.00%
Freeport-McMoRan Inc	FCX	1,433.98	37.32	53,516.02		1.61%		-15.66%	
Dexcom Inc	DXCM	386.37	115.52	44,633.92				30.59%	
General Dynamics Corp	GD	272.90	246.97	67,397.37	0.23%	2.14%	0.00%	10.40%	0.02%
General Mills Inc	GIS	581.28	63.66	37,004.22	0.13%	3.71%	0.00%	8.00%	0.01%
Genuine Parts Co	GPC	140.20	132.78	18,615.36	0.06%	2.86%	0.00%	9.49%	0.01%
Atmos Energy Corp	ATO	148.50	113.81	16,900.33	0.06%	2.83%	0.00%	7.25%	0.00%
WW Grainger Inc	GWW	49.63	786.19	39,021.75		0.95%			
Halliburton Co	HAL	895.05	37.03	33,143.78		1.73%		24.14%	
L3Harris Technologies Inc	LHX	189.54	190.81	36,166.13	0.12%	2.39%	0.00%	3.50%	0.00%
Healthpeak Properties Inc	PEAK	547.07	17.32	9,475.32	0.03%	6.93%	0.00%	1.24%	0.00%
Insulet Corp	PODD	69.83	189.09	13,203.78				41.08%	
Catalent Inc	CTLT	180.27	38.85	7,003.57	0.02%			9.24%	0.00%
Fortive Corp	FTV	351.43	68.98	24,241.92	0.08%	0.46%	0.00%	8.68%	0.01%
Hershey Co/The	HSY	149.89	187.92	28,166.39	0.10%	2.54%	0.00%	9.00%	0.01%
Synchrony Financial	SYF	413.80	32.36	13,390.70		3.09%			
Hormel Foods Corp	HRL	546.48	30.59	16,716.85	0.06%	3.69%	0.00%	1.08%	0.00%
Arthur J Gallagher & Co	AJG	215.90	249.00	53,759.10	0.18%	0.88%	0.00%	14.11%	0.03%
Mondelez International Inc	MDLZ	1,360.90	71.06	96,705.27	0.33%	2.39%	0.01%	9.17%	0.03%
CenterPoint Energy Inc	CNP	629.43	28.27	17,794.04	0.06%	2.83%	0.00%	8.02%	0.00%
Humana Inc	HUM	123.11	484.86	59,691.60	0.20%	0.73%	0.00%	12.32%	0.03%
Willis Towers Watson PLC	WTW	103.26	246.30	25,432.94	0.09%	1.36%	0.00%	11.19%	0.01%
Illinois Tool Works Inc	ITW	300.89	242.21	72,877.60	0.25%	2.31%	0.01%	3.91%	0.01%
CDW Corp/DE	CDW	133.96	210.88	28,249.48	0.10%	1.18%	0.00%	13.10%	0.01%
Trane Technologies PLC	TT	227.56	225.41	51,293.62	0.17%	1.33%	0.00%	13.29%	0.02%
Interpublic Group of Cos Inc/The	IPG	383.00	30.74	11,773.54	0.04%	4.03%	0.00%	5.71%	0.00%
International Flavors & Fragrances Inc	IFF	255.28	75.38	19,242.93	0.07%	4.30%	0.00%	5.50%	0.00%
Generac Holdings Inc	GNRC	61.43	117.07	7,191.84	0.02%			5.00%	0.00%
NXP Semiconductors NV	NXPI	257.76	204.08	52,604.27		1.99%		34.00%	
Kellanova	K	342.52	52.54	17,996.00	0.06%	4.26%	0.00%	1.69%	0.00%
Broadridge Financial Solutions Inc	BR	117.65	193.82	22,802.34		1.65%			
Kimberly-Clark Corp	KMB	337.94	123.73	41,813.44	0.14%	3.81%	0.01%	9.64%	0.01%
Kimco Realty Corp	KIM	619.89	19.32	11,976.31	0.04%	4.97%	0.00%	4.35%	0.00%
Oracle Corp	ORCL	2,739.38	116.21	318,342.88	1.08%	1.38%	0.01%	14.45%	0.16%
Kroger Co/The	KR	719.32	44.27	31,844.12	0.11%	2.62%	0.00%	4.21%	0.00%
Lennar Corp	LEN	250.15	127.92	31,999.44	0.11%	1.17%	0.00%	1.00%	0.00%
Eli Lilly & Co	LLY	949.31	591.04	561,078.41		0.76%		21.47%	
Bath & Body Works Inc	BBWI	227.38	32.62	7,417.17	0.03%	2.45%	0.00%	6.51%	0.00%
Charter Communications Inc	CHTR	147.92	400.13	59,187.23	0.20%			12.31%	0.02%
Loews Corp	L	223.25	70.29	15,692.31		0.36%			
Lowe's Cos Inc	LOW	575.11	198.83	114,349.72		2.21%		20.20%	
Hubbell Inc	HUBB	53.62	300.00	16,086.60		1.63%			
IDEX Corp	IEX	75.63	201.68	15,252.25	0.05%	1.27%	0.00%	11.00%	0.01%
Marsh & McLennan Cos Inc	MMC	493.07	199.42	98,328.42	0.33%	1.42%	0.00%	11.53%	0.04%
Masco Corp	MAS	224.50	60.55	13,593.54	0.05%	1.88%	0.00%	4.36%	0.00%
S&P Global Inc	SPGI	316.80	415.83	131,734.94	0.45%	0.87%	0.00%	13.66%	0.06%
Medtronic PLC	MDT	1,329.65	79.27	105,401.67	0.36%	3.48%	0.01%	4.33%	0.02%
Viatris Inc	VTRS	1,199.67	9.18	11,012.98		5.23%		-2.58%	
CVS Health Corp	CVS	1,286.90	67.95	87,444.65	0.30%	3.56%	0.01%	6.99%	0.02%
DuPont de Nemours Inc	DD	430.04	71.54	30,765.20	0.10%	2.01%	0.00%	11.43%	0.01%
Micron Technology Inc	MU	1,098.03	76.12	83,582.35		0.60%		-11.00%	
Motorola Solutions Inc	MSI	165.97	322.87	53,586.09	0.18%	1.21%	0.00%	10.82%	0.02%
Cboe Global Markets Inc	CBOE	105.56	182.19	19,231.25	0.07%	1.21%	0.00%	10.21%	0.01%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Laboratory Corp of America Holdings	LH	84.90	216.91	18,415.66		1.33%		-32.45%	
Newmont Corp	NEM	1,152.49	40.19	46,318.65	0.16%	3.98%	0.01%	11.58%	0.02%
NIKE Inc	NKE	1,224.01	109.90	134,519.03	0.46%	1.35%	0.01%	16.07%	0.07%
NiSource Inc	NI	413.42	25.64	10,599.96	0.04%	3.90%	0.00%	7.65%	0.00%
Norfolk Southern Corp	NSC	226.14	218.16	49,333.83	0.17%	2.48%	0.00%	0.73%	0.00%
Principal Financial Group Inc	PFG	238.41	73.83	17,601.96	0.06%	3.63%	0.00%	8.98%	0.01%
Eversource Energy	ES	349.09	59.41	20,739.20	0.07%	4.54%	0.00%	5.21%	0.00%
Northrop Grumman Corp	NOC	150.79	475.16	71,650.80	0.24%	1.57%	0.00%	2.53%	0.01%
Wells Fargo & Co	WFC	3,631.64	44.59	161,934.83	0.55%	3.14%	0.02%	13.41%	0.07%
Nucor Corp	NUE	245.84	169.97	41,785.25		1.20%		-10.84%	
Occidental Petroleum Corp	OXY	880.37	59.15	52,073.94		1.22%			
Omnicom Group Inc	OMC	197.93	80.63	15,959.42	0.05%	3.47%	0.00%	4.72%	0.00%
ONEOK Inc	OKE	582.55	68.85	40,108.64	0.14%	5.55%	0.01%	6.93%	0.01%
Raymond James Financial Inc	RJF	208.61	105.15	21,935.03		1.71%			
PG&E Corp	PCG	2,133.51	17.17	36,632.33	0.12%	0.23%	0.00%	6.26%	0.01%
Parker-Hannifin Corp	PH	128.48	433.18	55,653.23	0.19%	1.37%	0.00%	15.28%	0.03%
Rollins Inc	ROL	484.04	40.74	19,719.71	0.07%	1.47%	0.00%	14.86%	0.01%
PPL Corp	PPL	737.09	26.12	19,252.76	0.07%	3.68%	0.00%	4.20%	0.00%
ConocoPhillips	COP	1,187.41	115.57	137,228.74	0.47%	0.50%	0.00%	6.00%	0.03%
PulteGroup Inc	PHM	215.60	88.42	19,062.91	0.06%	0.90%	0.00%	2.04%	0.00%
Pinnacle West Capital Corp	PNW	113.31	74.94	8,491.60	0.03%	4.70%	0.00%	5.95%	0.00%
PNC Financial Services Group Inc/The	PNC	398.34	133.96	53,361.76	0.18%	4.63%	0.01%	12.87%	0.02%
PPG Industries Inc	PPG	235.80	141.99	33,481.24	0.11%	1.83%	0.00%	12.91%	0.01%
Progressive Corp/The	PGR	585.04	164.03	95,964.28		0.24%		39.34%	
Veralto Corp	VLTO	246.31	77.25	19,027.29					
Public Service Enterprise Group Inc	PEG	499.11	62.43	31,159.50	0.11%	3.65%	0.00%	5.47%	0.01%
Robert Half Inc	RHI	105.90	81.98	8,681.27	0.03%	2.34%	0.00%	1.26%	0.00%
Cooper Cos Inc/The	COO	49.52	336.92	16,685.63	0.06%	0.02%	0.00%	7.54%	0.00%
Edison International	EIX	383.57	66.99	25,695.22	0.09%	4.40%	0.00%	4.80%	0.00%
Schlumberger NV	SLB	1,423.42	52.04	74,074.83		1.92%		33.41%	
Charles Schwab Corp/The	SCHW	1,771.68	61.32	108,639.54	0.37%	1.63%	0.01%	3.60%	0.01%
Sherwin-Williams Co/The	SHW	255.97	278.80	71,363.32	0.24%	0.87%	0.00%	10.90%	0.03%
West Pharmaceutical Services Inc	WST	73.99	350.76	25,952.73	0.09%	0.23%	0.00%	5.80%	0.01%
J M Smucker Co/The	SJM	106.13	109.73	11,645.97	0.04%	3.86%	0.00%	5.95%	0.00%
Snap-on Inc	SNA	52.78	274.69	14,498.14	0.05%	2.71%	0.00%	4.85%	0.00%
AMETEK Inc	AME	230.80	155.23	35,826.93	0.12%	0.64%	0.00%	6.36%	0.01%
Southern Co/The	SO	1,091.52	70.98	77,475.73	0.26%	3.94%	0.01%	5.05%	0.01%
Truist Financial Corp	TFC	1,333.67	32.14	42,864.09	0.15%	6.47%	0.01%	16.00%	0.02%
Southwest Airlines Co	LUV	596.12	25.57	15,242.66	0.05%	2.82%	0.00%	10.15%	0.01%
W R Berkley Corp	WRB	257.87	72.55	18,708.61	0.06%	0.61%	0.00%	13.00%	0.01%
Stanley Black & Decker Inc	SWK	153.31	90.90	13,935.97	0.05%	3.56%	0.00%	9.00%	0.00%
Public Storage	PSA	175.83	258.76	45,497.51	0.15%	4.64%	0.01%	3.77%	0.01%
Arista Networks Inc	ANET	311.10	219.71	68,351.78	0.23%			19.72%	0.05%
Sysco Corp	SYY	504.37	72.17	36,400.53	0.12%	2.77%	0.00%	13.00%	0.02%
Corteva Inc	CTVA	704.88	45.20	31,860.58	0.11%	1.42%	0.00%	16.17%	0.02%
Texas Instruments Inc	TXN	908.20	152.71	138,691.83	0.47%	3.41%	0.02%	10.00%	0.05%
Textron Inc	TXT	196.01	76.66	15,025.74	0.05%	0.10%	0.00%	11.73%	0.01%
Thermo Fisher Scientific Inc	TMO	386.37	495.76	191,547.78		0.28%		-5.00%	
TJX Cos Inc/The	TJX	1,139.68	88.11	100,416.94	0.34%	1.51%	0.01%	6.38%	0.02%
Globe Life Inc	GL	94.12	123.13	11,588.87		0.73%			
Johnson Controls International plc	JCI	680.32	52.80	35,920.90	0.12%	2.80%	0.00%	13.36%	0.02%
Ulta Beauty Inc	ULTA	48.56	425.99	20,686.93	0.07%			6.41%	0.00%
Union Pacific Corp	UNP	609.60	225.27	137,323.92	0.47%	2.31%	0.01%	11.00%	0.05%
Keysight Technologies Inc	KEYS	174.60	135.89	23,726.39	0.08%			1.81%	0.00%
UnitedHealth Group Inc	UNH	924.93	551.09	509,716.92	1.74%	1.36%	0.02%	13.40%	0.23%
Blackstone Inc	BX	710.55	112.37	79,843.94	0.27%	2.85%	0.01%	7.63%	0.02%
Marathon Oil Corp	MRO	585.25	25.43	14,882.83	0.05%	1.73%	0.00%	8.00%	0.00%
Bio-Rad Laboratories Inc	BIO	24.06	304.92	7,336.07	0.02%			4.00%	0.00%
Ventas Inc	VTR	402.38	45.84	18,445.15	0.06%	3.93%	0.00%	8.02%	0.01%
VF Corp	VFC	388.88	16.73	6,506.01	0.02%	2.15%	0.00%	3.10%	0.00%
Vulcan Materials Co	VMC	132.87	213.56	28,376.36		0.81%		23.22%	
Weyerhaeuser Co	WY	730.00	31.35	22,885.53		2.42%			
Whirlpool Corp	WHR	54.85	108.90	5,973.49		6.43%		-2.33%	
Williams Cos Inc/The	WMB	1,216.50	36.79	44,755.00	0.15%	4.87%	0.01%	3.50%	0.01%
Constellation Energy Corp	CEG	319.38	121.04	38,658.00		0.93%		26.33%	
WEC Energy Group Inc	WEC	315.44	83.62	26,376.67	0.09%	3.73%	0.00%	6.41%	0.01%
Adobe Inc	ADBE	455.30	611.01	278,192.85	0.95%			17.33%	0.16%
AES Corp/The	AES	669.63	17.21	11,524.32	0.04%	3.86%	0.00%	10.12%	0.00%
Expeditors International of Washington Inc	EXPD	145.39	120.34	17,496.11		1.15%		-16.00%	
Amgen Inc	AMGN	535.18	269.64	144,305.40	0.49%	3.16%	0.02%	4.88%	0.02%
Apple Inc	AAPL	15,552.75	189.95	2,954,245.24	10.06%	0.51%	0.05%	13.00%	1.31%
Autodesk Inc	ADSK	213.76	218.43	46,692.47	0.16%			12.48%	0.02%
Cintas Corp	CTAS	101.85	553.25	56,350.73	0.19%	0.98%	0.00%	11.84%	0.02%
Comcast Corp	CMCSA	4,015.64	41.89	168,214.95	0.57%	2.77%	0.02%	9.26%	0.05%
