



Direct Testimony and Schedules
Joshua C. Nowak

Before the North Dakota Public Service Commission
State of North Dakota

In the Matter of the Application of Northern States Power Company
for Authority to Increase Rates for Electric Service in North Dakota

Case No. PU-24-____
Exhibit____(JCN-1)

Return on Equity

December 2, 2024

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1 **I. INTRODUCTION**

2

3 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

4 A. My name is Joshua C. Nowak. I am employed by Concentric Energy Advisors,
5 Inc. (Concentric) as a Vice President. Concentric is a management consulting
6 and economic advisory firm, focused on the North American energy and water
7 industries. Based in Marlborough, Massachusetts and Washington, D.C.,
8 Concentric specializes in regulatory and litigation support, financial advisory
9 services, energy market strategies, market assessments, energy commodity
10 contracting and procurement, economic feasibility studies, and capital market
11 analyses. My business address is 293 Boston Post Road West, Suite 500,
12 Marlborough, Massachusetts 01752.

13

14 Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

15 A. I am submitting this testimony to the North Dakota Public Service Commission
16 (the Commission) on behalf of Northern States Power Company, a Minnesota
17 corporation (NSP or the Company), and wholly owned subsidiary of Xcel
18 Energy Inc. (XEI).

19

20 Q. PLEASE DESCRIBE YOUR EXPERIENCE IN THE ENERGY AND UTILITY INDUSTRIES
21 AND YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS.

22 A. I hold a Bachelor's degree in Economics from Boston College, and have more
23 than 15 years of experience in providing economic, financial, and strategic
24 advisory services. As a consultant, I primarily advise clients in regulated utility
25 industries and have provided testimony regarding financial matters before
26 multiple regulatory agencies. I have advised numerous energy and utility clients
27 on a wide range of financial and economic issues with primary concentrations

1 in valuation and utility rate matters. Many of these assignments have included
2 the determination of the cost of capital for valuation and ratemaking purposes.
3 I have provided testimony before the Federal Energy Regulatory Commission
4 (FERC) as well as state and provincial jurisdictions in the U.S. and Canada. Prior
5 to joining Concentric in 2018, I was employed by National Grid USA where I
6 was responsible for regulatory filings related to the cost of capital across the
7 company's multiple U.S. operating companies and service territories. A
8 summary of my professional and educational background is presented in
9 Exhibit___(JCN-1), Schedule 1.

10
11 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

12 A. The purpose of my direct testimony is to present evidence and provide a
13 recommendation for the return on equity (ROE) for NSP. My direct testimony
14 also discusses the Company's capital structure in comparison to the proxy group
15 of companies supporting my analysis.

16
17 Q. ARE YOU SPONSORING ANY SCHEDULES IN THIS PROCEEDING?

18 A. Yes. My analyses and recommendations are supported by the data presented in
19 Exhibit___(JCN-1), Schedules 2 through 12, which have been prepared by me
20 or under my direction. I sponsor the following schedules:

- 21 • Schedule 2 – Comprehensive Summary of ROE Results
- 22 • Schedule 3 – Proxy Group Screening Analysis
- 23 • Schedule 4 – Constant Growth Discounted Cash Flow (DCF) Analysis
- 24 • Schedule 5 – Market Risk Premium (MRP)
- 25 • Schedule 6 – Capital Asset Pricing Model (CAPM) Analysis
- 26 • Schedule 7 – Bond Yield Plus Risk Premium (Risk Premium) Analysis
- 27 • Schedule 8 – Expected Earnings Analysis

- 1 • Schedule 9 – Flotation Cost Analysis
- 2 • Schedule 10 – Regulatory Framework Comparison
- 3 • Schedule 11 – NSP’s Weighted Average Cost of Capital Components
- 4 • Schedule 12 – Proxy Group Capital Structure Analysis

5

6

II. SUMMARY OF TESTIMONY

7

8 Q. WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATE COST OF EQUITY
9 AND CAPITAL STRUCTURE FOR NSP?

10 A. I have estimated NSP’s ROE based on the results of the DCF model, the
11 CAPM, and the Bond Yield Plus Risk Premium model and the general
12 economic and capital market environment and the influence such conditions
13 exert over the results. To assess the reasonableness of the DCF, CAPM, and
14 Risk Premium results and evaluate the available returns for alternative
15 investments, I also considered the Expected Earnings analysis. In addition, I
16 analyzed the Company’s business and regulatory risk profile that must be
17 considered in determining where the Company’s cost of equity falls within the
18 range of analytical results. A summary of the results of my analyses are shown
19 below in Table 1.

Table 1
Summary of Results

	Average	Median
<i>Primary Analyses</i>		
Constant Growth DCF	10.39%	10.32%
CAPM	12.11%	11.96%
Risk Premium	10.44%	10.44%
Average	10.98%	10.94%
<i>Benchmark Analyses</i>		
Expected Earnings	10.71%	10.12%
<i>Other Considerations</i>		
Flotation Costs	0.07%	0.07%

The DCF, CAPM, and Risk Premium, and the Expected Earnings analysis produce a range of estimates of the Company's cost of equity of 10.12 percent to 12.11 percent, before considering the effect of flotation costs (an incremental 7 basis points). Based on these analyses, I consider an ROE range of 10.00 percent to 11.00 percent to be reasonable, albeit conservative, given that it coincides with only the lower half of the range of average and median results presented in Table 1. From within that range, I recommend an ROE of 10.30 percent. My recommendation is below the midpoint of the range and 68 basis points below the average of the DCF, CAPM, and Risk Premium analyses and therefore represents a conservative estimate of NSP's cost of equity. Additionally, NSP's requested capital structure of 52.50 percent equity and

1 47.50 percent debt (46.71 percent long-term debt and 0.79 percent short-term
2 debt) is not only aligned with how the Company's actual capital structure has
3 been managed but also well-within the range of actual common equity ratios of
4 44.27 percent to 62.65 percent for the operating companies held by the proxy
5 group, and, therefore, reasonable.
6

7 Q. HOW IS THE COST OF EQUITY DETERMINED?

8 A. Unlike the cost of long-term debt, for example, the cost of equity cannot be
9 directly observed. Therefore, the cost of equity is estimated by using analytical
10 techniques that rely on market-based data to quantify investor expectations
11 regarding required equity returns, adjusted for certain incremental costs and
12 risks. Based on the results of those analyses and considering other qualitative
13 factors, informed judgment is used to determine where within the range of
14 results the cost of equity for the Company should rightly fall. The resulting
15 estimate of the cost of equity serves as the recommended ROE for ratemaking
16 purposes.
17

18 Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT YOU CONDUCTED
19 TO SUPPORT YOUR ROE RECOMMENDATION.

20 A. As mentioned, my ROE recommendation is based on the range of results
21 produced from four modeling methodologies. Analysts and academics
22 understand that ROE models are tools to be used in the ROE estimation
23 process, and that strict adherence to any single approach, or the specific results
24 of any single approach, can lead to flawed conclusions. No model can
25 consistently and exactly pinpoint the correct cost of equity, but each is designed
26 to provide a unique estimate of the return required to attract equity investment.
27 Therefore, my analysis considers the range of results produced by these

1 different analyses. The DCF analysis estimates the cost of equity based on
2 market data on dividend yields and analysts' projected earnings per share growth
3 rates from reputable third-party sources. The CAPM analysis is based on both
4 current and forecasted interest rates and a forward-looking market risk
5 premium. The Risk Premium approach calculates the risk premium as the
6 spread between authorized ROEs for vertically-integrated electric utilities and
7 Treasury bond yields. The Expected Earnings approach is based on projected
8 returns on book equity that investors expect to receive over the next three to
9 five years. My ROE recommendation is ultimately based on the range of results
10 produced by these methodologies.

11
12 My recommendation also considers the general economic and capital market
13 environment and the influence capital market conditions exert over the results
14 of the DCF, CAPM, and Risk Premium models. In addition, I consider the
15 Company's business and regulatory risks in relation to a set of proxy companies
16 to assist in the determination of the appropriate ROE from within the range of
17 my analytical results.

18
19 Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?

20 A. The remainder of my Direct Testimony is organized as follows:

- 21 • Section III provides background on the regulatory principles that guide
22 the determination of ROE.
- 23 • Section IV presents a review of current and prospective economic and
24 capital market conditions and the implications on the cost of capital for
25 utilities.
- 26 • Section V describes the criteria and approach for the selection of a proxy
27 group of comparable companies.

- 1 • Section VI provides a description of the data and methodologies used to
2 estimate the cost of equity, as well as the results of the various ROE
3 estimation models and concludes with my recommendation and an
4 assessment of its reasonableness under the *Hope* test.
- 5 • Section VII discusses NSP’s business risks relative to the proxy group
6 and other considerations relevant to determining the Company’s allowed
7 ROE.
- 8 • Section VIII reviews NSP’s capital structure in the context of the proxy
9 group.
- 10 • Section IX discusses NSP’s proposed cost of debt.
- 11 • Finally, Section X summarizes my results, conclusions, and
12 recommendation.

13
14
15

III. REGULATORY PRINCIPLES

16 Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES USED IN ESTABLISHING THE COST
17 OF CAPITAL FOR A REGULATED UTILITY.

18 A. The foundations of public utility regulation require that utilities receive a fair
19 rate of return sufficient to attract needed capital to maintain important
20 infrastructure for customers at reasonable rates. The basic tenets of this
21 regulatory doctrine originate from several bellwether decisions by the United
22 States Supreme Court, notably *Bluefield Waterworks and Improvement Company v.*
23 *Public Service Commission of West Virginia*, 262 U.S. 679 (1923) (*Bluefield*), and
24 *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591 (1944) (*Hope*).
25 In *Bluefield*, the Court stated:

26 A public utility is entitled to such rates as will permit it to earn a return
27 on the value of the property which it employs for the convenience of
28 the public equal to that generally being made at the same time and in

1 the same general part of the country on investments in other business
2 undertakings which are attended by corresponding risks and
3 uncertainties...

4
5 The return should be reasonably sufficient to assure investor
6 confidence in the financial soundness of the utility and should be
7 adequate, under efficient and economical management, to maintain
8 and support its credit and enable it to raise the money necessary for
9 the proper discharge of its public duties.

10
11 Later, in *Hope*, the Court expanded on the standard for setting an appropriate
12 ROE:

13 [T]he return to the equity owner should be commensurate with
14 returns on investments in other enterprises having corresponding
15 risks. That return, moreover, should be sufficient to assure
16 confidence in the financial integrity of the enterprise, so as to maintain
17 its credit and to attract capital.

18
19 Q. PLEASE EXPLAIN HOW THESE PRINCIPLES APPLY IN THE CONTEXT OF THE
20 REGULATED RATE OF RETURN.

21 A. Regulated utilities rely primarily on common stock and long-term debt to
22 finance permanent property, plant, equipment, and other investments. The
23 allowed rate of return for a regulated utility is based on its weighted average cost
24 of capital, where the costs of the individual sources of capital (*i.e.*, debt and
25 equity) are weighted by their respective book values. The ROE represents the
26 cost of raising and retaining equity capital and is estimated by using one or more
27 analytical techniques that use market data to quantify investor requirements for
28 equity returns. However, the ROE cannot be derived through quantitative
29 metrics and models alone. To properly estimate the ROE, the financial,
30 regulatory, and economic context must also be considered.

31

1 Based on these widely recognized standards, the Commission’s order in this
2 case should provide NSP with the opportunity to earn a return on equity that
3 is:

- 4 • Adequate to allow the Company to attract the capital that is necessary to
5 provide safe and reliable service (the capital attraction standard);
- 6 • Sufficient to ensure the Company’s ability to maintain its financial
7 integrity (the financial integrity standard); and
- 8 • At a level that is comparable to returns required on investments of similar
9 risk (the comparability standard).

10
11 Importantly, a fair return must satisfy *all three* of these standards established
12 under *Hope* and *Bluefield*. The allowed ROE should enable the Company to
13 finance capital expenditures on reasonable terms and provide it with the ability
14 to raise capital under a full range of capital market circumstances to serve its
15 customers. The DCF, CAPM, Risk Premium, and Expected Earnings
16 approaches, while fundamental to the ROE determination, are still only models.
17 The results of these models cannot be mechanically applied without also using
18 informed judgment to consider economic and capital market conditions and the
19 relative risk of NSP as compared to the proxy group companies.

20
21 Q. HOW DO THESE PRINCIPLES SERVE CUSTOMER INTERESTS?

22 A. Because utility operations are capital intensive, regulatory decisions, including
23 the determination of the cost of equity, should enable the utility to attract capital
24 at reasonable terms. Doing so balances the long-term interests of investors and
25 customers. In particular, a fair return significantly contributes to the Company’s
26 overall financial integrity. A strong financial profile is necessary to maintain
27 access to capital markets at reasonable terms. This helps to ensure that the

1 Company is able to access lower borrowing costs for the investments necessary
2 to provide safe and reliable service and meet customers' evolving needs.
3

4 Q. IS NSP'S ABILITY TO ATTRACT EQUITY CAPITAL AFFECTED BY ROES THAT ARE
5 AUTHORIZED FOR OTHER UTILITIES?

6 A. Yes, it is. NSP competes with other investments of similar risk for equity capital
7 from the market. In addition, NSP competes with other investments within XEI
8 for equity capital from its parent company. Therefore, the ROE awarded to a
9 utility sends an important signal to investors and management regarding
10 whether there is regulatory support for financial integrity, dividends, growth,
11 and fair compensation for business and financial risk.
12

13 Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY PRINCIPLES?

14 A. The ratemaking process is premised on the principle that, in order for investors
15 and companies to commit the capital needed to provide safe and reliable utility
16 services, the utility must have the opportunity to recover invested capital and
17 the market-required return on that capital. Because utility operations are capital
18 intensive, regulatory decisions should enable the utility to attract capital at a
19 reasonable cost. The financial community carefully monitors the current and
20 expected financial condition of utility companies as well as the regulatory
21 environment in which they operate. In that respect, the regulatory environment
22 is one of the most important factors considered by both debt and equity
23 investors in their assessments of risk. It is therefore essential that the ROE
24 authorized in this proceeding take into consideration the current and expected
25 capital market conditions that NSP faces, as well as investors' expectations and
26 requirements regarding both risks and returns. A reasonable ROE is required
27 both for continued capital investment by the Company and to maintain

1 confidence in North Dakota's regulatory environment among credit rating
2 agencies and investors.

3
4 **IV. ECONOMIC AND CAPITAL MARKET CONDITIONS**

5
6 Q. WHY IS IT IMPORTANT TO CONSIDER THE EFFECTS OF CURRENT AND EXPECTED
7 ECONOMIC AND FINANCIAL MARKET CONDITIONS WHEN SETTING THE
8 APPROPRIATE ROE?

9 A. It is important to consider current and expected conditions in the general
10 economy and financial markets because the authorized ROE for a public utility
11 should allow the utility to attract investor capital at a reasonable cost under
12 current and foreseeable economic and financial conditions as underscored by
13 the *Hope* and *Bluefield* decisions discussed previously. The standard ROE
14 estimation tools, such as the DCF, CAPM, Risk Premium, and Expected
15 Earnings models, each reflect the state of the general economy and financial
16 markets by incorporating specific economic and financial data. These inputs are,
17 however, only samples of the various economic and market forces that
18 determine a utility's required return. Consideration must also be given to
19 whether the assumptions relied on in the current or projected market data are
20 appropriate. If investors do not expect current market conditions to continue
21 in the future, it is possible that the ROE estimation models will not provide an
22 accurate estimate of investors' forward-looking required return. Therefore, an
23 assessment of current *and projected* market conditions is integral to any ROE
24 recommendation.

25

1 Q. WHAT ARE THE KEY MACROECONOMIC FACTORS AFFECTING THE COST OF
2 EQUITY FOR REGULATED UTILITIES IN THE CURRENT AND PROSPECTIVE
3 CAPITAL MARKETS?

4 A. The cost of equity for regulated utility companies is affected by several factors,
5 including macroeconomic conditions. Other factors include business risk and
6 regulatory risk, which are discussed in more detail in Section VII. However, the
7 macroeconomic environment and capital markets are an important
8 consideration as utilities compete with other industries for capital. In particular,
9 key factors in the current and prospective capital markets include the
10 uncertainty regarding the economy, the impacts of the Federal Reserve’s
11 approach to interest rates and inflation, concerns over the ongoing elevated
12 interest rates, and the heightened uncertainty and volatility in equity markets
13 and resulting utility performance, which has lagged the broader market.
14 Collectively, these factors contribute to heightened market risk and an increase
15 in investor-required returns, relative to capital markets circumstances in place
16 during the Company’s last rate case. In this section, I discuss these factors and
17 how they affect the models used to estimate the cost of equity for regulated
18 utilities.

19

20 **A. Monetary Policy**

21 Q. HOW DO THE NATION’S MONETARY POLICY ACTIONS AFFECT CAPITAL MARKETS
22 AND THE U.S. ECONOMY?

23 A. The Federal Reserve is responsible for “conducting the nation’s monetary
24 policy by influencing money and credit conditions in the economy in pursuit of

1 full employment and stable prices.”¹ The Federal Reserve implements monetary
2 policy through raising or lowering interest rates, which impacts the demand for
3 goods and services. This, in turn, impacts employment and inflation. Monetary
4 policy has shifted dramatically over the past several years, in response first to
5 COVID-19, and then to record high inflation. The capital markets are
6 significantly affected by the Federal Reserve’s policy. While the primary
7 monetary policy tool used by the Federal Reserve is the short-term interest rate
8 for overnight interbank loans, it has far-reaching consequences for capital
9 markets and significantly influences long-term interest rates and the cost of
10 equity. As discussed in more detail below, current Federal Reserve policy
11 continues to be focused on inflationary concerns, but it is important to note,
12 even if inflation moderates, the current monetary policy stance is likely to have
13 a long-lasting effect on capital market conditions.

