

1 significant amount of debt relative to the Company's size. In addition, Moody's recognizes
2 the use of distribution and transmission cost recovery mechanisms as important to increase
3 revenue and cash flow. Finally, Moody's noted that the outcome of the current rate
4 proceeding could have an effect on the Company's credit metrics.⁶⁶

5 **Q: WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECT OF THE**
6 **COMPANY'S CAPITAL SPENDING REQUIREMENTS ON ITS RISK PROFILE**
7 **AND COST OF CAPITAL?**

8 A. The Company's capital expenditure requirements are significantly higher than its historical
9 requirements and well above those of the proxy companies on a percentage of utility, and
10 are expected to continue over the next few years. Accordingly, all else equal, the
11 Company's substantial capital expenditure requirements indicate a higher risk relative to
12 the proxy group.

13 **B. Regulatory Risks**

14 **Q: HOW DOES THE REGULATORY ENVIRONMENT AFFECT INVESTORS'**
15 **RISK ASSESSMENTS?**

16 A. The ratemaking process is premised on the principle that, for investors and companies to
17 commit the capital needed to provide safe and reliable utility service, the subject utility
18 must have the opportunity to recover the return of, and the market-required return on,
19 invested capital. Regulatory commissions recognize that because utility operations are
20 capital intensive, their decisions should enable the utility to attract capital at reasonable
21 terms, and that doing so balances the long-term interests of investors and customers.

⁶⁶ Moody's Invs. Serv., *Credit Opinion, CenterPoint Energy Houston Electric, LLC* at 4 (Jan. 11, 2024)[CONFIDENTIAL].

1 Utilities must finance their operations and thus require the opportunity to earn a reasonable
2 return on their invested capital to maintain their financial profiles. The Company is no
3 exception. Therefore, the regulatory environment is one of the most important factors
4 considered in both debt and equity investors' risk assessments.

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

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

19 **Q: DO CREDIT RATING AGENCIES CONSIDER REGULATORY RISK IN**
20 **ESTABLISHING A COMPANY'S CREDIT RATING?**

21 A. Yes. Both S&P and Moody's consider the overall regulatory framework in establishing
22 credit ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory
23 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.⁶⁷

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."⁶⁸

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.⁶⁹

Q: HOW DOES THE REGULATORY ENVIRONMENT IN WHICH A UTILITY OPERATES AFFECT ITS ACCESS TO AND COST OF CAPITAL?

A. The regulatory environment can significantly affect both the access to, and cost of, capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "[f]or rate regulated utilities, which typically operate as a monopoly, the regulatory environment and how the utility adapts to that environment are the most important credit considerations."⁷⁰ Moody's has further highlighted the relevance of a

⁶⁷ Moody's Invs. Serv., *Rating Methodology: Regulated Electric and Gas Utilities* at 4 (Jun. 23, 2017).

⁶⁸ S&P Glob. Ratings, *Ratings Direct. U.S. and Canadian Regulatory Jurisdictions Support Utilities' Credit Quality—But Some More So Than Others* at 2 (Jun. 25, 2018).

⁶⁹ *Id.* at 1.

⁷⁰ Moody's Invs. Serv., *Rating Methodology: Regulated Electric and Gas Utilities* at 6 (Jun. 23, 2017).

1 stable and predictable regulatory environment to a utility's credit quality, noting:
 2 "[b]roadly speaking, the Regulatory Framework is the foundation for how all the decisions
 3 that affect utilities are made (including the setting of rates), as well as the predictability
 4 and consistency of decision-making provided by that foundation."⁷¹

5 1. Recovery Mechanisms

6 **Q: HAVE YOU CONDUCTED ANY ANALYSIS OF THE REGULATORY**
 7 **FRAMEWORK IN TEXAS RELATIVE TO THE JURISDICTIONS IN WHICH**
 8 **THE COMPANIES IN YOUR PROXY GROUP OPERATE?**

9 A. Yes. I have evaluated the regulatory framework in Texas considering three factors that are
 10 important to provide a regulated utility an opportunity to earn its authorized ROE: (1) test
 11 year convention (*i.e.*, forecast vs. historical); (2) the use of rate design or other mechanisms
 12 that mitigate volumetric risk and stabilize revenue; and (3) the ability to recover capital
 13 costs between rate cases. The results of this regulatory risk assessment are shown in
 14 Exhibit AEB-11 and are summarized below.

15 Test Year Convention: CenterPoint Houston is proposing a historical test year,
 16 which means that its rates will be established based on historical costs. As shown
 17 in Exhibit AEB-11, approximately 41 percent of the utility operating subsidiaries
 18 of the companies in the proxy group have partially or fully forecasted test years.
 19 Forecasted test years result in more prompt recovery of incurred costs and thus
 20 mitigate the regulatory lag associated with historical test years. As Lowry, Hovde,
 21 Getachew, and Makos (2010) explain:

⁷¹ *Id.*

1 This report provides an in depth discussion of the test year issue. It
 2 includes the results of empirical research which explores why the
 3 unit costs of electric IOUs are rising and shows that utilities
 4 operating under forward test years realize higher returns on capital
 5 and have credit ratings that are materially better than those of
 6 utilities operating under historical test years. The research suggests
 7 that shifting to a future test year is a prime strategy for rebuilding
 8 utility credit ratings as insurance against an uncertain future.⁷²

9 Non-Volumetric Rate Design/Revenue Stabilization: While CenterPoint Houston
 10 does recover a portion of its costs through a fixed customer charge, which is similar
 11 to many utility operating companies, and the Distribution Cost Recovery Factor
 12 (“DCRF”) Rider, it does not have the same level of protection against volumetric
 13 risk as exists through straight fixed variable rate design, a revenue decoupling
 14 mechanism, or a formula rate plan.⁷³ As shown in Exhibit AEB-11, approximately
 15 60 percent of the utility operating subsidiaries of the proxy group companies have
 16 implemented at least one of these more comprehensive mechanisms to provide
 17 protection against volumetric risk and provide revenue stabilization. Therefore, the
 18 Company has relatively greater risk that it may not be able to recover its fixed costs
 19 if customer usage is below the level projected in the rate proceeding, thereby
 20 increasing the risk that the Company would not be able to earn its authorized ROE.

21 Capital Cost Recovery: CenterPoint Houston does have capital tracking
 22 mechanisms to recover capital investment costs between rate cases. Specifically,
 23 the Company is able to recover qualifying capital costs through the following
 24 capital tracking mechanisms:

⁷² Mark Newton Lowry et al., *Forward Test Years for US Electric Utilities* at 1 (Aug. 2010).

⁷³ The DCRF accounts for changes in customer growth but does not address all volumetric variability.

- 1 • DCRF Rider: provides for the ability to adjust rates up to twice per year to
2 recover incremental changes in certain distribution capital costs, such as
3 distribution plant; however these capital costs are subject to review for
4 prudence and reasonableness in the next rate case. Further, this rider is only
5 available for use if the Company is not earning its authorized ROE using
6 weather-normalized data.
- 7 • Interim Transmission Cost of Service adjustment (“TCOS”): provides the
8 Company the ability to adjust wholesale transmission rates to recover changes
9 in invested capital, depreciation, and associated taxes that were not included in
10 the Company’s last rate proceeding.
- 11 • Temporary Emergency Electric Energy Facilities Rider (“TEEEF”): provides
12 for the ability to recover the reasonable and necessary costs of leasing or
13 procuring, owning, and operating TEEEF facilities; starting in 2021, the
14 Company has leased approximately 500 MW of TEEEF, and the lease payments
15 have been treated as capital leases.
- 16 • Resiliency Plan: provides the opportunity for the Company to propose a
17 forward-looking capital plan specifically focused on resiliency investment
18 outside of a rate case; however, the Company does not have an approved
19 Resiliency Plan at this time.

20 Likewise, approximately 73 percent of the utility operating subsidiaries of the proxy group
21 companies also have some form of capital cost recovery mechanism in place. The ability
22 to begin to earn a return on and of capital between rate proceedings provides the Company,
23 as well as the vast majority of the proxy group companies, the ability to service the debt

and provide a return on equity on investments made between cases and provides a reasonable opportunity to earn its authorized ROE.

Q: HAVE YOU CONDUCTED ANY ADDITIONAL ANALYSES TO EVALUATE THE REGULATORY ENVIRONMENT IN TEXAS AS COMPARED TO THE JURISDICTIONS IN WHICH THE COMPANIES IN THE PROXY GROUP OPERATE?

A. Yes, I have conducted an additional analysis to compare the regulatory framework of Texas to the jurisdictions in which the companies in the proxy group operate by evaluating the jurisdictional regulatory rankings published by RRA. 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.

Q: PLEASE EXPLAIN HOW YOU USED THE RRA RANKINGS TO COMPARE THE REGULATORY JURISDICTIONS OF THE PROXY GROUP COMPANIES TO THE COMPANY.

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

1 RRA rankings with “Above Average/1” assigned the highest ranking (*i.e.*, a “1”) and
 2 “Below Average/3” assigned the lowest ranking (*i.e.*, a “9”).

3 As shown on Schedule AEB-12, RRA’s jurisdictional ranking for Texas is
 4 “Average / 3,” which is the sixth of the nine tiers (*i.e.*, a “6”), meaning that RRA views
 5 Texas as slightly below the average in terms of regulatory supportiveness across the United
 6 States. In comparison, the proxy group average RRA ranking is between “Average/1” and
 7 “Average/2” (*i.e.*, a “4.90”), which means that the Company is viewed by RRA as having
 8 greater regulatory risk relative to the proxy group. RRA notes the use of historical test
 9 periods, recovery mechanisms that rely on historical test years, and after-the-fact prudence
 10 reviews that leave open the possibility of disallowances, and the length of rate proceedings
 11 as exacerbating regulatory lag.⁷⁴

12 **Q: HOW DID YOU CONDUCT YOUR ANALYSIS OF THE S&P CREDIT**
 13 **SUPPORTIVENESS?**

14 A. For credit supportiveness, S&P classifies each regulatory jurisdiction into five categories
 15 that range from “Credit Supportive” to “Most Credit Supportive.” My analysis of the credit
 16 supportiveness of the regulatory jurisdictions in which the proxy companies operate
 17 relative to the Company’s regulatory jurisdiction is similar to the analysis of the RRA
 18 overall regulatory ranking just discussed. Specifically, I assign a numerical ranking to each
 19 of S&P’s categories, from Most Credit Supportive (“1”) to Credit Supportive (“5”). As
 20 shown in Schedule AEB-13, the proxy group average ranking is 2.52, which would be
 21 classified between “Very Credit Supportive” and “Highly Credit Supportive,” while the

⁷⁴ RRA Commission overview, accessed as of November 15, 2023.

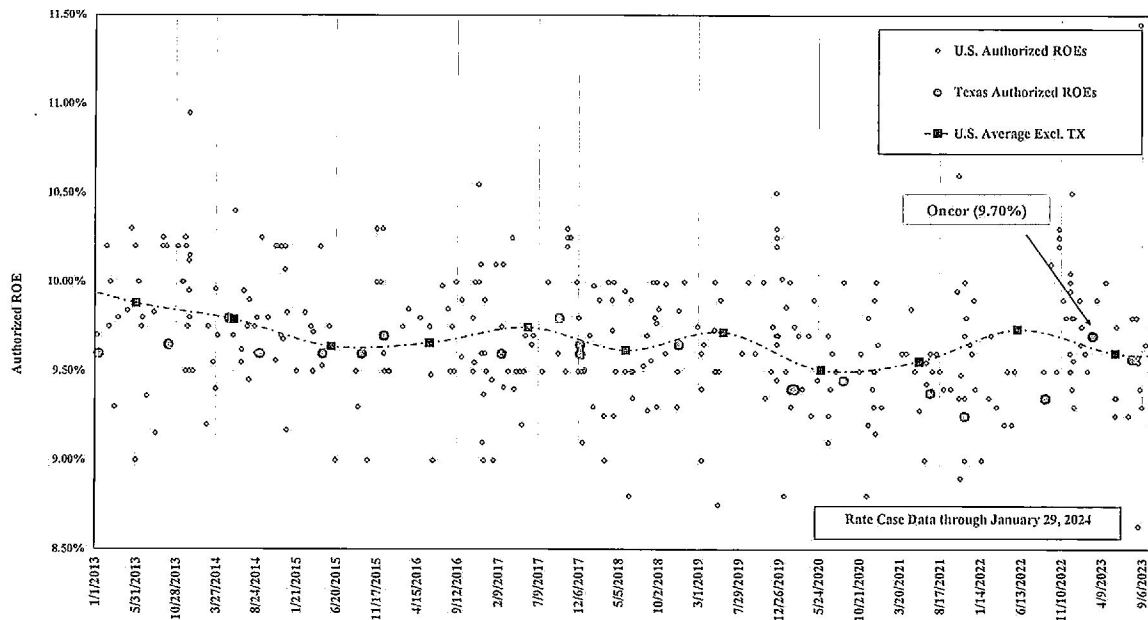
1 Company's rank is lower at "Very Credit Supportive" ("3"), which suggests that investors
2 perceive regulation for the Company as below average relative to the proxy group.

3 **2. Authorized ROEs**

4 **Q: HOW DO THE RETURNS THAT HAVE BEEN AUTHORIZED IN TEXAS**
5 **COMPARE TO THE AUTHORIZED RETURNS IN OTHER JURISDICTIONS?**

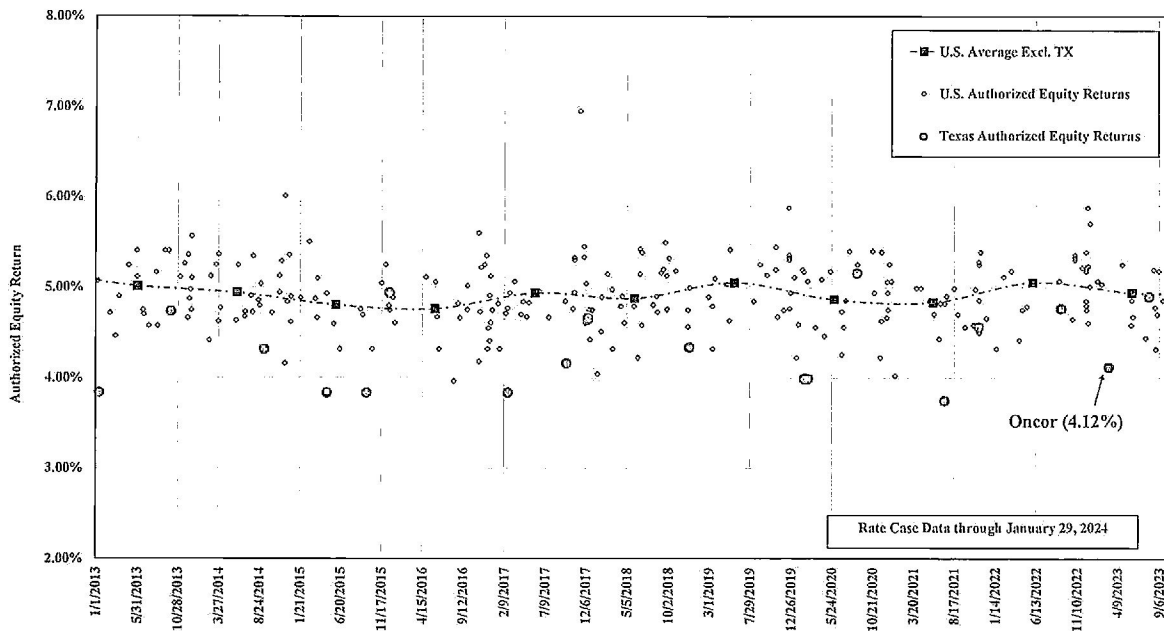
6 A. Figure AEB-10 shows the authorized returns for electric utilities in Texas and other
7 jurisdictions throughout the United States over the past decade. As shown, but for the 9.70
8 percent authorized ROE for Oncor in its fully litigated rate proceeding in Docket No.
9 53601, the authorized returns for electric utilities in Texas have consistently been below
10 the national average since 2018.

Figure AEB-10: Comparison of Texas and U.S. Authorized Electric Utility Returns⁷⁵



As shown in Figure AEB-11, not only have electric utilities in Texas generally been authorized ROEs below the national average, but their weighted average authorized equity returns (*i.e.*, the authorized ROE multiplied by the authorized equity ratio) have also been well below the average across the country, indicating that the authorized capital structures in Texas are more highly leveraged than in other jurisdictions. Further, while the recently authorized ROE for Oncor was slightly above the national average, as shown in Figure AEB-11, taking into consideration the authorized equity ratio of 42.50 percent, which is significantly below the industry average authorized equity ratio, the authorized equity rate (authorized ROE multiplied by the authorized equity ratio), is one of the lowest authorized equity rate in 2023.

⁷⁵ S&P Capital IQ Pro. Electric rate case decisions from January 1, 2013, through October 31, 2023; includes electric distribution, electric transmission, and vertically integrated electric utility proceedings.

Figure AEB-11: Comparison of Texas and U.S. Authorized Equity Rate

Q: SHOULD THE COMMISSION BE CONCERNED ABOUT AUTHORIZING EQUITY RETURNS THAT ARE AT THE LOW END OF THE RANGE ESTABLISHED BY OTHER STATE REGULATORY JURISDICTIONS?

A. Yes. As noted previously, the Company must compete for capital within its own corporate structure. In the process of allocating its finite discretionary capital resources, it would be reasonable for CNP to consider the overall equity return of each of its subsidiaries. Additionally, CNP must in turn compete for capital with other utilities and businesses. As a result, placing CenterPoint Houston at the low end of authorized ROEs compared to utilities in other jurisdictions can negatively affect the Company's access to capital, which has even greater significance currently due to the Company's existing and projected need for substantial capital to fund its capital expenditure requirements.

Q: HOW ARE CREDIT RATING AGENCIES CURRENTLY VIEWING THE UTILITY SECTOR?

A. Credit rating agencies have indicated that the industry overall has increased risk. The agencies are also responding with close scrutiny of the financial coverage ratios of the sector. Therefore, it is critically important to consider these factors and to recognize that the investor-required cost of equity would be higher today than at the time of Commission decisions in the recent past.

Q: WAS THERE A NEGATIVE CREDIT RATING AGENCY REACTION TO THE COMPANY'S 2019 RATE DETERMINATION?

A. Yes. In 2020, Fitch Ratings downgraded the Company's Long-Term Issuer Default rating from A- to BBB+ and revised the rating outlook from Stable to Negative following an unfavorable outcome in the Company's 2019 rate case.⁷⁶

Q: WAS THERE ALSO A NEGATIVE CREDIT RATING AGENCY RESPONSE TO THE ADMINISTRATIVE LAW JUDGE'S ("ALJ") PROPOSED DECISION IN THE MOST RECENT ONCOR PROCEEDING?

A. Yes. In late December 2022, an ALJ issued a proposed decision in Oncor's most recent rate proceeding in Docket No. 53601 that recommended a \$61 million rate reduction when Oncor had proposed a \$251 million rate increase. Moody's noted that the ALJ's proposed decision would be credit negative if adopted, and raised questions about the supportiveness of the regulatory environment in Texas.⁷⁷ After the proposed decision was issued, Moody's

⁷⁶ FitchRatings, *Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative* (Feb. 19, 2020), <https://www.fitchratings.com/research/corporate-finance/fitch-downgrades-centerpoint-energy-houston-electric-to-bbb-affirms-cnp-outlooks-negative-19-02-2020>.

⁷⁷ Moody's Invs. Serv., *Oncor Electric Delivery Company LLC Administrative Law Judge's proposed decision on a pending rate case would be credit negative if implemented* (Jan. 6, 2023).

1 estimated that approximately 53 percent of the gap between Oncor's rate request and that
 2 of the proposed decision was due to a lower return on invested capital, which included a
 3 lower return on equity. Specifically, Moody's stated:

4 The utility had requested an increase in its authorized return on equity (RoE)
 5 to 10.3% from 9.8% while the ALJs would reduce it to 9.3%, at the level
 6 previously recommended by the PUCT Staff. Such a reduction would be
 7 credit negative, particularly considering the recent rapid rise in interest
 8 rates, which could continue. The ALJs also recommended maintaining
 9 Oncor's current equity layer of 42.5% compared to the utility's request to
 10 increase the ratio to 45%. Moody's notes that the authorized equity layers
 11 of Texas transmission and distribution utilities, including Oncor, are
 12 relatively thin compared to other jurisdictions. All else equal, higher equity
 13 layers typically allow utilities to produce stronger financial metrics and
 14 enhance their financial flexibility, particularly if they are pursuing elevated
 15 capital expenditure programs.⁷⁸

16 After the Commission issued its final decision in Oncor's rate case, Moody's found that
 17 while the utility continues to benefit from a credit supportive relationship with the
 18 Commission as evidenced by the "mostly credit supportive" outcome of the rate
 19 proceeding, this was offset by Oncor's weak authorized ROE and equity ratio that will
 20 contribute to deteriorating credit metrics when the utility is facing elevated investments:

21 The PUCT reduced Oncor's authorized return to equity (RoE) to 9.7% from
 22 9.8% after the utility requested 10.3%, a particular credit negative
 23 development in the wake of rising interest rates. In addition, Oncor's
 24 allowed 42.5% equity layer compares to the 45% level requested by the
 25 company and, while comparable to other ERCOT T&D peers, is among the
 26 lowest in the industry. The thicker debt ratio of 57.5% increases the utility's
 27 reliance on debt, putting it at a distinct disadvantage from a credit standpoint
 28 compared to non-ERCOT peers particularly considering the utility's
 29 material capital expenditures. The higher reliance on debt to fund its
 30 material investment program will contribute to a gradual deterioration in the
 31 utility's financial ratios below the 2020-2022 average levels.⁷⁹

⁷⁸ *Id.* at 1.

⁷⁹ Moody's Invs. Serv., *Oncor Electric Delivery Company LLC Update to credit analysis* at 5 (May 2, 2023).

Q: WHAT ARE YOUR CONCLUSIONS REGARDING THE PERCEIVED RISKS RELATED TO THE TEXAS REGULATORY ENVIRONMENT?