Molson Coors Beverage Co	TAP	200.96	61.54	12,366.77	0.04%	2.66%	0.00%	12.99%	0.01%
KLA Corp	KLAC	135.93	544.62	74,031.29	0.25%	1.06%	0.00%	9.93%	0.03%
Marriott International Inc/MD	MAR	293.69	202.70	59,531.17	0.20%	1.03%	0.00%	17.38%	0.04%
Fiserv Inc	FI	600.19	130.61	78,390.29	0.27%			14.08%	0.04%
McCormick & Co Inc/MD	MKC	251.29	64.83	16,291.20	0.06%	2.59%	0.00%	7.01%	0.00%
PACCAR Inc	PCAR	523.08	91.82	48,028.84	0.16%	1.18%	0.00%	12.00%	0.02%
Costco Wholesale Corp	COST	442.74	592.74	262,430.30	0.89%	0.69%	0.01%	13.06%	0.12%
Stryker Corp	SYK	379.90	296.33	112,574.29	0.38%	1.01%	0.00%	7.62%	0.03%
Tyson Foods Inc	TSN	285.23	46.84	13,360.22		4.18%		46.71%	
Lamb Weston Holdings Inc	LW	144.93	100.03	14,497.05	0.05%	1.12%	0.00%	13.32%	0.01%
Applied Materials Inc	AMAT	836.53	149.78	125,296.06	0.43%	0.85%	0.00%	5.50%	0.02%
American Airlines Group Inc	AAL	653.54	12.43	8,123.51				54.64%	
Cardinal Health Inc	CAH	246.47	107.08	26,391.79	0.09%	1.87%	0.00%	13.32%	0.01%
Cincinnati Financial Corp	CINF	156.91	102.79	16,128.57	0.05%	2.92%	0.00%	18.21%	0.01%
Paramount Global	PARA	610.70	14.37	8,775.82		1.39%		-20.36%	
DR Horton Inc	DHI	333.18	127.67	42,537.60	0.14%	0.94%	0.00%	1.70%	0.00%
Electronic Arts Inc	EA	268.97	138.01	37,120.00	0.13%	0.55%	0.00%	10.32%	0.01%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Fair Isaac Corp	FICO	24.71	1,087.60	26,878.95				22.00%	
Fastenal Co	FAST	571.41	59.97	34,267.64		2.33%			
M&T Bank Corp	MTB	165.96	128.17	21,271.09	0.07%	4.06%	0.00%	11.59%	0.01%
Xcel Energy Inc	XEL	551.82	60.84	33,572.49	0.11%	3.42%	0.00%	6.12%	0.01%
Fifth Third Bancorp	FITB	681.02	28.95	19,715.44		4.84%		25.00%	
Gilead Sciences Inc	GILD	1,246.04	76.60	95,446.82	0.33%	3.92%	0.01%	2.10%	0.01%
Hasbro Inc	HAS	138.76	46.41	6,440.04		6.03%		-3.49%	
Huntington Bancshares Inc/OH	HBAN	1,448.08	11.26	16,305.32		5.51%		-7.69%	
Welltower Inc	WELL	556.09	89.10	49,547.98	0.17%	2.74%	0.00%	10.96%	0.02%
Biogen Inc	BIIB	144.90	234.08	33,917.72	0.12%			0.87%	0.00%
Northern Trust Corp	NTRS	207.04	79.25	16,407.60	0.06%	3.79%	0.00%	5.93%	0.00%
Packaging Corp of America	PKG	89.62	168.01	15,057.73	0.05%	2.98%	0.00%	5.00%	0.00%
Paychex Inc	PAYX	361.23	121.97	44,059.47	0.15%	2.92%	0.00%	7.00%	0.01%
QUALCOMM Inc	QCOM	1,113.00	129.05	143,632.65	0.49%	2.48%	0.01%	11.61%	0.06%
Ross Stores Inc	ROST	338.63	130.38	44,150.84	0.15%	1.03%	0.00%	10.00%	0.02%
IDEXX Laboratories Inc	IDXX	83.05	465.82	38,687.28	0.13%			17.98%	0.02%
Starbucks Corp	SBUX	1,136.70	99.30	112,874.31	0.38%	2.30%	0.01%	17.41%	0.07%
KeyCorp	KEY	936.26	12.39	11,600.26	0.04%	6.62%	0.00%	7.08%	0.00%
Fox Corp	FOXA	247.23	29.54	7,303.09	0.02%	1.76%	0.00%	6.24%	0.00%
Fox Corp	FOX	235.58	27.66	6,516.17	0.02%	1.88%	0.00%	6.24%	0.00%
State Street Corp	STT	308.58	72.82	22,471.09	0.08%	3.79%	0.00%	6.92%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	425.43	15.27	6,496.24					
US Bancorp	USB	1,557.01	38.12	59,353.30	0.20%	5.04%	0.01%	7.50%	0.02%
A O Smith Corp	AOS	122.83	75.36	9,256.32		1.70%			
Gen Digital Inc	GEN	640.72	22.08	14,146.99	0.05%	2.26%	0.00%	12.98%	0.01%
T Rowe Price Group Inc	TROW	223.47	100.13	22,376.05		4.87%		-4.09%	
Waste Management Inc	WM	402.78	170.99	68,870.50	0.23%	1.64%	0.00%	10.05%	0.02%
Constellation Brands Inc	STZ	183.66	240.49	44,169.11	0.15%	1.48%	0.00%	9.75%	0.01%
DENTSPLY SIRONA Inc	XRAY	211.86	31.75	6,726.56	0.02%	1.76%	0.00%	7.93%	0.00%
Zions Bancorp NA	ZION	148.15	35.63	5,278.55		4.60%		-9.73%	
Alaska Air Group Inc	ALK	128.05	37.81	4,841.68	0.02%			3.56%	0.00%
Invesco Ltd	IVZ	449.55	14.27	6,415.14		5.61%		-0.68%	
Intuit Inc	INTU	279.94	571.46	159,972.23	0.54%	0.63%	0.00%	18.96%	0.10%
Morgan Stanley	MS	1,641.31	79.34	130,221.69	0.44%	4.29%	0.02%	3.64%	0.02%
Microchip Technology Inc	MCHP	541.05	83.44	45,144.79		2.10%		-1.00%	
Chubb Ltd	CB	407.99	229.43	93,605.15	0.32%	1.50%	0.00%	15.50%	0.05%
Hologic Inc	HOLX	240.00	71.30	17,112.21				-8.76%	
Citizens Financial Group Inc	CFG	466.22	27.27	12,713.90		6.16%		-10.63%	
O'Reilly Automotive Inc	ORLY	59.16	982.38	58,119.57	0.20%			11.39%	0.02%
Allstate Corp/The	ALL	261.69	137.87	36,078.79		2.58%		50.02%	
Equity Residential	EQR	379.72	56.84	21,583.51	0.07%	4.66%	0.00%	4.75%	0.00%
BorgWarner Inc	BWA	235.06	33.69	7,919.00	0.03%	1.31%	0.00%	4.33%	0.00%
Keurig Dr Pepper Inc	KDP	1,398.34	31.57	44,145.47	0.15%	2.72%	0.00%	6.85%	0.01%
Host Hotels & Resorts Inc	HST	705.40	17.47	12,323.34		4.12%			
Incyte Corp	INCY	224.11	54.34	12,178.08				36.36%	
Simon Property Group Inc	SPG	326.25	124.89	40,744.99	0.14%	6.09%	0.01%	1.71%	0.00%
Eastman Chemical Co	EMN	118.56	83.83	9,939.22	0.03%	3.77%	0.00%	4.75%	0.00%
AvalonBay Communities Inc	AVB	142.02	172.94	24,560.07	0.08%	3.82%	0.00%	6.27%	0.01%
Prudential Financial Inc	PRU	361.00	97.78	35,298.58	0.12%	5.11%	0.01%	10.47%	0.01%
United Parcel Service Inc	UPS	723.26	151.61	109,652.99	0.37%	4.27%	0.02%	1.64%	0.01%
Walgreens Boots Alliance Inc	WBA	863.92	19.94	17,226.47	0.06%	9.63%	0.01%	0.25%	0.00%
STERIS PLC	STE	98.80	200.94	19,852.87		1.04%			
McKesson Corp	MCK	133.06	470.56	62,613.65	0.21%	0.53%	0.00%	10.04%	0.02%
Lockheed Martin Corp	LMT	248.10	447.77	111,091.29	0.38%	2.81%	0.01%	7.04%	0.03%
Cencora Inc	COR	199.43	203.37	40,558.69	0.14%	1.00%	0.00%	9.04%	0.01%
Capital One Financial Corp	COF	380.85	111.66	42,525.38		2.15%		-6.30%	
Waters Corp	WAT	59.13	280.61	16,591.63	0.06%			4.44%	0.00%
Nordson Corp	NDSN	57.01	235.34	13,417.67		1.16%			
Dollar Tree Inc	DLTR	217.87	123.59	26,926.80	0.09%			7.77%	0.01%
Darden Restaurants Inc	DRI	120.32	156.47	18,825.69	0.06%	3.35%	0.00%	10.45%	0.01%
Evergy Inc	EVRG	229.58	51.04	11,717.92	0.04%	5.04%	0.00%	4.82%	0.00%
Match Group Inc	MTCH	271.81	32.38	8,801.27				43.48%	
Domino's Pizza Inc	DPZ	34.88	392.89	13,704.40	0.05%	1.23%	0.00%	13.97%	0.01%
NVR Inc	NVR	3.18	6,155.39	19,567.98				-4.57%	
NetApp Inc	NTAP	206.03	91.39	18,829.17	0.06%	2.19%	0.00%	7.40%	0.00%
Old Dominion Freight Line Inc	ODFL	109.11	389.06	42,451.89	0.14%	0.41%	0.00%	5.83%	0.01%
DaVita Inc	DVA	91.30	101.46	9,263.30				21.67%	
Hartford Financial Services Group Inc/The	HIG	300.77	78.16	23,508.18	0.08%	2.41%	0.00%	7.00%	0.01%
Iron Mountain Inc	IRM	291.99	64.15	18,731.16	0.06%	4.05%	0.00%	4.00%	0.00%
Estee Lauder Cos Inc/The	EL	232.31	127.69	29,663.03	0.10%	2.07%	0.00%	13.86%	0.01%
Cadence Design Systems Inc	CDNS	272.06	273.27	74,346.38	0.25%			18.56%	0.05%
Tyler Technologies Inc	TYL	42.12	408.84	17,221.98					
Universal Health Services Inc	UHS	61.01	137.48	8,387.24	0.03%	0.58%	0.00%	9.41%	0.00%
Skyworks Solutions Inc	SWKS	159.96	96.93	15,504.44		2.81%		-7.11%	
Quest Diagnostics Inc	DGX	112.44	137.23	15,429.46		2.07%		-1.27%	
Rockwell Automation Inc	ROK	114.67	275.44	31,585.53	0.11%	1.82%	0.00%	12.16%	0.01%
Kraft Heinz Co/The	KHC	1,226.54	35.11	43,063.78	0.15%	4.56%	0.01%	4.03%	0.01%
American Tower Corp	AMT	466.17	208.78	97,325.93	0.33%	3.10%	0.01%	10.93%	0.04%
Regeneron Pharmaceuticals Inc	REGN	107.13	823.81	88,253.94	0.30%			4.00%	0.01%
Amazon.com Inc	AMZN	10,334.03	146.09	1,509,698.59				86.99%	
Jack Henry & Associates Inc	JKHY	72.83	158.69	11,557.08	0.04%	1.31%	0.00%	7.06%	0.00%
Ralph Lauren Corp	RL	39.75	129.38	5,143.11	0.02%	2.32%	0.00%	10.38%	0.00%
Boston Properties Inc	BXP	156.94	56.93	8,934.54	0.03%	6.89%	0.00%	2.82%	0.00%
Amphenol Corp	APH	598.31	90.99	54,440.23	0.19%	0.97%	0.00%	4.04%	0.01%
Howmet Aerospace Inc	HWM	411.74	52.60	21,657.73		0.38%		20.41%	
Pioneer Natural Resources Co	PXD	233.31	231.64	54,043.70		5.53%		-3.00%	
Valero Energy Corp	VLO	340.45	125.36	42,679.19		3.25%		35.66%	
Synopsys Inc	SNPS	152.05	543.23	82,599.75	0.28%			16.68%	0.05%
Etsy Inc	ETSY	119.75	75.81	9,077.94	0.03%			2.74%	0.00%
CH Robinson Worldwide Inc	CHRW	116.65	82.05	9,571.21	0.03%	2.97%	0.00%	5.00%	0.00%
Accenture PLC	ACN	664.79	333.14	221,467.14	0.75%	1.55%	0.01%	10.00%	0.08%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
TransDigm Group Inc	TDG	55.31	962.87	53,260.19	0.18%			15.56%	0.03%
Yum! Brands Inc	YUM	280.31	125.55	35,192.67	0.12%	1.93%	0.00%	11.93%	0.01%
Prologis Inc	PLD	923.86	114.93	106,179.46	0.36%	3.03%	0.01%	8.00%	0.03%
FirstEnergy Corp	FE	573.82	36.94	21,196.73		4.44%		-0.33%	
VeriSign Inc	VRSN	102.10	212.20	21,665.62	0.07%			11.50%	0.01%
Quanta Services Inc	PWR	145.29	188.31	27,358.62	0.09%	0.17%	0.00%	8.00%	0.01%
Henry Schein Inc	HSIC	130.59	66.73	8,713.94	0.03%			3.44%	0.00%
Ameren Corp	AEE	262.48	77.59	20,365.44	0.07%	3.25%	0.00%	7.11%	0.00%
ANSYS Inc	ANSS	86.87	293.36	25,485.06	0.09%			10.77%	0.01%
FactSet Research Systems Inc	FDS	37.99	453.46	17,226.04	0.06%	0.86%	0.00%	10.45%	0.01%
NVIDIA Corp	NVDA	2,470.00	467.70	1,155,219.00		0.03%		50.82%	
Sealed Air Corp	SEE	144.44	33.38	4,821.27	0.02%	2.40%	0.00%	0.01%	0.00%
Cognizant Technology Solutions Corp	CTSH	501.41	70.38	35,289.45	0.12%	1.65%	0.00%	12.00%	0.01%
Intuitive Surgical Inc	ISRG	352.07	310.84	109,438.06	0.37%			11.57%	0.04%
Take-Two Interactive Software Inc	TTWO	170.07	158.20	26,904.76				58.00%	
Republic Services Inc	RSG	314.64	161.84	50,920.85	0.17%	1.32%	0.00%	9.97%	0.02%
eBay Inc	EBAY	519.00	41.01	21,284.19	0.07%	2.44%	0.00%	0.32%	0.00%
Goldman Sachs Group Inc/The	GS	326.11	341.54	111,380.29	0.38%	3.22%	0.01%	7.71%	0.03%
SBA Communications Corp	SBAC	107.89	246.96	26,643.77	0.09%	1.38%	0.00%	8.00%	0.01%