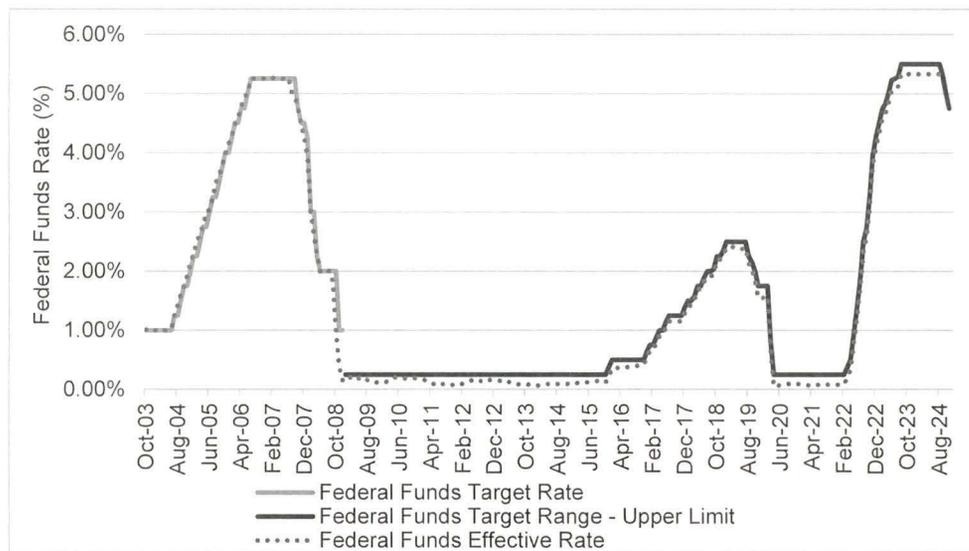
14
15 Q. WHAT STEPS DID THE FEDERAL RESERVE TAKE TO STABILIZE FINANCIAL
16 MARKETS AND SUPPORT THE ECONOMY IN RESPONSE TO PERSISTENT
17 INFLATION?

18 A. Beginning in 2022, inflation surged to levels not seen since the late-1970s and
19 early-1980s, and the Federal Reserve had little choice but to aggressively battle
20 inflation through raising interest rates. Previously, in response to the economic
21 effects of COVID-19, the Federal Reserve decreased the federal funds rate in
22 March 2020 to a target range of 0.00 percent to 0.25 percent (which remained
23 in effect until March 2022) in addition to other stimulus measures that increased
24 the supply of money in the economy. The Federal Reserve began unwinding its

¹ Federal Reserve, “The Fed - What is the purpose of the Federal Reserve System?” available at https://www.federalreserve.gov/faqs/about_12594.htm.

1 quantitative easing program² in 2022 and has thus far increased the target rate
 2 11 times to a target rate of 5.25 percent to 5.50 percent through August 2024
 3 (the highest level in the last 20 years). As shown in Figure 1 below, the Federal
 4 Reserve only recently began reducing the federal funds rate by 50 basis points
 5 in September and then by 25 basis points in November to a target rate of 4.50
 6 percent to 4.75 percent.

7
 8 **Figure 1**
 9 **FOMC Federal Funds Rates**



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 19 Despite the recent rate reduction, the Federal Reserve indicated that inflation
 20 remains a key consideration for the Committee:

21 Recent indicators suggest that economic activity has continued to
 22 expand at a solid pace. Since earlier in the year, labor market
 23 conditions have generally eased, and the unemployment rate has

² Quantitative easing refers to a monetary policy tool in which the Federal Reserve attempts to increase liquidity in the financial system by purchasing long-term government bonds from large banks in an attempt to encourage banks to lend more funds out, which is intended to stimulate economic growth. In June 2022, The Federal Reserve ended its quantitative easing program, instead engaging in quantitative tightening, which is to gradually reduce its asset purchases.

1 moved up but remains low. Inflation has made progress toward the
2 Committee's 2 percent objective but remains somewhat elevated.

3 The Committee seeks to achieve maximum employment and inflation
4 at the rate of 2 percent over the longer run. The Committee judges
5 that the risks to achieving its employment and inflation goals are
6 roughly in balance. The economic outlook is uncertain, and the
7 Committee is attentive to the risks to both sides of its dual mandate.

8 In support of its goals, the Committee decided to lower the target
9 range for the federal funds rate by 1/4 percentage point to 4-1/2 to
10 4-3/4 percent. In considering additional adjustments to the target
11 range for the federal funds rate, the Committee will carefully assess
12 incoming data, the evolving outlook, and the balance of risks. The
13 Committee will continue reducing its holdings of Treasury securities
14 and agency debt and agency mortgage-backed securities. The
15 Committee is strongly committed to supporting maximum
16 employment and returning inflation to its 2 percent objective.

17 In assessing the appropriate stance of monetary policy, the
18 Committee will continue to monitor the implications of incoming
19 information for the economic outlook. The Committee would be
20 prepared to adjust the stance of monetary policy as appropriate if risks
21 emerge that could impede the attainment of the Committee's goals.
22 The Committee's assessments will take into account a wide range of
23 information, including readings on labor market conditions, inflation
24 pressures and inflation expectations, and financial and international
25 developments.³

26

27 Although year-over-year inflation rates have eased over the last several
28 months—increasing just 2.40 percent from September 2023 to September 2024,
29 down from the high of 9.10 percent in June 2022 as measured by the Consumer

³ FOMC Press Release (November 7, 2024). Available here:
<https://www.federalreserve.gov/monetarypolicy/files/monetary20241107a1>

1 Price Index (CPI)—the Federal Reserve also affirmed that inflation “remains
2 somewhat elevated.”^{4,5}

3

4 Q. HOW HAVE CAPITAL MARKETS RESPONDED?

5 A. In response to monetary policy, high inflation and disappointing earnings
6 reports, capital markets over the past several years have been volatile, and the
7 stock market has lost substantial value. While the S&P 500 closed at record
8 highs on the first trading day of 2022,⁶ by mid-June of that year, the S&P 500
9 was down more than 21 percent, at that time wiping out all of 2021’s gains.

10

11 And although the S&P 500 has steadily gained ground since that time, the utility
12 sector has fared far worse. From June 2022, at the peak of inflation, through
13 October 2024, the S&P 500 Index increased nearly 40 percent, but the S&P
14 Utilities Index increased by less than 10 percent on a price change basis, as
15 shown in Figure 2.

⁴ FOMC Press Release (November 7, 2024). Available here:

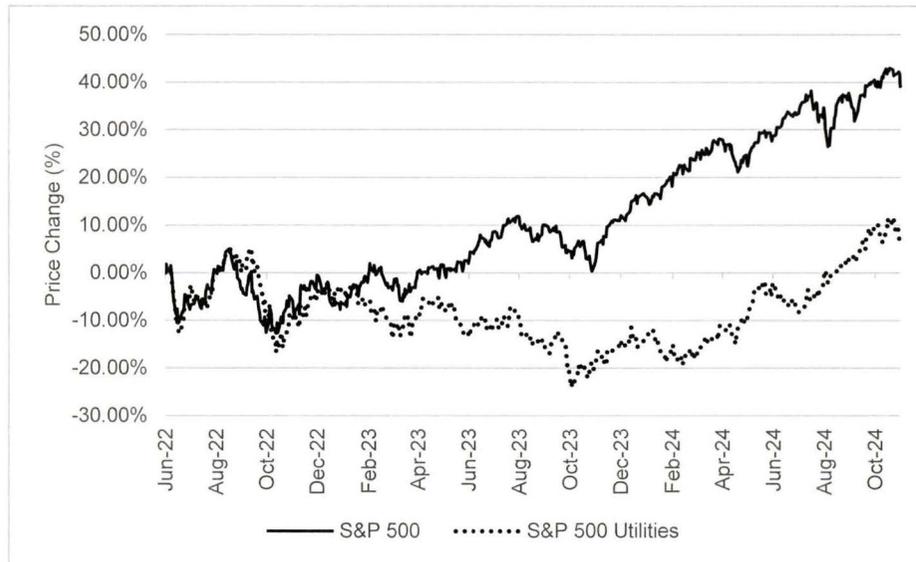
<https://www.federalreserve.gov/monetarypolicy/files/monetary20241107a1>

⁵ Source: Bureau of Labor Statistics, <https://www.bls.gov/charts/consumer-price-index/consumer-price-index-by-category-line-chart.htm>.

⁶ CNBC, “The Dow Jones Industrial Average rose 246.76 points, or 0.6%, to close at 36,585.06. The S&P 500 also rose 0.6%, to close at 4,796.56,” January 2, 2022, available at <https://www.cnbc.com/2022/01/02/futures-stock-market-news-open-to-close.html>.

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Figure 2
S&P 500 and S&P 500 Utilities Indices Performance
(6/1/2022 to 10/31/2024)



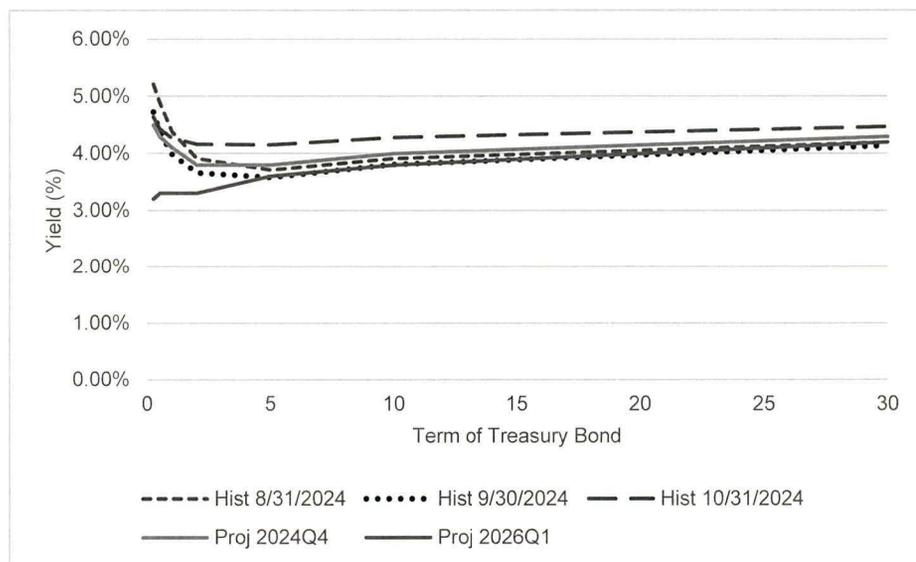
- Q. WAS THE FEDERAL RESERVE'S RECENT RATE CUT CONSISTENT WITH INVESTORS' EXPECTATIONS?
- A. Yes, investors generally expected the Federal Reserve to reduce interest rates in September and November 2024. For example, according to CME Group's FedWatch Tool, as of September 17, 2024 (the day before the Federal Reserve announced a 50-basis-point interest rate cut), there was a 64-percent probability that the target rate would be cut 50 basis points to 4.75-5.00 percent (and another 36-percent probability that the cut would be 25 basis points to 5.00-5.25 percent). On November 6, 2024 (the day before the Federal Reserve announced a 25-basis-point interest rate cut) there was a 98 percent probability that the target rate would be cut 25 basis points to 4.50-4.75 percent. As such, the effect of the decrease in near-term interest rates have had little effect on investors' long-term expectations. However, uncertainty over the economy and potential for a recession continue to prevail.

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Q. WHAT ARE EXPECTATIONS FOR LONG-TERM INTEREST RATES?

A. Despite the recent 75-basis-point reduction on the federal funds rate in recent months, long-term interest rates are not expected to change much in the coming years. That is, the change in the federal funds rate is primarily having an effect on short-term interest rates. As shown in Figure 3 below, the yield curve is currently inverted with short-term interest rates higher than long-term interest rates. However, this is not expected to persist beyond 2025 as investors expect short-term rates to continue to decline, while long-term rates remain at current levels. Figure 3 below includes the yield as of August 31, 2024, September 30, 2024, and October 31, 2024 for 3-month, 6-month, 1-year, 2-year, 5-year, 10-year, and 30-year treasury securities. In addition, projections from Blue Chip Financial Forecasts demonstrates that the expectation for continued reductions in the federal funds rate will cause near-term yields to decline over the next year while long-term rates are expected to remain near current levels.

Figure 3
Current and Projected Interest Rates



1

2 Q. PLEASE EXPLAIN WHY THESE ELEVATED INTEREST RATES ARE IMPORTANT TO
3 THE ROE ANALYSIS.

4 A. In general, as interest rates on government bonds increase, the cost of capital
5 also must increase, as utilities—competing with interest rates on government
6 bonds—must offer higher dividend yields to attract and retain investors. As
7 dividend yields increase, however, the stock price declines (and, therefore, the
8 cost of equity increases). The reason for this is that the stock price inherently
9 reflects a company’s future cash flows, thus, future dividends are factored into
10 the share price. After an ex-dividend date (i.e., the date on which a dividend is
11 paid), the share price often declines to reflect the dividend paid (i.e., distributing
12 a proportion of profits to shareholders). As interest rates remain elevated,
13 utilities must continue to pay high dividends to keep investors, which suggests
14 that the stock price of these companies would decline (and the cost of equity
15 increase) in response to interest rates. To reflect this correlation in ROE models,
16 all else equal, higher dividend yields produce higher ROE estimates in DCF
17 models. Interest rates also are a direct input to both the CAPM and the Risk
18 Premium models.

19

20 Q. HOW HAVE CAPITAL MARKETS CHANGED SINCE THE COMPANY’S LAST RATE
21 CASE?

22 A. The Company filed its last general rate case on November 6, 2020, and the
23 Commission approved the settlement on August 18, 2021, granting the
24 Company a 9.50 percent ROE. Interest rates have increased substantially over
25 the past few years. For example, the 90-day average of the 30-Year Treasury
26 rate on November 6, 2020 was 1.42 percent and 2.13 percent as of August 18,
27 2021. As of October 31, 2024, the 90-day average rose to 4.27 percent,

1 representing a 285-basis point increase since the Company filed its last rate case,
2 or a 214-basis point increase since the Commission's approved the settlement
3 in the last rate case. This further underscores the fact that capital markets have
4 changed considerably since the last rate case, and ROEs must increase to reflect
5 the increases in interest rates and upward pressure on the cost equity capital.
6

7 Q. HAVE YOU FACTORED THESE CIRCUMSTANCES INTO YOUR UPDATED COST OF
8 EQUITY ESTIMATES FOR NSP, AND, IF SO, WHAT CONCLUSIONS DO YOU DRAW?

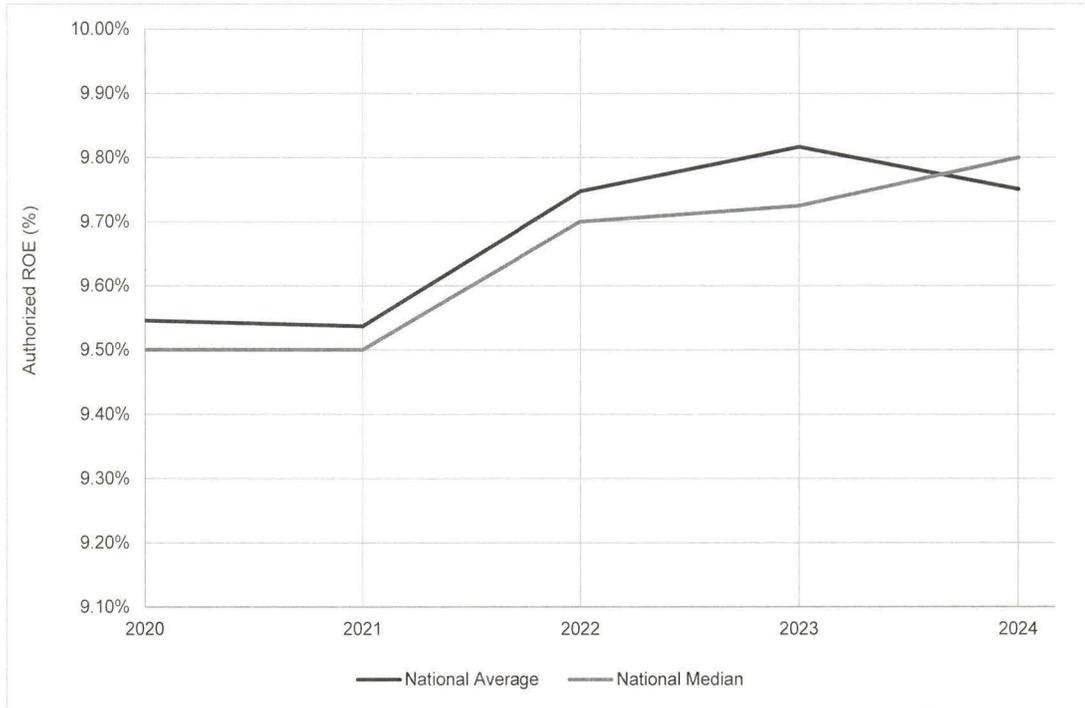
9 A. Yes. I have relied on the most recent market data and forecasts available to me
10 in my analysis and ROE recommendations. Long-term interest rates have
11 increased substantially since the historical lows of 2020 and are expected to
12 remain elevated as the Federal Reserve continues to focus on inflation and
13 employment. As interest rates increase, the cost of capital generally increases.
14 Interest rates direct inputs to the CAPM and risk premium analyses and
15 indirectly affect the DCF models, as increasing interest rates influence increases
16 in dividend yields (and decreases in utility stock prices, which suggest an
17 increase in the cost of equity).
18

19 Q. WHAT IS YOUR CONCLUSION REGARDING HOW MARKET CONDITIONS AFFECT
20 THE COST OF EQUITY FOR UTILITIES SUCH AS NSP?

21 A. Market conditions have changed since the Company filed its last case in 2020,
22 and the cost of equity capital has increased for all companies, including electric
23 and gas utilities, along with interest rates. Interest rates on long-term
24 government and utility bonds have increased substantially after reaching historic
25 lows in July 2020, and inflation in 2022 reached levels not seen in 40 years. As
26 shown in Figure 4, consistent with the increase in long-term interest rates since

1 2020, the national average authorized ROE for vertically integrated electric
2 utilities has also increased.