A. The regulatory framework in which a regulated utility provides service is one of the most important considerations for debt and equity investors. While there is constructive regulation in Texas, the authorized equity ratios are lower than the average for the utility operating companies of the proxy group, which results in greater financial risk for Texas regulated utilities. Further, authorized ROEs in Texas have been below the national average (excluding the recent Oncor decision). The more highly leveraged authorized capital structures increase risk for investment in equity in utility operating companies in Texas that increases the investor-required return. Based on my analysis, I conclude that the Texas regulatory framework has somewhat greater risk than the jurisdictions in which the utility operating subsidiaries of the proxy group companies provide service.

C. Customer Concentration

Q: HAVE YOU CONSIDERED ANY OTHER BUSINESS RISKS FACED BY CENTERPOINT HOUSTON?

A. Yes. I have also considered the risks related to CenterPoint Houston's overall customer concentration in terms of the market structure of the Electric Reliability Council of Texas ("ERCOT").

Q: HOW DOES THE MARKET STRUCTURE OF ERCOT IMPACT THE BUSINESS RISK OF THE COMPANY?

A. Unlike many other electric utilities in the proxy group, CenterPoint Houston's revenues from the distribution of electricity are collected from REPs. As of December 31, 2023, the

1 Company provided delivery service through 65 REPs.⁸⁰ A significant portion of
 2 CenterPoint Houston's revenues from REPs are from affiliates of NRG Energy Inc. and
 3 Vistra Energy Corp, which account for 39 percent and 20 percent of total REP revenues,
 4 respectively. While many electric utilities in the proxy group face default risk, the nature
 5 of this risk being spread out over thousands, if not millions, of customers mitigates this
 6 risk. However, CenterPoint Houston has a high degree of customer concentration, having
 7 only 65 REPs, and consequently, a relatively higher risk of suffering adverse financial
 8 effects following an event of delay or default of payment by one or more of these REPs.

9 **Q: HAVE ANY REPS DEFAULTED IN THE PAST?**

10 A. Yes, REP default over the past decade is not uncommon. In 2018, Breeze Energy entered
 11 financial default,⁸¹ and in 2021, the Commission revoked the rights of four REPs after
 12 delay or default of payments following the February 2021 winter storm event.⁸² In fact, in
 13 both 2021 and 2022, CenterPoint Houston recorded bad debt expenses resulting from the
 14 default of REPs on their obligation to pay delivery charges to the Company.⁸³

15 **Q: HAVE RECENT MARKET CONDITIONS INCREASED THE DEFAULT RISK**
 16 **FOR REPS?**

17 A. Yes. The default risk for REPs has increased as a result of recent market conditions that
 18 have caused REPs to experience financial distress (*e.g.*, the February 2021 winter storm
 19 event; the impact of the COVID-19 pandemic; increased inflation; increased interest rates),

⁸⁰ CenterPoint Energy, Inc., Annual Report (Form 10-K) at 20 (Feb. 20, 2024).

⁸¹ S&P Glob. Mkt. Intel., *Texas electricity retailer defaults, prompting switch of 9,800 customers* (Jun. 1, 2018).

⁸² S&P Glob. Mkt. Intel., *With Texas electricity retailers 'dropping like flies,' an upstart expands* (Mar. 25, 2021).

⁸³ CenterPoint Energy, Inc., Annual Report (Form 10-K) at 19, 127 (Feb. 17, 2023).

which in turn has increased the risk that the Company will experience delay or default in REP payments. As just noted, the Commission recently revoked the rights of four REPs.

Q: HOW DOES CENTERPOINT HOUSTON'S CONCENTRATION RISK AFFECT ITS BUSINESS RISK?

A. Due to the Company's high concentration of customers among a small group of REPs, if just one of CenterPoint Houston's larger REPs were to delay or default its payment obligations, this could significantly impact the Company's financial condition. Furthermore, if a REP were to declare bankruptcy, there is no guarantee that the Company would be able to recover its obligations from the REP amongst the various other potential creditors that may be seeking to recover payments from that REP. This could lead to adverse impacts to CenterPoint Houston's cash flows, which could potentially be a significant risk to the Company's equity investors.

Q: ARE THERE MITIGATING FACTORS TO REDUCE THE IMPACT OF POTENTIAL REP PAYMENT DELAYS OR DEFAULTS?

A. Yes. In the event of a default, the Company's tariff provides a number of remedies, including that CenterPoint Houston may request that the Commission suspend or revoke the certification of that REP, which would then require those customers to be shifted to another REP or provider of last resort. However, the Company remains at risk for payments related to services provided to that REP prior to the Commission replacing the REP and, as outlined above, there is no guarantee that CenterPoint Houston will be able to recover those obligations.

Further, as discussed in the Direct Testimony of Company witness Kristie L. Colvin, while there is an opportunity to create a regulatory asset to recover bad debt in the

1 event of default of a REP, the regulatory asset provides only for future recovery of the debt,
2 which still leaves the Company at risk for costs associated with carrying this regulatory
3 asset until the next rate case and could create cash flow issues for the Company.

4 **VIII. CAPITAL STRUCTURE**

5 **Q: IS THE CAPITAL STRUCTURE OF THE COMPANY AN IMPORTANT**
6 **CONSIDERATION IN THE DETERMINATION OF THE APPROPRIATE ROE?**

7 A. Yes. The equity ratio is a primary indicator of financial risk for a regulated utility. All
8 else equal, a higher debt ratio increases the risk to investors. For debt holders, higher debt
9 ratios result in a greater portion of the available cash flow being required to meet debt
10 service, thereby increasing the risk associated with the payments on debt. The result of
11 increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more
12 significant for common equity shareholders, whose claim on the cash flow of the Company
13 is secondary to debt holders. Therefore, the greater the debt service requirement, the less
14 cash flow is available for common equity holders. To the extent the authorized equity ratio
15 is below the Company's actual equity ratio, it is necessary to increase the authorized ROE
16 to compensate investors for the greater financial risk associated with a lower equity ratio.

17 **Q: WHAT IS CENTERPOINT HOUSTON'S PROPOSED CAPITAL STRUCTURE?**

18 A. The Company is proposing a capital structure that is composed of 44.90 percent common
19 equity and 55.10 percent long-term debt which is much more highly leveraged than the
20 average of the utility operating subsidiaries of the proxy group companies.

Q: DID YOU CONDUCT ANY ANALYSIS TO DETERMINE IF THIS REQUESTED EQUITY RATIO WAS REASONABLE?

A. Yes. I reviewed the Company's proposed capital structure relative to the actual capital structures of the utility operating subsidiaries of the companies in the proxy group. Since the ROE is set based on the return that is derived from the risk-comparable proxy group, it is reasonable to look to the average capital structure for the proxy groups to benchmark the equity ratios for the Company.

Q: PLEASE DISCUSS YOUR ANALYSIS OF THE CAPITAL STRUCTURES OF THE PROXY GROUP COMPANIES.

A. Specifically, I calculated the mean proportions of common equity, long-term debt and preferred stock over the past eight quarters for each of the companies in the proxy group at the operating subsidiary level. As shown in Schedule AEB-14, the equity ratios for the utility operating subsidiaries of the proxy group range from 41.04 percent to 61.15 percent, with an average of 52.42 percent. Based on the results of this analysis, the Company's proposed equity ratio of 44.90%, is just above the lowest equity ratio in the range and is approximately 740 basis points below the average equity ratio of the operating utilities of the proxy group companies. The higher leverage of the Company's proposed capital structure demonstrates significantly greater financial risk than the proxy group, on average.

As discussed previously, the increased leverage results in greater risk to equity investors, which are the last claimants in the event of a dissolution of a company. Accordingly, all else equal, this increased financial risk supports an ROE at the higher end of the range of cost of equity results.

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 outlook 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, noting that constructive regulatory outcomes that promote timely cost recovery are a key factor in supporting utility credit quality.⁸⁴

Likewise, while S&P also recently revised its outlook for the industry from negative to stable,⁸⁵ S&P continues to see significant risks in 2024 for the industry as a result of, among other things, inflation and increased levels of capital spending, and full electrification.⁸⁶ S&P has also concluded:

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

⁸⁴ Moody's Invs. Serv., *Outlook: Outlook turns stable on low natural gas prices and credit-supportive regulation* (Sept. 7, 2023).

⁸⁵ S&P Glob. Ratings, *The Outlook for North American Regulated Utilities Turns Stable* at 8 (May 18, 2023).

⁸⁶ S&P Glob. Ratings, *Industry Credit Outlook 2024 - North American Regulated Utilities* (Jan. 9, 2024).

could become increasingly challenging, possibly pressuring its credit quality.⁸⁷

FitchRatings 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.⁸⁸

The credit ratings agencies’ continued concerns over the negative effects of inflation, higher interest rates, and increased capital expenditures underscore the importance of maintaining adequate cash flow metrics for the Company in the context of this proceeding.

IX. COST OF LONG-TERM DEBT

Q: WHAT COST OF LONG-TERM DEBT HAS THE COMPANY REQUESTED IN THIS PROCEEDING?

A. As discussed in the Direct Testimony of Company witness Ms. Richert, the Company proposes a cost of long-term debt of 4.29 percent for ratemaking purposes.⁸⁹

⁸⁷ S&P Glob. Ratings, *Regulatory Friction Is Constraining Cost Recovery For North American Investor-Owned Utilities* at 8 (Nov. 6, 2023).

⁸⁸ FitchRatings, *North American Utilities, Power & Gas Outlook 2024* (Dec. 6, 2023), <https://www.fitchratings.com/research/corporate-finance/north-american-utilities-power-gas-outlook-2024-06-12-2023>.

⁸⁹ The cost of debt was evaluated against the Moody’s utility benchmark indices. Because issuance costs are not included in the indices, the cost of debt considered was excluding the amortization of the issuance costs.

1 **Q: HAVE YOU EVALUATED THE REASONABLENESS OF THE COMPANY'S**
2 **PROPOSED COST OF LONG-TERM DEBT?**

3 A. Yes, I have evaluated the embedded cost of the Company's long-term debt at the time of
4 each issuance as compared to the cost of long-term debt in the market at that time as
5 reflected by the yield on the Moody's A-rated and Baa- utility bond indices. As shown in
6 Exhibit AEB-15, when comparing the utility bond yields to the Company's actual coupon
7 rates at the time of issuance, this analysis demonstrates that the yields on the Company's
8 long-term debt issuances have been generally within the range established by the yields on
9 the Moody's A-rated and Baa-rated utility bond indices at the time of issuance. Thus, the
10 Company's embedded cost of long-term debt is reasonable.⁹⁰

11 **X. CONCLUSIONS AND RECOMMENDATIONS**

12 **Q: WHAT IS YOUR CONCLUSION REGARDING A FAIR ROE FOR**
13 **CENTERPOINT HOUSTON?**

14 A. Based on the quantitative and qualitative analyses presented in my Direct Testimony and
15 previously summarized in Figure AEB-9, and the business and financial risks of the
16 Company as compared to the proxy group, an ROE of 10.60 percent is reasonable. As
17 discussed in the Direct Testimony of Jason M. Ryan, taking into consideration the
18 affordability for customers of the overall revenue requirement, the Company is requesting
19 an ROE of 10.40 percent.

⁹⁰ The Moody's utility bond yields are calculated using a 30-day average as of the issued date of the debt instrument.

Q: WHAT ARE YOUR CONCLUSIONS REGARDING THE COMPANY'S REQUESTED CAPITAL STRUCTURE AND COST OF DEBT?

A. The Company's proposed capital structure is significantly higher leveraged than the average of the operating companies of the proxy group and therefore reflects greater overall financial risk than the proxy group companies. The Company's cost of debt for each issuance has generally been within the range established by the yield on the Moody's A and Moody's Baa rated utility bond indexes at the time of issuance and is therefore reasonable.

Q: WHAT IS YOUR CONCLUSION WITH RESPECT TO CENTERPOINT HOUSTON'S OVERALL RATE OF RETURN?

A. The Company's overall rate of return is summarized in Figure AEB-12. Given the reasonableness of the Company's requested cost of equity and cost of debt, and the highly leveraged capital structure, I conclude that the Company's proposed overall rate of return is conservative.

Figure AEB-12: Weighted Average Cost of Capital⁹¹

	Capital <u>Structure</u>	<u>Cost</u>	Weighted <u>Average</u>
Common Equity	44.90%	10.40%	4.67%
Long-Term Debt	55.10%	4.29%	2.36%
	100.00%		7.03%

Q: DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

⁹¹ The cost of debt reflected in Figure AEB-11 includes interest and amortization costs.

APPENDIX A

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:

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

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

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

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

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 January 31, 2024.

Q: WHY DO YOU USE 30-, 90-, AND 180-DAY AVERAGING PERIODS?

A. I use an average of recent trading days to calculate the term P_0 in the DCF model to reflect current market data while also ensuring that the result of the model is not skewed by anomalous events that may affect stock prices on any given trading day.

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

1 (“EPS”), dividends per share, and book value per share all grow at the same constant rate.
2 However, over the long run, dividend growth can only be sustained by earnings growth,
3 meaning earnings are the fundamental driver of a company’s ability to pay dividends.
4 Therefore, projected EPS growth is the appropriate measure of a company’s long-term
5 growth. In contrast, changes in a company’s dividend payments are based on management
6 decisions related to cash management and other factors. For example, a company may
7 decide to retain earnings rather than pay out a portion of those earnings to shareholders
8 through dividends. Therefore, dividend growth rates are less likely than earnings growth
9 rates to accurately reflect investor perceptions of a company’s growth prospects.
10 Accordingly, I have incorporated a number of sources of long-term EPS growth rates into
11 the constant growth DCF model.

12 **Q: WHAT SOURCES OF LONG-TERM GROWTH RATES DID YOU RELY ON IN**
13 **YOUR CONSTANT GROWTH DCF MODEL?**

14 A. My constant growth DCF model incorporates three sources of long-term earnings per share
15 EPS growth rates: (1) *Zacks*; (2) Yahoo! Finance; and (3) *Value Line*.

16 **Q: HOW DO YOU CALCULATE THE RANGE OF RESULTS FOR THE CONSTANT**
17 **GROWTH DCF MODEL?**

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

Q: WHAT ARE THE RESULTS OF YOUR DCF ANALYSES?

A. Figure AEB-13 (and Exhibit AEB-4) summarizes the results of my DCF analyses. While I also summarize the DCF results using the minimum growth rates, given the expected continued underperformance of utility stocks which could cause the DCF model to understate the cost of equity, which, as noted, has been recognized by other regulatory commissions, it is appropriate to give these DCF results any material weight at this time.

Figure AEB-13: Discounted Cash Flow Results

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Average	8.68%	9.92%	11.13%
90-Day Average	8.78%	10.02%	11.23%
180-Day Average	8.65%	9.89%	11.10%
Average	8.70%	9.94%	11.15%
Median Results:			
30-Day Average	8.70%	9.75%	10.84%
90-Day Average	8.80%	9.86%	10.90%
180-Day Average	8.63%	9.69%	10.63%
Average	8.71%	9.77%	10.79%

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. 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:

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

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. Non-diversifiable risk is measured by beta, which is defined as:

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

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. As shown on Exhibit AEB-5, 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;⁹² (2) the average projected 30-year Treasury yield for the second quarter of 2024 through the second quarter of 2025;⁹³

⁹² Bloomberg Professional as of January 31, 2024.

⁹³ 43(2) Blue Chip Fin. Forecasts at 2 (Feb. 1, 2024).

1 and (3) the average projected 30-year Treasury bond yield for the period 2025 through
2 2029.⁹⁴

3 **Q: WHAT BETA COEFFICIENTS DO YOU USE IN YOUR CAPM ANALYSIS?**

4 A. As shown on Exhibit AEB-5, I use the beta coefficients for the proxy group companies as
5 reported by *Bloomberg* and *Value Line*. The beta coefficients reported by *Bloomberg* are
6 calculated using ten years of weekly returns relative to the S&P 500 Index. The *Value Line*
7 beta coefficients are calculated based on five years of weekly returns relative to the New
8 York Stock Exchange Composite Index. Additionally, as shown in Exhibit AEB-5 and
9 Exhibit AEB-6, I also consider an additional CAPM analysis that relies on the long-term
10 average utility beta coefficient for the companies in my proxy group, which is calculated
11 as an average of the *Value Line* beta coefficients for the companies in my proxy group from
12 2013 through 2023.

13 **Q: HOW DO YOU ESTIMATE THE MARKET RISK PREMIUM IN THE CAPM?**

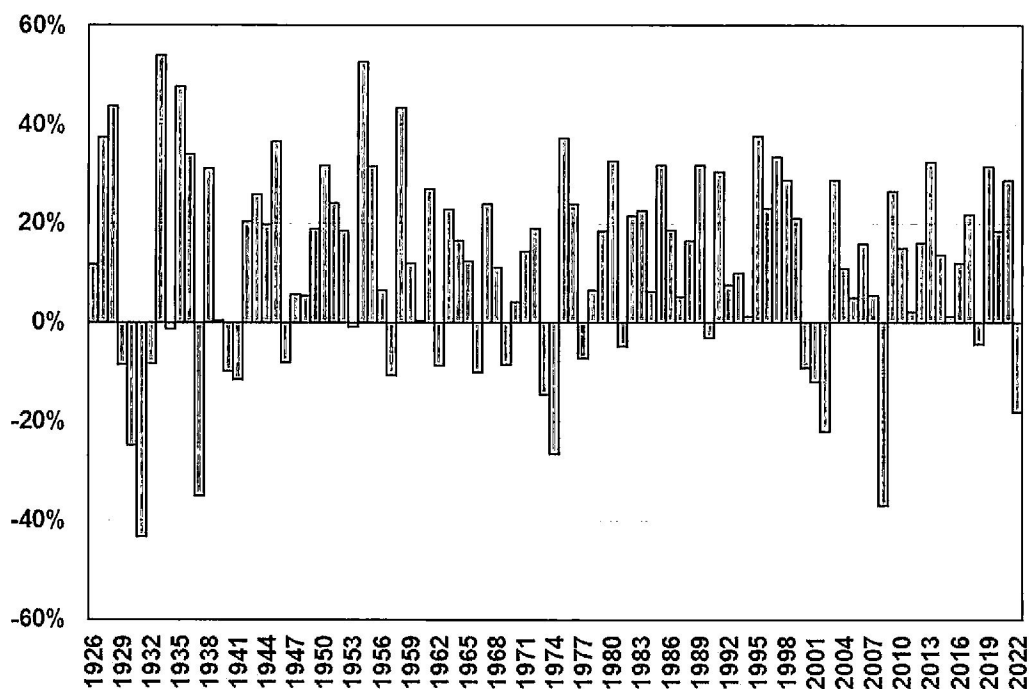
14 A. I estimate the market risk premium as the difference between the implied expected equity
15 market return and the risk-free rate. As shown in Exhibit AEB-7, the expected return on
16 the S&P 500 Index is calculated using the constant growth DCF model discussed
17 previously as applied to the companies in the S&P 500 Index. Based on an estimated
18 market capitalization-weighted dividend yield of 1.63 percent and a weighted long-term
19 growth rate of 10.51 percent, the estimated required market return for the S&P 500 Index
20 as of January 31, 2024, is 12.22 percent.

⁹⁴ 42(12) Blue Chip Fin. Forecasts at 14 (Dec. 1, 2023).

Q: HOW DOES THE EXPECTED MARKET RETURN YOU HAVE CALCULATED COMPARE TO OBSERVED HISTORICAL MARKET RETURNS?

A. As shown in Figure AEB-14, given the range of annual equity returns that have been observed over the past century, a current expected market return of 12.22 percent is reasonable. In 51 out of the past 97 years (or roughly 53 percent of observations), the realized equity market return was 12.22 percent or greater.

Figure AEB-14: Realized U.S. equity market returns (1926–2022)⁹⁵



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.⁹⁶ The ECAPM calculates the product of the adjusted beta coefficient and

⁹⁵ Depicts total annual returns on large company stocks, as reported in the 2023 *Kroll S&P 500* Yearbook.

⁹⁶ See, e.g., Roger A. Morin, *New Regulatory Finance* at 189, Pub. Util. Reps., Inc. (2006).

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:

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

Where:

k_e = the required market ROE;

β = the adjusted beta coefficient of an individual security;

r_f = the risk-free rate of return; and

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

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, and that the CAPM underestimates the “alpha,” or the constant return term.⁹⁷

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 AEB-15, as well as presented in Exhibit AEB-5).

⁹⁷ *Id.* at 191.

Figure AEB-15: CAPM and ECAPM Results

		30-Year Treasury Bond Yield		
		Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:				
	Value Line Beta	11.57%	11.56%	11.56%
	Bloomberg Beta	10.61%	10.59%	10.59%
	Long-term Avg. Beta	10.36%	10.34%	10.34%
ECAPM:				
	Value Line Beta	11.73%	11.72%	11.72%
	Bloomberg Beta	11.01%	11.00%	11.00%
	Long-term Avg. Beta	10.83%	10.81%	10.81%

C. Bond Yield Risk Premium

Q: PLEASE DESCRIBE THE BOND YIELD PLUS RISK PREMIUM APPROACH.

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 investors must be compensated to bear that 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. Such an analysis can be developed based on a regression of the risk premium as a function of Treasury bond yields. When the authorized ROEs for electric utilities serve as the measure of required equity returns and the yield on the long-term Treasury bond is defined as the relevant measure of interest rates, the risk premium is the difference between those two points.⁹⁸

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.

Q: WHAT DID YOUR BOND YIELD PLUS RISK PREMIUM ANALYSIS REVEAL?

A. As shown in Figure AEB-16, from 1980 through January 2024, 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:

⁹⁸ See, e.g., S. Keith Berry, *Interest Rate Risk and Utility Risk Premia during 1982-93*, 19(2) Managerial & Decision Econ. 127 (Mar. 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*, 15 Fin. Mgmt. 58, 66 (1986).