Sempra	SRE	629.33	72.87	45,859.13	0.16%	3.27%	0.01%	5.49%	0.01%
Moody's Corp	MCO	183.00	364.96	66,787.68	0.23%	0.84%	0.00%	14.08%	0.03%
ON Semiconductor Corp	ON	430.70	71.33	30,721.69	0.10%			3.72%	0.00%
Booking Holdings Inc	BKNG	34.89	3,125.70	109,055.67	0.37%			15.00%	0.06%
F5 Inc	FFIV	59.71	171.19	10,221.24	0.03%			5.45%	0.00%
Akamai Technologies Inc	AKAM	150.83	115.53	17,425.62					
Charles River Laboratories International Inc	CRL	51.30	197.08	10,109.61	0.03%			9.00%	0.00%
MarketAxess Holdings Inc	MKTX	37.91	240.12	9,101.75		1.20%			
Devon Energy Corp	DVN	640.70	44.97	28,812.28		6.85%		51.35%	
Bio-Techne Corp	TECH	158.15	62.90	9,947.64	0.03%	0.51%	0.00%	4.50%	0.00%
Alphabet Inc	GOOGL	5,918.00	132.53	784,312.54	2.67%			16.65%	0.44%
Teleflex Inc	TFX	46.99	225.69	10,605.85	0.04%	0.60%	0.00%	7.00%	0.00%
Netflix Inc	NFLX	437.68	473.97	207,447.19				30.96%	
Allegion plc	ALLE	87.79	106.09	9,313.43	0.03%	1.70%	0.00%	5.93%	0.00%
Agilent Technologies Inc	A	292.12	127.80	37,333.32	0.13%	0.74%	0.00%	8.00%	0.01%
Warner Bros Discovery Inc	WBD	2,438.57	10.45	25,483.01				91.04%	
Elevance Health Inc	ELV	234.96	479.49	112,660.49	0.38%	1.23%	0.00%	10.85%	0.04%
Trimble Inc	TRMB	248.77	46.40	11,542.84					
CME Group Inc	CME	359.99	218.36	78,607.42	0.27%	2.02%	0.01%	11.10%	0.03%
Juniper Networks Inc	JNPR	318.87	28.45	9,071.79	0.03%	3.09%	0.00%	7.96%	0.00%
BlackRock Inc	BLK	148.76	751.23	111,754.48	0.38%	2.66%	0.01%	6.72%	0.03%
DTE Energy Co	DTE	206.11	104.11	21,458.01	0.07%	3.66%	0.00%	7.00%	0.01%
Nasdaq Inc	NDAQ	576.97	55.84	32,217.73	0.11%	1.58%	0.00%	2.68%	0.00%
Celanese Corp	CE	108.86	138.66	15,093.83	0.05%	2.02%	0.00%	2.27%	0.00%
Philip Morris International Inc	PM	1,552.41	93.36	144,932.62	0.49%	5.57%	0.03%	9.19%	0.05%
Salesforce Inc	CRM	968.00	251.90	243,839.20				21.67%	
Ingersoll Rand Inc	IR	404.80	71.43	28,914.65	0.10%	0.11%	0.00%	14.00%	0.01%
Huntington Ingalls Industries Inc	HII	39.72	237.02	9,415.15		2.19%		40.00%	
Roper Technologies Inc	ROP	106.82	538.25	57,496.94		0.56%		-1.00%	
MetLife Inc	MET	740.19	63.63	47,098.29	0.16%	3.27%	0.01%	9.17%	0.01%
Tapestry Inc	TPR	229.19	31.67	7,258.32	0.02%	4.42%	0.00%	11.00%	0.00%
CSX Corp	CSX	1,976.13	32.30	63,829.03	0.22%	1.36%	0.00%	6.39%	0.01%
Edwards Lifesciences Corp	EW	606.50	67.71	41,066.12	0.14%			9.23%	0.01%
Ameriprise Financial Inc	AMP	101.20	353.51	35,773.80	0.12%	1.53%	0.00%	15.82%	0.02%
Zebra Technologies Corp	ZBRA	51.36	236.98	12,171.29					
Zimmer Biomet Holdings Inc	ZBH	208.98	116.31	24,306.58	0.08%	0.83%	0.00%	7.12%	0.01%
CBRE Group Inc	CBRE	304.79	78.96	24,066.46					
Camden Property Trust	CPT	106.77	90.26	9,637.15	0.03%	4.43%	0.00%	6.17%	0.00%
Mastercard Inc	MA	930.44	413.83	385,043.16	1.31%	0.55%	0.01%	17.35%	0.23%
CarMax Inc	KMX	158.67	63.94	10,145.23	0.03%			16.34%	0.01%
Intercontinental Exchange Inc	ICE	572.36	113.84	65,157.92	0.22%	1.48%	0.00%	8.66%	0.02%
Fidelity National Information Services Inc	FIS	592.48	58.64	34,743.26	0.12%	3.55%	0.00%	5.51%	0.01%
Chipotle Mexican Grill Inc	CMG	27.45	2,202.25	60,440.75				25.41%	
Wynn Resorts Ltd	WYNN	112.95	84.42	9,534.90		1.18%		153.24%	
Live Nation Entertainment Inc	LYV	230.33	84.22	19,397.97					
Assurant Inc	AIZ	52.59	168.02	8,836.34	0.03%	1.71%	0.00%	14.60%	0.00%
NRG Energy Inc	NRG	225.76	47.84	10,800.55		3.16%			
Regions Financial Corp	RF	930.07	16.68	15,513.48	0.05%	5.76%	0.00%	0.99%	0.00%
Monster Beverage Corp	MNST	1,040.44	55.15	57,380.32				21.32%	
Mosaic Co/The	MOS	326.84	35.89	11,730.11	0.04%	2.23%	0.00%	7.00%	0.00%
Baker Hughes Co	BKR	1,006.23	33.75	33,960.40	0.12%	2.37%	0.00%	16.00%	0.02%
Expedia Group Inc	EXPE	133.33	136.18	18,156.20	0.06%			17.50%	0.01%
CF Industries Holdings Inc	CF	191.06	75.15	14,357.93		2.13%		46.00%	
Leidos Holdings Inc	LDOS	137.51	107.32	14,757.14	0.05%	1.42%	0.00%	8.12%	0.00%
APA Corp	APA	306.72	36.00	11,041.88	0.04%	2.78%	0.00%	0.72%	0.00%
Alphabet Inc	GOOG	5,725.00	133.92	766,692.00	2.61%			16.65%	0.43%
First Solar Inc	FSLR	106.84	157.78	16,857.85				43.22%	
TE Connectivity Ltd	TEL	310.78	131.00	40,712.05		1.80%			
Discover Financial Services	DFS	250.06	93.00	23,255.39		3.01%		56.16%	
Visa Inc	V	1,580.68	256.68	405,728.94	1.38%	0.81%	0.01%	14.32%	0.20%
Mid-America Apartment Communities Inc	MAA	116.69	124.48	14,525.32	0.05%	4.50%	0.00%	1.77%	0.00%
Xylem Inc/NY	XYL	241.08	105.13	25,344.53		1.26%			
Marathon Petroleum Corp	MPC	379.70	149.19	56,647.00		2.21%			
Advanced Micro Devices Inc	AMD	1,615.50	121.16	195,733.86				30.65%	
Tractor Supply Co	TSCO	108.11	203.01	21,948.22	0.07%	2.03%	0.00%	3.81%	0.00%
ResMed Inc	RMD	147.09	157.73	23,200.82		1.22%			
Mettler-Toledo International Inc	MTD	21.68	1,091.93	23,677.41	0.08%			5.01%	0.00%
Jacobs Solutions Inc	J	126.02	127.18	16,027.73	0.05%	0.82%	0.00%	12.31%	0.01%
Copart Inc	CPRT	960.23	50.22	48,222.80					
VICI Properties Inc	VICI	1,034.53	29.89	30,922.16	0.11%	5.55%	0.01%	7.09%	0.01%
Fortinet Inc	FTNT	767.91	52.56	40,361.35	0.14%			15.03%	0.02%
Albemarle Corp	ALB	117.35	121.27	14,231.40	0.05%	1.32%	0.00%	18.79%	0.01%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
Moderna Inc	MRNA	381.28	77.70	29,625.77				-29.33%	
Essex Property Trust Inc	ESS	64.18	213.46	13,700.50	0.05%	4.33%	0.00%	5.71%	0.00%
CoStar Group Inc	CSGP	408.36	83.04	33,910.46	0.12%			20.00%	0.02%
Realty Income Corp	O	723.92	53.96	39,062.94	0.13%	5.69%	0.01%	0.68%	0.00%
Westrock Co	WRK	256.47	41.17	10,558.83	0.04%	2.94%	0.00%	4.20%	0.00%
Westinghouse Air Brake Technologies Corp	WAB	179.16	116.56	20,882.77	0.07%	0.58%	0.00%	12.86%	0.01%
Pool Corp	POOL	38.68	347.32	13,433.99		1.27%		-5.49%	
Western Digital Corp	WDC	324.24	48.31	15,664.18				-11.96%	
PepsiCo Inc	PEP	1,374.86	168.29	231,375.86	0.79%	3.01%	0.02%	8.70%	0.07%
Diamondback Energy Inc	FANG	178.99	154.41	27,637.07		8.73%		21.94%	
Palo Alto Networks Inc	PANW	315.30	295.09	93,041.88				30.00%	
ServiceNow Inc	NOW	205.00	685.74	140,576.70					
Church & Dwight Co Inc	CHD	246.38	96.63	23,807.89	0.08%	1.13%	0.00%	5.95%	0.00%
Federal Realty Investment Trust	FRT	81.62	95.59	7,801.86	0.03%	4.56%	0.00%	5.77%	0.00%
MGM Resorts International	MGM	341.58	39.44	13,472.03					
American Electric Power Co Inc	AEP	515.18	79.55	40,982.25	0.14%	4.42%	0.01%	4.83%	0.01%
SolarEdge Technologies Inc	SEDG	56.81	79.38	4,509.66				27.00%	
Invitation Homes Inc	INVH	611.96	33.36	20,414.92	0.07%	3.12%	0.00%	3.15%	0.00%
PTC Inc	PTC	119.25	157.36	18,764.39	0.06%			19.31%	0.01%
JB Hunt Transport Services Inc	JBHT	103.14	185.27	19,109.30		0.91%		27.00%	
Lam Research Corp	LRCX	131.79	715.92	94,352.53	0.32%	1.12%	0.00%	5.44%	0.02%
Mohawk Industries Inc	MHK	63.68	88.31	5,623.76				-3.08%	
Pentair PLC	PNR	165.30	64.54	10,668.40	0.04%	1.36%	0.00%	6.22%	0.00%
GE HealthCare Technologies Inc	GEHC	455.24	68.46	31,165.94	0.11%	0.18%	0.00%	12.70%	0.01%
Vertex Pharmaceuticals Inc	VRTX	257.68	354.81	91,428.51	0.31%			13.38%	0.04%
Amcor PLC	AMCR	1,445.34	9.48	13,701.85	0.05%	5.27%	0.00%	1.33%	0.00%
Meta Platforms Inc	META	2,219.61	327.15	726,144.43				24.05%	
T-Mobile US Inc	TMUS	1,156.48	150.45	173,991.66		1.73%		38.46%	
United Rentals Inc	URI	67.78	476.02	32,265.11	0.11%	1.24%	0.00%	17.87%	0.02%
Honeywell International Inc	HON	659.25	195.92	129,160.46	0.44%	2.20%	0.01%	7.69%	0.03%
Alexandria Real Estate Equities Inc	ARE	173.78	109.40	19,010.99	0.06%	4.53%	0.00%	5.28%	0.00%
Delta Air Lines Inc	DAL	643.46	36.93	23,763.09		1.08%		30.85%	
Seagate Technology Holdings PLC	STX	209.18	79.10	16,546.45	0.06%	3.54%	0.00%	6.11%	0.00%
United Airlines Holdings Inc	UAL	328.02	39.40	12,923.87				46.54%	
News Corp	NWS	191.39	23.04	4,409.51		0.87%			
Centene Corp	CNC	534.20	73.68	39,359.93	0.13%			8.43%	0.01%
Martin Marietta Materials Inc	MLM	61.81	464.59	28,714.91		0.64%		21.60%	
Teradyne Inc	TER	152.88	92.23	14,100.03	0.05%	0.48%	0.00%	7.82%	0.00%
PayPal Holdings Inc	PYPL	1,078.14	57.61	62,111.65	0.21%			6.26%	0.01%
Tesla Inc	TSLA	3,178.92	240.08	763,195.35	2.60%			11.00%	0.29%
Arch Capital Group Ltd	ACGL	373.17	83.69	31,230.76	0.11%			10.00%	0.01%
Dow Inc	DOW	701.40	51.75	36,297.29		5.41%		-4.72%	
Everest Group Ltd	EG	43.39	410.55	17,813.76		1.71%		37.66%	
Teledyne Technologies Inc	TDY	47.19	402.96	19,013.67	0.06%			8.03%	0.01%
News Corp	NWSA	380.67	22.04	8,389.97		0.91%			
Exelon Corp	EXC	994.30	38.51	38,290.45	0.13%	3.74%	0.00%	4.00%	0.01%
Global Payments Inc	GPN	260.39	116.44	30,319.70	0.10%	0.86%	0.00%	13.33%	0.01%
Crown Castle Inc	CCI	433.69	117.28	50,863.05	0.17%	5.34%	0.01%	7.00%	0.01%
Aptiv PLC	APTV	282.86	82.84	23,432.29	0.08%			11.44%	0.01%
Align Technology Inc	ALGN	76.59	213.80	16,374.73					
Illumina Inc	ILMN	158.80	101.95	16,189.66				-51.00%	
Kenvue Inc	KVUE	1,915.00	20.44	39,142.50		3.91%			
Targa Resources Corp	TRGP	222.98	90.45	20,168.18	0.07%	2.21%	0.00%	15.00%	0.01%
Bunge Global SA	BG	161.43	109.87	17,736.20		2.41%		-5.00%	
LKQ Corp	LKQ	267.60	44.53	11,916.14		2.69%			
Zoetis Inc	ZTS	459.11	176.67	81,111.67	0.28%	0.85%	0.00%	10.91%	0.03%
Digital Realty Trust Inc	DLR	302.85	138.78	42,028.97	0.14%	3.52%	0.01%	6.80%	0.01%
Equinix Inc	EQIX	93.88	815.01	76,515.58	0.26%	2.09%	0.01%	16.67%	0.04%
Las Vegas Sands Corp	LVS	764.49	46.12	35,258.32		1.73%			
Molina Healthcare Inc	MOH	58.30	365.56	21,312.15	0.07%			11.24%	0.01%