3
4 **Figure 4**
5 **Authorized ROEs for Vertically-Integrated Electric Utilities 2020-2024**



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18 Further, while consensus expectations are for long-term inflation to continue
19 to moderate and near-term interest rates to decline, long-term interest rates are
20 expected to remain at an elevated level, relative to rates seen in recent years. As
21 such, there is no indication that long-term interest rates or the cost of equity for
22 utility companies will decline as inflation moderates and near-term interest rates
23 decline.

24
25 **B. Ongoing Uncertainty and Volatility in Capital Markets**

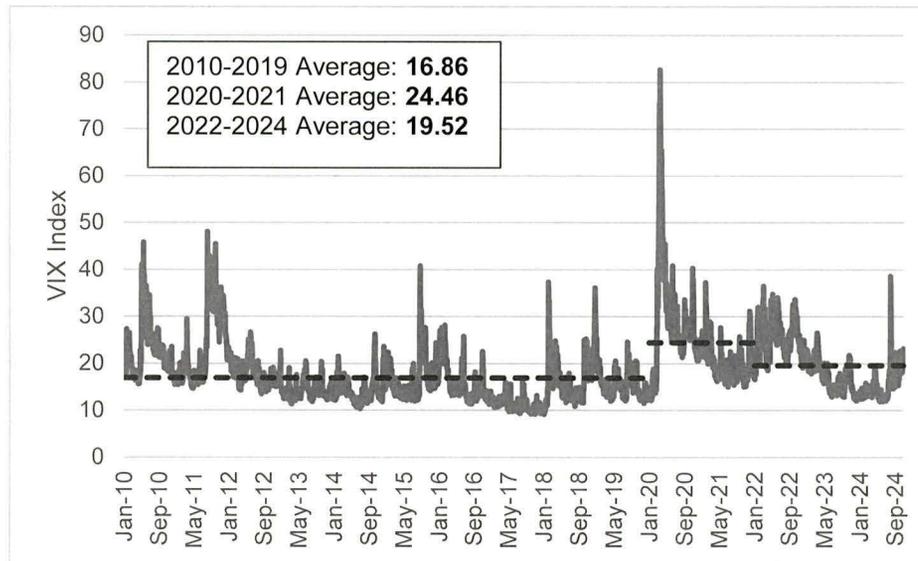
26 Q. TO WHAT EXTENT ARE CONDITIONS EXPECTED TO STABILIZE IN THE NEAR
27 TERM?

1 A. The economy remains in a tenuous phase of the business cycle with concerns
2 over a potential recession, persistent inflation, and persistently high interest
3 rates. As such, capital market conditions continue to be unstable as interest rates
4 remain elevated. The Chicago Board Options Exchange (CBOE) Volatility
5 Index (VIX) has remained above long-term historical levels, indicating stock
6 investors remain anxious about the economy and company earnings. The VIX,
7 a measure of expected price fluctuations in the S&P 500, reached 82.7 on March
8 16, 2020, in response to the pandemic. As a point of comparison, the VIX last
9 traded above 80 in November 2008 during the financial crisis and Great
10 Recession of 2008/09. The VIX has continued to reach levels above 25.0 in
11 2023 and 2024. As shown in Figure 5, the average level in 2022-2024 has been
12 19.52 through October 31, 2024, compared to the average of 16.86 from 2010-
13 2019.⁷ This indicates that equity market volatility levels have partially settled but
14 continue to remain above the historical mean. Importantly, the VIX reached a
15 recent peak in August 2024 of 38.57, demonstrating the tenuous position of
16 equity markets as the Federal Reserve considers further interest rate reductions.
17 Both the pace and magnitude of future Federal Reserve policy decisions could
18 have substantial effects on equity markets.

⁷ Source: Chicago Board Options Exchange (CBOE). Available at https://www.cboe.com/tradable_products/vix/vix_historical_data/.

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Figure 5
CBOE VIX – January 1, 2010 – October 31, 2024



The recent 2024 US presidential election and upcoming change in administration creates further uncertainty for equity investors. Given the tenuous position of the US economy with lingering concerns over a potential recession, persistent inflation, and persistently high interest rates, any significant changes in policy could have a significant effect on the cost of capital. Despite campaigning on policies to reduce inflation, the incoming administration’s proposed trade policy involving aggressive tariffs on foreign imports could increase inflationary pressures, which would increase the cost of capital. Initial proposals on changes in tax policy could reduce corporate taxes. However, the incoming administration’s energy policies are likely to differ from the current administration. As such, the cost of capital for utilities may be affected differently from other industries. While it is not clear which policies will be implemented in the change in administration, the uncertainty creates potential risks for equity investors.

1 Q. HAS THE COST OF EQUITY FOR UTILITY COMPANIES BEEN AFFECTED BY THESE
2 CIRCUMSTANCES?

3 A. Yes. The cost of equity for regulated utility companies has been affected by the
4 market conditions during this period. With interest rates at sustained, elevated
5 levels, utility companies are no longer viewed as a safe haven. With Treasury
6 yields in the range of 4.28 percent to 4.76 percent,⁸ utility dividend yields in a
7 range near 3.57 percent (*see* Exhibit___(JCN-1), Schedule 4) fail to offer
8 investors a sufficient risk premium relative to risk-free investments in
9 Treasuries. Further, the utility industry is capital-intensive, requiring significant
10 investments, meaning that utility companies will also have to bear the costs of
11 higher interest rates to access capital markets. The Federal Reserve’s expectation
12 for sustained, higher interest rates will continue to put upward pressure on the
13 cost of capital causing investors to continue to require higher returns for
14 investments in the utility industry.

15
16 Q. HOW HAS THE CURRENT ECONOMIC ENVIRONMENT AFFECTED THE CREDIT
17 RATINGS FOR UTILITIES?

18 A. Consistent with the underperformance of the utility industry relative to the
19 broader equity market demonstrating higher relative risk for utilities, credit
20 ratings have also declined across the utility industry. According to a recent
21 report by S&P Global Ratings (S&P) on utilities, “credit quality weakened again
22 in 2021 and represented the second consecutive year that downgrades outpaced
23 upgrades” primarily due to weak financial measures and ESG-related risks.⁹
24 Fitch Ratings (Fitch) points to capital spending, elevated interest rates, and high

⁸ Source: Federal Reserve. As of October 31, 2024 the yield on the 1-month Treasury bill was 4.76 percent, and the yield on the 10-year Treasury bond was 4.28 percent.

⁹ S&P Global Ratings, *For the First Time Ever, The Median Investor-Owned Utility Ratings Falls to The ‘BBB’ Category*, January 20, 2022.

1 fuel prices creating cost pressures leading to a “deteriorating” outlook on the
2 utilities sector.¹⁰ While the views of rating agencies represent an important
3 consideration, they are not the only factor that equity investors consider. The
4 important distinction is that credit rating agencies are primarily focused on the
5 ability of a utility to pay its debts, while equity analysts and institutional investors
6 are more concerned with profitability and value creation.

7
8 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECTS OF THE CURRENT
9 MARKET ENVIRONMENT ON THE COST OF EQUITY FOR NSP?

10 A. The current capital market conditions continue to be heavily influenced by
11 monetary policy aimed at mitigating inflationary pressures. This has caused both
12 short-term and long-term interest rates to remain high. As a practical matter,
13 investors consider a range of opportunities, which includes bonds. With the
14 sustained elevated interest rates, utilities are less attractive absent a
15 corresponding increase in returns. With the Federal Reserve’s expectation for
16 elevated interest rates for an extended period of time, this will continue to put
17 upward pressure on the cost of capital for utilities. Therefore, it is important
18 that these factors are accounted for in the cost of equity models.

19
20 **C. Conclusions**

21 Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSIS OF CAPITAL MARKET
22 CONDITIONS?

23 A. Investors continue to face interest rate pressures and uncertainty, as the Federal
24 Reserve continues its response to broad economic concerns. Long-term interest

¹⁰ S&P Global Market Intelligence, “Fitch sees various cost pressures behind ‘deteriorating’ US utilities outlook,” November 14, 2022.

1 rates remain substantially higher than the historical lows of 2020 and are
2 expected to remain elevated looking forward. Importantly, this requires the use
3 of both current and forecast bond yields in the CAPM and Risk Premium
4 models. Fluctuations in utility valuations impact the results of the DCF model.
5 The dividend yield is calculated using historical average stock prices, which may
6 not fully reflect forward market expectations. These circumstances collectively
7 reinforce the importance of using multiple models, as I have with the CAPM,
8 DCF, Risk Premium, and Expected Earnings approaches.

9 10 **V. PROXY GROUP SELECTION**

11
12 Q. WHY IS IT NECESSARY TO SELECT A PROXY GROUP TO ESTIMATE THE COST OF
13 EQUITY FOR NSP?

14 A. Since the ROE is a market-based concept and NSP is not publicly traded, it is
15 necessary to establish a group of companies that is both publicly traded and
16 comparable to NSP as a proxy. Even if NSP were a publicly traded entity, it is
17 possible that transitory events could bias the Company's market value in one
18 way or another in a given period. A significant benefit of using a proxy group is
19 the ability to mitigate the effects of short-term events that may be associated
20 with any one company. The proxy companies used in my ROE analyses possess
21 a set of business and operating characteristics similar to the Company's electric
22 utility operations, and thus provide a reasonable basis for estimating the
23 Company's ROE.

24
25 Q. PLEASE PROVIDE A SUMMARY PROFILE OF NSP.

26 A. NSP provides electric generation, transmission, and distribution service to
27 approximately 1.5 million retail electric customers and natural gas distribution

1 service to approximately 600,000 natural gas customers in North Dakota,
2 Minnesota, and South Dakota.¹¹ The Company has long-term issuer ratings
3 from S&P of A- (Outlook: Negative), Moody's Investors Service (Moody's) of
4 A2 (Outlook: Stable), and Fitch of A- (Outlook: Stable).¹²

5

6 Q. PLEASE DESCRIBE THE SPECIFIC SCREENING CRITERIA YOU HAVE UTILIZED TO
7 SELECT A PROXY GROUP.

8 A. I began with the 36 investor-owned electric utility companies covered by Value
9 Line and then screened companies according to the following criteria:

- 10 1. Consistently pays quarterly cash dividends because it is a necessary
11 assumption in the DCF model;
- 12 2. Maintains an investment grade long-term issuer rating (BBB- or higher)
13 from S&P to ensure the proxy companies have a comparable financial
14 risk profile to that of the Company;
- 15 3. Is covered by more than one equity analyst to ensure that estimates are
16 consensus-based;
- 17 4. Has positive earnings growth rates, which is a necessary assumption in
18 the DCF model, published by at least two of the following sources:
19 Value Line, First Call (as reported by Yahoo! Finance), and Zacks
20 Investment Research (Zacks);
- 21 5. Has company-owned generation assets included in rate base;
- 22 6. Regulated net operating income makes up more than 80 percent of the
23 consolidated company's net operating income (based on a 3-year

¹¹ Xcel Energy Inc., SEC Form 10-K, for the fiscal year ended December 31, 2023, at 9.

¹² S&P Global Ratings. "Xcel Energy Inc. and Most Subsidiaries Downgraded on Increasing Wildfire Risks; Outlook Negative." March 13, 2024; Moody's. "Credit Opinion." April 19, 2024; Fitch Ratings. "Fitch Revises Outlooks for Xcel Energy and Southwestern Public Service Co.; Affirms Ratings." March 6, 2024.

1 average from 2021-2023) to ensure that the proxy companies are
2 primarily regulated utilities;

3 7. Regulated electric net operating income makes up more than 80 percent
4 of the consolidated company's regulated net operating income (based
5 on a 3-year average from 2021-2023) to ensure the proxy companies
6 have a comparable business risk profile to that of the Company; and

7 8. Is not involved in a significant merger, or other transformative
8 transaction, as such activities may have a temporary effect on such
9 companies' stock prices and projections unrelated to the overall cost of
10 capital.

11
12 Q. DOES YOUR SCREENING CRITERIA RESULT IN A GROUP OF COMPANIES THAT
13 INVESTORS WOULD VIEW AS COMPARABLE TO NSP?

14 A. Yes. While no proxy group will be identical in risk to the Company, I believe
15 this group of vertically-integrated electric utilities is reasonably comparable to
16 the financial and operational characteristics of NSP's electric utility operations.
17 The proxy group screening criterion requiring an investment grade credit rating
18 ensures that the proxy group companies, like NSP, are in sound financial
19 condition. Because credit ratings take into account business and financial risks,
20 the ratings provide a broad measure of investment risk for investors. I have
21 screened on the percentage contribution of the electric utility segment to
22 regulated consolidated financial results to select companies that are focused on
23 electric utility operations, since this proceeding is limited to determining the
24 appropriate ROE for the stand-alone electric operations of NSP. These screens
25 collectively reflect key risk factors that investors consider in making investments
26 in electric utilities.

27

1 Q. WHAT IS THE COMPOSITION OF YOUR RESULTING PROXY GROUP?

2 A. Based on the screening criteria discussed above, and financial information
3 through fiscal year 2023, I arrived at a proxy group consisting of the 15
4 companies shown in Table 2. The results of my screening process are shown in
5 Exhibit____(JCN-1), Schedule 3.

6
7 **Table 2**
8 **Proxy Group**

9

Company	Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
PPL Corporation	PPL
Southern Company	SO
TXNM Energy, Inc.	TXNM

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22 Q. WHAT IS YOUR CONCLUSION WITH REGARD TO THE PROXY GROUP FOR NSP?

23 A. I conclude that my group of 15 companies with vertically-integrated electric
24 utility operations adequately reflects the broad set of risks that investors
25 consider when investing in a U.S. regulated vertically-integrated electric utility
26 such as NSP.

27

1 **VI. DETERMINATION OF THE APPROPRIATE COST OF EQUITY**

2
3 Q. WHAT MODELS DID YOU USE IN YOUR ROE ANALYSES?

4 A. I have considered the results of several ROE estimation models, including the
5 Constant Growth DCF model, the CAPM, the Bond Yield Plus Risk Premium
6 approach, and an Expected Earnings analysis. Consistent with the practice of
7 many analysts, when estimating the cost of equity, I gather and evaluate as much
8 relevant data (both quantitative and qualitative) as can be reasonably obtained.
9 This approach ensures that factors that may have an outsized impact on one
10 particular model but not others, and therefore are potentially less relevant to the
11 equity return required by investors, are appropriately contextualized.

12
13 **A. Constant Growth DCF Model**

14 Q. PLEASE DESCRIBE THE DCF APPROACH.

15 A. DCF analyses are a common method of valuation, used extensively by analysts
16 across all industries, to estimate the value of future cash flows, adjusted for the
17 time value of money. The DCF approach is based on the theory that a stock's
18 current price represents the present value of all expected future cash flows,
19 which for purposes of the model, are assumed to be equal to all expected future
20 dividends. Thus, the return required by investors is implied by the per share
21 price of a company's common stock. In its most general form, the DCF model
22 is expressed as follows:

23
24
$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

25
26 Where P_0 represents the current stock price, $D_1 \dots D_\infty$ are all expected future
27 dividends, and k is the discount rate, or required return. Equation [1] is a

1 standard present value calculation, which can be simplified and rearranged, to
2 the Constant Growth form of the DCF model, expressed as the sum of the
3 expected dividend yield and long-term growth rate:

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

4
5
6
7 Where “k” equals the required return, “D” is the current dividend, “g” is the
8 expected growth rate, and “ P_0 ” represents the current stock price. Stated in this
9 manner, the cost of common equity is equal to the expected dividend yield plus
10 the dividend growth rate.

11
12 Q. WHAT ARE THE ASSUMPTIONS UNDERLYING THE CONSTANT GROWTH DCF
13 MODEL?

14 A. The Constant Growth DCF model is based on the following assumptions: (1)
15 a constant average growth rate for earnings and dividends; (2) a stable dividend
16 payout ratio; (3) a constant price-to-earnings multiple;¹³ and (4) a discount rate
17 greater than the expected growth rate.

18
19 Q. PLEASE SUMMARIZE YOUR APPLICATION OF THE CONSTANT GROWTH DCF
20 MODEL.

21 A. I calculated DCF results for each of the proxy group companies using the
22 following inputs:

- 23 • Average stock prices for the historical period, over 30, 90, and 180
24 trading days through October 31, 2024;

¹³The price-to-earning multiple, or P/E ratio, is a common valuation metric that evaluates a company’s current stock price relative to its earnings per share (EPS).

- 1 • Annualized dividend per share as of October 31, 2024; and
2 • Company-specific earnings growth forecasts for the term *g*.

3

4 My application of the Constant Growth DCF model is provided in Schedule 4.

5

6 Q. WHY DID YOU USE AVERAGING PERIODS OF 30, 90, AND 180 TRADING DAYS?

7 A. It is important to use an average of recent trading days to calculate the term *P*
8 in the DCF model to ensure that the calculated ROE is not skewed by
9 anomalous events that may affect stock prices on any given trading day. At the
10 same time, it is important to reflect the conditions that have defined the
11 financial markets over the recent past. Therefore, in addition to considering the
12 most recent 30-day period, I also consider 90-day and 180-day averaging
13 periods. In my view, consideration of those three averaging periods reasonably
14 balances these interests.