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

Where:

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

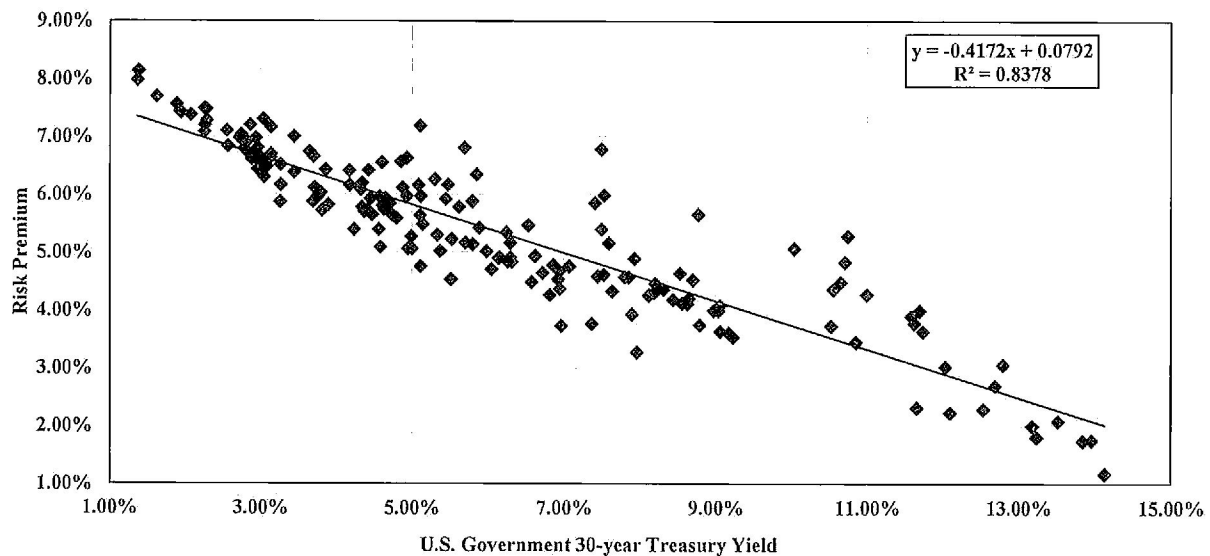
a = intercept term

b = slope term

T = 30-year Treasury bond yield

Data regarding allowed ROEs were derived from all electric utility rate cases from 1980 through January 2024 as reported by S&P Capital IQ Pro. This equation's coefficients were statistically significant at the 99.00 percent level.

Figure AEB-16: Risk Premium Regression Analysis



Q: WHAT ARE THE RESULTS OF YOUR BYRP ANALYSIS?

A. Figure AEB-17 presents the results of my BYRP analysis, which are also presented in more detail in Exhibit AEB-8.

Figure AEB-17: Summary of BYRP Results

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
Bond Yield Risk Premium	10.36%	10.31%	10.31%

COMMONWEALTH OF MASSACHUSETTS§

COUNTY OF SUFFOLK

§
§

AFFIDAVIT OF ANN E. BULKLEY

BEFORE ME, the undersigned authority, on this day personally appeared Ann E. Bulkley who having been placed under oath by me did depose as follows:

1. "My name is Ann E. Bulkley. I am of sound mind and capable of making this affidavit. The facts stated herein are true and correct based upon my personal knowledge.
2. I have prepared the foregoing Direct Testimony and the information contained in this document is true and correct to the best of my knowledge."

Further affiant sayeth not.

Ann E. Bulkley
Ann E. Bulkley

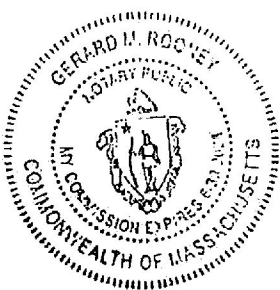
SUBSCRIBED AND SWORN TO BEFORE ME on this 12TH day of FEBRUARY,
2024.

Gerard M. Rooney
Notary Public in and for the State of MA

My commission expires: 6/30/2028



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



Ann E. Bulkley

PRINCIPAL

Boston

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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.



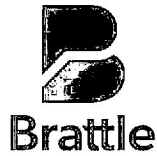


- Conducted a strategic review of the acquisition of nuclear generation assets. Review included the evaluation of the operating costs of the facilities and the long-term liabilities associated with the assets including the decommissioning of the assets.
- Prepared a valuation of a portfolio of generation 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 approaches. 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.

BULKLEY TESTIMONY LISTING

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity
Colorado Public Utilities Commission				
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				
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				
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				
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				
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-____-____-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				
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				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				
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				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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	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	1/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity
Evergy Missouri Metro	1/22	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				
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
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
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				
Public Service Electric and Gas Company	11/23	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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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
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

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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	03/22	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-399	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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				
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	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				
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				
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
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	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	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
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



Ann E. Bulkley

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COST OF EQUITY ANALYSES
SUMMARY OF RESULTS

<i>Constant Growth DCF</i>			
	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Average	8.68%	9.92%	11.13%
90-Day Average	8.78%	10.02%	11.23%
180-Day Average	8.65%	9.89%	11.10%
Average	8.70%	9.94%	11.15%
Median Results:			
30-Day Average	8.70%	9.75%	10.84%
90-Day Average	8.80%	9.86%	10.90%
180-Day Average	8.63%	9.69%	10.63%
Average	8.71%	9.77%	10.79%
 <i>CAPM / ECAPM / Bond Yield Risk Premium</i>			
	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Value Line Beta	11.57%	11.56%	11.56%
Bloomberg Beta	10.61%	10.59%	10.59%
Long-term Avg. Beta	10.36%	10.34%	10.34%
ECAPM:			
Value Line Beta	11.73%	11.72%	11.72%
Bloomberg Beta	11.01%	11.00%	11.00%
Long-term Avg. Beta	10.83%	10.81%	10.81%
Bond Yield Risk Premium	10.36%	10.31%	10.31%

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] % Regulated Operating Income > 60%	[6] % Regulated Electric Operating Income > 80%	[7] Announced Merger
ALLETE, Inc.	ALE	Yes	BBB	Yes	Yes	102.84%	97.76%	No
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	96.96%	90.66%	No
Ameren Corporation	AEE	Yes	BBB+	Yes	Yes	100.00%	84.57%	No
American Electric Power Company, Inc.	AEP	Yes	A-	Yes	Yes	97.34%	100.00%	No
Duke Energy Corporation	DUK	Yes	BBB+	Yes	Yes	99.66%	91.34%	No
Edison International	EIX	Yes	BBB	Yes	Yes	98.93%	100.00%	No
Energy Corporation	ETR	Yes	BBB+	Yes	Yes	98.74%	99.46%	No
Eversource Energy	ES	Yes	A-	Yes	Yes	92.38%	85.35%	No
Evergy, Inc.	EVERG	Yes	BBB+	Yes	Yes	100.00%	100.00%	No
IDACORP, Inc.	IDA	Yes	BBB	Yes	Yes	99.91%	100.00%	No
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	92.16%	100.00%	No
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	99.75%	84.49%	No
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	100.00%	100.00%	No
Pinnacle West Capital Corporation	PNW	Yes	BBB+	Yes	Yes	100.00%	100.00%	No
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	100.00%	100.00%	No
Xcel Energy Inc.	XEL	Yes	A-	Yes	Yes	100.00%	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] Form 10-K's for 2022, 2021, and 2020
- [6] Form 10-K's for 2022, 2021, and 2020
- [7] S&P Capital IQ Pro Financial News Releases

30-DAY CONSTANT GROWTH DCF -- CENTERPOINT HOUSTON PROXY GROUP

Company	Ticker	Annualized Dividend	Stock Price	[2]		[3]		[4]		[5]		[6]		[7]	[8]	[9]	[10]	[11]
				Dividend	Yield	Dividend	Yield	Expected Dividend	Value Line EPS Growth	Yahoo! Finance Growth	Zacks EPS Growth	Average Growth Rate	Low ROE					
ALLETE, Inc.	ALE	\$2.71	\$60.60															
	LNT	\$1.92	\$49.88															
	AEE	\$2.52	\$71.51															
Ameren Corporation	AEP	\$3.52	\$80.52															
	DUK	\$4.10	\$96.90															
	EIX	\$3.12	\$69.71															
American Electric Power Company, Inc.	ETR	\$4.52	\$101.03															
	ES	\$2.70	\$58.34															
	EVRG	\$2.57	\$51.87															
NextEra Energy, Inc.	IDA	\$3.32	\$95.88															
	NEE	\$1.87	\$59.98															
	NWE	\$2.56	\$49.78															
NorthWestern Corporation	OGE	\$1.67	\$34.14															
	PNW	\$3.52	\$70.49															
	POR	\$1.90	\$42.27															
Pinnacle West Capital Corporation	XEL	\$2.08	\$61.14															
Portland General Electric Company																		
Xcel Energy Inc.																		
Mean																		
Median																		

Notes:

- [1] Bloomberg Professional
[2] Bloomberg Professional, equals 30-day average as of January 31, 2024
[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 – CENTERPOINT HOUSTON PROXY GROUP

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	\$2.71	\$56.73	4.78%	4.95%	6.00%	8.10%	8.10%	7.40%	10.92%	12.35%	13.07%
Alliant Energy Corporation	LNT	\$1.92	\$49.29	3.89%	4.02%	6.50%	6.30%	6.30%	6.45%	10.32%	10.47%	10.57%
Ameren Corporation	AEE	\$2.52	\$74.63	3.38%	3.48%	6.50%	4.80%	6.20%	5.83%	8.26%	9.31%	9.99%
American Electric Power Company, Inc.	AEP	\$3.52	\$77.87	4.52%	4.64%	6.50%	4.20%	4.80%	5.17%	8.82%	9.80%	11.17%
Duke Energy Corporation	DUK	\$4.10	\$91.92	4.46%	4.59%	5.00%	6.55%	6.30%	5.95%	9.57%	10.54%	11.16%
Edison International	EIX	\$3.12	\$66.06	4.72%	4.82%	4.50%	4.60%	3.70%	4.27%	8.51%	9.09%	9.43%
Entergy Corporation	ETR	\$4.52	\$97.78	4.62%	4.77%	0.50%	11.00%	7.00%	6.17%	5.13%	10.93%	15.88%
Eversource Energy	ES	\$2.70	\$57.25	4.72%	4.82%	6.00%	3.60%	4.20%	4.60%	8.40%	9.42%	10.86%
Evergy, Inc.	EVRG	\$2.57	\$50.51	5.09%	5.21%	7.50%	2.50%	4.30%	4.77%	7.65%	9.98%	12.78%
IDACORP, Inc.	IDA	\$3.32	\$96.06	3.46%	3.53%	4.00%	4.40%	4.40%	4.27%	7.53%	7.80%	7.93%
NextEra Energy, Inc.	NEE	\$1.87	\$57.79	3.24%	3.37%	9.50%	7.81%	8.20%	8.50%	11.17%	11.88%	12.89%
NorthWestern Corporation	NWE	\$2.56	\$49.31	5.19%	5.30%	3.50%	4.08%	5.20%	4.26%	8.78%	9.56%	10.53%
OGE Energy Corporation	OGE	\$1.67	\$33.98	4.92%	5.05%	6.50%	negative	4.00%	5.25%	9.02%	10.30%	11.58%
Pinnacle West Capital Corporation	PNW	\$3.52	\$71.92	4.89%	5.00%	2.50%	5.90%	4.00%	4.13%	7.46%	9.13%	10.94%
Portland General Electric Company	POR	\$1.90	\$41.30	4.60%	4.72%	5.00%	4.60%	6.00%	5.20%	9.31%	9.92%	10.74%
Xcel Energy Inc.	XEL	\$2.08	\$59.73	3.48%	3.59%	6.00%	6.57%	6.00%	6.19%	9.59%	9.78%	10.17%
Mean				4.37%	4.49%	5.38%	5.68%	5.54%	5.53%	8.78%	10.02%	11.23%
Median				4.61%	4.74%	6.00%	4.80%	5.60%	5.23%	8.80%	9.86%	10.90%

Notes:

- [1] Bloomberg Professional
[2] Bloomberg Professional, equals 90-day average as of January 31, 2024
[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 -- CENTERPOINT HOUSTON PROXY GROUP

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line EPS Growth	[6] Yahoo! Finance EPS Growth	[7] Zacks EPS Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
ALLETE, Inc.	ALE	\$2.71	\$56.71	4.78%	4.96%	6.00%	8.10%	8.10%	7.40%	10.92%	12.36%	13.07%
Alliant Energy Corporation	LNT	\$1.92	\$50.16	3.83%	3.95%	6.50%	6.55%	6.30%	6.45%	10.25%	10.40%	10.50%
Ameren Corporation	AEE	\$2.52	\$77.70	3.24%	3.34%	6.50%	4.80%	6.20%	5.83%	8.12%	9.17%	9.85%
American Electric Power Company, Inc.	AEP	\$3.52	\$79.59	4.42%	4.54%	6.50%	4.20%	4.80%	5.17%	8.72%	9.70%	11.07%
Duke Energy Corporation	DUK	\$4.10	\$90.79	4.52%	4.65%	5.00%	6.55%	6.30%	5.95%	9.63%	10.60%	11.21%
Edison International	EIX	\$3.12	\$66.83	4.67%	4.77%	4.50%	4.60%	3.70%	4.27%	8.45%	9.03%	9.38%
Entergy Corporation	ETR	\$4.52	\$97.25	4.65%	4.79%	0.50%	11.00%	7.00%	6.17%	5.16%	10.96%	15.90%
Eversource Energy	ES	\$2.70	\$62.28	4.34%	4.44%	6.00%	3.60%	4.20%	4.60%	8.01%	9.04%	10.47%
Energy, Inc.	EVRG	\$2.57	\$53.56	4.80%	4.91%	7.50%	2.50%	4.30%	4.77%	7.36%	9.68%	12.48%
IDACORP, Inc.	IDA	\$3.32	\$97.92	3.39%	3.46%	4.00%	4.40%	4.40%	4.27%	7.46%	7.73%	7.86%
NextEra Energy, Inc.	NEE	\$1.87	\$64.15	2.92%	3.04%	9.50%	7.81%	8.20%	8.50%	10.84%	11.54%	12.55%
NorthWestern Corporation	NWE	\$2.56	\$51.54	4.97%	5.07%	3.50%	4.08%	5.20%	4.26%	8.55%	9.33%	10.30%
OGE Energy Corporation	OGE	\$1.67	\$34.21	4.89%	5.02%	6.50%	negative	4.00%	5.25%	8.99%	10.27%	11.55%
Pinnacle West Capital Corporation	PNW	\$3.52	\$74.66	4.71%	4.81%	2.50%	5.90%	4.00%	4.13%	7.27%	8.95%	10.75%
Portland General Electric Company	POR	\$1.90	\$43.46	4.37%	4.49%	5.00%	4.60%	6.00%	5.20%	9.07%	9.69%	10.50%
Xcel Energy Inc.	XEL	\$2.08	\$60.12	3.46%	3.57%	6.00%	6.57%	6.00%	6.19%	9.56%	9.76%	10.14%
Mean				4.25%	4.36%	5.38%	5.68%	5.54%	5.53%	8.65%	9.89%	11.10%
Median				4.47%	4.59%	6.00%	4.80%	5.60%	5.23%	8.63%	9.69%	10.63%

Notes:

- [1] Bloomberg Professional
[2] Bloomberg Professional, equals 180-day average as of January 31, 2024
[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
		Current 30-day average of 30-year U.S. Treasury bond	Beta (β)	Market Return (R_m)	Risk Premium ($R_m - R_f$)	ROE (K)	ECAPM ROE (K)
Company	Ticker	yield		(R_m)	($R_m - R_f$)		
ALLETE, Inc.	ALE	4.19%	0.95	12.22%	8.03%	11.82%	11.92%
Alliant Energy Corporation	LNT	4.19%	0.90	12.22%	8.03%	11.42%	11.62%
Ameren Corporation	AEE	4.19%	0.90	12.22%	8.03%	11.42%	11.62%
American Electric Power Company, Inc.	AEP	4.19%	0.80	12.22%	8.03%	10.61%	11.01%
Duke Energy Corporation	DUK	4.19%	0.85	12.22%	8.03%	11.01%	11.32%
Edison International	EIX	4.19%	1.00	12.22%	8.03%	12.22%	12.22%
Entergy Corporation	ETR	4.19%	0.95	12.22%	8.03%	11.82%	11.92%
Eversource Energy	ES	4.19%	0.90	12.22%	8.03%	11.42%	11.62%
Evergy, Inc.	EVRG	4.19%	0.95	12.22%	8.03%	11.82%	11.92%
IDACORP, Inc.	IDA	4.19%	0.85	12.22%	8.03%	11.01%	11.32%
NextEra Energy, Inc.	NEE	4.19%	0.95	12.22%	8.03%	11.82%	11.92%
North Western Corporation	NWE	4.19%	0.95	12.22%	8.03%	11.82%	11.92%
OGE Energy Corporation	OGE	4.19%	1.05	12.22%	8.03%	12.62%	12.52%
Pinnacle West Capital Corporation	PNW	4.19%	0.95	12.22%	8.03%	11.82%	11.92%
Portland General Electric Company	POR	4.19%	0.90	12.22%	8.03%	11.42%	11.62%
Xcel Energy Inc.	XEL	4.19%	0.85	12.22%	8.03%	11.01%	11.32%
Mean						11.57%	11.73%
Median						11.62%	11.77%

Notes:

[1] Bloomberg Professional, as of January 31, 2024

[2] Value Line

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
					Market Risk Premium (Rm - Rf)		
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q2 2024 - Q2 2025)	Beta (β)	Market Return (Rm)	Market Premium (Rm - Rf)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
Alliant Energy Corporation	LNT	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
Ameren Corporation	AEE	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
American Electric Power Company, Inc.	AEP	4.10%	0.80	12.22%	8.12%	10.60%	11.00%
Duke Energy Corporation	DUK	4.10%	0.85	12.22%	8.12%	11.00%	11.31%
Edison International	EIX	4.10%	1.00	12.22%	8.12%	12.22%	12.22%
Entergy Corporation	ETR	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
Eversource Energy	ES	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
Evergy, Inc.	EVRG	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
IDACORP, Inc.	IDA	4.10%	0.85	12.22%	8.12%	11.00%	11.31%
NextEra Energy, Inc.	NEE	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
NorthWestern Corporation	NWE	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
OGE Energy Corporation	OGE	4.10%	1.05	12.22%	8.12%	12.63%	12.52%
Pinnacle West Capital Corporation	PNW	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
Portland General Electric Company	POR	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
Xcel Energy Inc.	XEL	4.10%	0.85	12.22%	8.12%	11.00%	11.31%
Mean						11.56%	11.72%
Median						11.61%	11.76%

Notes:

[1] Blue Chip Financial Forecasts, Vol. 43, No. 2, February 1, 2024, at 2

[2] Value Line

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
					Market Risk Premium (Rm - Rf)		
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025 - 2029)	Beta (β)	Market Return (Rm)		ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
Alliant Energy Corporation	LNT	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
Ameren Corporation	AEE	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
American Electric Power Company, Inc.	AEP	4.10%	0.80	12.22%	8.12%	10.60%	11.00%
Duke Energy Corporation	DUK	4.10%	0.85	12.22%	8.12%	11.00%	11.31%
Edison International	EIX	4.10%	1.00	12.22%	8.12%	12.22%	12.22%
Entergy Corporation	ETR	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
Eversource Energy	ES	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
Evergy, Inc.	EVRG	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
IDACORP, Inc.	IDA	4.10%	0.85	12.22%	8.12%	11.00%	11.31%
NextEra Energy, Inc.	NEE	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
NorthWestern Corporation	NWE	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
OGE Energy Corporation	OGE	4.10%	1.05	12.22%	8.12%	12.63%	12.52%
Pinnacle West Capital Corporation	PNW	4.10%	0.95	12.22%	8.12%	11.81%	11.91%
Portland General Electric Company	POR	4.10%	0.90	12.22%	8.12%	11.41%	11.61%
Xcel Energy Inc.	XEL	4.10%	0.85	12.22%	8.12%	11.00%	11.31%
Mean						11.56%	11.72%
Median						11.61%	11.76%

Notes:

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

[2] Value Line

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.19%	0.82	12.22%	8.03%	10.77%	11.13%
Alliant Energy Corporation	LNT	4.19%	0.78	12.22%	8.03%	10.48%	10.92%
Ameren Corporation	AEE	4.19%	0.74	12.22%	8.03%	10.14%	10.66%
American Electric Power Company, Inc.	AEP	4.19%	0.75	12.22%	8.03%	10.22%	10.72%
Duke Energy Corporation	DUK	4.19%	0.71	12.22%	8.03%	9.93%	10.50%
Edison International	EIX	4.19%	0.85	12.22%	8.03%	10.99%	11.30%
Entergy Corporation	ETR	4.19%	0.85	12.22%	8.03%	11.05%	11.34%
Eversource Energy	ES	4.19%	0.80	12.22%	8.03%	10.64%	11.03%
Evergy, Inc.	EVRG	4.19%	0.78	12.22%	8.03%	10.42%	10.87%
IDACORP, Inc.	IDA	4.19%	0.79	12.22%	8.03%	10.55%	10.96%
NextEra Energy, Inc.	NEE	4.19%	0.81	12.22%	8.03%	10.70%	11.08%
NorthWestern Corporation	NWE	4.19%	0.86	12.22%	8.03%	11.13%	11.40%
OGE Energy Corporation	OGE	4.19%	0.91	12.22%	8.03%	11.49%	11.68%
Pinnacle West Capital Corporation	PNW	4.19%	0.81	12.22%	8.03%	10.71%	11.09%
Portland General Electric Company	POR	4.19%	0.78	12.22%	8.03%	10.48%	10.92%
Xcel Energy Inc.	XEL	4.19%	0.73	12.22%	8.03%	10.07%	10.61%
Mean						10.61%	11.01%
Median						10.59%	11.00%

Notes:

- [1] Bloomberg Professional, as of January 31, 2024
[2] Bloomberg Professional, based on 10-year weekly returns
[3] Market Return
[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q2 2024 - Q2 2025)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.82	12.22%	8.12%	10.76%	11.12%
Alliant Energy Corporation	LNT	4.10%	0.78	12.22%	8.12%	10.46%	10.90%
Ameren Corporation	AEE	4.10%	0.74	12.22%	8.12%	10.11%	10.64%
American Electric Power Company, Inc.	AEP	4.10%	0.75	12.22%	8.12%	10.20%	10.71%
Duke Energy Corporation	DUK	4.10%	0.71	12.22%	8.12%	9.90%	10.48%
Edison International	EIX	4.10%	0.85	12.22%	8.12%	10.98%	11.29%
Entergy Corporation	ETR	4.10%	0.85	12.22%	8.12%	11.03%	11.33%
Eversource Energy	ES	4.10%	0.80	12.22%	8.12%	10.62%	11.02%
Evergy, Inc.	EVRG	4.10%	0.78	12.22%	8.12%	10.40%	10.85%
IDACORP, Inc.	IDA	4.10%	0.79	12.22%	8.12%	10.53%	10.95%
NextEra Energy, Inc.	NEE	4.10%	0.81	12.22%	8.12%	10.68%	11.07%
NorthWestern Corporation	NWE	4.10%	0.86	12.22%	8.12%	11.11%	11.39%
OGE Energy Corporation	OGE	4.10%	0.91	12.22%	8.12%	11.49%	11.67%
Pinnacle West Capital Corporation	PNW	4.10%	0.81	12.22%	8.12%	10.70%	11.08%
Portland General Electric Company	POR	4.10%	0.78	12.22%	8.12%	10.46%	10.90%
Xcel Energy Inc.	CEL	4.10%	0.73	12.22%	8.12%	10.05%	10.59%
Mean						10.59%	11.00%
Median						10.58%	10.99%

Notes:

[1] Blue Chip Financial Forecasts, Vol. 43, No. 2, February 1, 2024, at 2

[2] Bloomberg Professional, based on 10-year weekly returns

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
					Market Risk Premium (Rm - Rf)		
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025 - 2029)	Beta (β)	Market Return (Rm)		ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.82	12.22%	8.12%	10.76%	11.12%
Alliant Energy Corporation	LNT	4.10%	0.78	12.22%	8.12%	10.46%	10.90%
Ameren Corporation	AEE	4.10%	0.74	12.22%	8.12%	10.11%	10.64%
American Electric Power Company, Inc.	AEP	4.10%	0.75	12.22%	8.12%	10.20%	10.71%
Duke Energy Corporation	DUK	4.10%	0.71	12.22%	8.12%	9.90%	10.48%
Edison International	EIX	4.10%	0.85	12.22%	8.12%	10.98%	11.29%
Entergy Corporation	ETR	4.10%	0.85	12.22%	8.12%	11.03%	11.33%
Eversource Energy	ES	4.10%	0.80	12.22%	8.12%	10.62%	11.02%
Evergy, Inc.	EVRG	4.10%	0.78	12.22%	8.12%	10.40%	10.85%
IDACORP, Inc.	IDA	4.10%	0.79	12.22%	8.12%	10.53%	10.95%
NextEra Energy, Inc.	NEE	4.10%	0.81	12.22%	8.12%	10.68%	11.07%
NorthWestern Corporation	NWE	4.10%	0.86	12.22%	8.12%	11.11%	11.39%
OGE Energy Corporation	OGE	4.10%	0.91	12.22%	8.12%	11.49%	11.67%
Pinnacle West Capital Corporation	PNW	4.10%	0.81	12.22%	8.12%	10.70%	11.08%
Portland General Electric Company	POR	4.10%	0.78	12.22%	8.12%	10.46%	10.90%
Xcel Energy Inc.	XEL	4.10%	0.73	12.22%	8.12%	10.05%	10.59%
Mean						10.59%	11.00%
Median						10.58%	10.99%

Notes:

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

[2] Bloomberg Professional, based on 10-year weekly returns

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.19%	0.80	12.22%	8.03%	10.58%	10.99%
Alliant Energy Corporation	LNT	4.19%	0.76	12.22%	8.03%	10.32%	10.80%
Ameren Corporation	AEE	4.19%	0.74	12.22%	8.03%	10.14%	10.66%
American Electric Power Company, Inc.	AEP	4.19%	0.69	12.22%	8.03%	9.70%	10.33%
Duke Energy Corporation	DUK	4.19%	0.69	12.22%	8.03%	9.70%	10.33%
Edison International	EIX	4.19%	0.77	12.22%	8.03%	10.39%	10.85%
Entergy Corporation	ETR	4.19%	0.76	12.22%	8.03%	10.32%	10.80%
Eversource Energy	ES	4.19%	0.76	12.22%	8.03%	10.30%	10.78%
Evergy, Inc.	EVERG	4.19%	0.94	12.22%	8.03%	11.72%	11.84%
IDACORP, Inc.	IDA	4.19%	0.74	12.22%	8.03%	10.14%	10.66%
NextEra Energy, Inc.	NEE	4.19%	0.75	12.22%	8.03%	10.25%	10.74%
NorthWestern Corporation	NWE	4.19%	0.76	12.22%	8.03%	10.32%	10.80%
OGE Energy Corporation	OGE	4.19%	0.94	12.22%	8.03%	11.74%	11.86%
Pinnacle West Capital Corporation	PNW	4.19%	0.75	12.22%	8.03%	10.25%	10.74%
Portland General Electric Company	POR	4.19%	0.76	12.22%	8.03%	10.32%	10.80%
Xcel Energy Inc.	XEL	4.19%	0.67	12.22%	8.03%	9.59%	10.25%
Mean						10.36%	10.83%
Median						10.31%	10.79%

Notes:

[1] Bloomberg Professional, as of January 31, 2024

[2] LT Beta

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q2 2024 - Q2 2025)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.80	12.22%	8.12%	10.56%	10.97%
Alliant Energy Corporation	LNT	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
Ameren Corporation	AEE	4.10%	0.74	12.22%	8.12%	10.12%	10.64%
American Electric Power Company, Inc.	AEP	4.10%	0.69	12.22%	8.12%	9.67%	10.31%
Duke Energy Corporation	DUK	4.10%	0.69	12.22%	8.12%	9.67%	10.31%
Edison International	EIX	4.10%	0.77	12.22%	8.12%	10.37%	10.84%
Entergy Corporation	ETR	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
Eversource Energy	ES	4.10%	0.76	12.22%	8.12%	10.28%	10.76%
Evergy, Inc.	EVRG	4.10%	0.94	12.22%	8.12%	11.71%	11.84%
IDACORP, Inc.	IDA	4.10%	0.74	12.22%	8.12%	10.12%	10.64%
NextEra Energy, Inc.	NEE	4.10%	0.75	12.22%	8.12%	10.23%	10.72%
NorthWestern Corporation	NWE	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
OGE Energy Corporation	OGE	4.10%	0.94	12.22%	8.12%	11.74%	11.86%
Pinnacle West Capital Corporation	PNW	4.10%	0.75	12.22%	8.12%	10.23%	10.72%
Portland General Electric Company	POR	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
Xcel Energy Inc.	XEL	4.10%	0.67	12.22%	8.12%	9.56%	10.23%
Mean						10.34%	10.81%
Median						10.29%	10.77%

Notes:

[1] Blue Chip Financial Forecasts, Vol. 43, No. 2, February 1, 2024, at 2

[2] LT Beta

[3] Market Return

[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

$$K = R_f + \beta (R_m - R_f)$$

$$K = R_f + 0.25 \times (R_m - R_f) + 0.75 \times \beta \times (R_m - R_f)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025 - 2029)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)	ECAPM ROE (K)
ALLETE, Inc.	ALE	4.10%	0.80	12.22%	8.12%	10.56%	10.97%
Alliant Energy Corporation	LNT	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
Ameren Corporation	AEE	4.10%	0.74	12.22%	8.12%	10.12%	10.64%
American Electric Power Company, Inc.	AEP	4.10%	0.69	12.22%	8.12%	9.67%	10.31%
Duke Energy Corporation	DUK	4.10%	0.69	12.22%	8.12%	9.67%	10.31%
Edison International	EIX	4.10%	0.77	12.22%	8.12%	10.37%	10.84%
Entergy Corporation	ETR	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
Eversource Energy	ES	4.10%	0.76	12.22%	8.12%	10.28%	10.76%
Evergy, Inc.	EVRG	4.10%	0.94	12.22%	8.12%	11.71%	11.84%
IDACORP, Inc.	IDA	4.10%	0.74	12.22%	8.12%	10.12%	10.64%
NextEra Energy, Inc.	NEE	4.10%	0.75	12.22%	8.12%	10.23%	10.72%
NorthWestern Corporation	NWE	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
OGE Energy Corporation	OGE	4.10%	0.94	12.22%	8.12%	11.74%	11.86%
Pinnacle West Capital Corporation	PNW	4.10%	0.75	12.22%	8.12%	10.23%	10.72%
Portland General Electric Company	POR	4.10%	0.76	12.22%	8.12%	10.30%	10.78%
Xcel Energy Inc.	XEL	4.10%	0.67	12.22%	8.12%	9.56%	10.23%
Mean						10.34%	10.81%
Median						10.29%	10.77%

Notes:

- [1] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14.
[2] LT Beta
[3] Market Return
[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 - 2023

Company	Ticker	[1] 12/31/2013	[2] 12/31/2014	[3] 12/31/2015	[4] 12/31/2016	[5] 12/31/2017	[6] 12/31/2018	[7] 12/31/2019	[8] 12/31/2020	[9] 12/31/2021	[10] 12/31/2022	[11] 12/31/2023	[12] Average
ALLETE, Inc.	ALE	0.75	0.80	0.80	0.75	0.80	0.65	0.65	0.85	0.90	0.90	0.90	0.80
Alliant Energy Corporation	LNT	0.75	0.80	0.80	0.70	0.70	0.60	0.60	0.85	0.85	0.85	0.90	0.76
Ameren Corporation	AEE	0.80	0.75	0.75	0.65	0.70	0.55	0.55	0.85	0.80	0.85	0.90	0.74
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	0.80	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	0.90	0.69
Edison International	EIX	0.80	0.75	0.70	0.65	0.65	0.55	0.55	0.95	0.95	0.95	1.00	0.77
Energy Corporation	ETR	0.70	0.70	0.70	0.65	0.65	0.60	0.60	0.95	0.95	0.95	0.95	0.76
Eversource Energy	ES	0.75	0.75	0.75	0.70	0.65	0.60	0.55	0.90	0.90	0.90	0.90	0.76
Eversys, Inc.	EVRG						NMF	NMF	1.00	0.95	0.90	0.90	0.94
IDACORP, Inc.	IDA	0.75	0.80	0.80	0.75	0.70	0.55	0.55	0.80	0.80	0.80	0.85	0.74
NextEra Energy, Inc.	NEE	0.70	0.70	0.75	0.65	0.65	0.55	0.55	0.90	0.90	0.95	1.00	0.75
NorthWestern Corporation	NWE	0.70	0.70	0.70	0.70	0.70	0.55	0.60	0.95	0.95	0.90	0.95	0.76
OGE Energy Corporation	OGE	0.85	0.90	0.95	0.90	0.95	0.85	0.75	1.10	1.05	1.00	1.05	0.94
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	0.95	0.75
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	0.90	0.76
Xcel Energy Inc.	XEL	0.65	0.65	0.65	0.60	0.60	0.50	0.50	0.80	0.80	0.80	0.85	0.67
Mean		0.74	0.74	0.75	0.69	0.69	0.58	0.57	0.89	0.89	0.88	0.92	0.77

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] Value Line, dated December 29, 2023.
- [12] Average ([1] - [11])

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

[1] Estimated Weighted Average Dividend Yield	1.63%
[2] Estimated Weighted Average Long-Term Growth Rate	10.51%
[3] S&P 500 Estimated Required Market Return	12.22%

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 Growth Est.	Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	324,362	94.12	30,528.95	0.10%	5.31%	0.01%	8.00%	0.01%
American Express Co	AXP	723	200.74	145,135.02	0.46%	1.20%	0.01%	14.17%	0.06%
Verizon Communications Inc	VZ	4204	42.35	178,039.40		6.28%		-4.10%	
Broadcom Inc	AVGO	468,141	1180	552,406.38	1.75%	1.78%	0.03%	13.90%	0.24%
Boeing Co/The	BA	610,135	211.04	128,762.89					
Caterpillar Inc	CAT	509,085	300.31	152,883.32	0.48%	1.73%	0.01%	20.00%	0.10%
JPMorgan Chase & Co	JPM	2891,008	174.36	504,076.15	1.59%	2.41%	0.04%	2.00%	0.03%
Chevron Corp	CVX	1887,749	147.43	278,310.84	0.88%	4.10%	0.04%	7.27%	0.06%
Coca-Cola Co/The	KO	4323,414	59.49	257,199.90	0.81%	3.09%	0.03%	6.58%	0.05%
AbbVie Inc	ABBV	1765,537	164.4	290,254.28	0.92%	3.77%	0.03%	9.09%	0.08%
Walt Disney Co/The	DIS	1830,316	96.05	175,801.85	0.56%	0.62%	0.00%	18.88%	0.10%
FleetCor Technologies Inc	FLT	72,204	289.93	20,934.11	0.07%			12.79%	0.01%
Extra Space Storage Inc	EXR	211,278	144.44	30,516.99	0.10%	4.49%	0.00%	1.20%	0.00%
Exxon Mobil Corp	XOM	4006,133	102.81	411,870.53	1.30%	3.70%	0.05%	13.21%	0.17%
Phillips 66	PSX	439,956	144.31	63,490.05		2.91%		-7.56%	
General Electric Co	GE	1088,386	132.42	144,124.07	0.46%	0.24%	0.00%	7.00%	0.03%
HP Inc	HPQ	990,902	28.71	28,448.80	0.09%	3.84%	0.00%	3.00%	0.00%
Home Depot Inc/The	HD	995,262	352.96	351,287.68	1.11%	2.37%	0.03%	1.82%	0.02%
Monolithic Power Systems Inc	MPWR	47,912	602.72	28,877.52	0.09%	0.66%	0.00%	8.00%	0.01%
International Business Machines Corp	IBM	913,119	183.66	167,703.44	0.53%	3.62%	0.02%	5.14%	0.03%
Johnson & Johnson	JNJ	2407,279	158.9	382,516.63	1.21%	3.00%	0.04%	3.76%	0.05%
Lululemon Athletica Inc	LULU	121,075	453.82	54,946.26	0.17%			17.00%	0.03%
McDonald's Corp	MCD	725,342	292.72	212,322.11	0.67%	2.28%	0.02%	9.53%	0.06%
Merck & Co Inc	MRK	2534,023	120.78	306,059.30	0.97%	2.55%	0.02%	17.33%	0.17%
3M Co	MMM	552,317	94.35	52,111.11	0.16%	6.36%	0.01%	5.50%	0.01%
American Water Works Co Inc	AWK	194,705	124.02	24,147.31	0.08%	2.28%	0.00%	7.76%	0.01%
Bank of America Corp	BAC	7895,5	34.01	268,525.96		2.82%		-7.00%	
Pfizer Inc	PFE	5646,413	27.08	152,904.86		6.20%		33.35%	
Procter & Gamble Co/The	PG	2353,021	157.14	369,753.72	1.17%	2.39%	0.03%	7.56%	0.09%
AT&T Inc	T	7150	17.69	126,483.50		6.27%		-4.61%	
Travelers Cos Inc/The	TRV	228.2	211.36	48,232.35	0.15%	1.89%	0.00%	19.03%	0.03%
RTX Corp	RTX	1437,901	91.12	131,021.54	0.41%	2.59%	0.01%	10.14%	0.04%
Analog Devices Inc	ADI	495.84	192.36	95,379.78	0.30%	1.79%	0.01%	4.50%	0.01%
Walmart Inc	WMT	2692,234	165.25	444,891.67	1.41%	1.38%	0.02%	3.00%	0.04%
Cisco Systems Inc	CSCO	4063,476	50.18	203,905.23	0.64%	3.11%	0.02%	10.00%	0.06%
Intel Corp	INTC	4228	43.08	182,142.24		1.16%		31.13%	
General Motors Co	GM	1154,433	38.8	44,792.00	0.14%	1.24%	0.00%	15.71%	0.02%
Microsoft Corp	MSFT	7430,436	397.58	2,954,192.74	9.33%	0.75%	0.07%	16.62%	1.55%
Dollar General Corp	DG	219,497	132.07	28,988.97		1.79%		-5.94%	
Cigna Group/The	CI	292.62	300.95	88,063.99	0.28%	1.63%	0.00%	9.80%	0.03%
Kinder Morgan Inc	KMI	2222,774	16.92	37,609.34	0.12%	6.68%	0.01%	3.00%	0.00%
Citigroup Inc	C	1903.1	56.17	106,897.13		3.77%		21.67%	
American International Group Inc	AIG	702.04	69.51	48,798.80	0.15%	2.07%	0.00%	10.00%	0.02%
Altria Group Inc	MO	1768,647	40.12	70,958.12	0.22%	9.77%	0.02%	4.50%	0.01%
HCA Healthcare Inc	HCA	267,661	304.9	81,609.84	0.26%	0.87%	0.00%	7.72%	0.02%
International Paper Co	IP	346,017	35.83	12,397.79		5.16%		-2.00%	
Hewlett Packard Enterprise Co	HPE	1300	15.29	19,877.00	0.06%	3.40%	0.00%	2.64%	0.00%
Abbott Laboratories	ABT	1736,059	113.15	196,435.08	0.62%	1.94%	0.01%	8.00%	0.05%
Aflac Inc	AFL	584.38	84.34	49,286.61	0.16%	2.37%	0.00%	6.85%	0.01%
Air Products and Chemicals Inc	APD	222,228	255.71	56,825.92	0.18%	2.77%	0.00%	12.06%	0.02%
Royal Caribbean Cruises Ltd	RCL	256,235	127.5	32,669.96					
Hess Corp	HES	307,152	140.53	43,164.07	0.14%	1.25%	0.00%	13.50%	0.02%
Archer-Daniels-Midland Co	ADM	533,381	55.58	29,645.32		3.60%		-7.81%	
Automatic Data Processing Inc	ADP	410.7	245.78	100,941.85	0.32%	2.28%	0.01%	16.00%	0.05%
Verisk Analytics Inc	VRSK	144,987	241.53	35,018.71	0.11%	0.56%	0.00%	11.70%	0.01%
AutoZone Inc	AZO	17,292	2762.13	47,762.75	0.15%			14.29%	0.02%
Linde PLC	LIN	484.89	404.83	196,298.02	0.62%	1.26%	0.01%	14.00%	0.09%
Avery Dennison Corp	AVY	80,531	199.45	16,061.91	0.05%	1.62%	0.00%	7.00%	0.00%
Enphase Energy Inc	ENPH	136,551	104.13	14,219.06				28.57%	
MSCI Inc	MSCI	79.1	598.62	47,350.84	0.15%	1.07%	0.00%	12.12%	0.02%
Ball Corp	BALL	315,301	55.45	17,483.44	0.06%	1.44%	0.00%	9.50%	0.01%
Axon Enterprise Inc	AXON	74,934	249.06	18,663.06					
Dayforce Inc	DAY	156,127	69.52	10,853.95					
Carrier Global Corp	CARR	897,656	54.71	49,110.76	0.16%	1.39%	0.00%	10.94%	0.02%
Bank of New York Mellon Corp/The	BK	759,344	55.46	42,113.22	0.13%	3.03%	0.00%	10.00%	0.01%
Otis Worldwide Corp	OTIS	409,259	88.44	36,194.87	0.11%	1.54%	0.00%	9.00%	0.01%