Notes:

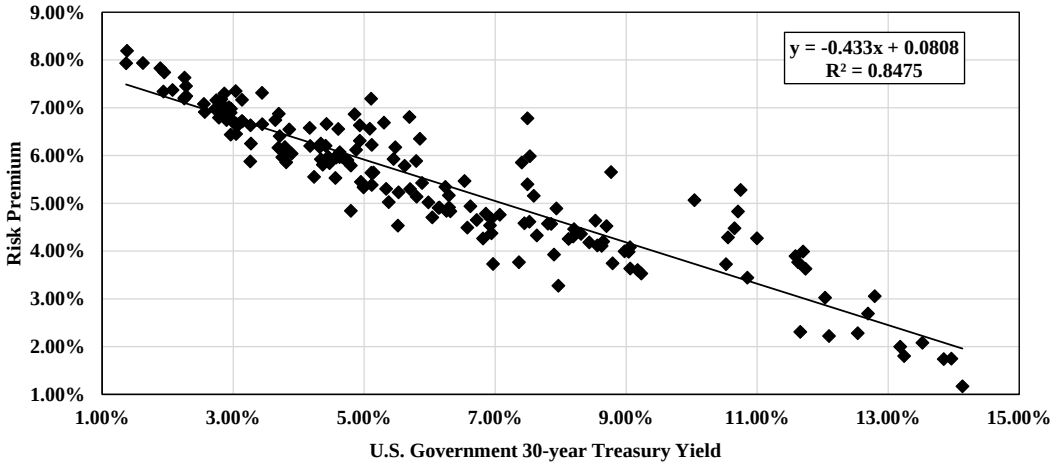
[1] Equals sum of Col. [9]
[2] Equals sum of Col. [11]
[3] Equals ([1] x (1 + (0.5 x [2]))) + [2]
[4] Source: Bloomberg Professional as of October 31, 2023
[5] Source: Bloomberg Professional as of October 31, 2023
[6] Equals [4] x [5]
[7] Equals weight in S&P 500 based on market capitalization [6] if Growth Rate >0% and ≤20%
[8] Source: Bloomberg Professional, as of October 31, 2023
[9] Equals [7] x [8]
[10] Source: Value Line, as of October 31, 2023
[11] Equals [7] x [10]