15

16 Q. DID YOU ADJUST THE DIVIDEND YIELD TO ACCOUNT FOR PERIODIC GROWTH
17 IN DIVIDENDS?

18 A. Yes, I did. Utility companies tend to increase their quarterly dividends at
19 different times throughout the year, so it is reasonable to assume that such
20 increases will be evenly distributed over calendar quarters. Given that
21 assumption, it is reasonable to apply one-half of the expected annual dividend
22 growth rate for the purposes of calculating this component of the DCF model.
23 This adjustment ensures that the expected dividend yield is representative of
24 the coming 12-month period. Accordingly, the DCF estimates reflect one-half
25 of the expected growth in the dividend yield.¹⁴

¹⁴The expected dividend yield is calculated as $d_1 = d_0(1 + \frac{1}{2}g)$.

1

2 Q. WHAT SOURCES OF GROWTH HAVE YOU USED IN YOUR DCF ANALYSIS?

3 A. I have used the consensus analyst five-year growth estimates in earnings per
4 share (EPS) from First Call and Zacks, as well as EPS growth rate estimates
5 published by Value Line.

6

7 Q. WHY DID YOU FOCUS ON EPS GROWTH?

8 A. The Constant Growth DCF model assumes that dividends grow at a constant
9 rate in perpetuity. Accordingly, in order to reduce the long-term growth rate to
10 a single measure, one must assume a constant payout ratio, and that earnings
11 per share, dividends per share, and book value per share all grow at the same
12 constant rate. Over the long term, however, dividend growth can only be
13 sustained by earnings growth. As noted by Brigham and Houston in their text,
14 *Fundamentals of Financial Management*: “Growth in dividends occurs primarily as a
15 result of growth in *earnings per share* (EPS).”¹⁵ It is therefore important to focus
16 on measures of long-term earnings growth from credible sources as an
17 appropriate measure of long-term growth in the DCF model.

18

19 Q. ARE OTHER SOURCES OF DIVIDEND GROWTH AVAILABLE TO INVESTORS?

20 A. Yes, although that does not mean that investors incorporate such estimates into
21 their investment decisions. Academic studies suggest that investors base their
22 investment decisions on analysts’ expectations of growth in earnings.¹⁶ I am not

¹⁵ Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management* (Concise Fourth Edition, Thomson South-Western), at 317 (emphasis added).

¹⁶ See, e.g., Harris and Marston, *Estimating Shareholder Risk Premia Using Analysts Growth Forecasts*, *Financial Management*, Summer 1992, at 65; and Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, *The Journal of Portfolio Management*, Spring 1988, at 81. Please note that while the original study was published in 1988, it was updated in 2004 under the direction of Dr. Vander Weide. The results of that updated study are consistent with Vander Weide and Carleton’s original conclusions.

1 aware of any similar findings regarding non-earnings-based growth estimates.
2 In addition, the only forward-looking growth rates that are available on a
3 consensus basis are analysts' EPS growth rates. The fact that earnings growth
4 projections are the only widely accepted estimates of growth provides further
5 support that earnings growth is the most meaningful measure of growth among
6 the investment community.

7
8 Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

9 A. The results of my Constant Growth DCF analysis are provided in Schedule 4,
10 and Exhibit____(JCN-1), Schedule 2 includes my results (before considering the
11 effect of flotation costs, discussed in Section VII), which are summarized in
12 Table 3.

13
14 **Table 3**
Constant Growth DCF Results

15

	Mean Low	Overall Mean	Mean High
16 30-day average	9.04%	10.21%	11.02%
17 90-day average	9.20%	10.37%	11.18%
18 180-day average	9.43%	10.60%	11.42%

19
20

21
22 Q. HOW DID YOU CALCULATE THE MEAN HIGH, MEAN LOW, AND OVERALL
23 MEAN DCF RESULTS?

24 A. I calculated the Mean High DCF result using the maximum growth rate (*i.e.*, the
25 maximum of the First Call, Value Line, and Zacks EPS growth rates) in
26 combination with the expected dividend yield for each of the proxy group
27 companies. I used a similar method to calculate the Mean Low DCF results,

1 using the minimum growth rate for each company. The Mean results reflect the
2 average growth rate from each source for each company in combination with
3 the expected dividend yield.
4

5 **B. CAPM Analysis**

6 Q. PLEASE BRIEFLY DESCRIBE THE GENERAL FORM OF THE CAPITAL ASSET
7 PRICING MODEL.

8 A. The CAPM is a risk premium approach that estimates the cost of equity for a
9 given security as a function of a risk-free return plus a risk premium (to
10 compensate investors for the non-diversifiable or “systematic” risk of that
11 security).¹⁷ As shown in Equation [3], the CAPM is defined by four
12 components, each of which must theoretically be a forward-looking estimate:

13
$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

14 Where:

15 K_e = the required return for a given security;

16 r_f = the risk-free rate of return;

17 β = the Beta of an individual security; and

18 r_m = the required return for the market as a whole.
19

20 The term $(r_m - r_f)$ represents the Market Risk Premium. According to the theory
21 underlying the CAPM, since unsystematic risk can be diversified away, investors
22 should be concerned only with systematic or non-diversifiable risk. Non-
23 diversifiable risk is measured by Beta, which is defined as:

¹⁷ Systematic risks are fundamental market risks that reflect aggregate economic measures and therefore cannot be mitigated through diversification. Unsystematic risks reflect company-specific risks that can be mitigated and ultimately eliminated through investments in a portfolio of companies and/or market sectors.

1

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

2

3 Where:

4 r_e = the rate of return for the individual security or portfolio.

5

6 The variance of the market return, noted in Equation [4], is a measure of the
7 uncertainty of the general market, and the covariance between the return on a
8 specific security and the market reflects the extent to which the return on that
9 security will respond to a given change in the market return. Thus, Beta
10 represents the risk that the selected security will not be effective in diversifying
11 systematic market risks.

12

13 Q. HAVE ECONOMIC AND FINANCIAL MARKET CONDITIONS ALSO AFFECTED THE
14 CAPM?

15 A. Yes. As the Federal Reserve reduces the federal funds rate, it is important to
16 consider both current and projected bond yields. Using the five-year forecast of
17 bond yields helps alleviate short-term market factors affecting the risk-free rate,
18 or “ r_f ” in the CAPM formula. As discussed in Section IV, interest rates continue
19 to remain elevated. It is also important to recognize that NSP is financing long-
20 lived assets, and the cost of capital should be forward looking to reflect that
21 perspective.

22

23 Q. WHAT RISK-FREE RATE DID YOU USE IN YOUR CAPM ANALYSIS?

24 A. I considered three estimates of the expected risk-free rate: (1) the current 30-
25 day average yield on 30-year U.S. Treasury bonds (*i.e.*, 4.30 percent);¹⁸ (2) the

¹⁸ Bloomberg Professional, as of October 31, 2024.

1 projected 30-year U.S. Treasury bond yield for Q1 2025 through Q1 2026 (*i.e.*,
2 4.20 percent);¹⁹ and (3) the projected 30-year U.S. Treasury bond yield for 2026
3 through 2030 (*i.e.*, 4.30 percent).²⁰
4

5 Q. WHAT MEASURES OF BETA DID YOU USE IN YOUR CAPM ANALYSIS?

6 A. As shown in Exhibit___(JCN-1), Schedule 6, I applied two measures of Beta
7 for the proxy group companies: (1) the reported Beta coefficients from
8 Bloomberg (which are calculated using ten years of weekly data against the S&P
9 500 Index); and (2) the reported Beta coefficients from Value Line (which are
10 calculated using five years of weekly data against the New York Stock Exchange
11 Composite Index).
12

13 Q. WHAT MARKET RISK PREMIUM DID YOU USE IN YOUR CAPM ANALYSIS?

14 A. As shown in Schedule 6, consistent with the approach adopted by FERC, I used
15 the Constant Growth DCF model to estimate the market capitalization-
16 weighted total market return for the S&P 500 Index, using projected earnings
17 growth rates and dividend yields. To calculate the Constant Growth DCF
18 estimate for each company in the S&P 500 Index, I relied on dividend yields as
19 of October 31, 2024, as reported by Bloomberg Professional, and projected
20 EPS growth rates from Value Line. In my initial analysis, I included all
21 companies in the S&P 500. When investors purchase the S&P 500 or a mutual
22 fund or exchange traded fund that mirrors the S&P 500 Index, their total return
23 is based on the returns for all 500 companies in the S&P Index. As such, this
24 methodology provides the best indication as to the expected return for the

¹⁹ Blue Chip Financial Forecasts, Vol. 43, No: 11, November 1, 2024, at 2.

²⁰ Blue Chip Financial Forecasts, Vol. 43, No. 6, June 1, 2024, at 14.

1 overall market using the S&P 500 as a proxy. Applying this methodology
 2 suggests an expected market return of 15.07 percent. However, I applied an
 3 average of both the Value Line-derived market return and FERC’s more
 4 conservative convention to consider only a subset of S&P 500 companies with
 5 growth rates that are between 0 percent and 20 percent, or an expected market
 6 return of 11.41 percent.

7
 8 Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSES?

9 A. The results of my CAPM analysis (before considering the effect of flotation
 10 costs) are provided in Exhibit___(JCN-1), Schedule 7 and summarized in in
 11 Table 4.

12 **Table 4**
 13 **Proxy Group Average CAPM Results**

	CAPM Result
<i>Value Line Beta Coefficients</i>	
Current Risk-Free Rate	12.82%
2024-25 Projected Risk-Free Rate	12.83%
2026-30 Projected Risk-Free Rate	12.82%
<i>Bloomberg Beta Coefficients</i>	
Current Risk-Free Rate	11.40%
2024-25 Projected Risk-Free Rate	11.38%
2026-30 Projected Risk-Free Rate	11.40%

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 23
 24 **C. Bond Yield Plus Risk Premium Analysis**

25 Q. PLEASE DESCRIBE THE RISK PREMIUM APPROACH THAT YOU USED.

26 A. In general terms, this approach recognizes that equity is riskier than debt
 27 because equity investors bear the residual risk associated with ownership. Equity
 28 investors, therefore, require a greater return (*i.e.*, a premium) than would a

1 bondholder. The Risk Premium approach estimates the cost of equity as the
2 sum of the Equity Risk Premium and the yield on a particular class of bonds.

$$3 \quad ROE = RP + Y \quad [5]$$

4
5 Where:

6 RP = Risk Premium (difference between allowed ROE and the 30-Year
7 Treasury Yield); and

8 Y = Applicable bond yield.
9

10 Since the equity risk premium is not directly observable, it is typically estimated
11 using a variety of approaches, some of which incorporate *ex-ante*, or forward-
12 looking, estimates of the cost of equity and others that consider historical, or
13 *ex-post*, estimates. For my Risk Premium analysis, I have relied on authorized
14 returns from a large sample of vertically-integrated electric utility companies.
15

16 Q. WHAT DID YOUR RISK PREMIUM ANALYSIS REVEAL?

17 A. To estimate the relationship between risk premia and interest rates, I conducted
18 a regression analysis using the following equation:

$$19 \quad RP = a + (b \times Y) \quad [6]$$

20
21 Where:

22 RP = Risk Premium (difference between allowed ROEs and the 30-
23 Year Treasury Yield);

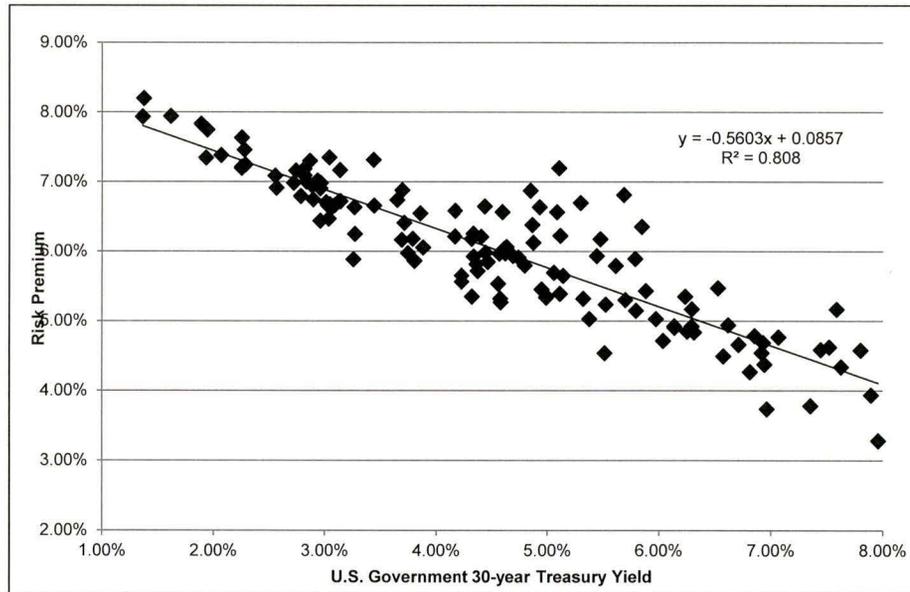
24 a = Intercept term;

25 b = Slope term; and

26 Y = 30-Year Treasury Yield.
27

1 Data regarding allowed ROEs were derived from 762 vertically-integrated
2 electric utility company rate cases from January 1, 1992 through October 31,
3 2024, as reported by Regulatory Research Associates.

4
5 **Figure 6**
6 **Risk Premium Results**



17
18 As illustrated by Figure 6 (above), the risk premium varies with the level of bond
19 yield, and generally increases as the bond yields decrease, and vice versa. In
20 order to apply this relationship to current and expected bond yields, I consider
21 three estimates of the 30-year Treasury yield, including the current 30-day
22 average, a near-term Blue Chip consensus forecast for Q1 2025 – Q1 2026, and
23 a Blue Chip consensus forecast for 2026–2030. I find the projected five-year
24 result to be most applicable for the following reasons: (1) investors are
25 expecting increases in government bond yields and (2) investors typically have
26 a multi-year view of their required returns on equity. Based on the regression
27 coefficients in Schedule 7, which allow for the estimation of the risk premium

1 at varying bond yields, the results of my Risk Premium analysis (before
2 considering the effect of flotation costs) are shown in Table 5 below.

3 **Table 5**
4 **Risk Premium Results Using 30-Year Treasury Yield**

	30-Day Average Yield on 30-Year Treasury Bond	Q1 2025–Q1 2026 Forecast for Yield on 30-Year Treasury Bond	2026-2030 Forecast for Yield 30-Year Treasury Bond
Yield	4.30%	4.20%	4.30%
Risk Premium	6.16%	6.201%	6.16%
Resulting ROE	10.46%	10.41%	10.46%

12
13 **D. Expected Earnings Analysis**

14 Q. HAVE YOU CONDUCTED ANY OTHER ANALYSIS TO ESTIMATE THE COST OF
15 EQUITY FOR NSP?

16 A. Yes. I have also conducted an Expected Earnings analysis to estimate the cost
17 of equity for NSP based on the projected ROEs for the proxy group companies.
18

19 Q. WHAT IS AN EXPECTED EARNINGS ANALYSIS?

20 A. The Expected Earnings methodology is a comparable earnings analysis that
21 calculates the earnings that an investor expects to receive on the book value of
22 a stock. The Expected Earnings analysis is a forward-looking estimate of
23 investors' expected returns. The use of an Expected Earnings approach based
24 on the proxy companies provides a range of the expected returns on a group of
25 risk-comparable companies to the subject company. This range is useful in
26 helping to determine the opportunity cost of investing in the subject company,
27 which is relevant in determining a company's ROE. The Expected Earnings

1 approach relying on expected returns for like-risk companies is a core strength
2 of the model and consistent with the basic tenets of *Hope*: “the return to the
3 equity owner should be commensurate with returns on investments in other
4 enterprises having corresponding risks.” Since the Expected Earnings model
5 provides an accounting-based approach that relies on investment analysts’
6 projections of earnings on book equity, it affords the benefit of analyst insights,
7 knowledge, and expertise in interpreting a given company’s earnings prospects
8 in the context of current market conditions. While the Commission has not
9 explicitly relied upon the Expected Earnings approach in its recent ROE
10 determinations, the analysis is used by investors in determining return
11 requirements and accounting-based approach provides a useful benchmark in
12 evaluating the reasonableness of other market-derived analyses.

13
14 Q. HOW IS THE EXPECTED EARNINGS APPROACH CALCULATED?

15 A. I relied on the projected ROE for the proxy companies as reported by Value
16 Line for the period from 2027-2029. I then adjusted those projected ROEs to
17 account for the fact that the ROEs reported by Value Line are calculated on the
18 basis of common shares outstanding at the end of the period, as opposed to
19 average shares outstanding over the entire period. As shown in Table 6 below
20 and Exhibit___(JCN-1), Schedule 9, the Expected Earnings analysis (before
21 considering the effect of flotation costs) results in a mean of 10.71 percent and
22 a median of 10.12 percent.

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Table 6
Expected Earnings Results excluding Flotation Costs

	ROE
Proxy Group Average	10.71%
Proxy Group Median	10.12%

Q. WHAT IS YOUR CONCLUSION REGARDING THE RESULTS OF THE EXPECTED EARNINGS MODEL?

A. The model captures investor expectations for ROEs for each company in the proxy group as estimated by impartial analysts. This is a valuable tool given the nature of the analysis in this proceeding is designed to measure required returns for NSP. It is reasonable to assume that investors would require returns from investment in NSP similar to those they could earn in comparable investments, so these results are informative and a reasonable check on the other model results discussed above.