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 Growth Est.	Cap-Weighted Long-Term Growth Est.
Baxter International Inc	BAX	507,324	38.69	19,628.37		3.00%		-3.00%	
Becton Dickinson & Co	BDX	289,542	238.81	69,145.53		1.59%		-2.02%	
Berkshire Hathaway Inc	BRK/B	1308,414	383.74	502,090.79					
Best Buy Co Inc	BBY	215,396	72.49	15,614.06	0.05%	5.08%	0.00%	3.08%	0.00%
Boston Scientific Corp	BSX	1464,983	63.26	92,674.82	0.29%			12.10%	0.04%
Bristol-Myers Squibb Co	BMJ	2034,758	48.87	99,438.62	0.31%	4.91%	0.02%	2.78%	0.01%
Brown-Forman Corp	BF/B	306,475	54.9	16,825.48	0.05%	1.59%	0.00%	4.85%	0.00%
Coterra Energy Inc	CTRA	752,192	24.88	18,714.54		3.22%		55.04%	
Campbell Soup Co	CPB	298,1	44.63	13,304.20	0.04%	3.32%	0.00%	2.81%	0.00%
Hilton Worldwide Holdings Inc	HLT	255,44	190.96	48,969.78	0.15%	0.31%	0.00%	17.14%	0.03%
Carnival Corp	CCL	1119,445	16.58	18,560.40					
Qorvo Inc	QRVO	97,346	99.74	9,709.29	0.03%			18.15%	0.01%
Builders FirstSource Inc	BLDR	123,347	173.73	21,429.07				-1.67%	
UDR Inc	UDR	328,928	36.02	11,847.99	0.04%	4.66%	0.00%	6.08%	0.00%
Clorox Co/The	CLX	124,059	145.25	18,019.57	0.06%	3.30%	0.00%	11.90%	0.01%
Paycom Software Inc	PAYC	60,228	190.24	11,457.77	0.04%	0.79%	0.00%	15.19%	0.01%
CMS Energy Corp	CMS	291,764	57.16	16,677.23	0.05%	3.41%	0.00%	7.75%	0.00%
Colgate-Palmolive Co	CL	823,372	84.2	69,327.92	0.22%	2.28%	0.00%	8.18%	0.02%
EPAM Systems Inc	EPAM	57.7	278.11	16,046.95	0.05%			4.87%	0.00%
Comerica Inc	CMA	131,873	52.58	6,933.88		5.40%		31.00%	
Conagra Brands Inc	CAG	478,005	29.15	13,933.85	0.04%	4.80%	0.00%	2.08%	0.00%
Airbnb Inc	ABNB	434,745	144.14	62,664.14	0.20%			18.20%	0.04%
Consolidated Edison Inc	ED	344,924	90.9	31,353.59	0.10%	3.65%	0.00%	6.00%	0.01%
Corning Inc	GLW	853,182	32.49	27,719.88	0.09%	3.45%	0.00%	9.34%	0.01%
Cummins Inc	CMI	141,745	239.3	33,919.58	0.11%	2.81%	0.00%	7.01%	0.01%
Caesars Entertainment Inc	CZR	215,711	43.87	9,463.24				127.12%	
Danaher Corp	DHR	739.2	239.91	177,341.47	0.56%	0.40%	0.00%	5.83%	0.03%
Target Corp	TGT	461,662	139.08	64,207.95	0.20%	3.16%	0.01%	15.29%	0.03%
Deere & Co	DE	279,99	393.58	110,198.46	0.35%	1.49%	0.01%	3.96%	0.01%
Dominion Energy Inc	D	836,773	45.72	38,257.26	0.12%	5.84%	0.01%	6.90%	0.01%
Dover Corp	DOV	139,89	149.78	20,952.72	0.07%	1.36%	0.00%	10.00%	0.01%
Alliant Energy Corp	LNT	252,719	48.66	12,297.31	0.04%	3.95%	0.00%	6.16%	0.00%
Steel Dynamics Inc	STLD	161,816	120.69	19,529.57		1.41%		-13.01%	
Duke Energy Corp	DUK	771	95.83	73,884.93	0.23%	4.28%	0.01%	6.34%	0.01%
Regency Centers Corp	REG	184,576	62.67	11,567.38	0.04%	4.28%	0.00%	3.46%	0.00%
Eaton Corp PLC	ETN	399.3	246.08	98,259.74	0.31%	1.40%	0.00%	15.00%	0.05%
Ecolab Inc	ECL	285,14	198.22	56,520.45	0.18%	1.15%	0.00%	14.33%	0.03%
Revvity Inc	RVTY	123,407	107.18	13,226.76		0.26%		-7.32%	
Emerson Electric Co	EMR	570.1	91.73	52,295.27	0.17%	2.29%	0.00%	12.01%	0.02%
EOG Resources Inc	EOG	583,15	113.79	66,356.64	0.21%	3.20%	0.01%	17.83%	0.04%
Aon PLC	AON	200,216	298.43	59,750.46	0.19%	0.82%	0.00%	10.03%	0.02%
Entergy Corp	ETR	211,456	99.76	21,094.85	0.07%	4.53%	0.00%	6.51%	0.00%
Equifax Inc	EFX	123,217	244.34	30,106.84	0.10%	0.64%	0.00%	13.64%	0.01%
EQT Corp	EQT	411,332	35.4	14,561.15		1.78%		21.41%	
IQVIA Holdings Inc	IQV	182.5	208.23	38,001.98	0.12%			9.67%	0.01%
Gartner Inc	IT	77,949	457.44	35,656.99	0.11%			8.24%	0.01%
FedEx Corp	FDX	249,893	241.29	60,296.68	0.19%	2.09%	0.00%	13.50%	0.03%
FMC Corp	FMC	124,759	56.2	7,011.46		4.13%		-4.00%	
Brown & Brown Inc	BRQ	284.6	77.43	22,036.58	0.07%	0.67%	0.00%	7.91%	0.01%
Ford Motor Co	F	3932,102	11.72	46,084.24		5.12%		-2.52%	
NextEra Energy Inc	NEE	2023,714	58.63	118,650.35	0.37%	3.19%	0.01%	8.10%	0.03%
Franklin Resources Inc	BEN	526,558	26.63	14,022.24		4.66%		-7.00%	
Garmin Ltd	GRMN	191,331	119.49	22,862.14	0.07%	2.44%	0.00%	5.60%	0.00%
Freeport-McMoRan Inc	FCX	1433,977	39.69	56,914.55		1.51%		-15.66%	
Dexcom Inc	DXCM	386,374	121.35	46,886.48				26.89%	
General Dynamics Corp	GD	272,897	264.99	72,314.98	0.23%	1.99%	0.00%	11.30%	0.03%
General Mills Inc	GIS	567,89	64.91	36,861.74	0.12%	3.64%	0.00%	8.00%	0.01%
Genuine Parts Co	GPC	140,197	140.23	19,659.83	0.06%	2.71%	0.00%	9.26%	0.01%
Atmos Energy Corp	ATO	150,834	113.94	17,186.03	0.05%	2.83%	0.00%	7.26%	0.00%
WW Grainger Inc	GWV	49,634	895.64	44,454.20		0.83%			
Halliburton Co	HAL	895,052	35.65	31,908.60	0.10%	1.91%	0.00%	16.34%	0.02%
L3Harris Technologies Inc	LHX	189,54	208.42	39,503.93	0.12%	2.19%	0.00%	5.53%	0.01%
Healthpeak Properties Inc	PEAK	547,074	18.5	10,120.87	0.03%	6.49%	0.00%	1.21%	0.00%
Insulet Corp	PODD	69,828	190.87	13,328.07				39.34%	
Catalent Inc	CTLT	180,641	51.64	9,328.30				26.24%	
Fortive Corp	FTV	351,434	78.18	27,475.11	0.09%	0.41%	0.00%	9.29%	0.01%
Hershey Co/The	HSY	149,885	193.54	29,008.74	0.09%	2.46%	0.00%	9.00%	0.01%
Synchrony Financial	SYF	406,9	38.87	15,816.20		2.57%			
Hormel Foods Corp	HRM	546,84	30.37	16,607.53	0.05%	3.72%	0.00%	1.08%	0.00%
Arthur J Gallagher & Co	AIG	216,686	232.16	50,305.82	0.16%	1.03%	0.00%	12.38%	0.02%
Mondelez International Inc	MDLZ	1360,896	75.27	102,434.64	0.32%	2.26%	0.01%	8.83%	0.03%
CenterPoint Energy Inc	CNP	629,432	27.94	17,586.33	0.06%	2.86%	0.00%	8.02%	0.00%
Humana Inc	HUM	122,224	378.06	46,208.01		0.94%		-3.07%	
Willis Towers Watson PLC	WTW	103,26	246.3	25,432.94	0.08%	1.36%	0.00%	10.94%	0.01%
Illinois Tool Works Inc	ITW	300,886	260.9	78,501.16	0.25%	2.15%	0.01%	3.86%	0.01%
CDW Corp/DE	CDW	133,96	226.72	30,371.41	0.10%	1.09%	0.00%	13.10%	0.01%
Trane Technologies PLC	TT	227,557	252.05	57,355.74	0.18%	1.19%	0.00%	13.04%	0.02%

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Name	Ticker	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Shares Outst'g	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Bloomberg Growth Est.	Cap-Weighted Long-Term Growth Est.
Interpublic Group of Cos Inc/The	IPG	383,004	32.99	12,635.30	0.04%	3.76%	0.00%	6.29%	0.00%
International Flavors & Fragrances Inc	IFF	255,279	80.68	20,595.91	0.07%	4.02%	0.00%	5.67%	0.00%
Generac Holdings Inc	GNRC	61,432	113.67	6,982.98	0.02%			5.00%	0.00%
NXP Semiconductors NV	NXPI	257,763	210.57	54,277.15		1.93%		34.00%	
Kellanova	K	342.52	54.76	18,756.40		4.09%		-2.42%	
Broadridge Financial Solutions Inc	BR	117,647	204.2	24,023.52		1.57%			
Kimberly-Clark Corp	KMB	337,941	120.97	40,880.72	0.13%	4.03%	0.01%	4.42%	0.01%
Kimco Realty Corp	KIM	671,722	20.2	13,568.78	0.04%	4.75%	0.00%	4.75%	0.00%
Oracle Corp	ORCL	2748,922	111.7	307,054.59	0.97%	1.43%	0.01%	15.00%	0.15%
Kroger Co/The	KR	719,423	46.14	33,194.18	0.10%	2.51%	0.00%	4.21%	0.00%
Lennar Corp	LEN	247,163	149.85	37,037.38	0.12%	1.33%	0.00%	9.02%	0.01%
Eli Lilly & Co	LLY	949,307	645.61	612,882.09		0.81%		24.60%	
Bath & Body Works Inc	BBWI	225,941	42.66	9,638.64	0.03%	1.88%	0.00%	6.51%	0.00%
Charter Communications Inc	CHTR	147,92	370.71	54,835.42	0.17%			12.44%	0.02%
Loews Corp	L	223,251	72.86	16,266.07		0.34%			
Lowe's Cos Inc	LOW	575,113	212.84	122,407.05	0.39%	2.07%	0.01%	4.43%	0.02%
Hubbell Inc	HUBB	53,622	335.57	17,993.93	0.06%	1.45%	0.00%	18.00%	0.01%
IDEX Corp	IEX	75,626	211.5	15,994.90	0.05%	1.21%	0.00%	11.00%	0.01%
Marsh & McLennan Cos Inc	MMC	493,072	193.84	95,577.08	0.30%	1.47%	0.00%	8.27%	0.02%
Masco Corp	MAS	224,501	67.29	15,106.67	0.05%	1.69%	0.00%	6.17%	0.00%
S&P Global Inc	SPGI	316.8	448.35	142,037.28	0.45%	0.81%	0.00%	13.58%	0.06%
Medtronic PLC	MDT	1329,654	87.54	116,397.91	0.37%	3.15%	0.01%	4.33%	0.02%
Viatis Inc	VTRS	1199,671	11.77	14,120.13		4.08%		-2.58%	
CVS Health Corp	CVS	1286,897	74.37	95,706.53	0.30%	3.58%	0.01%	6.24%	0.02%
DuPont de Nemours Inc	DD	430,042	61.8	26,576.60	0.08%	2.33%	0.00%	10.20%	0.01%
Micron Technology Inc	MU	1103,909	85.75	94,660.20		0.54%		-7.00%	
Motorola Solutions Inc	MSI	165,968	319.5	53,026.78	0.17%	1.23%	0.00%	10.82%	0.02%
Choe Global Markets Inc	CBOE	105,556	183.85	19,406.47	0.06%	1.20%	0.00%	12.81%	0.01%
Laboratory Corp of America Holdings	LH	84.9	222.3	18,873.27		1.30%		-7.29%	
Newmont Corp	NEM	1152,492	34.51	39,772.50	0.13%	4.64%	0.01%	6.21%	0.01%
NIKE Inc	NKE	1217,225	101.53	123,584.85	0.39%	1.46%	0.01%	14.65%	0.06%
NiSource Inc	NI	413,415	25.97	10,736.39	0.03%	4.08%	0.00%	7.65%	0.00%
Norfolk Southern Corp	NSC	225,681	233.89	52,784.53	0.17%	2.31%	0.00%	0.61%	0.00%
Principal Financial Group Inc	PFJ	238,412	79.1	18,858.39	0.06%	3.39%	0.00%	8.77%	0.01%
Eversource Energy	ES	349,086	54.22	18,927.44	0.06%	5.27%	0.00%	5.21%	0.00%
Northrop Grumman Corp	NOC	150,036	446.76	67,030.08	0.21%	1.67%	0.00%	16.03%	0.03%
Wells Fargo & Co	WFC	3598.9	49.83	179,333.19	0.57%	2.81%	0.02%	13.41%	0.08%
Nucor Corp	NUE	245,839	186.93	45,954.68		1.16%		-10.80%	
Occidental Petroleum Corp	OXY	877,581	57.57	50,522.34		1.25%			
Omnicom Group Inc	OMC	197,934	90.38	17,889.27	0.06%	3.10%	0.00%	4.83%	0.00%
ONEOK Inc	OKE	582,551	68.25	39,759.11	0.13%	5.80%	0.01%	7.65%	0.01%
Raymond James Financial Inc	RJF	208.7	110.18	22,994.57	0.07%	1.63%	0.00%	13.15%	0.01%
PG&E Corp	PCG	2133,508	16.87	35,992.28	0.11%	0.24%	0.00%	6.26%	0.01%
Parker-Hannifin Corp	PH	128,476	464.5	59,677.10	0.19%	1.27%	0.00%	15.28%	0.03%
Rollins Inc	ROL	484,038	43.31	20,963.69	0.07%	1.39%	0.00%	14.86%	0.01%
PPL Corp	PPL	737,124	26.2	19,312.65	0.06%	3.66%	0.00%	8.00%	0.00%
ConocoPhillips	COP	1187,408	111.87	132,835.33	0.42%	0.52%	0.00%	12.00%	0.05%
PulteGroup Inc	PHM	215,595	104.56	22,542.61	0.07%	0.77%	0.00%	5.41%	0.00%
Pinnacle West Capital Corp	PNW	113,312	68.9	7,807.20	0.02%	5.11%	0.00%	6.98%	0.00%
PNC Financial Services Group Inc/The	PNC	398	151.21	60,181.58	0.19%	4.10%	0.01%	14.67%	0.03%
PPG Industries Inc	PPG	235.8	141.04	33,257.23	0.11%	1.84%	0.00%	11.71%	0.01%
Progressive Corp/The	PGR	585.3	178.25	104,329.73		0.22%		29.97%	
Veralto Corp	VLTO	246,308	76.69	18,889.36		0.47%			
Public Service Enterprise Group Inc	PEG	499,111	57.99	28,943.45	0.09%	3.93%	0.00%	5.47%	0.01%
Robert Half Inc	RHI	105,895	79.54	8,422.89		2.41%			
Cooper Cos Inc/The	COO	49,526	373.03	18,474.68	0.06%			9.41%	0.01%
Edison International	EIX	383,568	67.48	25,883.17	0.08%	4.62%	0.00%	6.00%	0.00%
Schlumberger NV	SLB	1427,395	48.7	69,514.14		2.26%		20.37%	
Charles Schwab Corp/The	SCHW	1771,682	62.92	111,474.23		1.59%			
Sherwin-Williams Co/The	SHW	255,966	304.38	77,910.93	0.25%	0.80%	0.00%	10.94%	0.03%
West Pharmaceutical Services Inc	WST	73.99	373.03	27,600.49	0.09%	0.21%	0.00%	18.89%	0.02%
J M Smucker Co/The	SJM	106,144	131.55	13,963.24	0.04%	3.22%	0.00%	6.91%	0.00%
Snap-on Inc	SNA	52.78	289.93	15,302.51	0.05%	2.57%	0.00%	4.85%	0.00%
AMETEK Inc	AME	230,799	162.05	37,400.98	0.12%	0.62%	0.00%	6.87%	0.01%
Uber Technologies Inc	UBER	2057,858	65.27	134,316.39				68.00%	
Southern Co/The	SO	1091,515	69.52	75,882.12	0.24%	4.03%	0.01%	4.50%	0.01%
Truist Financial Corp	TFC	1333,743	37.06	49,428.52	0.16%	5.61%	0.01%	7.33%	0.01%
Southwest Airlines Co	LUV	596,115	29.89	17,817.88	0.06%	2.41%	0.00%	15.74%	0.01%
W R Berkley Corp	WRB	256,545	81.88	21,005.90	0.07%	0.54%	0.00%	15.00%	0.01%
Stanley Black & Decker Inc	SWK	153,311	93.3	14,303.92	0.05%	3.47%	0.00%	9.00%	0.00%
Public Storage	PSA	175,829	283.19	49,793.01	0.16%	4.24%	0.01%	3.77%	0.01%
Arista Networks Inc	ANET	311.1	258.68	80,475.35	0.25%			19.72%	0.05%
Sysco Corp	SY	497.83	80.93	40,289.38	0.13%	2.47%	0.00%	14.00%	0.02%
Corteva Inc	CTVA	704,88	45.48	32,057.94	0.10%	1.41%	0.00%	16.42%	0.02%
Texas Instruments Inc	TXN	909	160.12	145,549.08	0.46%	3.25%	0.01%	10.00%	0.05%
Textron Inc	TXT	196,005	84.71	16,603.58		0.09%			
Thermo Fisher Scientific Inc	TMO	386,372	538.98	208,246.78		0.26%			

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		[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 Growth Est.	Cap-Weighted Long-Term Growth Est.
TJX Cos Inc/The	TJX	1139.677	94.91	108,166.74	0.34%	1.40%	0.00%	6.38%	0.02%
Globe Life Inc	GL	94.119	122.82	11,559.70		0.73%			
Johnson Controls International plc	JCI	681.477	52.69	35,907.02	0.11%	2.81%	0.00%	9.77%	0.01%
Ulta Beauty Inc	ULTA	48.562	502.05	24,380.55	0.08%			6.26%	0.00%
Union Pacific Corp	UNP	609.597	243.93	148,699.00	0.47%	2.13%	0.01%	11.00%	0.05%
Keysight Technologies Inc	KEYS	175.045	153.26	26,827.40	0.08%			2.61%	0.00%
UnitedHealth Group Inc	UNH	924.925	511.74	473,321.12	1.50%	1.47%	0.02%	10.61%	0.16%
Blackstone Inc	BX	719.358	124.45	89,524.10	0.28%	3.02%	0.01%	8.58%	0.02%
Marathon Oil Corp	MRO	585.247	22.85	13,372.89	0.04%	1.93%	0.00%	8.00%	0.00%
Bio-Rad Laboratories Inc	BIO	24.059	320.89	7,720.29					
Ventas Inc	VTR	402.381	46.39	18,666.45	0.06%	3.88%	0.00%	8.66%	0.01%
VF Corp	VFC	388.883	16.46	6,401.01	0.02%	2.19%	0.00%	3.10%	0.00%
Vulcan Materials Co	VMC	132.873	226.01	30,030.63		0.76%		22.79%	
Weyerhaeuser Co	WY	730.001	32.77	23,922.13		0.43%			
Whirlpool Corp	WHR	55	109.52	6,023.60		6.39%		-1.36%	
Williams Cos Inc/The	WMB	1216.499	34.66	42,163.86	0.13%	5.48%	0.01%	3.50%	0.00%
Constellation Energy Corp	CEG	319.382	122	38,964.60		0.92%		27.95%	
WEC Energy Group Inc	WEC	315.435	80.76	25,474.53	0.08%	4.14%	0.00%	6.39%	0.01%
Adobe Inc	ADBE	452	617.78	279,236.56	0.88%			16.91%	0.15%
AES Corp/The	AES	669.629	16.68	11,169.41	0.04%	4.14%	0.00%	10.14%	0.00%
Expeditors International of Washington Inc	EXPD	145.389	126.33	18,366.99		1.09%		-16.00%	
Amgen Inc	AMGN	535.178	314.26	168,185.04	0.53%	2.86%	0.02%	4.23%	0.02%
Apple Inc	AAPL	15461.896	184.4	2,851,173.62	9.01%	0.52%	0.05%	13.00%	1.17%
Autodesk Inc	ADSK	213.915	253.81	54,293.77	0.17%			12.48%	0.02%
Cintas Corp	CTAS	101.371	604.57	61,285.87	0.19%	0.89%	0.00%	11.35%	0.02%
Comcast Corp	CMCSA	3962.413	46.54	184,410.70	0.58%	2.66%	0.02%	9.65%	0.06%
Molson Coors Beverage Co	TAP	200.955	61.79	12,417.01	0.04%	2.65%	0.00%	12.08%	0.00%
KLA Corp	KLAC	135.234	594.04	80,334.41	0.25%	0.98%	0.00%	9.06%	0.02%
Marriott International Inc/MD	MAR	293.691	239.73	70,406.54	0.22%	0.87%	0.00%	17.45%	0.04%
Fiserv Inc	FI	600.186	141.87	85,148.39	0.27%			15.20%	0.04%
McCormick & Co Inc/MD	MKC	251.441	68.16	17,138.22	0.05%	2.46%	0.00%	5.40%	0.00%
PACCAR Inc	PCAR	523.3	100.39	52,534.09	0.17%	1.08%	0.00%	12.00%	0.02%
Costco Wholesale Corp	COST	443.728	693.86	307,885.11	0.97%	0.59%	0.01%	7.64%	0.07%
Stryker Corp	SYK	379.895	335.48	127,447.17	0.40%	0.95%	0.00%	8.20%	0.03%
Tyson Foods Inc	TSN	286.351	54.76	15,680.58		3.58%		46.71%	
Lamb Weston Holdings Inc	LW	144.372	102.08	14,737.49	0.05%	1.41%	0.00%	15.46%	0.01%
Applied Materials Inc	AMAT	832.062	164.3	136,707.79	0.43%	0.78%	0.00%	5.50%	0.02%
American Airlines Group Inc	AAL	653.541	14.23	9,299.89				-7.46%	
Cardinal Health Inc	CAH	246.468	109.19	26,911.84	0.09%	1.83%	0.00%	13.66%	0.01%
Cincinnati Financial Corp	CINF	156.908	110.8	17,385.41	0.05%	2.92%	0.00%	15.15%	0.01%
Paramount Global	PARA	610.704	14.59	8,910.17		1.37%		-21.36%	
DR Horton Inc	DHI	331.817	142.91	47,419.97	0.15%	0.84%	0.00%	4.49%	0.01%
Electronic Arts Inc	EA	268.966	137.58	37,004.34	0.12%	0.55%	0.00%	11.07%	0.01%
Fair Isaac Corp	FICO	24.852	1198.83	29,793.32				22.00%	
Fastenal Co	FAST	571.982	68.23	39,026.33		2.29%			
M&T Bank Corp	MTB	166.149	138.1	22,945.18	0.07%	3.77%	0.00%	8.08%	0.01%
Xcel Energy Inc	XEL	551.816	59.87	33,037.22	0.10%	3.47%	0.00%	6.21%	0.01%
Fifth Third Bancorp	FITB	681.125	34.24	23,321.72		4.09%		25.00%	
Gilead Sciences Inc	GILD	1246.042	78.26	97,515.25	0.31%	3.83%	0.01%	3.06%	0.01%
Hasbro Inc	HAS	138.764	48.95	6,792.30		5.72%		-3.49%	
Huntington Bancshares Inc/OH	HBAN	1448	12.73	18,433.04		4.87%		-5.65%	
Welltower Inc	WELL	556.094	86.51	48,107.69	0.15%	2.82%	0.00%	9.22%	0.01%
Biogen Inc	BIIB	144.898	246.66	35,740.54	0.11%			10.50%	0.01%
Northern Trust Corp	NTRS	205.126	79.64	16,336.23	0.05%	3.77%	0.00%	2.57%	0.00%
Packaging Corp of America	PKG	89.624	165.88	14,866.83	0.05%	3.01%	0.00%	3.00%	0.00%
Paychex Inc	PAYX	359.822	121.73	43,801.13	0.14%	2.92%	0.00%	7.00%	0.01%
QUALCOMM Inc	QCOM	1116	148.51	165,737.16	0.52%	2.15%	0.01%	10.81%	0.06%
Ross Stores Inc	ROST	336.666	140.28	47,227.51	0.15%	0.96%	0.00%	10.00%	0.01%
IDEXX Laboratories Inc	IDXX	83.052	515.08	42,778.42	0.14%			16.36%	0.02%
Starbucks Corp	SBUX	1132.2	93.03	105,328.57	0.33%	2.45%	0.01%	15.41%	0.05%
KeyCorp	KEY	936.564	14.53	13,608.27		5.64%		-1.67%	
Fox Corp	FOXA	247.227	32.3	7,985.43	0.03%	1.61%	0.00%	12.00%	0.00%
Fox Corp	FOX	235.581	30.01	7,069.79	0.02%	1.73%	0.00%	12.00%	0.00%
State Street Corp	STT	301.944	73.87	22,304.60	0.07%	3.74%	0.00%	7.85%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	425.425	17.8	7,572.57					
US Bancorp	USB	1558	41.54	64,719.32	0.20%	4.72%	0.01%	6.00%	0.01%
A O Smith Corp	AOS	122.828	77.61	9,532.68		1.65%			
Gen Digital Inc	GEN	640.715	23.48	15,043.99	0.05%	2.13%	0.00%	12.98%	0.01%
T Rowe Price Group Inc	TROW	223.47	108.45	24,235.32		4.57%		-1.21%	
Waste Management Inc	WM	402.775	185.63	74,767.12	0.24%	1.51%	0.00%	10.39%	0.02%
Constellation Brands Inc	STZ	182.796	245.08	44,799.64	0.14%	1.45%	0.00%	10.63%	0.02%
DENTSPLY SIRONA Inc	XRAY	211.86	34.75	7,362.14	0.02%	1.61%	0.00%	7.93%	0.00%
Zions Bancorp NA	ZION	148.153	41.9	6,207.61		3.91%		-9.40%	
Invesco Ltd	IVZ	449.5	15.83	7,115.59	0.02%	5.05%	0.00%	4.00%	0.00%
Intuit Inc	INTU	279.936	631.33	176,731.99	0.56%	0.57%	0.00%	18.96%	0.11%
Morgan Stanley	MS	1641.312	87.24	143,188.06	0.45%	3.90%	0.02%	5.28%	0.02%
Microchip Technology Inc	MCHP	541.045	85.18	46,086.21		2.06%		-1.85%	