BOND YIELD PLUS RISK PREMIUM

Quarter	[1] Average Authorized VI Electric ROE	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1980.1	13.97%	11.66%	2.31%
1980.2	14.25%	10.52%	3.73%
1980.3	14.30%	10.85%	3.45%
1980.4	14.32%	12.10%	2.23%
1981.1	14.82%	12.53%	2.28%
1981.2	15.05%	13.24%	1.81%
1981.3	15.31%	14.13%	1.17%
1981.4	15.59%	13.85%	1.74%
1982.1	15.71%	13.96%	1.75%
1982.2	15.60%	13.52%	2.08%
1982.3	15.85%	12.79%	3.06%
1982.4	16.03%	10.75%	5.28%
1983.1	15.54%	10.71%	4.83%
1983.2	15.13%	10.65%	4.48%
1983.3	15.39%	11.62%	3.77%
1983.4	15.37%	11.74%	3.63%
1984.1	15.06%	12.04%	3.02%
1984.2	15.18%	13.18%	2.00%
1984.3	15.38%	12.69%	2.69%
1984.4	15.69%	11.70%	3.99%
1985.1	15.48%	11.58%	3.90%
1985.2	15.27%	11.00%	4.27%
1985.3	14.84%	10.55%	4.29%
1985.4	15.11%	10.04%	5.07%
1986.1	14.42%	8.77%	5.65%
1986.2	14.27%	7.49%	6.78%
1986.3	13.26%	7.40%	5.86%
1986.4	13.52%	7.53%	5.99%
1987.1	12.90%	7.49%	5.40%
1987.2	13.17%	8.53%	4.64%
1987.3	13.14%	9.06%	4.08%
1987.4	12.76%	9.23%	3.53%
1988.1	12.74%	8.63%	4.11%
1988.2	12.70%	9.06%	3.63%
1988.3	12.78%	9.18%	3.60%
1988.4	12.97%	8.97%	4.00%
1989.1	13.02%	9.04%	3.99%
1989.2	13.22%	8.70%	4.52%
1989.3	12.38%	8.12%	4.26%
1989.4	12.83%	7.93%	4.90%
1990.1	12.62%	8.44%	4.19%
1990.2	12.85%	8.65%	4.20%
1990.3	12.54%	8.79%	3.75%
1990.4	12.68%	8.56%	4.12%
1991.1	12.66%	8.20%	4.46%
1991.2	12.67%	8.31%	4.36%
1991.3	12.49%	8.19%	4.30%
1991.4	12.42%	7.85%	4.57%
1992.1	12.38%	7.81%	4.58%
1992.2	11.83%	7.90%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.76%
1993.2	11.64%	6.86%	4.78%
1993.3	11.15%	6.32%	4.84%
1993.4	11.04%	6.14%	4.91%
1994.1	11.07%	6.58%	4.49%
1994.2	11.13%	7.36%	3.77%
1994.3	12.75%	7.59%	5.16%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.33%

1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.72%	4.65%
1995.4	11.58%	6.24%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.97%	3.73%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.82%	4.26%
1997.2	11.62%	6.94%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.15%	4.91%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.48%	6.17%
1998.4	12.30%	5.11%	7.19%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.80%	5.14%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.26%	4.84%
2000.1	11.21%	6.30%	4.92%
2000.2	11.00%	5.98%	5.02%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.45%	5.93%
2001.2	11.00%	5.70%	5.30%
2001.3	10.76%	5.53%	5.23%
2001.4	11.99%	5.30%	6.69%
2002.1	10.05%	5.52%	4.53%
2002.2	11.41%	5.62%	5.79%
2002.3	11.65%	5.09%	6.56%
2002.4	11.57%	4.93%	6.63%
2003.1	11.72%	4.85%	6.87%
2003.2	11.16%	4.60%	6.56%
2003.3	10.50%	5.11%	5.39%
2003.4	11.34%	5.11%	6.23%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.34%	5.30%
2004.3	10.75%	5.11%	5.64%
2004.4	11.24%	4.93%	6.31%
2005.1	10.63%	4.71%	5.92%
2005.2	10.31%	4.47%	5.84%
2005.3	11.08%	4.42%	6.66%
2005.4	10.63%	4.65%	5.98%
2006.1	10.70%	4.63%	6.07%
2006.2	10.79%	5.14%	5.64%
2006.3	10.35%	5.00%	5.35%
2006.4	10.65%	4.74%	5.91%
2007.1	10.59%	4.80%	5.79%
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%	5.96%
2008.3	10.43%	4.45%	5.98%
2008.4	10.39%	3.64%	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%	6.25%
2010.1	10.59%	4.62%	5.97%
2010.2	10.18%	4.37%	5.81%
2010.3	10.40%	3.86%	6.55%
2010.4	10.38%	4.17%	6.20%
2011.1	10.09%	4.56%	5.53%
2011.2	10.26%	4.34%	5.92%
2011.3	10.57%	3.70%	6.88%
2011.4	10.39%	3.04%	7.35%

2012.1	10.30%	3.14%	7.17%
2012.2	9.95%	2.94%	7.01%
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%	6.16%
2014.2	10.10%	3.44%	6.66%
2014.3	9.90%	3.27%	6.63%
2014.4	9.94%	2.96%	6.98%
2015.1	9.64%	2.55%	7.08%
2015.2	9.83%	2.88%	6.94%
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%	3.05%	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%	6.70%
2019.2	9.58%	2.78%	6.79%
2019.3	9.53%	2.29%	7.25%
2019.4	9.89%	2.26%	7.63%
2020.1	9.72%	1.89%	7.83%
2020.2	9.58%	1.38%	8.19%
2020.3	9.30%	1.37%	7.93%
2020.4	9.56%	1.62%	7.94%
2021.1	9.45%	2.07%	7.38%
2021.2	9.47%	2.26%	7.21%
2021.3	9.27%	1.93%	7.34%
2021.4	9.69%	1.95%	7.74%
2022.1	9.45%	2.25%	7.20%
2022.2	9.50%	3.05%	6.45%
2022.3	9.14%	3.26%	5.88%
2022.4	9.94%	3.89%	6.04%
2023.1	9.72%	3.75%	5.97%
2023.2	9.67%	3.81%	5.86%
2023.3	9.79%	4.23%	5.55%
2023.4	9.64%	4.80%	4.85%
AVERAGE	11.53%	6.09%	5.44%
MEDIAN	11.05%	5.35%	5.65%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9205958
R Square	0.8474967
Adjusted R Square	0.8466202
Standard Error	0.0056565
Observations	176

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.03094	0.03094	966.95886	0.00000
Residual	174	0.00557	0.00003		
Total	175	0.03651			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0808	0.00	85.17	0.0000	0.0789	0.0827	0.0789	0.0827
U.S. Govt. 30-year Treasury	(0.4330)	0.01	(31.10)	0.0000	(0.4605)	(0.4056)	(0.4605)	(0.4056)