E. Evaluating Model Results

Q. PLEASE EXPLAIN HOW YOU CONSIDERED THE RESULTS OF THE CONSTANT GROWTH DCF, CAPM, RISK PREMIUM, AND EXPECTED EARNINGS ANALYSIS TO ARRIVE AT YOUR ROE RECOMMENDATION.

A. As shown in Table 7, I have considered the results of the Constant Growth DCF, CAPM, Risk Premium, and Expected Earnings analyses. For the DCF results, I included the average of the 30-day, 90-day, and 180-day analyses. For the CAPM result, I relied on the average of current and projected Treasury yields, the average of Value Line and Bloomberg Betas coefficients, and the MRP derived from the S&P 500 companies. For the Risk Premium analysis, I relied on the average of current and projected Treasury yields.

Table 7
Summary of ROE Results

	Average		Median
<i>Primary Analyses</i>			
Constant Growth DCF	10.39%		10.32%
CAPM	12.11%		11.96%
Risk Premium	10.44%		10.44%
Average	10.98%		10.94%
<i>Benchmark Analyses</i>			
Expected Earnings	10.71%		10.12%
<i>Other Considerations</i>			
Flotation Costs	0.07%		0.07%

As discussed in the next Section of my testimony, these estimates serve as a base prior to consideration of the relative business and financial risks of NSP as compared to the proxy companies.

VII. BUSINESS RISKS AND OTHER CONSIDERATIONS

- Q. ARE THERE FACTORS SPECIFIC TO NSP'S RISK PROFILE THAT YOU ALSO CONSIDERED IN DEVELOPING YOUR ROE RECOMMENDATION?
- A. Notwithstanding the care taken to establish a risk-comparable group of companies and to consider multiple analyses, market expectations with respect to future risks and growth opportunities will vary from company to company.

1 Therefore, the Company's business and financial risks must also be taken into
2 consideration when determining where the Company's cost of equity falls
3 within the range of results. As discussed in more detail below, I considered
4 NSP's regulatory risk relative to the proxy group companies, including the
5 regulatory framework in which NSP operates and the regulatory mechanisms
6 available to the Company relative to those available to the proxy companies. In
7 addition, I considered the effect of flotation costs on the cost of equity.

8
9 **A. Regulatory Framework and Relative Risk**

10 Q. PLEASE EXPLAIN HOW CREDIT RATING AGENCIES CONSIDER THE REGULATORY
11 FRAMEWORK IN ESTABLISHING A COMPANY'S CREDIT RATING.

12 A. Moody's and S&P both consider the overall regulatory framework in
13 establishing credit ratings. As shown in Table 8, Moody's establishes credit
14 ratings based on four key factors:

15
16 **Table 8**
17 **Moody's Rating Factors**

Factor	Weighting
Regulatory Framework	25%
Ability to Recover Costs and Earn Returns	25%
Diversification	10%
Financial Strength	40%
Total	100%

18
19
20
21
22
23
24
25 Two of these factors (*i.e.*, regulatory framework and the ability to recover costs
26 and earn returns) are based on the regulatory environment such that half of
27 Moody's overall assessment of business and financial risk for regulated utilities

1 is based upon the regulatory environment.²¹ Moody’s further subdivides the
2 first two factors, Regulatory Framework and the Ability to Recover Costs and
3 Earn Returns, into sub-factors to help “provide more granularity and
4 transparency on the overall regulatory environment, which is the most
5 important consideration for this sector.”²² Similarly, S&P has identified the
6 regulatory environment as an important factor, stating, “we believe the
7 fundamental regulatory environment in the jurisdictions in which a utility
8 operates often influence credit quality the most.”²³

9
10 Q. HOW DOES NSP’S REGULATORY FRAMEWORK COMPARE TO ITS PEER UTILITIES?

11 A. I have undertaken a review of regulatory mechanisms designed to mitigate
12 certain business risks, and they support treating the results from the proxy
13 group I selected as representative of the business risk of a prudently managed
14 regulated vertically-integrated electric utility like NSP. The results of my analysis
15 are presented in Exhibit___(JCN-1), Schedule 10. Specifically, I examined the
16 following elements of cost-recovery that affect the regulatory risk of the
17 Company and the proxy group companies: (1) test year convention; (2) rate base
18 convention; (3) revenue decoupling; and (4) capital cost recovery.

19
20 As shown in Schedule 10, 47 percent of the operating companies in the proxy
21 group like NSP provide service in jurisdictions that allow the use of a fully or
22 partially forecasted test year. Further, 37 percent of the operating companies in
23 the proxy group use average rate base like NSP, while 63 percent are allowed to
24 use year-end rate base. NSP has no revenue protection against fluctuations in

²¹ Moody’s Investor Service, Rating Methodology, Regulated Electric and Gas Utilities, December 23, 2013, at 1,2.

²² *Id.* at 3.

²³ S&P, *Assessing U.S. Utility Regulatory Environments*, March 11, 2010, at 2.

1 customer usage, while approximately 52 percent of the operating companies
2 held by the proxy group have either full or partial revenue decoupling
3 mechanisms that protect against volumetric risk. While the Company has
4 certain alternative cost recovery mechanisms (*e.g.*, Renewable Energy Rider,
5 Transmission Cost Recovery Rider), approximately 82 percent of the operating
6 companies in the proxy group have a similar cost recovery mechanism for
7 capital investment (*e.g.*, infrastructure replacement). As such, the regulatory
8 mechanisms proposed by the Company and the regulatory mechanisms
9 employed by the proxy companies indicate that NSP and the proxy group have
10 comparable mechanisms, and therefore similar regulatory risk profiles. As such,
11 no adjustment to the Company's ROE would be appropriate.

12
13 Q. PLEASE EXPLAIN HOW THE REGULATORY FRAMEWORK AFFECTS INVESTORS'
14 RISK ASSESSMENTS.

15 A. Regulatory commissions recognize that, because utility operations are capital
16 intensive, regulatory decisions should enable the utility to attract capital at
17 reasonable terms, thereby balancing the long-term interests of investors and
18 customers. The Company's authorized return must be adequate on a relative
19 basis to help to ensure its ability to attract capital under a variety of economic
20 and financial market conditions. If higher returns are available from other
21 investments of comparable risk, investors (including parent companies) have an
22 incentive to direct their capital to those investments. For example, Regulatory
23 Research Associates (RRA), which provides independent research on utility
24 securities and regulation, views the Connecticut regulatory environment as one
25 of the more restrictive regulatory climates in the US and recently the state has
26 become even more increasingly challenging from an investor perspective. As
27 part of its assessment, RRA observes "Authorized ROEs in recent years for

1 both the electric and gas utilities have been considerably below national averages
2 and ROEs at times have included penalties.”²⁴ Faced with the decision as to
3 where to direct its utility investments, Eversource Energy (Eversource)
4 indicated it will reduce capital spending in the state by \$500 million over five
5 years “until we see Connecticut’s regulatory decisions come back into alignment
6 with law and policy.”²⁵ While Eversource will maintain safety related
7 investments, there are other areas where Eversource indicated it is reducing its
8 capital spending in Connecticut, including reliability related investments.²⁶
9 Similarly, XEI must assess its expectation for cost recovery, including the cost
10 of capital, as it assesses its capital spending across multiple jurisdictions.
11

12 Q. WHAT IS YOUR CONCLUSION REGARDING THE IMPORTANCE OF NSP’S
13 AUTHORIZED ROE AS IT RELATES TO THE COMPANY’S ABILITY TO ACCESS
14 CAPITAL ON REASONABLE TERMS?

15 A. The ROE allowed in this proceeding will send an important signal to investors
16 and management. Utilities compete for capital with other investments of similar
17 risk, including other electric utilities. The Company has to compete with a broad
18 range of investments to obtain the capital necessary to deliver on its investment
19 program. Therefore, the authorized ROE must be set at a level that helps NSP
20 to continue to attract both debt and equity under favorable terms under a variety
21 of economic and financial market conditions.
22

²⁴ S&P Capital IQ Pro, Regulatory Research Associates, Evaluation of Connecticut Public Utilities Regulatory Authority, update August 23, 2023.

²⁵ S&P Global Market Intelligence, “Eversource cutting investment in Connecticut by up to \$500M over 5 years,” May 3, 2024.

²⁶ *Id.*

1 **B. Flotation Cost Adjustment**

2 Q. WHAT ARE FLOTATION COSTS?

3 A. Flotation costs are the costs associated with the sale of new issues of common
4 stock. These costs include out-of-pocket expenditures for preparation, filing,
5 underwriting, and other costs of issuance of common stock. To the extent that
6 a company is denied the opportunity to recover prudently incurred flotation
7 costs, actual returns will fall short of expected (or required) returns, thereby
8 diminishing the utility's ability to attract adequate capital on reasonable terms.

9
10 Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED
11 ROE?

12 A. Allowed ROE is the only ratemaking mechanism through which these necessary
13 costs are recovered. Flotation costs are reflected on the utility's balance sheet as
14 "paid in capital" and are not expensed on the utility's income statement. When
15 a company issues common stock, flotation costs are incurred and netted against
16 the proceeds from the issuance reducing the amount available for investment
17 in rate base by the amount of the flotation costs. If NSP is denied the
18 opportunity to recover its prudently incurred flotation costs through its ROE,
19 its allowed return will be insufficient, and equity share value will be diluted.

20
21 Q. DO ACADEMIC AND FINANCIAL EXPERTS RECOGNIZE THE NEED TO CONSIDER
22 FLOTATION COSTS IN A UTILITY'S COST OF EQUITY?

23 A. Yes. Dr. Roger Morin, a recognized expert in regulatory economics and finance,
24 summarizes:

25 The costs of issuing these securities are just as real as operating and
26 maintenance expenses or costs incurred to build utility plants, and fair
27 regulatory treatment must permit recovery of these costs.... The
28 simple fact of the matter is that common equity capital is not free....

1 [Flotation costs] must be recovered through a rate of return
2 adjustment.²⁷
3

4 According to Dr. Shannon Pratt, a published expert in cost of capital estimation:

5 Flotation costs occur when new issues of stock or debt are sold to the
6 public. The firm usually incurs several kinds of flotation or
7 transaction costs, which reduce the actual proceeds received by the
8 firm. Some of these are direct out-of-pocket outlays, such as fees paid
9 to underwriters, legal expenses, and prospectus preparation costs.
10 Because of this reduction in proceeds, the firm's required returns on
11 these proceeds equate to a higher return to compensate for the
12 additional costs. Flotation costs can be accounted for either by
13 amortizing the cost, thus reducing the cash flow to discount, or by
14 incorporating the cost into the cost of capital. Because flotation costs
15 are not typically applied to operating cash flow, one must incorporate
16 them into the cost of capital.²⁸
17

18 Q. WHAT IS YOUR RECOMMENDED FLOTATION COST ADJUSTMENT AND HOW DID
19 YOU CALCULATE IT?

20 A. Based on the XEI's costs shown in Schedule 9, I conclude that flotation costs
21 for XEI have equaled roughly 1.86 percent of gross equity raised. To properly
22 reflect these issuance costs in my cost of capital estimates, it would require a 7
23 basis point addition to the ROE results produced by my ROE estimates for
24 NSP, as shown in Schedule 10. While I have not made an explicit adjustment
25 to my analytical results, I have considered the effect of flotation costs in my
26 recommendation.
27

²⁷ Roger A. Morin, *New Regulatory Finance* (Public Utility Reports, Inc., 2006), at 321.

²⁸ Shannon P. Pratt, *Cost of Capital Estimation and Applications*, Second Edition, at 220-221.

1 **VIII. CAPITAL STRUCTURE**

2
3 Q. WHAT IS NSP'S PROPOSED WEIGHTED AVERAGE COST OF CAPITAL?

4 A. The Company's proposed test year capital structure includes long-term debt,
5 short-term debt, and common equity. The Company's proposed revenue
6 requirement for the test year reflects a Weighted Average Cost of Capital
7 (WACC) of 7.56 percent, as shown on Exhibit____(JCN-1), Schedule 11.

8
9 Q. WHAT IS NSP'S PROPOSED CAPITAL STRUCTURE?

10 A. NSP is proposing a financial capital structure targeting a mix of 52.50 percent
11 common equity and 47.50 percent debt (46.71 percent long-term debt and 0.79
12 percent short-term debt).

13
14 Q. DOES NSP HAVE A STANDALONE CAPITAL STRUCTURE THAT IS SEPARATE FROM
15 XEI'S CAPITAL STRUCTURES?

16 A. Yes, NSP is a separate corporate entity recognized by the Securities and
17 Exchange Commission that maintains its own capital structure and issues debt
18 to investors. The North Dakota jurisdictional electric operations' capital
19 structure represents an allocated portion of NSP's overall capital structure.

20
21 Q. WHY IS THE COMPANY'S RECOMMENDED CAPITAL STRUCTURE APPROPRIATE
22 FOR RATEMAKING PURPOSES?

23 A. It is almost universally the practice to authorize a ratemaking capital structure
24 based on an operating utility's capital structure, except where the operating
25 company's capital structure is anomalous or unreasonable. For example, it is
26 FERC's general preference to use an operating company's own capital structure
27 if the operating company provides its own financing by issuing its own debt

1 without guarantees from its parent or affiliates, and the actual capital structure
2 is reasonable given its operating risk.

3
4 Q. HOW HAVE YOU ASSESSED THE REASONABLENESS OF NSP'S PROPOSED CAPITAL
5 STRUCTURE WITH RESPECT TO THE PROXY GROUP'S OPERATING UTILITIES?

6 A. The proxy group has been selected to reflect comparable companies in terms
7 of business and financial risks. Therefore, it is appropriate to compare the
8 financial capital structures of the operating utilities in the proxy group
9 companies to the financial capital structure proposed by the Company in order
10 to assess whether the Company's capital structure is reasonable and consistent
11 with industry standards for companies with commensurate risk. I calculated the
12 weighted average capital structures for each of the proxy group operating
13 companies for the past three years through 2023. Exhibit___(JCN-1), Schedule
14 12 shows that the Company's proposed common equity ratio of 52.50 percent
15 is within the range of actual common equity ratios of 44.27 percent to 62.65
16 percent for the operating companies held by the proxy group over this period
17 and is near the proxy group mean of 52.43 percent.

18
19 Q. HOW DID THE COMPANY DEVELOP THE BALANCES FOR THE VARIOUS
20 COMPONENTS OF CAPITAL STRUCTURE?

21 A. The Company developed its balances for the various components of capital
22 structure is as follows:

- 23 • Long-term debt balances are based on the average of forecasted month-
24 end balances for the 12 months ending December 2025, and include
25 forecasted long-term debt issuances and retirements during that period;
- 26 • Short-term debt balances are based on the average of forecasted month-
27 end balances for the 12 months ending December 2025; and

1 actual and forecasted coupon rate on all bonds expected to be outstanding for
2 each month of the test year. In addition to the interest expense, the cost of
3 long-term debt also includes actual amortization expenses for debt issuance
4 costs, discounts or premiums, losses on reacquired debt, gains and losses from
5 hedging transactions, and the annual amortization of the upfront fees associated
6 with the Company's multi-year credit agreement.

7
8 Q. WHAT IS THE COMPANY'S PROPOSED SHORT-TERM DEBT COST?

9 A. As shown in Schedule 11, the Company proposes to use a short-term cost of
10 debt of 5.31 percent. The cost of short-term debt in the test year includes a
11 forecasted 4.82 percent interest expense for commercial paper, plus a 0.49
12 percent monthly financing fee associated for its participation in the credit
13 facility, which provides the back-up liquidity required for its commercial paper
14 program.

15
16 Q. ARE THE PROPOSED SHORT- AND LONG-TERM DEBT COSTS REASONABLE?

17 A. Yes. The Company's approach is consistent with prior approved regulatory
18 proceedings.

19
20 **X. CONCLUSION**

21
22 Q. PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.

23 A. Based on the quantitative analyses provided in my Direct Testimony, I have
24 established a range of ROE results shown previously in Table 1 (also see
25 Schedule 2). The DCF, CAPM, Bond Yield Risk Premium, and Expected
26 Earnings analysis produce a range of estimates of the Company's cost of equity
27 of 10.12 percent to 12.11 percent, before considering the effect of flotation

1 costs (an incremental 7 basis points). Based on these analyses, I consider an
2 ROE range of 10.00 percent to 11.00 percent to be reasonable and somewhat
3 conservative. I recommend an ROE of 10.30 percent, which is below the
4 midpoint of the range and 68 basis points below the average of the DCF,
5 CAPM, and Risk Premium analyses and therefore represents a conservative
6 estimate of NSP's cost of equity. In addition, I support NSP's actual capital
7 structure of 52.50 percent common equity and 47.50 percent debt (46.71
8 percent long-term debt and 0.79 percent short-term debt) as reasonable relative
9 to the range of capital structures for the operating companies held by the proxy
10 group companies.

11

12 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

13 A. Yes, it does.



RESUME OF JOSHUA C. NOWAK

JOSHUA C. NOWAK

VICE PRESIDENT

Mr. Nowak is a financial and economic consultant with more than fifteen years of experience in the energy industry. He has provided expert testimony on regulatory issues in several proceedings before the Federal Energy Regulatory Commission and regulatory commissions in Alaska, California, Connecticut, Kentucky, Minnesota, New Brunswick, New Hampshire, New York, North Dakota, Ohio, and Texas. Mr. Nowak specializes in providing rate case services on economic conditions and financial market matters related to the cost of capital. He is also experienced in providing strategic direction on financing activities including bond offerings, credit rating analysis, and investor relations. Previously, Josh was the Director of Regulatory Strategy & Integrated Analytics at National Grid where he was responsible for issues related to the cost of capital across its federal and state jurisdictional operating companies. He holds a Bachelor's Degree in Economics and History from Boston College.