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		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outstg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Bloomberg Growth Est.	Cap-Weighted Long-Term Growth Est.
Chubb Ltd	CB	405.27	245	99,291.15	0.31%	1.40%	0.00%	6.00%	0.02%
Hologic Inc	HOLX	234.721	74.44	17,472.63	0.06%			8.86%	0.00%
Citizens Financial Group Inc	CFG	466,418	32.7	15,251.87		5.14%		-6.96%	
Jabil Inc	JBL	127.546	125.29	15,980.24	0.05%	0.26%	0.00%	12.00%	0.01%
O'Reilly Automotive Inc	ORLY	59,162	1023.05	60,525.68	0.19%			11.80%	0.02%
Allstate Corp/The	ALL	261.687	155.25	40,626.91		2.29%		-7.00%	
Equity Residential	EQR	379.291	60.19	22,829.53	0.07%	4.40%	0.00%	4.75%	0.00%
BorgWarner Inc	BWA	235.055	33.9	7,968.36	0.03%	1.30%	0.00%	4.81%	0.00%
Keurig Dr Pepper Inc	KDP	1398.336	31.44	43,963.68	0.14%	2.74%	0.00%	6.81%	0.01%
Host Hotels & Resorts Inc	HST	705.4	19.22	13,557.79		4.16%			
Incyte Corp	INCY	224.109	58.77	13,170.89				37.00%	
Simon Property Group Inc	SPG	326.247	138.61	45,221.10	0.14%	5.48%	0.01%	1.71%	0.00%
Eastman Chemical Co	EMN	118.564	83.55	9,906.02	0.03%	3.88%	0.00%	5.02%	0.00%
AvalonBay Communities Inc	AVB	142.015	179.01	25,422.11	0.08%	3.80%	0.00%	5.95%	0.00%
Prudential Financial Inc	PRU	361	104.93	37,879.73	0.12%	4.77%	0.01%	10.55%	0.01%
United Parcel Service Inc	UPS	723.257	141.9	102,630.17		4.59%		-0.39%	
Walgreens Boots Alliance Inc	WBA	862.376	22.57	19,463.83	0.06%	4.43%	0.00%	0.31%	0.00%
STERIS PLC	STE	98.8	218.95	21,632.26		0.95%			
McKesson Corp	MCK	133.062	499.89	66,516.36	0.21%	0.50%	0.00%	10.04%	0.02%
Lockheed Martin Corp	LMT	241.643	429.41	103,763.92	0.33%	2.93%	0.01%	5.39%	0.02%
Cencora Inc	COR	199.482	232.68	46,415.47	0.15%	0.88%	0.00%	8.66%	0.01%
Capital One Financial Corp	COF	380.4	135.32	51,475.73		1.77%		50.24%	
Waters Corp	WAT	59.127	317.71	18,785.24	0.06%			4.87%	0.00%
Nordson Corp	NDSN	57.016	251.72	14,352.07		1.08%		45.00%	
Dollar Tree Inc	DLTR	217.872	130.62	28,458.44	0.09%			7.77%	0.01%
Darden Restaurants Inc	DRI	119.411	162.58	19,413.84	0.06%	3.22%	0.00%	3.78%	0.00%
Everygy Inc	EVRG	229.583	50.77	11,655.93	0.04%	5.06%	0.00%	4.35%	0.00%
Match Group Inc	MTCH	271.812	38.38	10,432.14				28.33%	
Domino's Pizza Inc	DPZ	34.881	426.22	14,866.98	0.05%	1.14%	0.00%	12.71%	0.01%
NVR Inc	NVR	3.195	7075.29	22,605.55	0.07%			4.41%	0.00%
NetApp Inc	NTAP	206.031	87.2	17,965.90	0.06%	2.29%	0.00%	6.00%	0.00%
Old Dominion Freight Line Inc	ODFL	109.114	391.02	42,665.76	0.13%	0.53%	0.00%	9.31%	0.01%
DaVita Inc	DVA	91.3	108.16	9,875.01	0.03%			19.69%	0.01%
Hartford Financial Services Group Inc/The	HIG	300.77	86.96	26,154.96	0.08%	2.16%	0.00%	7.00%	0.01%
Iron Mountain Inc	IRM	291.99	67.52	19,715.16	0.06%	3.85%	0.00%	4.00%	0.00%
Estee Lauder Cos Inc/The	EL	232.305	131.99	30,661.94	0.10%	2.00%	0.00%	10.88%	0.01%
Cadence Design Systems Inc	CDNS	272.062	288.46	78,479.00	0.25%			17.03%	0.04%
Tyler Technologies Inc	TYL	42.124	422.75	17,807.92					
Universal Health Services Inc	UHS	61.007	158.81	9,688.52	0.03%	0.50%	0.00%	11.38%	0.00%
Skyworks Solutions Inc	SKKS	160.226	104.46	16,737.21	0.05%	2.60%	0.00%	9.03%	0.00%
Quest Diagnostics Inc	DGX	112.435	128.43	14,440.03		2.21%		-1.18%	
Rockwell Automation Inc	ROK	114.592	253.28	29,023.86	0.09%	1.97%	0.00%	11.06%	0.01%
Kraft Heinz Co/The	KHC	1226.539	37.13	45,541.39	0.14%	4.31%	0.01%	4.46%	0.01%
American Tower Corp	AMT	466.165	195.65	91,205.18	0.29%	3.48%	0.01%	11.81%	0.03%
Regeneron Pharmaceuticals Inc	REGN	107.129	942.78	100,999.08	0.32%			5.33%	0.02%
Amazon.com Inc	AMZN	10334.031	155.2	1,603,841.61				35.10%	
Jack Henry & Associates Inc	JKHY	72.828	165.83	12,077.07	0.04%	1.25%	0.00%	7.06%	0.00%
Ralph Lauren Corp	RL	39.752	143.67	5,711.17	0.02%	2.09%	0.00%	10.25%	0.00%
Boston Properties Inc	BXP	156.941	66.5	10,436.58		5.89%		-1.26%	
Amphenol Corp	APH	598.31	101.1	60,489.14	0.19%	0.87%	0.00%	9.02%	0.02%
Howmet Aerospace Inc	HWM	411.744	56.26	23,164.72		0.36%		20.41%	
Pioneer Natural Resources Co	PXD	233.623	229.83	53,693.57	0.17%	5.57%	0.01%	2.00%	0.00%
Valero Energy Corp	VLO	340.453	138.9	47,288.92	0.15%	3.08%	0.00%	8.16%	0.01%
Synopsys Inc	SNPS	152.521	533.35	81,347.08	0.26%			17.68%	0.05%
Etsy Inc	ETSY	119.746	66.56	7,970.29	0.03%			8.47%	0.00%
CH Robinson Worldwide Inc	CHRW	116.651	84.09	9,809.18		2.90%		-10.00%	
Accenture PLC	ACN	666.512	363.88	242,530.39	0.77%	1.42%	0.01%	10.00%	0.08%
TransDigm Group Inc	TDG	55.594	1092.68	60,746.45	0.19%			15.56%	0.03%
Yum! Brands Inc	YUM	280.308	129.49	36,297.08	0.11%	2.07%	0.00%	11.49%	0.01%
Prologis Inc	PLD	923.971	126.69	117,057.89	0.37%	2.75%	0.01%	8.60%	0.03%
FirstEnergy Corp	FE	573.815	36.68	21,047.53		4.47%		-0.33%	
VeriSign Inc	VRSN	102.1	198.88	20,305.65	0.06%			11.50%	0.01%
Quanta Services Inc	PWR	145.285	194.05	28,192.55	0.09%	0.19%	0.00%	8.00%	0.01%
Henry Schein Inc	HSIC	130.585	74.84	9,772.98	0.03%			3.44%	0.00%
Ameren Corp	AEE	262.945	69.57	18,293.08	0.06%	3.62%	0.00%	6.40%	0.00%
ANSYS Inc	ANSS	86.917	327.83	28,494.00	0.09%			9.00%	0.01%
FactSet Research Systems Inc	FDS	38.086	475.92	18,125.89	0.06%	0.82%	0.00%	10.60%	0.01%
NVIDIA Corp	NVDA	2470	615.27	1,519,716.90		0.03%		43.97%	
Cognizant Technology Solutions Corp	CTSH	501.413	77.12	38,668.97	0.12%	1.50%	0.00%	12.00%	0.01%
Intuitive Surgical Inc	ISRG	352.326	378.22	133,256.74	0.42%			12.00%	0.05%
Take-Two Interactive Software Inc	TTWO	170.068	164.93	28,049.32				35.02%	
Republic Services Inc	RSRG	314.637	171.12	53,840.68	0.17%	1.25%	0.00%	10.11%	0.02%
eBay Inc	EBAY	519	41.07	21,315.33	0.07%	2.43%	0.00%	3.32%	0.00%
Goldman Sachs Group Inc/The	GS	326.112	384.01	125,230.27	0.40%	2.86%	0.01%	8.36%	0.03%
SBA Communications Corp	SBAC	107.887	223.86	24,151.58	0.08%	1.52%	0.00%	8.00%	0.01%
Sempra	SRE	629.328	71.56	45,034.71	0.14%	3.33%	0.00%	4.95%	0.01%
Moody's Corp	MCO	183	392.04	71,743.32	0.23%	0.79%	0.00%	13.59%	0.03%

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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 Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
ON Semiconductor Corp	ON	430.698	71.13	30,635.55	0.10%			1.60%	0.00%
Booking Holdings Inc	BKNG	34.89	3507.47	122,375.63	0.39%			15.00%	0.06%
F5 Inc	FFIV	58.797	183.7	10,801.01	0.03%			7.09%	0.00%
Akamai Technologies Inc	AKAM	150.832	123.23	18,587.03	0.06%			7.87%	0.00%
Charles River Laboratories International Inc	CRL	51.297	216.28	11,094.52	0.04%			14.00%	0.00%
MarketAxess Holdings Inc	MKTX	37.905	225.51	8,547.96		1.31%			
Devon Energy Corp	DVN	640.7	42.02	26,922.21		7.33%		21.68%	
Alphabet Inc	GOOGL	5893	140.1	825,609.30	2.61%			10.05%	0.26%
Bio-Techne Corp	TECH	158.15	70.32	11,121.11	0.04%	0.46%	0.00%	5.00%	0.00%
Teleflex Inc	TFX	46.993	242.83	11,411.31	0.04%	0.56%	0.00%	7.00%	0.00%
Allegion plc	ALLE	87.788	123.89	10,876.06	0.03%	1.43%	0.00%	5.14%	0.00%
Netflix Inc	NFLX	432.76	564.11	244,124.24				31.81%	
Warner Bros Discovery Inc	WBD	2438.566	10.02	24,434.43				91.04%	
Agilent Technologies Inc	A	293.004	130.1	38,119.82		0.73%			
Trimble Inc	TRMB	248.768	50.86	12,652.34					
Elevance Health Inc	ELV	234.959	493.44	115,938.17	0.37%	1.32%	0.00%	10.83%	0.04%
CME Group Inc	CME	359.99	205.84	74,100.34	0.23%	2.14%	0.01%	8.54%	0.02%
Juniper Networks Inc	JNPR	318.868	36.96	11,785.36	0.04%	2.38%	0.00%	7.96%	0.00%
BlackRock Inc	BLK	148.762	774.31	115,187.90	0.36%	2.63%	0.01%	9.00%	0.03%
DTE Energy Co	DTE	206.109	105.42	21,728.01	0.07%	3.87%	0.00%	7.00%	0.00%
Celanese Corp	CE	108.855	146.29	15,924.40	0.05%	1.91%	0.00%	2.16%	0.00%
Nasdaq Inc	NDAQ	576.965	57.77	33,331.27	0.11%	1.52%	0.00%	9.08%	0.01%
Philip Morris International Inc	PM	1552.406	90.85	141,036.09	0.45%	5.72%	0.03%	6.49%	0.03%
Ingersoll Rand Inc	IR	404.797	79.86	32,327.09	0.10%	0.10%	0.00%	14.00%	0.01%
Salesforce Inc	CRM	968	281.09	272,095.12				22.50%	
Roper Technologies Inc	ROP	106.822	537	57,363.41	0.18%	0.56%	0.00%	8.00%	0.01%
Huntington Ingalls Industries Inc	HII	39.723	258.92	10,285.08		2.01%		40.00%	
MetLife Inc	MET	740.19	69.32	51,309.97	0.16%	3.00%	0.00%	9.84%	0.02%
Tapestry Inc	TPR	229.186	38.79	8,890.12	0.03%	3.61%	0.00%	11.00%	0.00%
CSX Corp	CSX	1976.131	35.7	70,547.88	0.22%	1.23%	0.00%	6.75%	0.02%
Edwards Lifesciences Corp	EW	606.5	78.47	47,592.06	0.15%			8.75%	0.01%
Ameriprise Financial Inc	AMP	101.196	386.83	39,145.65		1.40%			
Zebra Technologies Corp	ZBRA	51.36	239.55	12,303.29					
Zimmer Biomet Holdings Inc	ZBH	208.981	125.6	26,248.01	0.08%	0.76%	0.00%	7.19%	0.01%
Camden Property Trust	CPT	106.771	93.84	10,019.39	0.03%	4.26%	0.00%	5.67%	0.00%
CBRE Group Inc	CBRE	304.793	86.31	26,306.68					
Mastercard Inc	MA	930.438	449.23	417,980.66	1.32%	0.59%	0.01%	16.64%	0.22%
CarMax Inc	KMX	157.921	71.18	11,240.82				29.90%	
Intercontinental Exchange Inc	ICE	572.364	127.33	72,879.11	0.23%	1.32%	0.00%	9.64%	0.02%
Fidelity National Information Services Inc	FIS	592.484	62.26	36,888.05	0.12%	3.34%	0.00%	11.42%	0.01%
Chipotle Mexican Grill Inc	CMG	27.445	2408.77	66,108.69				24.78%	
Wynn Resorts Ltd	WYNN	112.946	94.43	10,665.49		1.06%		140.51%	
Live Nation Entertainment Inc	LYV	230.325	88.85	20,464.38					
Assurant Inc	AIZ	52.591	167.95	8,832.66	0.03%	1.71%	0.00%	11.66%	0.00%
NRG Energy Inc	NRG	225.764	53.04	11,974.52	0.04%	3.07%	0.00%	8.88%	0.00%
Monster Beverage Corp	MNST	1040.441	55.02	57,245.06	0.18%			15.46%	0.03%
Regions Financial Corp	RF	930.065	18.67	17,364.31	0.05%	5.14%	0.00%	1.41%	0.00%
Baker Hughes Co	BKR	1006.234	28.5	28,677.67	0.09%	2.81%	0.00%	17.00%	0.02%
Mosaic Co/The	MOS	326.835	30.71	10,037.10		2.74%		24.50%	
Expedia Group Inc	EXPE	133.325	148.33	19,776.10	0.06%			17.50%	0.01%
CF Industries Holdings Inc	CF	191.057	75.51	14,426.71		2.65%		46.00%	
APA Corp	APA	306.719	31.33	9,609.51	0.03%	3.19%	0.00%	2.00%	0.00%
Leidos Holdings Inc	LDOS	137.506	110.47	15,190.29	0.05%	1.38%	0.00%	8.12%	0.00%
Alphabet Inc	GOOG	5671	141.8	804,147.80	2.54%			10.05%	0.26%
First Solar Inc	FSLR	106.844	146.3	15,631.28				43.22%	
TE Connectivity Ltd	TEL	308.799	142.19	43,908.13	0.14%	1.66%	0.00%	5.27%	0.01%
Discover Financial Services	DFS	250.058	105.52	26,386.12	0.08%	2.65%	0.00%	17.16%	0.01%
Visa Inc	V	1581.59	273.26	432,185.28	1.37%	0.76%	0.01%	13.41%	0.18%
Mid-America Apartment Communities Inc	MAA	116.688	126.38	14,747.03	0.05%	4.65%	0.00%	1.86%	0.00%
Xylem Inc/NY	XYL	241.078	112.44	27,106.81		1.17%			
Marathon Petroleum Corp	MPC	379.697	165.6	62,877.82		1.99%		-11.89%	
Tractor Supply Co	TSCO	108.114	224.6	24,282.40	0.08%	1.83%	0.00%	3.42%	0.00%
Advanced Micro Devices Inc	AMD	1615.787	167.69	270,951.32				29.35%	
ResMed Inc	RMD	147.089	190.2	27,976.33	0.09%	1.01%	0.00%	8.67%	0.01%
Mettler-Toledo International Inc	MTD	21.684	1197.19	25,959.87	0.08%			5.96%	0.00%
VICI Properties Inc	VICI	1034.532	30.12	31,160.10	0.10%	5.51%	0.01%	4.78%	0.00%
Copart Inc	CPRT	960.231	48.04	46,129.50					
Jacobs Solutions Inc	J	126.316	134.77	17,023.61	0.05%	0.86%	0.00%	12.31%	0.01%
Albemarle Corp	ALB	117.353	114.74	13,465.08		1.39%		35.15%	
Fortinet Inc	FTNT	767.91	64.49	49,522.52	0.16%			14.37%	0.02%
Moderna Inc	MRNA	381.284	101.05	38,528.75				-29.33%	
Essex Property Trust Inc	ESS	64.183	233.27	14,971.97	0.05%	3.96%	0.00%	5.71%	0.00%
CoStar Group Inc	CSGP	408.363	83.48	34,090.14	0.11%			20.00%	0.02%
Realty Income Corp	O	831.787	54.39	45,240.89	0.14%	5.66%	0.01%	1.39%	0.00%
Westrock Co	WRK	256.508	40.26	10,327.01	0.03%	3.01%	0.00%	5.70%	0.00%
Westinghouse Air Brake Technologies Corp	WAB	179.159	131.57	23,571.95	0.07%	0.52%	0.00%	14.08%	0.01%
Pool Corp	POOL	38.679	371.25	14,359.58		1.19%		-0.25%	