	[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]	4.77%	6.01%	10.79%
Blue Chip Near-Term Projected Forecast (Q1 2024 - Q1 2025) [5]	4.48%	6.14%	10.62%
Blue Chip Long-Term Projected Forecast (2025-2029) [6]	4.10%	6.30%	10.40%
AVERAGE			10.60%

Notes:

[1] Regulatory Research Associates, rate cases through November 30, 2023

[2] S&P Capital IQ Pro, quarterly bond yields are the average of each trading day in the quarter

[3] Equals Column [1] − Column [2]

[4] S&P Capital IQ Pro, 30-day average as of November 30, 2023

[5] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2

[6] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14

[7] See notes [4], [5] & [6]

[8] Equals 0.080798 + (-0.433037 x Column [7])

[9] Equals Column [7] + Column [8]

2024-2027 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT
($ Millions)

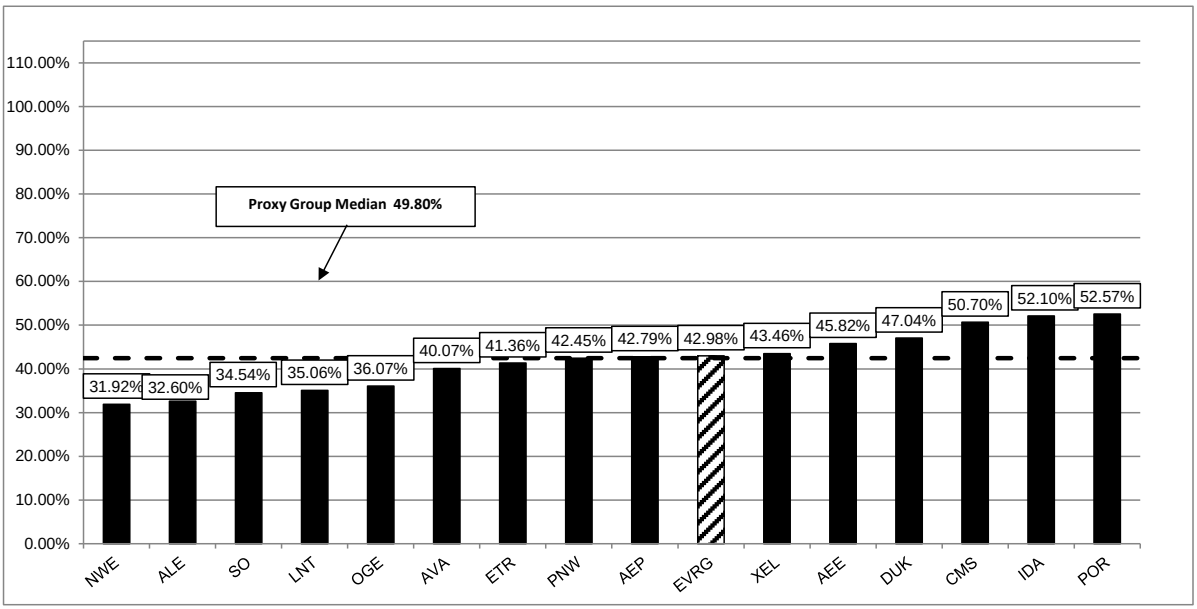
		[1]	[2]	[3]	[4]	[5]	[6]
		2022	2024	2025	2026	2027	2024-2028 Cap. Ex. / 2022 Net Plant
ALLETE, Inc.	ALE						
Capital Spending per Share			$5.95	$6.60	$7.25	$7.25	
Common Shares Outstanding			59.00	60.00	61.00	61.00	
Capital Expenditures			$351.1	$396.0	$442.3	$442.3	32.60%
Net Plant		$5,004.0					
Alliant Energy Corporation	LNT						
Capital Spending per Share			$5.80	$5.60	$5.40	$5.40	
Common Shares Outstanding			256.00	256.50	257.00	257.00	
Capital Expenditures			$1,484.8	$1,436.4	$1,387.8	$1,387.8	35.06%
Net Plant		$16,247.0					
Ameren Corporation	AEE						
Capital Spending per Share			$12.55	$12.78	$13.00	$13.00	
Common Shares Outstanding			269.00	277.00	285.00	285.00	
Capital Expenditures			$3,376.0	$3,538.7	$3,705.0	$3,705.0	45.82%
Net Plant		$31,262.0					
American Electric Power Company, Inc.	AEP						
Capital Spending per Share			$14.15	$14.08	$14.00	$14.00	
Common Shares Outstanding			530.00	540.00	550.00	550.00	
Capital Expenditures			$7,499.5	$7,600.5	$7,700.0	$7,700.0	42.79%
Net Plant		$71,283.0					
Avista Corporation	AVA						
Capital Spending per Share			$6.35	$6.55	$6.75	$6.75	
Common Shares Outstanding			78.50	81.75	85.00	85.00	
Capital Expenditures			$498.5	$535.5	$573.8	$573.8	40.07%
Net Plant		$5,444.7					
CMS Energy Corporation	CMS						
Capital Spending per Share			$9.50	$9.63	$9.75	$9.75	
Common Shares Outstanding			295.00	297.50	300.00	300.00	
Capital Expenditures			$2,802.5	$2,863.4	$2,925.0	$2,925.0	50.70%
Net Plant		$22,713.0					
Duke Energy Corporation	DUK						
Capital Spending per Share			$17.60	$17.18	$16.75	$16.75	
Common Shares Outstanding			770.00	770.00	770.00	770.00	
Capital Expenditures			$13,552.0	$13,224.8	$12,897.5	$12,897.5	47.04%
Net Plant		$111,748.0					
Entergy Corporation	ETR						
Capital Spending per Share			$19.00	$19.38	$19.75	$19.75	
Common Shares Outstanding			$218.00	224.00	230.00	230.00	
Capital Expenditures			$4,142.0	$4,340.0	$4,542.5	$4,542.5	41.36%
Net Plant		$42,477.0					
IDACORP, Inc	IDA						
Capital Spending per Share			$16.00	$13.50	$11.00	$11.00	
Common Shares Outstanding			51.50	52.25	53.00	53.00	
Capital Expenditures			$824.0	$705.4	$583.0	$583.0	52.10%
Net Plant		$5,173.0					
NextEra Energy, Inc.	NEE						
Capital Spending per Share			$9.50	$9.63	$9.75	$9.75	
Common Shares Outstanding			$2,025.00	2,037.50	2,050.00	2,050.00	
Capital Expenditures			$19,237.5	$19,610.9	$19,987.5	$19,987.5	70.97%
Net Plant		$111,059.0					
NorthWestern Corporation	NWE						
Capital Spending per Share			$7.75	$7.38	$7.00	$7.00	
Common Shares Outstanding			62.00	62.00	62.00	62.00	
Capital Expenditures			$480.5	$457.3	$434.0	$434.0	31.92%
Net Plant		$5,657.5					
OGE Energy Corporation	OGE						
Capital Spending per Share			$4.75	$4.75	$4.75	$4.75	
Common Shares Outstanding			200.20	200.20	200.20	200.20	

2024-2027 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT
($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]
		2022	2024	2025	2026	2027	2024-2028 Cap. Ex. / 2022 Net Plant
Capital Expenditures			$951.0	$951.0	$951.0	$951.0	36.07%
Net Plant		$10,546.8					
Pinnacle West Capital Corporation	PNW						
Capital Spending per Share			$15.00	$15.00	$15.00	$15.00	
Common Shares Outstanding			$118.00	119.00	120.00	120.00	
Capital Expenditures			$1,770.0	$1,785.0	$1,800.0	$1,800.0	42.45%
Net Plant		$16,854.0					
Portland General Electric Company	POR						
Capital Spending per Share			$10.75	$10.88	$11.00	$11.00	
Common Shares Outstanding			102.00	102.00	102.00	102.00	
Capital Expenditures			$1,096.5	$1,109.3	$1,122.0	$1,122.0	52.57%
Net Plant		$8,465.0					
Southern Company	SO						
Capital Spending per Share			$7.85	$7.68	$7.50	$7.50	
Common Shares Outstanding			1,070.00	1,070.00	1,070.00	1,070.00	
Capital Expenditures			$8,399.5	$8,212.3	$8,025.0	$8,025.0	34.54%
Net Plant		$94,570.0					
Xcel Energy Inc.	XEL						
Capital Spending per Share			$9.25	$9.38	$9.50	$9.50	
Common Shares Outstanding			553.00	556.50	560.00	560.00	
Capital Expenditures			$5,115.3	$5,217.2	$5,320.0	$5,320.0	43.46%
Net Plant		$48,253.0					
Evergy Missouri West	EVRG						
Capital Expenditures [7]			$292.0	$320.0	$429.0	$406.0	42.98%
Net Electric Plant in Service [8]		$3,366.44					

Notes:
[1] - [5] Value Line November 10, October 20, 2023, September 8, 2023.
[6] Equals (Column [2] + [3] + [4] + [5] + [6]) / Column [1]
[7] - [8] Data provided by Evergy Missouri West.

2024-2027 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT



Projected CAPEX / 2022 Net Plant

	Company		2024-2027
1	NorthWestern Corporation	NWE	31.92%
2	ALLETE, Inc.	ALE	32.60%
3	Southern Company	SO	34.54%
4	Alliant Energy Corporation	LNT	35.06%
5	OGE Energy Corporation	OGE	36.07%
6	Avista Corporation	AVA	40.07%
7	Entergy Corporation	ETR	41.36%
8	Pinnacle West Capital Corporation	PNW	42.45%
9	American Electric Power Company, Inc.	AEP	42.79%
10	Evergy Missouri West	EVRG	42.98%
11	Xcel Energy Inc.	XEL	43.46%
12	Ameren Corporation	AEE	45.82%
13	Duke Energy Corporation	DUK	47.04%
14	CMS Energy Corporation	CMS	50.70%
15	IDACORP, Inc	IDA	52.10%
16	Portland General Electric Company	POR	52.57%
	Proxy Group Median		42.45%
	Evergy Missouri West/Proxy Group		1.01

Notes:
Schedule AEB-8, page 1, col. [7]