REPRESENTATIVE EXPERIENCE

Expert Testimony and Litigation Support

Mr. Nowak's work includes regulatory project management, research, and analysis for expert witness testimony. His work has included:

- Expert testimony on cost of capital, financial markets, return on equity, capital structure, and debt financing issues
- Regulatory strategy in return on equity proceedings, including coordination across several utilities in joint-party proceedings
- Extensive support for expert testimony in cost of capital and return on equity proceedings through research, financial analysis, and testimony development
- Expert testimony, sponsoring lead-lag studies, in support of utility cash working capital requirements
- Project management of expert testimony assignments, including all phases of the regulatory schedule
- Performing analysis to support expert testimony regarding affiliate expenses and allocations

Policy Analysis

Mr. Nowak has contributed to projects related to policy review including:

- A review of natural gas capacity options and a cost-benefit analysis for state regulators seeking to reduce energy costs for ratepayers
- Analysis of the economic and environmental benefits of changes to natural gas ratemaking/expansion policy



RESUME OF JOSHUA C. NOWAK

Management and Operations Consulting

Mr. Nowak has taken a lead analytical role in developing benchmarking analyses and process reviews. Specifically, he has:

- Developed benchmarking analyses, in support of expert testimony, comparing electric and gas utilities' cost and operational efficiency, taking into account a situational assessment of exogenous factors
- Performed a process review of a gas utility's expansion projects, including an evaluation of policies, procedures, and financial models
- Supported analysis for a report of the reasonableness of a shared service company's administrative and general costs

Financial Analysis

Other financial analysis Mr. Nowak has conducted include:

- Extensive analysis on issues related to utilities' cost of capital
- Developing dispatch models to estimate revenues for merchant powerplants
- Estimating damages for breach of contract in fuel delivery commitment
- Researching strategic investment opportunities for merchant generators
- A report on the profitability of various generation technologies in a deregulated energy market
- Reviewing internal financial models used by utility clients
- Supporting utility asset appraisals, including research and analysis for income approach, cost approach, and sales comparison approach

Other Experience

In his previous work, Mr. Nowak contributed to the evaluation of regulatory policy for government clients. His experience included performing policy analysis, including economic impact assessments, for federal regulations.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2018 – Present)

Vice President

Assistant Vice President

National Grid USA (2017 – 2018)

Director, Regulatory Strategy & Integrated Analytics

ScottMadden, Inc. (formerly Sussex Economic Advisors, LLC) (2012 – 2016)

Director

Principal



RESUME OF JOSHUA C. NOWAK

Concentric Energy Advisors, Inc. (2007 - 2012)

Senior Consultant

Consultant

Assistant Consultant

Analyst

RTI International (2006 - 2007)

Economist

EDUCATION

Boston College

B.A., Economics and History, 2006



EXPERT TESTIMONY OF JOSHUA C. NOWAK

SPONSOR	DATE	CASE/APPLICANT	DOCKET	SUBJECT
Regulatory Commission of Alaska				
ENSTAR Natural Gas Company, a Division of Semco Energy, Inc.	06/16	ENSTAR Natural Gas Company, a Division of Semco Energy, Inc.	TA 285-4	Cash Working Capital
California Public Utilities Commission				
Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas & Electric Company	02/24	Pacific Gas and Electric Company, Southern California Edison Company, Southern California Gas Company, and San Diego Gas & Electric Company	A.22-04-008 / A.22-04-009 / A.22-04-011 / A.22-04-012	Return on Equity Policy
Southern California Gas Company and San Diego Gas & Electric Company	01/24	Southern California Gas Company and San Diego Gas & Electric Company	A.22-04-011 / A.22-04-012	Return on Equity Policy
Connecticut Public Utilities Regulatory Authority				
Aquarion Water Company of Connecticut	08/22	Aquarion Water Company of Connecticut	Docket No. 22-07-01	Return on Equity
Aquarion Water Company of Connecticut	01/22	Aquarion Water Company of Connecticut	Docket No. 13-02-20RE06	Return on Equity and Cost of Debt
Federal Energy Regulatory Commission				
Power Authority of the State of New York	10/24	Power Authority of the State of New York	ER25-198-000	Return on Equity
Mid-Atlantic Offshore Development, LLC	07/24	Mid-Atlantic Offshore Development, LLC	ER24-2564-000	Return on Equity
Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation d/b/a National Grid, New York State Electric & Gas Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation	04/21	Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., Niagara Mohawk Power Corporation d/b/a National Grid, New York State Electric & Gas Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation	EL21-66-000, ER21-1647-000	Transmission Ownership Risk and Returns
Central Hudson Gas & Electric Corporation	12/19	Central Hudson Gas & Electric Corporation	ER20-715-000	Return on Equity
Kentucky Public Service Commission				
Duke Energy Kentucky, Inc.	12/22	Duke Energy Kentucky, Inc.	Case No. 2022-00372	Return on Equity



EXPERT TESTIMONY OF JOSHUA C. NOWAK

SPONSOR	DATE	CASE/APPLICANT	DOCKET	SUBJECT
Minnesota Public Utilities Commission				
Northern States Power Company (Xcel Energy Inc.)	11/23	Northern States Power Company (Xcel Energy Inc.)	G-002/GR-23-413	Return on Equity
New Brunswick Energy and Utilities Board				
New Brunswick Power Corporation (NB Power)	11/22	New Brunswick Power Corporation (NB Power)	Matter 541	Macroeconomic Environment and Capital Market Conditions
Public Utilities Commission of New Hampshire				
Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities	04/16	Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities	Docket No. DE 16-383	Cash Working Capital
New York Public Service Commission				
Central Hudson Gas & Electric Corporation	08/24	Central Hudson Gas & Electric Corporation	Case 24-E-0461/ Case 24-G-0462	Return on Equity
Niagara Mohawk Power Corporation d/b/a National Grid	05/24	Niagara Mohawk Power Corporation d/b/a National Grid	Case 24-E-0322/ Case 24-G- 0323	Return on Equity
National Fuel Gas Distribution Corporation	10/23	National Fuel Gas Distribution Corporation	Case 23-G-0627	Return on Equity
Central Hudson Gas & Electric Corporation	07/23	Central Hudson Gas & Electric Corporation	Case 23-E-0418/ Case 23-G-0419	Return on Equity
The Brooklyn Union Gas Company d/b/a National Grid NY ("KEDNY) and KeySpan Gas East Corporation d/b/a National Grid ("KEDLI")	04/23	The Brooklyn Union Gas Company d/b/a National Grid NY ("KEDNY) and KeySpan Gas East Corporation d/b/a National Grid ("KEDLI")	Case 23-G-0225/ Case 23-G-0226	Return on Equity
Niagara Mohawk Power Corporation d/b/a National Grid	07/20	Niagara Mohawk Power Corporation d/b/a National Grid	Case 20-E-0380/ Case 20-G- 0381	Return on Equity
Niagara Mohawk Power Corporation d/b/a National Grid	07/17	Niagara Mohawk Power Corporation d/b/a National Grid	Case 17-E-0238/ Case 17-G- 0239	Capital Structure and Overall Cost of Capital



EXPERT TESTIMONY OF JOSHUA C. NOWAK

SPONSOR	DATE	CASE/APPLICANT	DOCKET	SUBJECT
North Dakota Public Service Commission				
Northern States Power Company (Xcel Energy Inc.)	12/23	Northern States Power Company (Xcel Energy Inc.)	Docket No. PU-23-367	Return on Equity
Public Utilities Commission of Ohio				
Duke Energy Ohio, Inc.	01/23	Duke Energy Ohio, Inc.	Case No. 22-1153-EL-UNC	Return on Equity
Public Utility Commission of Texas				
Wind Energy Transmission Texas, LLC	05/15	Wind Energy Transmission Texas, LLC	Docket No. 44746	Cash Working Capital
Lone Star Transmission, LLC	05/14	Lone Star Transmission, LLC	Docket No. 42469	Cash Working Capital
Railroad Commission of Texas				
Texas Gas Service Company, a Division of One Gas, Inc.	06/16	Texas Gas Service Company, a Division of One Gas, Inc.	GUD No. 10526	Cash Working Capital
Texas Gas Service Company, a Division of One Gas, Inc.	03/16	Texas Gas Service Company, a Division of One Gas, Inc.	GUD No. 10506	Cash Working Capital
Texas Gas Service Company, a Division of One Gas, Inc.	12/15	Texas Gas Service Company, a Division of One Gas, Inc.	GUD No. 10488	Cash Working Capital
CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	03/14	CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas	GUD No. 10432	Cash Working Capital

SUMMARY OF RESULTS INCLUDING FLOTATION COSTS

Company	Ticker	Primary Analyses														Benchmark Analysis	Average of DCF, CAPM, and Risk Premium	
		CONSTANT GROWTH DCF				Value Line Beta			Bloomberg Beta			Risk Premium (Average)						
		30-Day Average	90-Day Average	180-Day Average	Average	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield	Average	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield			Average
Alliant Energy Corporation	LNT	10.18%	10.35%	10.61%	10.38%	12.41%	12.40%	12.41%	11.27%	11.24%	11.27%	11.83%	10.53%	10.48%	10.53%	10.51%	12.30%	10.91%
Ameren Corporation	AEE	9.67%	9.89%	10.09%	9.88%	12.41%	12.40%	12.41%	10.91%	10.88%	10.91%	11.65%	10.53%	10.48%	10.53%	10.51%	10.34%	10.68%
American Electric Power Company, Inc.	AEP	10.14%	10.23%	10.46%	10.28%	11.97%	11.95%	11.97%	10.96%	10.93%	10.95%	11.45%	10.53%	10.48%	10.53%	10.51%	11.29%	10.75%
Duke Energy Corporation	DUK	9.71%	9.84%	10.10%	9.89%	12.41%	12.40%	12.41%	10.67%	10.64%	10.67%	11.54%	10.53%	10.48%	10.53%	10.51%	9.16%	10.64%
Entergy Corporation	ETR	8.50%	8.84%	9.10%	8.81%	13.31%	13.31%	13.31%	11.86%	11.84%	11.86%	12.58%	10.53%	10.48%	10.53%	10.51%	9.85%	10.63%
Energy, Inc.	EVRG	10.93%	11.10%	11.35%	11.12%	12.86%	12.86%	12.86%	11.21%	11.19%	11.21%	12.03%	10.53%	10.48%	10.53%	10.51%	10.19%	11.22%
IDACORP, Inc.	IDA	9.06%	9.14%	9.28%	9.16%	11.97%	11.97%	11.97%	11.21%	11.18%	11.21%	11.58%	10.53%	10.48%	10.53%	10.51%	9.31%	10.42%
NextEra Energy, Inc.	NEE	10.74%	10.87%	11.10%	10.91%	13.75%	13.76%	13.75%	11.52%	11.50%	11.52%	12.63%	10.53%	10.48%	10.53%	10.51%	14.19%	11.35%
NorthWestern Corporation	NWE	10.26%	10.44%	10.61%	10.44%	12.86%	13.13%	12.86%	12.03%	12.01%	12.03%	12.49%	10.53%	10.48%	10.53%	10.51%	8.21%	11.15%
OGE Energy Corporation	OGE	10.20%	10.35%	10.63%	10.39%	13.75%	13.76%	13.75%	12.31%	12.30%	12.31%	13.03%	10.53%	10.48%	10.53%	10.51%	13.23%	11.31%
Pinnacle West Capital Corporation	PNW	10.83%	10.95%	11.26%	11.01%	12.86%	12.86%	12.86%	11.52%	11.50%	11.52%	12.19%	10.53%	10.48%	10.53%	10.51%	8.87%	11.24%
Portland General Electric Company	POR	14.89%	14.96%	15.18%	15.01%	12.86%	12.86%	12.86%	11.20%	11.18%	11.20%	12.03%	10.53%	10.48%	10.53%	10.51%	9.85%	12.52%
PPL Corporation	PPL	10.38%	10.55%	10.73%	10.56%	14.65%	14.65%	14.65%	12.66%	12.65%	12.66%	13.66%	10.53%	10.48%	10.53%	10.51%	9.78%	11.57%
Southern Company	SO	10.29%	10.44%	10.73%	10.49%	12.86%	12.86%	12.86%	11.19%	11.17%	11.19%	12.02%	10.53%	10.48%	10.53%	10.51%	14.71%	11.01%
TXNM Energy, Inc.	TXNM	8.42%	8.62%	8.82%	8.62%	12.41%	12.40%	12.41%	11.55%	11.53%	11.55%	11.98%	10.53%	10.48%	10.53%	10.51%	10.37%	10.37%
Low		8.42%	8.62%	8.82%	8.62%	11.97%	11.95%	11.97%	10.67%	10.64%	10.67%	11.45%					8.21%	10.37%
Median		10.20%	10.35%	10.61%	10.39%	12.86%	12.86%	12.86%	11.27%	11.24%	11.27%	12.03%	10.53%	10.48%	10.53%	10.51%	10.19%	11.01%
Mean		10.28%	10.44%	10.67%	10.46%	12.89%	12.90%	12.89%	11.47%	11.45%	11.47%	12.18%	10.53%	10.48%	10.53%	10.51%	10.78%	11.05%
High		14.89%	14.96%	15.18%	15.01%	14.65%	14.66%	14.65%	12.66%	12.65%	12.66%	13.66%					14.71%	12.52%

SUMMARY OF RESULTS EXCLUDING FLOTATION COSTS

Company	Ticker	Primary Analyses														Benchmark Analysis	Average of DCF, CAPM, and Risk Premium	
		CONSTANT GROWTH DCF				Value Line Beta			Bloomberg Beta			Risk Premium (Average)						
		30-Day Average	90-Day Average	180-Day Average	Average	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield	Average	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield			Average
Alliant Energy Corporation	LNT	10.11%	10.28%	10.54%	10.31%	12.34%	12.33%	12.34%	11.20%	11.17%	11.20%	11.76%	10.46%	10.41%	10.46%	10.44%	12.23%	10.84%
Ameren Corporation	AEE	9.60%	9.82%	10.02%	9.81%	12.34%	12.33%	12.34%	10.84%	10.81%	10.84%	11.58%	10.46%	10.41%	10.46%	10.44%	10.27%	10.61%
American Electric Power Company, Inc.	AEP	10.07%	10.16%	10.39%	10.21%	11.90%	11.88%	11.90%	10.89%	10.86%	10.89%	11.38%	10.46%	10.41%	10.46%	10.44%	11.22%	10.68%
Duke Energy Corporation	DUK	9.64%	9.77%	10.03%	9.82%	12.34%	12.33%	12.34%	10.60%	10.57%	10.60%	11.47%	10.46%	10.41%	10.46%	10.44%	9.09%	10.57%
Entergy Corporation	ETR	8.43%	8.77%	9.03%	8.74%	13.24%	13.24%	13.24%	11.79%	11.77%	11.79%	12.51%	10.46%	10.41%	10.46%	10.44%	9.78%	10.56%
Energy, Inc.	EVRG	10.86%	11.03%	11.28%	11.05%	12.79%	12.79%	12.79%	11.14%	11.12%	11.14%	11.96%	10.46%	10.41%	10.46%	10.44%	10.12%	11.15%
IDACORP, Inc.	IDA	8.99%	9.07%	9.21%	9.09%	11.90%	11.88%	11.90%	11.14%	11.11%	11.14%	11.51%	10.46%	10.41%	10.46%	10.44%	9.24%	10.35%
NextEra Energy, Inc.	NEE	10.67%	10.80%	11.03%	10.84%	13.68%	13.69%	13.68%	11.45%	11.43%	11.45%	12.56%	10.46%	10.41%	10.46%	10.44%	14.12%	11.28%
NorthWestern Corporation	NWE	10.19%	10.37%	10.54%	10.37%	12.79%	13.06%	12.79%	11.96%	11.94%	11.96%	12.42%	10.46%	10.41%	10.46%	10.44%	8.14%	11.08%
OGE Energy Corporation	OGE	10.13%	10.28%	10.56%	10.32%	13.68%	13.69%	13.68%	12.24%	12.23%	12.24%	12.96%	10.46%	10.41%	10.46%	10.44%	13.16%	11.24%
Pinnacle West Capital Corporation	PNW	10.76%	10.88%	11.19%	10.94%	12.79%	12.79%	12.79%	11.45%	11.43%	11.45%	12.12%	10.46%	10.41%	10.46%	10.44%	8.80%	11.17%
Portland General Electric Company	POR	14.82%	14.89%	15.11%	14.94%	12.79%	12.79%	12.79%	11.13%	11.11%	11.13%	11.96%	10.46%	10.41%	10.46%	10.44%	9.78%	12.45%
PPL Corporation	PPL	10.31%	10.48%	10.67%	10.49%	14.58%	14.59%	14.58%	12.59%	12.58%	12.59%	13.59%	10.46%	10.41%	10.46%	10.44%	9.71%	11.50%
Southern Company	SO	10.22%	10.37%	10.66%	10.42%	12.79%	12.79%	12.79%	11.12%	11.10%	11.12%	11.95%	10.46%	10.41%	10.46%	10.44%	14.64%	10.94%
TXNM Energy, Inc.	TXNM	8.35%	8.55%	8.75%	8.55%	12.34%	12.33%	12.34%	11.48%	11.46%	11.48%	11.91%	10.46%	10.41%	10.46%	10.44%	10.30%	10.30%
Low		8.35%	8.55%	8.75%	8.55%	11.90%	11.88%	11.90%	10.60%	10.57%	10.60%	11.38%					8.14%	10.30%
Median		10.13%	10.28%	10.54%	10.32%	12.79%	12.79%	12.79%	11.20%	11.17%	11.20%	11.96%	10.46%	10.41%	10.46%	10.44%	10.12%	10.94%
Mean		10.21%	10.37%	10.60%	10.39%	12.82%	12.83%	12.82%	11.40%	11.38%	11.40%	12.11%	10.46%	10.41%	10.46%	10.44%	10.71%	10.98%
High		14.82%	14.89%	15.11%	14.94%	14.58%	14.59%	14.58%	12.59%	12.58%	12.59%	13.59%					14.64%	12.45%