STANDARD AND POOR'S 500 INDEX

		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outstg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Bloomberg Growth Est.	Cap-Weighted Long-Term Growth Est.
Western Digital Corp	WDC	324,243	57.25	18,562.91				-13.91%	
PepsiCo Inc	PEP	1374,864	168.53	231,705.83	0.73%	3.00%	0.02%	8.62%	0.06%
Diamondback Energy Inc	FANG	178,985	153.74	27,517.15	0.09%	8.77%	0.01%	8.47%	0.01%
Palo Alto Networks Inc	PANW	315.3	338.51	106,732.20				30.00%	
ServiceNow Inc	NOW	205	765.4	156,907.00				30.00%	
Church & Dwight Co Inc	CHD	246,382	99.85	24,601.24	0.08%	1.09%	0.00%	6.28%	0.00%
Federal Realty Investment Trust	FRT	81,618	101.73	8,303.00	0.03%	4.29%	0.00%	4.42%	0.00%
MGM Resorts International	MGM	341,583	43.37	14,814.45				2.83%	0.00%
American Electric Power Co Inc	AEP	515,176	78.14	40,255.85	0.13%	4.50%	0.01%	5.11%	0.01%
Invitation Homes Inc	INVH	611,958	32.93	20,151.78	0.06%	3.40%	0.00%	2.83%	0.00%
PTC Inc	PTC	119,437	180.65	21,576.29	0.07%			19.53%	0.01%
JB Hunt Transport Services Inc	JBHT	103,143	200.98	20,729.68	0.07%	0.86%	0.00%	15.00%	0.01%
Lam Research Corp	LRCX	131,103	825.17	108,182.26	0.34%	0.97%	0.00%	11.37%	0.04%
Mohawk Industries Inc	MHK	63,682	104.25	6,638.85				-2.33%	
GE HealthCare Technologies Inc	GEHC	455,243	73.36	33,396.63	0.11%	0.16%	0.00%	12.70%	0.01%
Pentair PLC	PNR	165,299	73.17	12,094.93	0.04%	1.26%	0.00%	7.53%	0.00%
Vertex Pharmaceuticals Inc	VRTX	257,683	433.38	111,674.66	0.35%			13.40%	0.05%
Amcpr PLC	AMCR	1445,343	9.43	13,629.58	0.04%	5.30%	0.00%	2.20%	0.00%
Meta Platforms Inc	META	2219,607	390.14	865,957.47				20.79%	
T-Mobile US Inc	TMUS	1195,807	161.23	192,799.96	0.61%	1.61%	0.01%	5.25%	0.03%
United Rentals Inc	URI	67,192	625.4	42,021.88	0.13%	1.04%	0.00%	6.85%	0.01%
Alexandria Real Estate Equities Inc	ARE	174,968	120.9	21,153.63	0.07%	4.20%	0.00%	5.28%	0.00%
Honeywell International Inc	HON	659,251	202.26	133,340.11	0.42%	2.14%	0.01%	7.87%	0.03%
Delta Air Lines Inc	DAL	643,463	39.14	25,185.14	0.08%	1.02%	0.00%	8.37%	0.01%
United Airlines Holdings Inc	UAL	328,017	41.38	13,573.34				49.56%	
Seagate Technology Holdings PLC	STX	209,511	85.68	17,950.90		3.27%		-4.90%	
News Corp	NWS	191,385	25.57	4,893.71		0.78%			
Centene Corp	CNC	534,201	75.31	40,230.68	0.13%			9.26%	0.01%
Martin Marietta Materials Inc	MLM	61,807	508.42	31,423.91		0.58%		20.66%	
Teradyne Inc	TER	152,879	96.59	14,766.58	0.05%	0.50%	0.00%	6.00%	0.00%
PayPal Holdings Inc	PYPL	1078,14	61.35	66,143.89	0.21%			6.26%	0.01%
Tesla Inc	TSLA	3184,79	187.29	596,479.32	1.88%			2.00%	0.04%
Arch Capital Group Ltd	ACGL	373,172	82.43	30,760.57	0.10%			15.00%	0.01%
Dow Inc	DOW	702,293	53.6	37,642.90		5.22%		23.26%	
Everest Group Ltd	EG	43,39	384.97	16,703.85		1.82%		33.50%	
Teledyne Technologies Inc	TDY	47,185	418.47	19,745.51	0.06%			8.03%	0.01%
News Corp	NWSA	380,67	24.64	9,379.71		0.81%			
Exelon Corp	EXC	994,299	34.81	34,611.55	0.11%	4.14%	0.00%	4.69%	0.01%
Global Payments Inc	GFPI	260,389	133.23	34,691.63	0.11%	0.75%	0.00%	13.05%	0.01%
Crown Castle Inc	CCI	434	108.25	46,980.50	0.15%	5.78%	0.01%	7.00%	0.01%
Aptiv PLC	APTIV	282,862	81.33	23,005.17	0.07%			11.44%	0.01%
Align Technology Inc	ALGN	76,589	267.32	20,473.77	0.06%			12.52%	0.01%
Illumina Inc	ILMN	158.8	143.01	22,709.99				-9.88%	
Kenvue Inc	KVUE	1914,995	20.76	39,755.30		3.85%			
Targa Resources Corp	TRGP	222,976	84.96	18,944.04	0.06%	2.35%	0.00%	14.00%	0.01%
Bunge Global SA	BG	161,429	88.09	14,220.28		3.01%		-5.94%	
LKQ Corp	LKQ	267,598	46.67	12,488.80	0.04%	2.57%	0.00%	11.50%	0.00%
Zoetis Inc	ZTS	459,114	187.81	86,226.20	0.27%	0.92%	0.00%	10.91%	0.03%
Equinix Inc	EQIX	93,883	829.77	77,901.30	0.25%	2.05%	0.01%	14.63%	0.04%
Digital Realty Trust Inc	DLR	302,846	140.46	42,537.75	0.13%	3.47%	0.00%	6.80%	0.01%
Molina Healthcare Inc	MOH	58.3	356.44	20,780.45	0.07%			11.24%	0.01%
Las Vegas Sands Corp	LVS	764,491	48.92	37,398.90		1.64%			

Notes:

[1] Equals sum of Col. [9]

[2] Equals sum of Col. [11]

[3] Equals $([1] \times (1 + (0.5 \times [2]))) + [2]$

[4] Source: Bloomberg Professional as of January 31, 2024

[5] Source: Bloomberg Professional as of January 31, 2024

[6] Equals $[4] \times [5]$

[7] Equals weight in S&P 500 based on market capitalization [6] if Growth Rate >0% and ≤20%

[8] Source: Bloomberg Professional, as of January 31, 2024

[9] Equals $[7] \times [8]$

[10] Source: Bloomberg, as of January 31, 2024

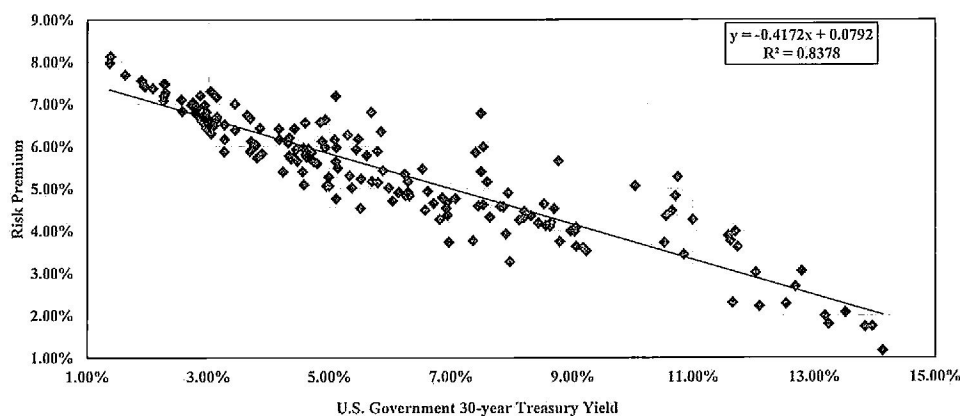
[11] Equals $[7] \times [10]$

BOND YIELD PLUS RISK PREMIUM

	[1]	[2]	[3]
Quarter	Average Authorized Electric ROE	U.S. Govt. 30-year Treasury	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	14.91%	10.55%	4.36%
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	10.88%	5.70%	5.17%
2001.3	10.76%	5.53%	5.23%
2001.4	11.57%	5.30%	6.27%
2002.1	10.05%	5.52%	4.53%
2002.2	11.41%	5.62%	5.79%
2002.3	11.25%	5.09%	6.16%
2002.4	11.57%	4.93%	6.63%
2003.1	11.43%	4.85%	6.57%
2003.2	11.16%	4.60%	6.56%
2003.3	9.88%	5.11%	4.76%
2003.4	11.09%	5.11%	5.98%
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	10.91%	4.93%	5.98%
2005.1	10.56%	4.71%	5.85%
2005.2	10.13%	4.47%	5.65%
2005.3	10.85%	4.42%	6.42%
2005.4	10.59%	4.65%	5.94%
2006.1	10.38%	4.63%	5.75%
2006.2	10.63%	5.14%	5.49%
2006.3	10.06%	5.00%	5.07%
2006.4	10.39%	4.74%	5.64%
2007.1	10.39%	4.80%	5.59%
2007.2	10.27%	4.99%	5.28%
2007.3	10.02%	4.95%	5.07%
2007.4	10.43%	4.61%	5.81%
2008.1	10.15%	4.41%	5.74%
2008.2	10.54%	4.57%	5.96%
2008.3	10.38%	4.45%	5.93%
2008.4	10.39%	3.64%	6.74%
2009.1	10.45%	3.44%	7.01%
2009.2	10.58%	4.17%	6.41%
2009.3	10.41%	4.32%	6.09%
2009.4	10.54%	4.34%	6.20%
2010.1	10.45%	4.62%	5.82%
2010.2	10.08%	4.37%	5.71%
2010.3	10.29%	3.86%	6.43%
2010.4	10.34%	4.17%	6.17%
2011.1	9.96%	4.56%	5.40%
2011.2	10.12%	4.34%	5.78%
2011.3	10.36%	3.70%	6.66%
2011.4	10.34%	3.04%	7.31%
2012.1	10.30%	3.14%	7.17%
2012.2	9.92%	2.94%	6.98%
2012.3	9.78%	2.74%	7.04%
2012.4	10.07%	2.86%	7.21%
2013.1	9.77%	3.13%	6.64%
2013.2	9.84%	3.14%	6.70%
2013.3	9.83%	3.71%	6.12%
2013.4	9.82%	3.79%	6.04%
2014.1	9.57%	3.69%	5.88%
2014.2	9.83%	3.44%	6.39%
2014.3	9.79%	3.27%	6.52%
2014.4	9.78%	2.96%	6.81%
2015.1	9.66%	2.55%	7.11%
2015.2	9.50%	2.88%	6.61%
2015.3	9.40%	2.96%	6.44%
2015.4	9.65%	2.96%	6.69%
2016.1	9.70%	2.72%	6.98%
2016.2	9.41%	2.57%	6.84%
2016.3	9.76%	2.28%	7.48%
2016.4	9.55%	2.83%	6.72%
2017.1	9.61%	3.05%	6.57%
2017.2	9.61%	2.90%	6.71%
2017.3	9.73%	2.82%	6.91%
2017.4	9.74%	2.82%	6.92%
2018.1	9.59%	3.02%	6.57%
2018.2	9.57%	3.09%	6.49%
2018.3	9.66%	3.06%	6.60%
2018.4	9.44%	3.27%	6.17%
2019.1	9.57%	3.01%	6.55%
2019.2	9.58%	2.78%	6.79%
2019.3	9.57%	2.29%	7.28%
2019.4	9.74%	2.26%	7.49%
2020.1	9.45%	1.89%	7.56%
2020.2	9.52%	1.38%	8.14%
2020.3	9.34%	1.37%	7.98%
2020.4	9.32%	1.62%	7.69%
2021.1	9.45%	2.07%	7.38%
2021.2	9.46%	2.26%	7.20%

2021.3	9.37%	1.93%	7.43%
2021.4	9.37%	1.95%	7.42%
2022.1	9.34%	2.25%	7.08%
2022.2	9.35%	3.05%	6.30%
2022.3	9.14%	3.26%	5.88%
2022.4	9.72%	3.89%	5.83%
2023.1	9.71%	3.75%	5.96%
2023.2	9.54%	3.81%	5.73%
2023.3	9.63%	4.23%	5.40%
2023.4	9.68%	4.58%	5.09%
AVERAGE	11.46%	6.08%	5.38%
MEDIAN	11.00%	5.35%	5.62%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9153344
R Square	0.8378371
Adjusted R Square	0.8369052
Standard Error	0.0056532
Observations	176

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.02873	0.02873	898.99526	0.00000
Residual	174	0.00556	0.00003		
Total	175	0.03429			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.0792	0.00	83.52	0.0000	0.0773	0.0810	0.0773	0.0810
U.S. Govt. 30-year Treasury	(0.4172)	0.01	(29.98)	0.0000	(0.4447)	(0.3898)	(0.4447)	(0.3898)

	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	4.19%	6.17%	10.36%
Blue Chip Near-Term Projected Forecast (Q2 2024 - Q2 2025) [5]	4.10%	6.21%	10.31%
Blue Chip Long-Term Projected Forecast (2025-2029) [6]	4.10%	6.21%	10.31%
AVERAGE			10.32%

Notes:

- [1] Regulatory Research Associates, rate cases through January 31, 2024
 [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 January 31, 2024
 [5] Blue Chip Financial Forecasts, Vol. 43, No. 2, February 1, 2024, at 2
 [6] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14
 [7] See notes [4], [5] & [6]
 [8] Equals 0.0792 + (-0.4172 x Column [7])
 [9] Equals Column [7] + Column [8]

FLOTATION COST ADJUSTMENT

Company	Ticker	[1] Date [i]	[2] Shares Issued (000)	[3] Offering Price	[4] Underwriting Discount [ii]	[5] Offering Expense (\$000)	[6] Net Proceeds Per Share	[7] Total Flotation Costs (\$000)	[8] Gross Equity Issue Before Costs (\$000)	[9] Net Proceeds (\$000)	Flotation Cost Percentage
CenterPoint Energy, Inc	CNP	9/26/2018	69,633	\$ 27.25	\$ 0.75	\$ 1,000	26.49	\$3,224.77	1,897,499.99	1,844,275	2.80% [iii]
CenterPoint Energy, Inc	CNP	6/9/2010	23,300	\$ 12.90	\$ 0.45	\$ 390	12.45	11,812.95	326,370.00	314,557	3.62% [iii]
								65,038	2,223,870	2,158,832	2.92%

Note: Table excludes At-the-Market (ATM) equity offerings because of variation in offering prices and underwriting discounts.

[i] Offering Completion Date

[ii] Underwriting discount is calculated as the market price minus the offering price when not explicitly given in the prospectus.

The flotation cost adjustment is derived by dividing the dividend yield by $1 - F$ (where F = flotation costs expressed in percentage terms), or by 0.9708, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

$$k = \frac{D \times (1 + 0.5g)}{P \times (1 - F)} + g$$

Company	Ticker	[10] Annualized Dividend	[11] Stock Price	[12] Dividend Yield	[13] Expected Dividend Yield	[14] Expected Dividend Yield Adjusted for Flotation Costs	[15] Value Line Earnings Growth	[16] Yahoo! Finance Earnings Growth	[17] Zacks Earnings Growth	[18] Average Earnings Growth	[19] Cost of Equity: Average Growth Rate	[20] Cost of Equity Adjusted for Flotation Costs
ALLETE, Inc.	ALE	\$2.71	\$60.60	4.47%	4.64%	4.78%	6.00%	8.10%	8.10%	7.40%	12.04%	12.18%
Alliant Energy Corporation	LNT	\$1.92	\$49.88	3.85%	3.97%	4.09%	6.50%	6.55%	6.30%	6.45%	10.42%	10.54%
Anver Corporation	AEE	\$2.52	\$71.51	3.52%	3.63%	3.74%	6.50%	6.50%	6.20%	5.83%	9.46%	9.57%
American Electric Power Company, Inc.	AEP	\$3.52	\$80.52	4.37%	4.48%	4.62%	6.50%	4.20%	4.80%	5.17%	9.65%	9.79%
Duke Energy Corporation	DUK	\$4.10	\$96.90	4.23%	4.36%	4.49%	5.00%	6.55%	6.30%	5.95%	10.31%	10.44%
Edison International	ED	\$3.12	\$69.71	4.48%	4.57%	4.71%	4.50%	4.68%	3.70%	4.27%	8.84%	8.98%
Entergy Corporation	ETR	\$4.52	\$101.03	4.47%	4.61%	4.75%	6.00%	11.00%	7.00%	6.17%	10.78%	10.92%
Eversource Energy	ES	\$2.70	\$58.34	4.63%	4.73%	4.88%	6.00%	3.60%	4.20%	4.60%	9.33%	9.48%
Energy, Inc.	EVRG	\$2.57	\$51.87	4.95%	5.07%	5.23%	7.50%	2.50%	4.30%	4.77%	9.84%	9.99%
IDACORP, Inc.	IDA	\$3.32	\$95.88	3.46%	3.54%	3.64%	4.00%	4.40%	4.40%	4.27%	7.80%	7.91%
NextEra Energy, Inc.	NEE	\$1.87	\$59.98	3.12%	3.25%	3.35%	9.50%	7.81%	8.20%	8.50%	11.75%	11.85%
NorthWestern Corporation	NWE	\$2.56	\$49.78	5.14%	5.23%	5.41%	3.50%	4.08%	5.20%	4.26%	9.51%	9.67%
OGX Energy Corporation	OGX	\$1.67	\$34.14	4.90%	5.03%	5.18%	6.50%	negative	4.00%	5.25%	10.28%	10.43%
Pinnacle West Capital Corporation	PNW	\$3.52	\$70.49	4.99%	5.10%	5.25%	2.50%	5.90%	4.00%	4.13%	9.23%	9.38%
Portland General Electric Company	POR	\$1.90	\$42.27	4.50%	4.61%	4.75%	5.00%	4.60%	6.00%	5.20%	9.81%	9.93%
Xcel Energy Inc.	XEL	\$2.08	\$61.14	3.40%	3.51%	3.61%	6.00%	6.37%	6.00%	6.19%	9.70%	9.80%
Mean											9.92%	10.05%
Median											9.75%	9.88%
Flotation Cost Adjustment (Mean)												0.13%
Flotation Cost Adjustment (Median)												0.12%

Notes:

[1]-[4] Company-provided information

[5] Equals [8]/[1]

[6] Equals [4] + ([1] x [3])

[7] Equals [1] x [2]

[8] Equals [7] - [6]

[9] Equals [6] / [7]

[10] Bloomberg Professional

[11] Bloomberg Professional, equals 30-day average as of January 31, 2024

[12] Equals [10] / [11]

[13] Equals [12] x (1 + 0.5 x [18])

[14] Equals [13] / (1 - Flotation Cost)

[15] Value Line

[16] Yahoo! Finance

[17] Zacks Investment Research

[18] Equals Average of [15], [16], [17]

[19] Equals [13] - [18]

[20] Equals [14] + [18]

[21] Equals [20] (Mean) - [19] (Mean)

[22] Equals [20] (Median) - [19] (Median)

2024-2028 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT

(\$ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2022	2024	2025	2026	2027	2028	2024-28 Cap. Ex. / 2022 Net Plant
ALLETE, Inc.	ALE							
Capital Spending per Share			\$5.95	\$6.60	\$7.25	\$7.25	\$7.25	
Common Shares Outstanding			59.00	60.00	61.00	61.00	61.00	
Capital Expenditures			\$351.1	\$396.0	\$442.3	\$442.3	\$442.3	41.44%
Net Plant		\$5,004.0						
Alliant Energy Corporation	LNT							
Capital Spending per Share			\$5.80	\$5.60	\$5.40	\$5.40	\$5.40	
Common Shares Outstanding			256.00	256.50	257.00	257.00	257.00	
Capital Expenditures			\$1,484.8	\$1,436.4	\$1,387.8	\$1,387.8	\$1,387.8	43.61%
Net Plant		\$16,247.0						
Ameren Corporation	AEE							
Capital Spending per Share			\$12.55	\$12.78	\$13.00	\$13.00	\$13.00	
Common Shares Outstanding			269.00	277.00	285.00	285.00	285.00	
Capital Expenditures			\$3,376.0	\$3,538.7	\$3,705.0	\$3,705.0	\$3,705.0	57.67%
Net Plant		\$31,262.0						
American Electric Power Company, Inc.	AEP							
Capital Spending per Share			\$14.15	\$14.08	\$14.00	\$14.00	\$14.00	
Common Shares Outstanding			530.00	540.00	550.00	550.00	550.00	
Capital Expenditures			\$7,499.5	\$7,600.5	\$7,700.0	\$7,700.0	\$7,700.0	53.59%
Net Plant		\$71,283.0						
Duke Energy Corporation	DUK							
Capital Spending per Share			\$17.60	\$17.18	\$16.75	\$16.75	\$16.75	
Common Shares Outstanding			770.00	770.00	770.00	770.00	770.00	
Capital Expenditures			\$13,552.0	\$13,224.8	\$12,897.5	\$12,897.5	\$12,897.5	58.59%
Net Plant		\$111,748.0						
Edison International	EIX							
Capital Spending per Share			\$15.75	\$16.38	\$17.00	\$17.00	\$17.00	
Common Shares Outstanding			386.00	388.00	390.00	390.00	390.00	
Capital Expenditures			\$6,079.5	\$6,353.5	\$6,630.0	\$6,630.0	\$6,630.0	60.43%
Net Plant		\$53,486.0						
Entergy Corporation	ETR							
Capital Spending per Share			\$19.00	\$19.38	\$19.75	\$19.75	\$19.75	
Common Shares Outstanding			218.00	224.00	230.00	230.00	230.00	
Capital Expenditures			\$4,142.0	\$4,340.0	\$4,542.5	\$4,542.5	\$4,542.5	52.05%
Net Plant		\$42,477.0						
Eversource Energy	ES							
Capital Spending per Share			\$11.25	\$10.88	\$10.50	\$10.50	\$10.50	
Common Shares Outstanding			355.00	357.50	360.00	360.00	360.00	
Capital Expenditures			\$3,993.8	\$3,887.8	\$3,780.0	\$3,780.0	\$3,780.0	53.23%
Net Plant		\$36,113.0						
Evergy, Inc.	EVRG							
Capital Spending per Share			\$9.25	\$9.38	\$9.50	\$9.50	\$9.50	
Common Shares Outstanding			230.00	230.00	230.00	230.00	230.00	
Capital Expenditures			\$2,127.5	\$2,156.3	\$2,185.0	\$2,185.0	\$2,185.0	48.96%
Net Plant		\$22,137.0						

2024-2028 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT
(\$ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2022	2024	2025	2026	2027	2028	2024-28 Cap. Ex. / 2022 Net Plant
IDACORP, Inc.	IDA							
Capital Spending per Share			\$16.00	\$13.50	\$11.00	\$11.00	\$11.00	
Common Shares Outstanding			51.50	52.25	53.00	53.00	53.00	
Capital Expenditures			\$824.0	\$705.4	\$583.0	\$583.0	\$583.0	63.37%
Net Plant		\$5,173.0						
NextEra Energy, Inc.	NEE							
Capital Spending per Share			\$9.50	\$9.63	\$9.75	\$9.75	\$9.75	
Common Shares Outstanding			2025.00	2037.50	2050.00	2050.00	2050.00	
Capital Expenditures			\$19,237.5	\$19,610.9	\$19,987.5	\$19,987.5	\$19,987.5	88.97%
Net Plant		\$111,059.0						
NorthWestern Corporation	NWE							
Capital Spending per Share			\$7.75	\$7.38	\$7.00	\$7.00	\$7.00	
Common Shares Outstanding			62.00	62.00	62.00	62.00	62.00	
Capital Expenditures			\$480.5	\$457.3	\$434.0	\$434.0	\$434.0	39.59%
Net Plant		\$5,657.5						
OGE Energy Corporation	OGE							
Capital Spending per Share			\$4.75	\$4.75	\$4.75	\$4.75	\$4.75	
Common Shares Outstanding			200.20	200.20	200.20	200.20	200.20	
Capital Expenditures			\$951.0	\$951.0	\$951.0	\$951.0	\$951.0	45.08%
Net Plant		\$10,546.8						
Pinnacle West Capital Corporation	PNW							
Capital Spending per Share			\$15.00	\$15.00	\$15.00	\$15.00	\$15.00	
Common Shares Outstanding			118.00	119.00	120.00	120.00	120.00	
Capital Expenditures			\$1,770.0	\$1,785.0	\$1,800.0	\$1,800.0	\$1,800.0	53.13%
Net Plant		\$16,854.0						
Portland General Electric Company	POR							
Capital Spending per Share			\$10.75	\$10.88	\$11.00	\$11.00	\$11.00	
Common Shares Outstanding			102.00	102.00	102.00	102.00	102.00	
Capital Expenditures			\$1,096.5	\$1,109.3	\$1,122.0	\$1,122.0	\$1,122.0	65.82%
Net Plant		\$8,465.0						
Xcel Energy Inc.	XEL							
Capital Spending per Share			\$9.25	\$9.38	\$9.50	\$9.50	\$9.50	
Common Shares Outstanding			553.00	556.50	560.00	560.00	560.00	
Capital Expenditures			\$5,115.3	\$5,217.2	\$5,320.0	\$5,320.0	\$5,320.0	54.49%
Net Plant		\$48,253.0						
CenterPoint Houston	CEHE							
Capital Expenditures [8]			1,895	2,598	2,663	2,822	2,816	113.88%
Net Plant [8]		\$11,235.0						
CenterPoint Houston CapEx Total (2024 - 2028)								\$12,794.0
CenterPoint Houston CapEx Annual Average								\$2,494.5
Proxy Group Median								53.41%
CenterPoint Houston as % Proxy Group Median								2.13