COMPARATIVE REGULATORY COST RECOVERY RISK ASSESSMENT

				[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
					Decoupling / Reveue Stabilization				Capital Cost Recovery					
Proxy Group Company	Operating Subsidiary	Jurisdiction	Service	Test Year	Revenue Decoupling	Formula-Based Rates	Straight Fixed-Variable Rate Design	Total	Traditional Generation	Renewables/ Non-Traditional Generation	Delivery Infrastructure	Environmental Compliance	Total	Fuel Adjustment Clause
ALLETE, Inc.	ALLETE (Minnesota Power)	Minnesota	Electric	Fully Forecast	No	No	No	No	No	Yes	No	No	Yes	Yes
Alliant Energy Corporation	Interstate Power & Light Co.	Iowa	Electric	Historical	No	No	No	No	No	Yes	No	Yes	Yes	Yes
	Interstate Power & Light Co.	Iowa	Gas	Historical	No	No	No	No	No	No	No	No	No	Yes
	Wisconsin Power & Light Co.	Wisconsin	Electric	Fully Forecast	No	No	No	No	No	No	No	No	No	Yes
	Wisconsin Power & Light Co.	Wisconsin	Gas	Fully Forecast	No	No	No	No	No	No	No	No	No	Yes
Ameren Corporation	Ameren Illinois Co.	Illinois	Electric	Historical	Partial	Yes	No	Yes	No	Yes	No	Yes	Yes	n/a
	Ameren Illinois Co.	Illinois	Gas	Fully Forecast	Partial	No	No	Yes	No	No	Yes	Yes	Yes	Yes
	Union Electric Co.	Missouri	Electric	Historical	Partial	No	No	Yes	No	Yes	Yes	No	Yes	Yes
	Union Electric Co.	Missouri	Gas	Historical	Partial	No	No	Yes	No	No	Yes	No	Yes	Yes
American Electric Power Company, Inc.	Southwestern Electric Power Co.	Arkansas	Electric	Historical	Partial	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes
	Indiana Michigan Power Co.	Indiana	Electric	Fully Forecast	Full	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
	Kentucky Power Co.	Kentucky	Electric	Fully Forecast	Partial	No	No	Yes	No	No	Yes	No	Yes	Yes
	Southwestern Electric Power Co.	Louisiana	Electric	Historical	Partial	Yes	No	Yes	No	No	No	No	No	Yes
	Indiana Michigan Power Co.	Michigan	Electric	Fully Forecast	Partial	No	No	Yes	No	Yes	No	No	Yes	Yes
	Ohio Power Co.	Ohio	Electric	Partially Forecast	Partial	No	No	Yes	No	Yes	Yes	No	Yes	Yes
	Public Service Co. of Oklahoma	Oklahoma	Electric	Historical	Partial	No	No	Yes	No	Yes	Yes	No	Yes	Yes
	Kingsport Power Co.	Tennessee	Electric	Fully Forecast	No	No	No	No	No	No	No	No	No	Yes
	AEP Texas Inc.	Texas	Electric	Historical	No	No	No	No	No	No	Yes	No	Yes	n/a
	Southwestern Electric Power Co.	Texas	Electric	Historical	No	No	No	No	No	No	Yes	No	Yes	Yes
	Appalachian Power Co.	Virginia	Electric	Historical	No	No	No	No	Yes	No	No	Yes	Yes	Yes
	Appalachian Power Co./Wheeling Power Co.	West Virginia	Electric	Historical	No	No	No	No	No	No	No	Yes	Yes	Yes
Avista Corporation	Alaska Electric Light & Power Co.	Alaska	Electric	Historical	No	No	No	No	No	No	No	No	No	Yes
	Avista Corp.	Idaho	Electric	Historical	Full	No	No	Yes	No	No	No	No	No	Yes w/ sharing
	Avista Corp.	Idaho	Gas	Historical	Full	No	No	Yes	No	No	No	No	No	Yes
	Avista Corp.	Oregon	Gas	Fully Forecast	Partial	No	No	Yes	No	No	No	No	No	Yes
	Avista Corp.	Washington	Electric	Historical	Full	No	No	Yes	No	No	No	No	No	Yes w/ sharing
	Avista Corp.	Washington	Gas	Historical	Full	No	No	Yes	No	No	No	No	No	Yes w/ sharing
CMS Energy Corporation	Consumers Energy Co.	Michigan	Electric	Fully Forecast	No	No	No	No	No	Yes	No	No	Yes	Yes
	Consumers Energy Co.	Michigan	Gas	Fully Forecast	Partial	No	No	Yes	No	No	No	No	No	Yes
Duke Energy Corporation	Duke Energy Florida LLC	Florida	Electric	Fully Forecast	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes
	Duke Energy Indiana LLC	Indiana	Electric	Historical	Partial	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes
	Duke Energy Kentucky Inc.	Kentucky	Electric	Fully Forecast	Partial	No	No	Yes	No	No	No	Yes	Yes	Yes
	Duke Energy Kentucky Inc.	Kentucky	Gas	Fully Forecast	Partial	No	No	Yes	No	No	Yes	No	Yes	Yes
	Duke Energy Carolinas/Duke Energy Progress	North Carolina	Electric	Historical	No	No	No	No	No	Yes	No	Yes	Yes	Yes
	Piedmont Natural Gas Co. Inc.	North Carolina	Gas	Historical	Full	No	No	Yes	No	No	Yes	No	Yes	Yes
	Duke Energy Ohio Inc.	Ohio	Electric	Partially Forecast	Partial	No	No	Yes	No	Yes	Yes	No	Yes	Yes
	Duke Energy Ohio Inc.	Ohio	Gas	Partially Forecast	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
	Duke Energy Carolinas/Duke Energy Progress	South Carolina	Electric	Historical	No	No	No	No	No	Yes	No	Yes	Yes	Yes
	Piedmont Natural Gas Co. Inc.	South Carolina	Gas	Historical	Partial	No	No	Yes	No	No	No	No	No	Yes
	Piedmont Natural Gas Co. Inc.	Tennessee	Gas	Fully Forecast	Partial	No	No	Yes	No	No	Yes	No	Yes	Yes
Entergy Corporation	Entergy Arkansas LLC	Arkansas	Electric	Fully Forecast	Partial	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes
	Entergy New Orleans LLC	Louisiana-NOCC	Electric	Partially Forecast	No	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes
	Entergy New Orleans LLC	Louisiana-NOCC	Gas	Partially Forecast	No	Yes	No	Yes	No	No	No	No	No	Yes
	Entergy Louisiana LLC	Louisiana	Electric	Historical	Partial	Yes	No	Yes	No	No	No	Yes	Yes	Yes
	Entergy Louisiana LLC	Louisiana	Gas	Historical	No	Yes	No	Yes	No	No	Yes	No	Yes	Yes
	Entergy Mississippi LLC	Mississippi	Electric	Fully Forecast	Partial	Yes	No	Yes	No	No	No	No	No	Yes
	Entergy Texas Inc.	Texas	Electric	Historical	No	No	No	No	Yes	No	Yes	No	Yes	Yes
IDACORP, Inc.	Idaho Power Co.	Idaho	Electric	Partially Forecast	Full	No	No	Yes	No	No	No	No	No	Yes w/ sharing
	Idaho Power Co.	Oregon	Electric	Partially Forecast	No	No	No	No	No	No	No	No	No	Yes
NextEra Energy, Inc.	Florida Power & Light Co.	Florida	Electric	Fully Forecast	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes
	Pivotal Utility Holdings Inc.	Florida	Gas	Fully Forecast	No	No	No	No	No	No	Yes	Yes	Yes	Yes
	Lone Star Transmission LLC	Texas	Electric	Historical	No	No	No	No	No	No	Yes	No	Yes	n/a
NorthWestern Corporation	NorthWestern Corporation	Montana	Electric	Historical	No	No	No	No	No	No	No	No	No	Yes w/ sharing
	NorthWestern Corporation	Montana	Gas	Historical	No	No	No	No	No	No	No	No	No	Yes
	NorthWestern Corporation	Nebraska	Gas	Historical	No	No	No	No	No	No	No	No	No	Yes
	NorthWestern Corporation	South Dakota	Electric	Historical	No	No	No	No	No	No	No	No	No	Yes
	NorthWestern Corporation	South Dakota	Gas	Historical	No	No	No	No	No	No	No	No	No	Yes
OGE Energy Corporation	Oklahoma Gas & Electric Co.	Arkansas	Electric	Historical	Partial	No	Yes	Yes	No	No	Yes	No	Yes	Yes
	Oklahoma Gas & Electric Co.	Oklahoma	Electric	Historical	Partial	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Pinnacle West Capital Corporation	Arizona Public Service Co.	Arizona	Electric	Historical	Partial	No	No	Yes	No	Yes	No	Yes	Yes	Yes

COMPARATIVE REGULATORY COST RECOVERY RISK ASSESSMENT

				[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
					Decoupling / Reveue Stabilization				Capital Cost Recovery						
Proxy Group Company	**Operating Subsidiary**	**Jurisdiction**	**Service**	**Test Year**	**Revenue Decoupling**	**Formula-Based Rates**	**Straight Fixed-Variable Rate Design**	**Total**	**Traditional Generation**	**Renewables/ Non-Traditional Generation**	**Delivery Infrastructure**	**Environmental Compliance**	**Total**		**Fuel Adjustment Clause**
Portland General Electric Company	Portland General Electric Co.	Oregon	Electric	Fully Forecast	No	No	No	No	Yes	Yes	No	Yes	Yes		Yes
Southern Company	Alabama Power Co.	Alabama	Electric	Historical	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes		Yes
	Atlanta Gas Light Co.	Georgia	Electric	Fully Forecast	No	Yes	No	Yes	No	No	Yes	Yes	Yes		Yes
	Georgia Power Co.	Georgia	Gas	Fully Forecast	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes		n/a
	Northern Illinois Gas Co.	Illinois	Gas	Fully Forecast	Partial	No	No	Yes	No	No	Yes	Yes	Yes		Yes
	Mississippi Power Co.	Mississippi	Electric	Fully Forecast	Partial	Yes	No	Yes	No	No	No	Yes	Yes		Yes
	Chattanooga Gas Co.	Tennessee	Gas	Historical	Partial	Yes	No	Yes	No	No	No	No	No		Yes
	Virginia Natural Gas Inc.	Virginia	Gas	Historical	Partial	No	No	Yes	No	No	Yes	No	Yes		Yes
Xcel Energy Inc.	Public Service Co. of Colorado	Colorado	Electric	Historical	Partial	No	No	Yes	No	Yes	No	No	Yes		Yes
	Public Service Co. of Colorado	Colorado	Gas	Historical	Partial	No	No	Yes	No	No	Yes	No	Yes		Yes
	Northern States Power Co.-Minnesota	Minnesota	Electric	Fully Forecast	Partial	Yes	No	Yes	No	Yes	No	Yes	Yes		Yes
	Northern States Power Co.-Minnesota	Minnesota	Gas	Fully Forecast	No	No	No	No	No	No	Yes	No	Yes		Yes
	Southwestern Public Service Co.	New Mexico	Electric	Historical	No	No	No	No	No	Yes	No	No	Yes		Yes
	Northern States Power Co.-Minnesota	North Dakota	Electric	Fully Forecast	No	No	No	No	No	Yes	Yes	No	Yes		Yes
	Northern States Power Co.-Minnesota	North Dakota	Gas	Fully Forecast	No	No	Yes	Yes	No	No	No	No	No		Yes
	Northern States Power Co.-Minnesota	South Dakota	Electric	Historical	Partial	No	No	Yes	Yes	No	Yes	Yes	Yes		Yes
	Southwestern Public Service Co.	Texas	Electric	Historical	No	No	No	No	No	No	No	No	No		Yes
	Northern States Power Co.-Wisconsin	Wisconsin	Electric	Fully Forecast	No	No	No	No	No	No	No	No	No		Yes
	Northern States Power Co.-Wisconsin	Wisconsin	Gas	Fully Forecast	No	No	No	No	No	No	No	No	No		Yes
Proxy Group Average			Fully Forecast	30				Yes 47					Yes 52	Yes	69
			Partially Forecast	7				No 32					No 27	Yes w/ sharing	5
			Historical	42											
			% with Forecast:				% with Form of					% with Form of		% with Full FCA	
			Test Year	46.8%			Revenue Stabilization	59.5%				Capital Cost Recovery	65.8%	Cost Recovery	93.2%
Evergy Missouri Inc. [12]				Historical	Partial	No	No	Yes	No	Yes	Yes	No	Yes		Yes w/ sharing

Notes:

[1] Regulatory Research Associates, effective as of July 31, 2023

[2] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022. Operating subsidiaries not covered in this report were excluded from this exhibit.