Northern States Power Company
Proxy Group Screening Analysis

Case No. PU-24-____
Exhibit____(JCN-1), Schedule 3
Page 1 of 1

PROXY GROUP SCREENING DATA AND RESULTS - PROXY GROUP

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
Company	Ticker	Dividends	S&P Credit Rating Between BBB- and AAA	Covered by More Than 1 Analyst	Postive Growth Rates From At Least 2 Sources	Company-Owned Generation Assets Included in Rate Base	% Regulated Operating Income of Total Income > 80%	% Regulated Electric Income of Total Regulated Income > 80%	Significant Merger or Transaction
ALLETE, Inc.	ALE	Yes	BBB	Yes	Yes	Yes	98.08%	98.13%	Yes
Alliant Energy Corporation	LNT	Yes	A-	Yes	Yes	Yes	97.09%	90.82%	No
Ameren Corporation	AEE	Yes	BBB+	Yes	Yes	Yes	98.34%	84.73%	No
American Electric Power Company, Inc.	AEP	Yes	BBB+	Yes	Yes	Yes	97.85%	100.00%	No
Avangrid, Inc.	AGR	Yes	BBB+	Yes	Yes	Yes	99.29%	78.50%	Yes
Avista Corporation	AVA	Yes	BBB	Yes	Yes	Yes	100.00%	73.88%	No
Black Hills Corporation	BKH	Yes	BBB+	Yes	Yes	Yes	100.00%	49.27%	No
CenterPoint Energy, Inc.	CNP	Yes	BBB+	Yes	Yes	Yes	100.00%	59.10%	Yes
CMS Energy Corporation	CMS	Yes	BBB+	Yes	Yes	Yes	85.56%	63.61%	No
Consolidated Edison, Inc.	ED	Yes	A-	Yes	Yes	Yes	83.65%	71.55%	No
Dominion Resources, Inc.	D	Yes	BBB+	Yes	Yes	Yes	92.34%	100.00%	Yes
DTE Energy Company	DTE	Yes	BBB+	Yes	Yes	Yes	89.70%	77.38%	No
Duke Energy Corporation	DUK	Yes	BBB+	Yes	Yes	Yes	94.64%	90.37%	No
Edison International	EIX	Yes	BBB	Yes	Yes	No	100.74%	100.00%	No
Energy Corporation	ETR	Yes	BBB+	Yes	Yes	Yes	98.52%	99.32%	No
Eversource Energy	ES	Yes	A-	Yes	Yes	Yes	94.96%	81.41%	Yes
Exelon Corporation	EXC	Yes	BBB+	Yes	Yes	No	100.00%	90.51%	No
FirstEnergy Corporation	FE	Yes	BBB	Yes	Yes	Yes	100.00%	100.00%	Yes
Eergy, Inc.	EVRG	Yes	BBB+	Yes	Yes	Yes	100.00%	100.00%	No
Hawaiian Electric Industries, Inc.	HE	No	B-	Yes	No	Yes	78.87%	100.00%	No
IDACORP, Inc.	IDA	Yes	BBB	Yes	Yes	Yes	99.98%	100.00%	No
MGE Energy, Inc.	MGEE	Yes	AA-	No	No	Yes	74.71%	68.51%	No
NextEra Energy, Inc.	NEE	Yes	A-	Yes	Yes	Yes	87.65%	100.00%	No
NorthWestern Corporation	NWE	Yes	BBB	Yes	Yes	Yes	99.96%	85.62%	No
OGE Energy Corporation	OGE	Yes	BBB+	Yes	Yes	Yes	100.00%	100.00%	No
Otter Tail Corporation	OTTR	Yes	BBB	Yes	Yes	Yes	33.33%	100.00%	No
PG&E Corporation	PCG	No	BB	Yes	Yes	Yes	100.00%	50.17%	No
Pinnacle West Capital Corporation	PNW	Yes	BBB+	Yes	Yes	Yes	100.00%	100.00%	No
Portland General Electric Company	POR	Yes	BBB+	Yes	Yes	Yes	100.00%	100.00%	No
PPL Corporation	PPL	Yes	A-	Yes	Yes	Yes	100.00%	94.16%	No
Public Service Enterprise Group Inc.	PEG	Yes	BBB+	Yes	Yes	Yes	83.86%	78.96%	No
Sempra Energy	SRE	Yes	BBB+	Yes	Yes	Yes	46.73%	61.56%	No
Southern Company	SO	Yes	A-	Yes	Yes	Yes	93.73%	81.54%	No
TXNM Energy, Inc.	TXNM	Yes	BBB	Yes	Yes	Yes	100.00%	100.00%	No
Unitil Corporation	UTL	Yes	BBB+	Yes	No	n/a	100.00%	35.30%	Yes
Wisconsin Energy Corporation	WEC	Yes	A-	Yes	Yes	Yes	98.56%	56.62%	No

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: S&P Capital IQ Pro
- [3] Source: Yahoo! Finance and Zacks
- [4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
- [5] Source: S&P Capital IQ Pro
- [6] - [7] Source: Form 10-Ks for 2021, 2022, & 2023, three-year average
- [8] SNL Financial News Releases

30-DAY CONSTANT GROWTH DCF

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
Alliant Energy Corporation	LNT	\$1.92	\$60.53	3.17%	3.28%	6.00%	7.70%	6.80%	6.83%	9.27%	10.11%	10.99%
Ameren Corporation	AEE	\$2.68	\$87.24	3.07%	3.17%	6.50%	6.20%	6.60%	6.43%	9.37%	9.60%	9.77%
American Electric Power Company, Inc.	AEP	\$3.52	\$100.00	3.52%	3.63%	6.50%	6.62%	6.20%	6.44%	9.83%	10.07%	10.26%
Duke Energy Corporation	DUK	\$4.18	\$116.17	3.60%	3.70%	5.00%	6.71%	6.10%	5.94%	8.69%	9.64%	10.43%
Entergy Corporation	ETR	\$4.52	\$133.42	3.39%	3.47%	0.50%	7.08%	7.30%	4.96%	3.90%	8.43%	10.81%
Evergy, Inc.	EVRG	\$2.57	\$60.85	4.22%	4.36%	7.50%	6.20%	5.80%	6.50%	10.15%	10.86%	11.88%
IDACORP, Inc.	IDA	\$3.32	\$102.82	3.23%	3.32%	6.00%	5.50%	5.50%	5.67%	8.82%	8.99%	9.33%
NextEra Energy, Inc.	NEE	\$2.06	\$82.96	2.48%	2.58%	8.00%	8.17%	8.10%	8.09%	10.58%	10.67%	10.75%
NorthWestern Corporation	NWE	\$2.60	\$55.70	4.67%	4.79%	4.00%	6.10%	6.10%	5.40%	8.76%	10.19%	10.91%
OGE Energy Corporation	OGE	\$1.69	\$40.54	4.16%	4.28%	6.50%	Negative	5.20%	5.85%	9.46%	10.13%	10.79%
Pinnacle West Capital Corporation	PNW	\$3.52	\$88.10	4.00%	4.13%	4.50%	7.20%	8.20%	6.63%	8.59%	10.76%	12.36%
Portland General Electric Company	POR	\$2.00	\$47.64	4.20%	4.42%	6.00%	12.60%	12.60%	10.40%	10.32%	14.82%	17.06%
PPL Corporation	PPL	\$1.03	\$32.51	3.17%	3.28%	7.50%	6.80%	6.80%	7.03%	10.08%	10.31%	10.79%
Southern Company	SO	\$2.88	\$90.75	3.17%	3.28%	6.50%	7.30%	7.00%	6.93%	9.78%	10.22%	10.59%
TXNM Energy, Inc.	TXNM	\$1.55	\$43.54	3.56%	3.64%	5.00%	4.42%	n/a	4.71%	8.06%	8.35%	8.65%
Median				3.52%	3.63%	6.00%	6.76%	6.70%	6.44%	9.37%	10.13%	10.79%
Mean				3.57%	3.69%	5.73%	7.04%	7.02%	6.52%	9.04%	10.21%	11.02%
Flotation Cost										0.07%	0.07%	0.07%
Flotation Cost-Adjusted Median										9.44%	10.20%	10.86%
Flotation Cost-Adjusted Mean										9.11%	10.28%	11.09%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 30-day average as of October 31, 2024
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7]))
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]))

90-DAY CONSTANT GROWTH DCF

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
Alliant Energy Corporation	LNT	\$1.92	\$57.56	3.34%	3.45%	6.00%	7.70%	6.80%	6.83%	9.44%	10.28%	11.16%
Ameren Corporation	AEE	\$2.68	\$81.71	3.28%	3.39%	6.50%	6.20%	6.60%	6.43%	9.58%	9.82%	9.99%
American Electric Power Company, Inc.	AEP	\$3.52	\$97.74	3.60%	3.72%	6.50%	6.62%	6.20%	6.44%	9.91%	10.16%	10.34%
Duke Energy Corporation	DUK	\$4.18	\$112.19	3.73%	3.84%	5.00%	6.71%	6.10%	5.94%	8.82%	9.77%	10.56%
Entergy Corporation	ETR	\$4.52	\$121.72	3.71%	3.81%	0.50%	7.08%	7.30%	4.96%	4.22%	8.77%	11.15%
Evergy, Inc.	EVRG	\$2.57	\$58.62	4.38%	4.53%	7.50%	6.20%	5.80%	6.50%	10.31%	11.03%	12.05%
IDACORP, Inc.	IDA	\$3.32	\$100.39	3.31%	3.40%	6.00%	5.50%	5.50%	5.67%	8.90%	9.07%	9.41%
NextEra Energy, Inc.	NEE	\$2.06	\$79.02	2.61%	2.71%	8.00%	8.17%	8.10%	8.09%	10.71%	10.80%	10.88%
NorthWestern Corporation	NWE	\$2.60	\$53.77	4.84%	4.97%	4.00%	6.10%	6.10%	5.40%	8.93%	10.37%	11.08%
OGE Energy Corporation	OGE	\$1.69	\$39.12	4.31%	4.43%	6.50%	Negative	5.20%	5.85%	9.62%	10.28%	10.95%
Pinnacle West Capital Corporation	PNW	\$3.52	\$85.69	4.11%	4.24%	4.50%	7.20%	8.20%	6.63%	8.70%	10.88%	12.48%
Portland General Electric Company	POR	\$2.00	\$46.88	4.27%	4.49%	6.00%	12.60%	12.60%	10.40%	10.39%	14.89%	17.14%
PPL Corporation	PPL	\$1.03	\$30.97	3.33%	3.44%	7.50%	6.80%	6.80%	7.03%	10.24%	10.48%	10.95%
Southern Company	SO	\$2.88	\$86.61	3.33%	3.44%	6.50%	7.30%	7.00%	6.93%	9.93%	10.37%	10.75%
TXNM Energy, Inc.	TXNM	\$1.55	\$41.26	3.76%	3.84%	5.00%	4.42%	n/a	4.71%	8.26%	8.55%	8.85%
Median				3.71%	3.81%	6.00%	6.76%	6.70%	6.44%	9.58%	10.28%	10.95%
Mean				3.73%	3.85%	5.73%	7.04%	7.02%	6.52%	9.20%	10.37%	11.18%
Flotation Cost										0.07%	0.07%	0.07%
Flotation Cost-Adjusted Median										9.65%	10.35%	11.02%
Flotation Cost-Adjusted Mean										9.27%	10.44%	11.25%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 90-day average as of October 31, 2024
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

180-DAY CONSTANT GROWTH DCF

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Rate	Low ROE	Mean ROE	High ROE
Alliant Energy Corporation	LNT	\$1.92	\$53.63	3.58%	3.70%	6.00%	7.70%	6.80%	6.83%	9.69%	10.54%	11.42%
Ameren Corporation	AEE	\$2.68	\$77.09	3.48%	3.59%	6.50%	6.20%	6.60%	6.43%	9.78%	10.02%	10.19%
American Electric Power Company, Inc.	AEP	\$3.52	\$91.88	3.83%	3.95%	6.50%	6.62%	6.20%	6.44%	10.15%	10.39%	10.58%
Duke Energy Corporation	DUK	\$4.18	\$105.04	3.98%	4.10%	5.00%	6.71%	6.10%	5.94%	9.08%	10.03%	10.82%
Entergy Corporation	ETR	\$4.52	\$113.85	3.97%	4.07%	0.50%	7.08%	7.30%	4.96%	4.48%	9.03%	11.41%
Evergy, Inc.	EVRG	\$2.57	\$55.54	4.63%	4.78%	7.50%	6.20%	5.80%	6.50%	10.56%	11.28%	12.30%
IDACORP, Inc.	IDA	\$3.32	\$96.46	3.44%	3.54%	6.00%	5.50%	5.50%	5.67%	9.04%	9.21%	9.54%
NextEra Energy, Inc.	NEE	\$2.06	\$72.86	2.83%	2.94%	8.00%	8.17%	8.10%	8.09%	10.94%	11.03%	11.11%
NorthWestern Corporation	NWE	\$2.60	\$51.91	5.01%	5.14%	4.00%	6.10%	6.10%	5.40%	9.11%	10.54%	11.26%
OGE Energy Corporation	OGE	\$1.69	\$36.85	4.57%	4.71%	6.50%	Negative	5.20%	5.85%	9.89%	10.56%	11.22%
Pinnacle West Capital Corporation	PNW	\$3.52	\$79.77	4.41%	4.56%	4.50%	7.20%	8.20%	6.63%	9.01%	11.19%	12.79%
Portland General Electric Company	POR	\$2.00	\$44.64	4.48%	4.71%	6.00%	12.60%	12.60%	10.40%	10.62%	15.11%	17.36%
PPL Corporation	PPL	\$1.03	\$29.31	3.51%	3.64%	7.50%	6.80%	6.80%	7.03%	10.43%	10.67%	11.15%
Southern Company	SO	\$2.88	\$79.97	3.60%	3.73%	6.50%	7.30%	7.00%	6.93%	10.22%	10.66%	11.03%
TXNM Energy, Inc.	TXNM	\$1.55	\$39.27	3.95%	4.04%	5.00%	4.42%	n/a	4.71%	8.45%	8.75%	9.05%
Median				3.95%	4.04%	6.00%	6.76%	6.70%	6.44%	9.78%	10.54%	11.15%
Mean				3.95%	4.08%	5.73%	7.04%	7.02%	6.52%	9.43%	10.60%	11.42%
Flotation Cost										0.07%	0.07%	0.07%
Flotation Cost-Adjusted Median										9.85%	10.61%	11.22%
Flotation Cost-Adjusted Mean										9.50%	10.67%	11.49%

Notes:

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 180-day average as of October 31, 2024
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7]))
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7]))

MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES

[1] Estimate of the S&P 500 Dividend Yield	1.34%
[2] Estimate of the S&P 500 Growth Rate	13.63%
[3] S&P 500 Estimated Required Market Return	15.07%

Notes:

- [1] Sum of [9]
[2] Sum of [11]
[3] Equals ([1] x (1 + 0.5 x [2])) + [2]