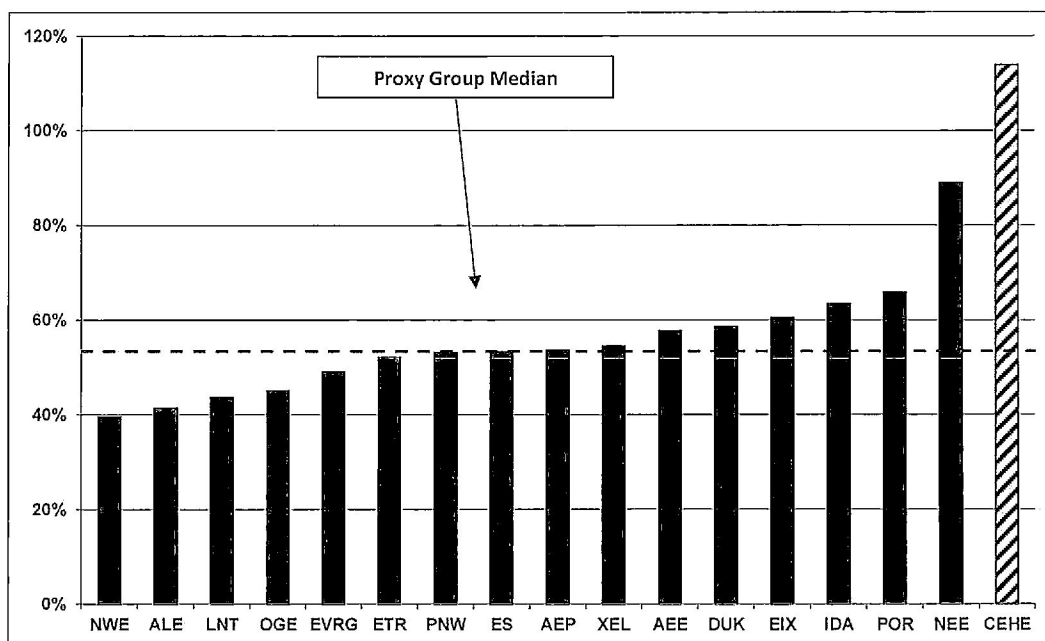
Notes:

[1] - [5] Value Line January 19, 2024, and December 8, November 10, 2023.

[7] Equals (Column [2] + [3] + [4] + [5] + [6]) / Column [1]

[8] CenterPoint Energy, Inc., Annual Report (Form 10-K) (Feb 2023, Feb 2024)

2024-2028 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT



Projected CAPEX / 2022 Net Plant

Rank	Company	2024-2028
1	NorthWestern Corporation	NWE 39.59%
2	ALLETE, Inc.	ALE 41.44%
3	Alliant Energy Corporation	LNT 43.61%
4	OGE Energy Corporation	OGE 45.08%
5	Eversource Energy	EVRG 48.96%
6	Entergy Corporation	ETR 52.05%
7	Pinnacle West Capital Corporation	PNW 53.13%
8	Eversource Energy	ES 53.23%
9	American Electric Power Company, Inc.	AEP 53.59%
10	Xcel Energy Inc.	XEL 54.49%
11	Ameren Corporation	AEE 57.67%
12	Duke Energy Corporation	DUK 58.59%
13	Edison International	EIX 60.43%
14	IDACORP, Inc.	IDA 63.37%
15	Portland General Electric Company	POR 65.82%
16	NextEra Energy, Inc.	NEE 88.97%
17	CenterPoint Houston	CEHE 113.88%
Proxy Group Median		53%
CenterPoint Houston / Proxy Group		2.13

Notes:

Exhibit AEB-10, pp. 1-2, col. [7]

[illegible]

**COMPARISON OF CENTERPOINT HOUTSON AND PROXY GROUP COMPANIES
RRA JURISDICTIONAL RANKINGS**

	Operation State	[1] RRA Rank	[2] 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
Duke Energy Corporation	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
Edison International	California	Average/1	4
Entergy Corporation	Arkansas	Average/1	4
	Louisiana — NOCC	Average/3	6
	Louisiana — PSC	Average/2	5
	Mississippi	Above Average/3	3
	Texas — PUC	Average/3	6
Eversource Energy	Connecticut	Below Average/2	8
	Massachusetts	Average/2	5
	New Hampshire	Average/2	5
Evergy, Inc.	Kansas	Below Average/1	7
	Missouri	Average/3	6
IDACORP, Inc.	Idaho	Average/2	5
	Oregon	Average/2	5
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 Corp.	Arkansas	Average/1	4
	Oklahoma	Average/3	6
Pinnacle West Capital Corporation	Arizona	Below Average/3	9

**COMPARISON OF CENTERPOINT HOUTSON AND PROXY GROUP COMPANIES
RRA JURISDICTIONAL RANKINGS**

		[1]	[2]
		RRA	
	Operation State	Rank	Numeric Rank
Portland General Electric Company Xcel Energy Inc.	Oregon	Average/2	5
	Colorado	Average/1	4
	Minnesota	Average/2	5
	New Mexico	Below Average/1	7
	North Dakota	Average/1	4
	South Dakota	Average/2	5
	Texas — PUC	Average/3	6
	Wisconsin	Above Average/3	3
Proxy Group Average		Average/2	4.90
CenterPoint Houston	Texas — PUC	Average/3	6.00

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 CENTERPOINT HOUSTON AND PROXY GROUP COMPANIES
S&P JURISDICTIONAL RANKINGS**

	Operation State	[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 — PSC	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 — PUC	Very credit supportive	3
	Virginia	Highly credit supportive	2
	West Virginia	Very credit supportive	3
Duke Energy Corporation	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
Edison International	California	More credit supportive	4
Entergy Corporation	Arkansas	Highly credit supportive	2
	Louisiana — NOCC	Highly credit supportive	2
	Louisiana — PSC	Highly credit supportive	2
	Mississippi	Very credit supportive	3
	Texas — PUC	Very credit supportive	3
Eversource Energy	Connecticut	More credit supportive	4
	Massachusetts	Highly credit supportive	2
	New Hampshire	Highly credit supportive	2
Evergy, Inc.	Kansas	Highly credit supportive	2
	Missouri	Very credit supportive	3
IDACORP, Inc.	Idaho	Very credit supportive	3
	Oregon	More credit supportive	4
NextEra Energy, Inc.	Florida	Most credit supportive	1
	Texas — PUC	Very credit supportive	3
NorthWestern Corporation	Montana	More credit supportive	4
	Nebraska	Very credit supportive	3
	South Dakota	Very credit supportive	3
OGE Energy Corp.	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
Xcel Energy Inc.	Colorado	Very credit supportive	3
	Minnesota	Highly credit supportive	2
	New Mexico	Credit supportive	5
	North Dakota	Highly credit supportive	2
	South Dakota	Very credit supportive	3
	Texas — PUC	Very credit supportive	3
	Wisconsin	Most credit supportive	1
Proxy Group Average		Very Credit Supportive to Highly Credit Supportive	2.52
CenterPoint Houston	Texas — PUC	Very credit supportive	3

Notes

[1] S&P Global Ratings, "North American Utility Regulatory Jurisdictions Update: No Revised Assessments, But Notable Developments," November 10, 2023.

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

CAPITAL STRUCTURE ANALYSIS

Proxy Group Company	Ticker	Most Recent 8 Quarters (2021Q4 - 2023Q3)			
		Common Equity Ratio	Long-Term Debt Ratio	Preferred Equity Ratio	Total Capitalization
ALLETE, Inc.	ALE	59.40%	40.60%	0.00%	100%
Alliant Energy Corporation	LNT	52.14%	47.86%	0.00%	100%
Ameren Corporation	AEE	53.23%	46.21%	0.56%	100%
American Electric Power Company, Inc.	AEP	48.08%	51.92%	0.00%	100%
Duke Energy Corporation	DUK	52.69%	47.31%	0.00%	100%
Edison International	EIX	41.04%	54.62%	4.34%	100%
Entergy Corporation	ETR	47.75%	52.15%	0.10%	100%
Eversource Energy	ES	54.85%	44.47%	0.68%	100%
Evergy, Inc.	EVRG	61.15%	38.85%	0.00%	100%
IDACORP, Inc.	IDA	52.95%	47.05%	0.00%	100%
NextEra Energy, Inc.	NEE	60.71%	39.29%	0.00%	100%
NorthWestern Corporation	NWE	49.69%	50.31%	0.00%	100%
OGE Energy Corp.	OGE	54.00%	46.00%	0.00%	100%
Pinnacle West Capital Corporation	PNW	50.88%	49.12%	0.00%	100%
Portland General Electric Company	POR	45.73%	54.27%	0.00%	100%
Xcel Energy Inc.	XEL	54.41%	45.59%	0.00%	100%
Average		52.42%	47.23%	0.35%	
Median		52.82%	47.18%	0.00%	
Maximum		61.15%	54.62%	4.34%	
Minimum		41.04%	38.85%	0.00%	

Notes:

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

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

Cost of Long-Term Debt

Series	Issuance Date	Maturity Date	Interest Rate	Principal Amount @ Issuance	Moody's A Utility Bond Index	Moody's Baa Utility Bond Index
Direct						
6.95% Series K - General Mortgage	3/13/2003	03/15/33	6.9500%	312,275,000	6.88%	7.13%
3.55% Series W - General Mortgage	8/10/2012	08/01/42	3.5500%	500,000,000	3.94%	4.85%
4.5% Series X - General Mortgage	3/17/2014	04/01/44	4.5000%	600,000,000	4.53%	5.01%
2.4% Series Z - General Mortgage	8/11/2016	09/01/26	2.4000%	300,000,000	4.36%	5.20%
3.0% Series AA - General Mortgage	1/12/2017	02/01/27	3.0000%	300,000,000	4.23%	4.75%
3.95% Series AB - General Mortgage	2/28/2018	03/01/48	3.9500%	400,000,000	4.01%	4.34%
4.25% Series AC - General Mortgage	1/15/2019	02/01/49	4.2500%	700,000,000	4.38%	4.93%
2.9% Series AD - General Mortgage	6/5/2020	07/01/50	2.9000%	300,000,000	3.11%	3.60%
2.35% Series AE - General Mortgage	3/11/2021	04/01/31	2.3500%	400,000,000	3.15%	3.44%
3.35% Series AF - General Mortgage	3/11/2021	04/01/51	3.3500%	700,000,000	3.15%	3.44%
3.00% Series AG - General Mortgage	2/28/2022	03/01/32	3.0000%	300,000,000	3.57%	3.83%
3.6% Series AH - General Mortgage	2/28/2022	03/01/52	3.6000%	500,000,000	3.57%	3.83%
4.45% Series AI - General Mortgage	9/15/2022	10/01/32	4.4500%	500,000,000	4.91%	5.23%
4.85% Series AJ - General Mortgage	9/15/2022	10/01/52	4.8500%	300,000,000	4.91%	5.23%
4.95% Series AK - General Mortgage	3/23/2023	04/01/33	4.9500%	600,000,000	5.39%	5.66%
5.30% Series AL - General Mortgage	3/23/2023	04/01/53	5.3000%	300,000,000	5.39%	5.66%
5.20% Series AM - General Mortgage	9/18/2023	10/01/28	5.2000%	500,000,000	5.75%	6.04%

Workpapers for Ann E. Bulkley:

WP AEB-1 (Proxy 10-K data).xlsx

WP AEB-2 (Value Line).pdf

WP AEB-3 (Yahoo).pdf

WP AEB-4 (Zacks).pdf

WP AEB-5 (BCFF 0224).pdf

WP AEB-6 (BCFF 12.2023).pdf

WP AEB-7 (Risk Premium Analysis) (CONFIDENTIAL).xlsx

WP AEB-8 (Moody's Credit_Opinion-CEHE-11Jan2024) (CONFIDENTIAL).pdf

WP AEB-9 (S&P RatingsDirect - 11-10-23) (CONFIDENTIAL).pdf

WP AEB-10 (RRA 07.18.2022) (CONFIDENTIAL).pdf

WP AEB-11 (Capital Structure Analysis - 2-1-2024) (CONFIDENTIAL).xlsx

WP AEB-12 (Cost of Debt).xlsx

WP AEB-13 (Figure 2) (CONFIDENTIAL).xlsx

WP AEB-14 (Figure AEB-3).xlsx

WP AEB-15 (Figure AEB-4).xlsx

WP AEB-16 (Figure AEB-5).xlsx

WP AEB-17 (Figure AEB-6).xlsx

WP AEB-18 (Figures AEB-9, AEB-10) (CONFIDENTIAL).xlsx

WP AEB-19 (Figure AEB-11).xlsx

ALLETE, Inc.
2022 Form 10-K, pp.38-40 ; 2021 Form 10-K, page 38-40, 67, 119-121 ; 2019 Form 10-K, page 32-38, 119;

ALE		Total	Regulated Operations Total	ALLETE clean Energy	US Water Services	Corporate and Other	Eliminations
	2022	143,300	168,500	(55,000)	-	37,300	(7,500)
Operating Income	2021	148,500	142,600	(13,900)	-	33,300	(13,500)
	2020	150,900	143,200	1,000	-	20,200	(13,500)

Alliant Energy Corporation
2022 Form 10-K, page 12, 94; 2021 Form 10-K, page 11,14,26-27, 91-92
Utility

Non-Regulated

LNT		Total	Utility Electric Operations	Utility Gas Operations	Utility Other	ATC Holdings, Non-utility, Parent and Other
	2022	928,000	805,000	97,000	3,000	23,000
Operating Income	2021	795,000	716,000	63,000	(11,000)	27,000
	2020	740,000	643,000	74,000	(1,000)	24,000

Ameren Corporation
2022 Form 10-K pages pp.116, 158, 160; 2021 Form 10-K pages 17-18, (pdf 13), 93-94 (pdf 57), p. 113 (pdf 68), p. 154 (pdf 92)

AEE		Total	Ameren Missouri Electric	Ameren Missouri Natural Gas	Ameren Missouri Electric	Ameren Illinois Natural Gas	Ameren Illinois Transmission	Other / Intersegment Eliminations
	2022	1,736,000		765,000	344,000	213,000	439,000	(25,000)
Operating Income	2021	1,530,000		658,000	292,000	189,000	395,000	(4,000)
	2020	1,445,000		660,000	257,000	176,000	372,000	(20,000)

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. / Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
ALE202020PINC	118%	98%	0%	115%	1%
ALE20210PINC	96%	98%	0%	94%	0%
ALE20200PINC	95%	97%	1%	92%	1%
ALEOPINCAVG	103%	98%	0%	101%	0%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. / Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
LNT202020PINC	98%	89%	11%	87%	10%
LNT20210PINC	97%	93%	8%	90%	8%
LNT20200PINC	97%	90%	10%	87%	10%
LNTOPINCAVG	97%	91%	10%	88%	9%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. / Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
AEE202020PINC	100%	85%	15%	85%	15%
AEE20210PINC	100%	84%	16%	84%	16%
AEE20200PINC	100%	85%	15%	85%	15%
AEEOPINCAVG	100%	85%	15%	85%	15%

American Electric Power Company, Inc.

2022 Form 10-K pp. 84, 90, 96, 99, 323; 2021 Form 10-K, page 84 (PDF 98), 90 (PDF 104), 96 (PDF 110), 99 (PDF 113), 320-322 (PDF 339-341);

AEP		Transmission and AEP							Corporate and Other	Reconciling Adjustments
		Total	Vertically Integrated Utilities	Distribution	Transmission	Holdco	Marketing	Generation		
Revenue	2022	19,639,500	11,477,500	5,512,000	1,677,000		2,466,900	109,900	(1,603,800)	
	2021	16,792,000	9,998,500	4,492,900	1,526,200		2,163,700	72,200	(1,461,500)	
	2020	14,918,500	8,879,400	4,345,900	1,198,800		1,725,600	96,800	(1,328,000)	
Operating Income	2022	3,419,000	1,682,400	953,900	878,700		376,100	(359,300)	(112,800)	
	2021	3,435,900	1,554,700	857,900	842,900		168,000	31,100	(18,700)	
	2020	3,036,500	1,507,100	750,000	611,200		111,100	99,200	(42,100)	

Duke Energy Corporation

2022 Form 10-K, pp. 44-46 (EU&I + GU&I), 131-132 (Other + Eliminations & Assets); 2021 Form 10-K, p. 45-47, 132, 133, 2020 10-K, p. 47, 49, 50, 51, 136

DUK		Total	Electric Utilities and Infrastructure		Gas Utilities and Infrastructure		Other	Eliminations	
			Infrastructure	Utilities	Infrastructure	Utilities			
Operating Income	2022	5,866	5,576	580	580	(87)			
	2021	5,487	5,256	523	(279)	(13)			
	2020	5,804	5,313	431	79	(19)			

Edison International

2022 Form 10-K, pp. 14, 62; 2021 Form 10-K, p. 62-74, 2020 Form 10-K, p. 58, 134

EIX		Total	SoCal Edison		Parent and Other	
			Infrastructure	Utilities	Infrastructure	Utilities
Operating Income	2022	1,483	1,513	(30)		
	2021	1,477	1,510	(33)		
	2020	1,217	1,178	39		

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. / Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
AEP2022REVENUE	95%	100%	0%	95%	0%
AEP2021REVENUE	95%	100%	0%	95%	0%
AEP2020REVENUE	97%	100%	0%	97%	0%
AEPREVENUEAVG	96%	100%	0%	96%	0%
AEP2022OPINC	103%	100%	0%	103%	0%
AEP2021OPINC	95%	100%	0%	95%	0%
AEP2020OPINC	94%	100%	0%	94%	0%
AEPOPINCAVG	97%	100%	0%	97%	0%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. / Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
DUK2022OPINC	100%	91%	9%	91%	9%
DUK2021OPINC	100%	91%	9%	91%	9%
DUK2020OPINC	99%	92%	8%	92%	7%
DUKOPINCAVG	100%	91%	9%	91%	9%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. / Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
EIX2022OPINC	100%	100%	0%	100%	0%
EIX2021OPINC	100%	100%	0%	100%	0%
EIX2020OPINC	97%	100%	0%	97%	0%
EIXOPINCAVG	99%	100%	0%	99%	0%

Entergy Corporation
2022 Form 10K, p. 208; 2021 Form 10K, p. 195.

ETR			Total	Entergy		
				Wholesale Commodities	All Other	Eliminations
Operating Income	2022		2,045,978	161,398	(83,944)	-
	2021		1,714,321	(251,333)	(36,229)	-
	2020		1,677,992	(169,588)	(36,309)	(1)

Eversource Energy
2022 Form 10-K, pp. 131, 135; 2021 Form 10-K, page 133, 135-136

ES			Total	Electric Distribution	Natural Gas		Electric Transmission	Water		Other	Eliminations
					Distribution	Distribution		Distribution	Distribution		
Operating Income	2022		2,198	771	331		923	60	114		(1)
	2021		1,993	716	302		838	64	71		3
	2020		1,989	833	207		788	85	71		6

Energy, Inc.
2022 Form 10-K, pp. 76; 2021 Form 10-K, p. 44, 73; 2020 Form 10-K, p. 43, 72

EVRG			Total	Electric Generation, Transmission and Distribution Services	
Operating Income	2022		1,267.2	1,267.2	
	2021		1,354.9	1,354.9	
	2020		1,143.9	1,143.9	

IDACORP, Inc.
2022 Form 10-K, p.129; 2021 Form 10-K, p. 10, 82, 130-131

IDA			Total	Utility Operations	All Other		Eliminations
Operating Income	2022		327,178	327,170	8	-	-
	2021		329,651	329,568	83	-	-
	2020		309,521	308,780	741	-	-

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
ETR2022OPINC	96%	99%	1%	95%	1%
ETR2021OPINC	100%	100%	0%	100%	0%
ETR2020OPINC	100%	100%	0%	100%	0%
ETROPINCAVG	99%	99%	1%	98%	1%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
ES2022OPINC	92%	84%	16%	77%	15%
ES2021OPINC	93%	84%	16%	78%	15%
ES2020OPINC	92%	89%	11%	82%	10%
ESOPINCAVG	92%	85%	15%	79%	14%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
EVRG2022OPINC	100%	100%	0%	100%	0%
EVRG2021OPINC	100%	100%	0%	100%	0%
EVRG2020OPINC	100%	100%	0%	100%	0%
EVROPINCAVG	100%	100%	0%	100%	0%

	Percent Regulated	Percent Electric Regulated / Total Regulated	Percent Gas Dist. Regulated	Percent Electric T&D / Total	Percent Gas Dist. / Total
IDA2022OPINC	100%	100%	0%	100%	0%
IDA2021OPINC	100%	100%	0%	100%	0%
IDA2020OPINC	100%	100%	0%	100%	0%
IDAOPINCAVG	100%	100%	0%	100%	0%