[3] Company Form 10-K, Company Tariffs, S&P Capital IQ Pro

[4] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022.

[5] Equals IF(AND([2]=No, [3]=No, [4]=No), No, Yes)

[6] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022.

[7] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022.

[8] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022.

[9] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022.

[10] Equals IF(AND([6]=No, [7]=No, [8]=No, [9]=No), No, Yes)

[11] S&P Global Market Intelligence, Regulatory Focus: Adjustment Clauses, dated July 18, 2022.

[12] Company provided data.

COMPARISON OF EVERGY MISSOURI WEST AND PROXY GROUP COMPANIES
RRA JURISDICTIONAL RANKINGS

		[1]	[2]
		RRA	
		Rank	Numeric Rank
ALLETE, Inc.	Minnesota	Average/2	5
Alliant Energy Corporation	Iowa	Above Average/3	3
	Wisconsin	Above Average/3	3
Ameren Corporation	Illinois	Average/2	5
	Missouri	Average/3	6
American Electric Power Company, Inc.	Arkansas	Average/1	4
	Indiana	Average/1	4
	Kentucky	Average/2	5
	Louisiana — PSC	Average/2	5
	Michigan	Above Average/3	3
	Ohio	Average/2	5
	Oklahoma	Average/3	6
	Tennessee	Above Average/3	3
	Texas — PUC	Average/3	6
	Virginia	Average/2	5
	West Virginia	Below Average/1	7
Avista Corporation	Alaska	Below Average/1	7
	Idaho	Average/2	5
	Oregon	Average/2	5
	Washington	Average/3	6
CMS Energy Corporation	Michigan	Above Average/3	3
Duke Energy	Florida	Above Average/2	2
	Indiana	Average/1	4
	Kentucky	Average/2	5
	North Carolina	Above Average/3	3
	Ohio	Average/2	5
	South Carolina	Average/3	6
	Tennessee	Above Average/3	3
Entergy	Arkansas	Average/1	4
	Louisiana — NOCC	Average/3	6
	Louisiana — PSC	Average/2	5
	Mississippi	Above Average/3	3
	Texas — PUC	Average/3	6
IDACORP, Inc.	Idaho	Average/2	5
	Oregon	Average/2	5

COMPARISON OF EVERGY MISSOURI WEST AND PROXY GROUP COMPANIES
RRA JURISDICTIONAL RANKINGS

		[1]	[2]
		RRA	
		Rank	Numeric Rank
NextEra Energy, Inc.	Florida	Above Average/2	2
	Texas — PUC	Average/3	6
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
Pinnacle West Capital Corporation	Arizona	Below Average/3	9
Portland General Electric Company	Oregon	Average/2	5
Southern Company	Alabama	Above Average/1	1
	Georgia	Above Average/2	2
	Illinois	Average/2	5
	Mississippi	Above Average/3	3
	Tennessee	Above Average/3	3
	Virginia	Average/2	5
Xcel Energy Inc.	Colorado	Average/1	4
	Minnesota	Average/2	5
	North Dakota	Average/1	4
	New Mexico	Below Average/1	7
	South Dakota	Average/2	5
	Texas — PUC	Average/3	6
	Wisconsin	Above Average/3	3
Proxy Group Average		Average / 1 - Average / 2	4.63
Evergy Missouri West	Missouri	Average/3	6

Notes
[1] State Regulatory Evaluations, Regulatory Research Associates, as of December 4, 2023
[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 S&P JURSIDICTIONAL RANKINGS

		[1]	[2]
		S&P	
		Rank	Numeric Rank
ALLETE, Inc.	Minnesota	Highly credit supportive	2
Alliant Energy Corporation	Iowa	Most credit supportive	1
	Wisconsin	Most credit supportive	1
Ameren Corporation	Illinois	Very credit supportive	3
	Missouri	Very credit supportive	3
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	Very credit supportive	3
	Tennessee	Highly credit supportive	2
	Texas	Very credit supportive	3
	Virginia	Highly credit supportive	2
	West Virginia	Very credit supportive	3
Avista Corporation	Alaska	More credit supportive	4
	Idaho	Very credit supportive	3
	Oregon	More credit supportive	4
	Washington	Very credit supportive	3
CMS Energy Corporation	Michigan	Most credit supportive	1
Duke Energy	Florida	Most credit supportive	1
	Indiana	Highly credit supportive	2
	Kentucky	Most credit supportive	1
	North Carolina	Highly credit supportive	2
	Ohio	Very credit supportive	3
	South Carolina	More credit supportive	4
	Tennessee	Highly credit supportive	2
Entergy	Arkansas	Highly credit supportive	2
	Louisiana-NOCC	More credit supportive	4
	Louisiana	Highly credit supportive	2
	Mississippi	Very credit supportive	3
	Texas	Very credit supportive	3
IDACORP, Inc.	Idaho	Very credit supportive	3
	Oregon	More credit supportive	4

COMPARISON OF S&P JURSIDICTIONAL RANKINGS

		[1]	[2]
		S&P	
		Rank	Numeric Rank
NextEra Energy, Inc.	Florida	Most credit supportive	1
	Texas	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	Very credit supportive	3
Pinnacle West Capital Corporation	Arizona	More credit supportive	4
Portland General Electric Company	Oregon	More credit supportive	4
Southern Company	Alabama	Most credit supportive	1
	Georgia	Highly credit supportive	2
	Illinois	Very credit supportive	3
	Mississippi	Very credit supportive	3
	Tennessee	Highly credit supportive	2
	Virginia	Highly credit supportive	2
Xcel Energy Inc.	Colorado	Very credit supportive	3
	Minnesota	Highly credit supportive	2
	North Dakota	Highly credit supportive	2
	New Mexico	Credit supportive	5
	South Dakota	Very credit supportive	3
	Texas	Very credit supportive	3
	Wisconsin	Most credit supportive	1
Proxy Group Average		Very credit supportive / Highly credit supportive	2.53
Evergy Missouri West	Missouri	Very credit supportive	3

Notes

[1] North American Utility Regulatory Jurisdictions, S&P Global Ratings, November 10, 2023

[2] Most= 1, Highly= 2, Very= 3, More= 4, Credit Supportive= 5

Capital Structure Analysis

Proxy Group Company	Ticker	Most Recent 8 Quarters Common Equity Ratio	Long-Term Debt Ratio	Preferred Equity Ratio	Total Capitalization
ALLETE, Inc.	ALE	59.40%	40.60%	0.00%	100.00%
Alliant Energy Corporation	LNT	52.14%	47.86%	0.00%	100.00%
Ameren Corporation	AEE	53.23%	46.21%	0.56%	100.00%
American Electric Power Company, Inc.	AEP	48.49%	51.51%	0.00%	100.00%
Avista Corporation	AVA	49.67%	50.33%	0.00%	100.00%
CMS Energy Corporation	CMS	51.34%	48.47%	0.19%	100.00%
Duke Energy Corporation	DUK	52.69%	47.31%	0.00%	100.00%
Entergy Corporation	ETR	47.75%	52.15%	0.10%	100.00%
IDACORP, Inc.	IDA	52.95%	47.05%	0.00%	100.00%
NextEra Energy, Inc.	NEE	60.71%	39.29%	0.00%	100.00%
NorthWestern Corporation	NWE	49.69%	50.31%	0.00%	100.00%
OGE Energy Corporation	OGE	54.00%	46.00%	0.00%	100.00%
Pinnacle West Capital Corporation	PNW	50.88%	49.12%	0.00%	100.00%
Portland General Electric Company	POR	45.73%	54.27%	0.00%	100.00%
Southern Company	SO	55.55%	44.26%	0.19%	100.00%
Xcel Energy Inc.	XEL	54.41%	45.59%	0.00%	100.00%
Average		52.41%	47.52%	0.06%	
Median		52.41%	47.59%	0.00%	
Maximum		60.71%	54.27%	0.56%	
Minimum		45.73%	39.29%	0.00%	

Notes:

[1] Ratios are weighted by actual common capital, preferred capital, and long-term debt of the operating subsidiaries.

[2] Electric operating subsidiaries with data listed as N/A from S&P Capital IQ Pro have been excluded from the analysis.

Cost of Long-Term Debt Analysis

Description	[1] Principal Amount of Issue	[1] Date of Settlement	[1] Date of Maturity	[1] Yield to Maturity	[2] Moody's A-Rated Utility Bond Yield	[2] Moody's Baa-Rated Utility Bond Yield
2013 Sr. Notes Series A 3.49% Due 2025	$36,000,000	08/16/2013	08/15/2025	3.73%	4.83%	5.39%
2013 Sr. Notes Series B 4.06% Due 2033	$60,000,000	08/16/2013	08/15/2033	4.13%	4.83%	5.39%
2013 Sr. Notes Series C 4.74% Due 2043	$150,000,000	08/16/2013	08/15/2043	4.79%	4.83%	5.39%
2021 Sr. Notes Series A 2.86% Due 2031	$350,000,000	04/20/2021	04/20/2031	2.93%	3.27%	3.53%
2021 Sr. Notes Series B 3.01% Due 2033	$75,000,000	04/20/2021	04/20/2033	3.07%	3.27%	3.53%
2021 Sr. Notes Series C 3.21% Due 2036	$75,000,000	04/20/2021	04/20/2036	3.26%	3.27%	3.53%
2022 FMB 3.75% Due 2032	$250,000,000	03/17/2022	03/15/2032	3.88%	4.05%	4.35%
2022 FMB 5.15% Due 2027	$300,000,000	12/05/2022	12/15/2027	5.38%	5.29%	5.59%

Notes:

[1] Company-provided data

[2] Bloomberg Professional

[3] Utility bond yields for this future issuance estimated based on projected 30-year Treasury bond yield as of the projected date of settlement for the issuance and 90-day historical average spread between 30-year Treasury bond yield and the applicable utility bond yield.