STANDARD AND POOR'S 500 INDEX

Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	86.85	325	28,234	0.06%	6.17%	0.00%	-1.00%	0.00%
American Express Co	AXP	270.08	704	190,257	0.40%	1.04%	0.00%	9.00%	0.04%
Verizon Communications Inc	VZ	42.13	4,210	177,352	0.37%	6.43%	0.02%	0.50%	0.00%
Broadcom Inc	AVGO	169.77	4,671	792,924	1.67%	1.25%	0.02%	30.00%	0.50%
Boeing Co/The	BA	149.31	730	Excl.	0.00%	n/a	n/a	n/a	n/a
Solventum Corp	SOLV	72.58	173	Excl.	0.00%	n/a	n/a	n/a	n/a
Caterpillar Inc	CAT	376.20	485	182,419	0.38%	1.50%	0.01%	11.50%	0.04%
JPMorgan Chase & Co	JPM	221.92	2,815	624,780	1.31%	2.25%	0.03%	7.00%	0.09%
Chevron Corp	CVX	148.82	1,829	272,179	0.57%	4.38%	0.03%	5.00%	0.03%
Coca-Cola Co/The	KO	65.31	4,308	281,342	0.59%	2.97%	0.02%	7.00%	0.04%
AbbVie Inc	ABBV	203.87	1,766	360,105	0.76%	3.22%	0.02%	4.00%	0.03%
Walt Disney Co/The	DIS	96.20	1,814	174,467	0.37%	0.94%	0.00%	31.50%	0.12%
Corpay Inc	CPAY	329.72	69	22,893	0.05%	n/a	n/a	15.50%	0.01%
Extra Space Storage Inc	EXR	163.30	212	34,608	0.07%	3.97%	0.00%	5.00%	0.00%
Exxon Mobil Corp	XOM	116.78	4,443	518,833	1.09%	3.25%	0.04%	-3.00%	-0.03%
Phillips 66	PSX	121.82	413	50,310	0.11%	3.78%	0.00%	0.50%	0.00%
General Electric Co	GE	171.78	1,082	185,916	0.39%	0.65%	0.00%	22.00%	0.09%
HP Inc	HPQ	35.52	964	34,231	0.07%	3.10%	0.00%	12.50%	0.01%
Home Depot Inc/The	HD	393.75	993	391,109	0.82%	2.29%	0.02%	6.50%	0.05%
Monolithic Power Systems Inc	MPWR	759.30	49	37,017	0.08%	0.66%	0.00%	10.50%	0.01%
International Business Machines Corp	IBM	206.72	925	191,143	0.40%	3.23%	0.01%	3.00%	0.01%
Johnson & Johnson	JNJ	159.86	2,408	384,883	0.81%	3.10%	0.03%	3.00%	0.02%
Lululemon Athletica Inc	LULU	297.90	118	35,051	0.07%	n/a	n/a	13.00%	0.01%
McDonald's Corp	MCD	292.11	717	209,543	0.44%	2.42%	0.01%	8.00%	0.04%
Merck & Co Inc	MRK	102.32	2,535	259,362	0.55%	3.01%	0.02%	15.50%	0.08%
3M Co	MMM	128.47	545	69,959	0.15%	2.18%	0.00%	30.50%	0.04%
American Water Works Co Inc	AWK	138.11	195	26,917	0.06%	2.22%	0.00%	4.50%	0.00%
Bank of America Corp	BAC	41.82	7,673	320,880	0.67%	2.49%	0.02%	7.00%	0.05%
Pfizer Inc	PFE	28.30	5,667	160,367	0.34%	5.94%	0.02%	2.50%	0.01%
Procter & Gamble Co/The	PG	165.18	2,355	389,006	0.82%	2.44%	0.02%	5.00%	0.04%
AT&T Inc	T	22.54	7,175	161,731	0.34%	4.92%	0.02%	4.00%	0.01%
Travelers Cos Inc/The	TRV	245.94	227	55,833	0.12%	1.71%	0.00%	12.00%	0.01%
RTX Corp	RTX	120.99	1,331	161,040	0.34%	2.08%	0.01%	12.00%	0.04%
Analog Devices Inc	ADI	223.11	496	110,773	0.23%	1.65%	0.00%	7.50%	0.02%
Walmart Inc	WMT	81.95	8,038	658,735	1.38%	1.01%	0.01%	9.50%	0.13%
Cisco Systems Inc	CSCO	54.77	3,986	218,314	0.46%	2.92%	0.01%	3.50%	0.02%
Intel Corp	INTC	21.52	4,276	92,020	0.19%	n/a	n/a	-2.00%	0.00%
General Motors Co	GM	50.76	1,100	55,815	0.12%	0.95%	0.00%	6.50%	0.01%
Microsoft Corp	MSFT	406.35	7,435	3,021,164	6.35%	0.82%	0.05%	14.00%	0.89%
Dollar General Corp	DG	80.04	220	17,602	0.04%	2.95%	0.00%	-0.50%	0.00%
Cigna Group/The	CI	314.81	278	87,565	0.18%	1.78%	0.00%	12.00%	0.02%
Kinder Morgan Inc	KMI	24.51	2,222	54,452	0.11%	4.69%	0.01%	10.00%	0.01%
Citigroup Inc	C	64.17	1,908	122,423	0.26%	3.49%	0.01%	3.00%	0.01%
American International Group Inc	AIG	75.88	644	48,863	0.10%	2.11%	0.00%	13.00%	0.01%
Altria Group Inc	MO	54.46	1,695	92,300	0.19%	7.49%	0.01%	6.00%	0.01%
HCA Healthcare Inc	HCA	358.74	253	90,868	0.19%	0.74%	0.00%	10.50%	0.02%
International Paper Co	IP	55.54	347	19,293	0.04%	3.33%	0.00%	5.50%	0.00%
Hewlett Packard Enterprise Co	HPE	19.49	1,299	25,311	0.05%	2.67%	0.00%	7.50%	0.00%
Abbott Laboratories	ABT	113.37	1,734	196,635	0.41%	1.94%	0.01%	4.00%	0.02%
Aflac Inc	AFL	104.79	560	58,685	0.12%	1.91%	0.00%	7.50%	0.01%
Air Products and Chemicals Inc	APD	310.53	222	69,035	0.15%	2.28%	0.00%	10.50%	0.02%
Super Micro Computer Inc	SMCI	29.11	586	17,046	0.04%	n/a	n/a	39.00%	0.01%
Royal Caribbean Cruises Ltd	RCL	206.35	269	Excl.	0.00%	0.78%	0.00%	n/a	n/a
Hess Corp	HES	134.48	308	41,435	0.09%	1.49%	0.00%	8.00%	0.01%
Archer-Daniels-Midland Co	ADM	55.21	478	26,398	0.06%	3.62%	0.00%	3.50%	0.00%
Automatic Data Processing Inc	ADP	289.24	408	117,960	0.25%	1.94%	0.00%	10.50%	0.03%
Verisk Analytics Inc	VRSK	274.72	141	38,793	0.08%	0.57%	0.00%	8.50%	0.01%
AutoZone Inc	AZO	3,009.00	17	50,865	0.11%	n/a	n/a	12.50%	0.01%
Linde PLC	LIN	456.15	476	217,199	0.46%	1.22%	0.01%	7.00%	0.03%
Avery Dennison Corp	AVY	207.03	80	16,634	0.03%	1.70%	0.00%	2.00%	0.00%
Enphase Energy Inc	ENPH	83.04	135	11,219	0.02%	n/a	n/a	14.00%	0.00%
MSCI Inc	MSCI	571.20	78	44,766	0.09%	1.12%	0.00%	9.50%	0.01%
Ball Corp	BALL	59.25	298	17,682	0.04%	1.35%	0.00%	10.50%	0.00%
Axon Enterprise Inc	AXON	423.50	76	32,006	0.07%	n/a	n/a	25.00%	0.02%
Dayforce Inc	DAY	70.95	158	Excl.	0.00%	n/a	n/a	n/a	n/a
Carrier Global Corp	CARR	72.72	897	65,246	0.14%	1.05%	0.00%	12.00%	0.02%

STANDARD AND POOR'S 500 INDEX

		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Bank of New York Mellon Corp/The	BK	75.36	738	55,612	0.12%	2.49%	0.00%	15.00%	0.02%
Otis Worldwide Corp	OTIS	98.20	399	39,227	0.08%	1.59%	0.00%	11.00%	0.01%
Baxter International Inc	BAX	35.70	510	18,213	0.04%	3.25%	0.00%	3.00%	0.00%
Becton Dickinson & Co	BDX	233.59	289	67,517	0.14%	1.63%	0.00%	6.00%	0.01%
Berkshire Hathaway Inc	BRK/B	450.92	1,325	597,556	1.26%	n/a	n/a	9.00%	0.11%
Best Buy Co Inc	BBY	90.43	215	19,418	0.04%	4.16%	0.00%	1.00%	0.00%
Boston Scientific Corp	BSX	84.02	1,473	123,730	0.26%	n/a	n/a	13.00%	0.03%
Bristol-Myers Squibb Co	BMJ	55.77	2,028	113,111	0.24%	4.30%	0.01%	1.00%	0.00%
Brown-Forman Corp	BF/B	44.03	304	13,365	0.03%	1.98%	0.00%	15.00%	0.00%
Coterra Energy Inc	CTRA	23.92	739	17,683	0.04%	3.51%	0.00%	4.50%	0.00%
Hilton Worldwide Holdings Inc	HLT	234.85	244	Excl.	0.00%	0.26%	0.00%	n/a	n/a
Carnival Corp	CCL	22.00	1,154	Excl.	0.00%	n/a	n/a	n/a	n/a
Qorvo Inc	QRVO	71.26	95	6,736	0.01%	n/a	n/a	5.50%	0.00%
Builders FirstSource Inc	BLDR	171.40	116	19,960	0.04%	n/a	n/a	6.50%	0.00%
UDR Inc	UDR	42.19	330	13,921	0.03%	4.03%	0.00%	2.50%	0.00%
Clorox Co/The	CLX	158.55	124	19,625	0.04%	3.08%	0.00%	7.00%	0.00%
Paycom Software Inc	PAYC	209.03	58	12,053	0.03%	0.72%	0.00%	21.00%	0.01%
CMS Energy Corp	CMS	69.61	299	20,798	0.04%	2.96%	0.00%	6.00%	0.00%
Colgate-Palmolive Co	CL	93.71	817	76,562	0.16%	2.13%	0.00%	11.50%	0.02%
EPAM Systems Inc	EPAM	188.65	57	10,741	0.02%	n/a	n/a	20.50%	0.00%
Conagra Brands Inc	CAG	28.94	477	13,812	0.03%	4.84%	0.00%	3.00%	0.00%
Airbnb Inc	ABNB	134.79	440	59,308	0.12%	n/a	n/a	23.00%	0.03%
Consolidated Edison Inc	ED	101.68	346	35,196	0.07%	3.27%	0.00%	6.00%	0.00%
Corning Inc	GLW	47.59	856	40,723	0.09%	2.35%	0.00%	17.50%	0.01%
GoDaddy Inc	GDDY	166.80	140	23,417	0.05%	n/a	n/a	27.00%	0.01%
Cummins Inc	CMI	328.98	137	45,086	0.09%	2.21%	0.00%	6.00%	0.01%
Caesars Entertainment Inc	CZR	40.05	212	Excl.	0.00%	n/a	n/a	n/a	n/a
Danaher Corp	DHR	245.66	722	177,434	0.37%	0.44%	0.00%	5.50%	0.02%
Target Corp	TGT	150.04	461	69,120	0.15%	2.99%	0.00%	9.50%	0.01%
Deere & Co	DE	404.69	274	110,723	0.23%	1.45%	0.00%	4.00%	0.01%
Dominion Energy Inc	D	59.53	839	49,942	0.10%	4.49%	0.00%	3.00%	0.00%
Dover Corp	DOV	189.33	137	25,975	0.05%	1.09%	0.00%	6.00%	0.00%
Alliant Energy Corp	LNT	60.00	256	15,390	0.03%	3.20%	0.00%	6.00%	0.00%
Steel Dynamics Inc	STLD	130.50	154	20,137	0.04%	1.41%	0.00%	2.00%	0.00%
Duke Energy Corp	DUK	115.27	771	88,873	0.19%	3.63%	0.01%	5.00%	0.01%
Regency Centers Corp	REG	71.44	181	12,966	0.03%	3.75%	0.00%	11.50%	0.00%
Eaton Corp PLC	ETN	331.58	395	131,040	0.28%	1.13%	0.00%	11.00%	0.03%
Ecolab Inc	ECL	245.73	283	69,581	0.15%	0.93%	0.00%	11.00%	0.02%
Revvity Inc	RVTY	118.59	123	14,627	0.03%	0.24%	0.00%	-2.50%	0.00%
Dell Technologies Inc	DELL	123.63	334	41,277	0.09%	1.44%	0.00%	2.50%	0.00%
Emerson Electric Co	EMR	108.27	573	62,006	0.13%	1.94%	0.00%	7.00%	0.01%
EOG Resources Inc	EOG	121.96	569	69,346	0.15%	2.98%	0.00%	8.00%	0.01%
Aon PLC	AON	366.87	216	79,342	0.17%	0.74%	0.00%	12.50%	0.02%
Entergy Corp	ETR	154.78	214	33,097	0.07%	3.10%	0.00%	0.50%	0.00%
Equifax Inc	EFX	265.02	124	32,850	0.07%	0.59%	0.00%	7.00%	0.00%
FQT Corp	FQT	36.54	597	Excl.	0.00%	1.72%	0.00%	n/a	n/a
IQVIA Holdings Inc	IQV	205.82	182	37,356	0.08%	n/a	n/a	11.00%	0.01%
Gartner Inc	IT	502.50	77	38,723	0.08%	n/a	n/a	8.00%	0.01%
FedEx Corp	FDX	273.85	244	66,908	0.14%	2.02%	0.00%	3.50%	0.00%
FMC Corp	FMC	64.99	125	8,113	0.02%	3.57%	0.00%	4.00%	0.00%
Brown & Brown Inc	BRO	104.64	286	29,923	0.06%	0.57%	0.00%	12.50%	0.01%
Ford Motor Co	F	10.29	3,903	40,166	0.08%	5.83%	0.00%	35.00%	0.03%
NextEra Energy Inc	NEE	79.25	2,056	162,970	0.34%	2.60%	0.01%	8.00%	0.03%
Franklin Resources Inc	BEN	20.77	523	10,863	0.02%	5.97%	0.00%	4.00%	0.00%
Garmin Ltd	GRMN	198.35	192	38,088	0.08%	1.51%	0.00%	5.00%	0.00%
Freepport-McMoRan Inc	FCX	45.02	1,437	64,687	0.14%	1.33%	0.00%	11.00%	0.01%
Dexcom Inc	DXCM	70.48	391	Excl.	0.00%	n/a	n/a	n/a	n/a
General Dynamics Corp	GD	291.61	275	80,184	0.17%	1.95%	0.00%	10.00%	0.02%
General Mills Inc	GIS	68.02	555	37,762	0.08%	3.53%	0.00%	5.00%	0.00%
Genuine Parts Co	GPC	114.70	139	15,947	0.03%	3.49%	0.00%	8.50%	0.00%
Atmos Energy Corp	ATO	138.78	155	21,543	0.05%	2.32%	0.00%	7.00%	0.00%
WW Grainger Inc	GWW	1,109.23	49	54,020	0.11%	0.74%	0.00%	7.00%	0.01%
Halliburton Co	HAL	27.74	883	24,490	0.05%	2.45%	0.00%	18.00%	0.01%
L3Harris Technologies Inc	LHX	247.47	190	46,937	0.10%	1.87%	0.00%	11.50%	0.01%
Healthpeak Properties Inc	DOC	22.45	699	15,702	0.03%	5.35%	0.00%	7.00%	0.00%
Insulet Corp	PODD	231.53	70	Excl.	0.00%	n/a	n/a	n/a	n/a
Catalent Inc	CTLT	58.60	181	10,634	0.02%	n/a	n/a	21.00%	0.00%
Fortive Corp	FTV	71.43	347	24,783	0.05%	0.45%	0.00%	15.00%	0.01%
Hershey Co/The	HSY	177.58	148	26,224	0.06%	3.09%	0.00%	7.00%	0.00%
Synchrony Financial	SYF	55.14	389	21,468	0.05%	1.81%	0.00%	47.00%	0.02%
Hormel Foods Corp	HRL	30.55	548	16,753	0.04%	3.70%	0.00%	7.50%	0.00%
Arthur J Gallagher & Co	AJG	281.20	219	61,695	0.13%	0.85%	0.00%	14.00%	0.02%
Mondelez International Inc	MDLZ	68.48	1,337	91,571	0.19%	2.75%	0.01%	7.50%	0.01%
CenterPoint Energy Inc	CNP	29.53	652	19,245	0.04%	2.84%	0.00%	6.50%	0.00%
Humana Inc	HUM	257.83	120	31,046	0.07%	1.37%	0.00%	4.50%	0.00%
Willis Towers Watson PLC	WTW	302.19	101	30,438	0.06%	1.16%	0.00%	9.50%	0.01%
Illinois Tool Works Inc	ITW	261.13	295	77,112	0.16%	2.30%	0.00%	9.00%	0.01%
CDW Corp/DE	CDW	188.23	133	25,084	0.05%	1.33%	0.00%	7.00%	0.00%
Trane Technologies PLC	TT	370.16	225	83,295	0.18%	0.91%	0.00%	14.00%	0.02%
Interpublic Group of Cos Inc/The	IPG	29.40	373	10,952	0.02%	4.49%	0.00%	8.50%	0.00%
International Flavors & Fragrances Inc	IFF	99.43	256	25,420	0.05%	1.61%	0.00%	0.50%	0.00%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Generac Holdings Inc	GNRC	165.55	60	9,958	0.02%	n/a	n/a	12.50%	0.00%
NXP Semiconductors NV	NXPI	234.50	255	59,735	0.13%	1.73%	0.00%	7.50%	0.01%
Kellanova	K	80.65	345	27,800	0.06%	2.83%	0.00%	3.00%	0.00%
Broadridge Financial Solutions Inc	BR	210.86	117	24,647	0.05%	1.67%	0.00%	9.50%	0.00%
Kimberly-Clark Corp	KMB	134.18	333	44,747	0.09%	3.64%	0.00%	7.50%	0.01%
Kimco Realty Corp	KIM	23.72	674	15,990	0.03%	4.22%	0.00%	18.00%	0.01%
Oracle Corp	ORCL	167.84	2,771	465,095	0.98%	0.95%	0.01%	10.00%	0.10%
Kroger Co/The	KR	55.77	723	40,349	0.08%	2.30%	0.00%	5.00%	0.00%
Lennar Corp	LEN	170.30	239	40,669	0.09%	1.17%	0.00%	6.00%	0.01%
Eli Lilly & Co	LLY	829.74	949	787,685	1.66%	0.63%	0.01%	28.50%	0.47%
Charter Communications Inc	CHTR	327.61	143	46,763	0.10%	n/a	n/a	6.50%	0.01%
Loews Corp	L	78.96	220	17,333	0.04%	0.32%	0.00%	14.50%	0.01%
Lowe's Cos Inc	LOW	261.83	567	148,535	0.31%	1.76%	0.01%	5.50%	0.02%
Hubbell Inc	HUBB	427.03	54	22,919	0.05%	1.24%	0.00%	9.00%	0.00%
IDEX Corp	IEX	214.64	76	16,253	0.03%	1.29%	0.00%	5.00%	0.00%
Marsh & McLennan Cos Inc	MMC	218.24	491	107,182	0.23%	1.49%	0.00%	12.00%	0.03%
Masco Corp	MAS	79.91	216	17,240	0.04%	1.45%	0.00%	9.50%	0.00%
S&P Global Inc	SPGI	480.36	318	152,514	0.32%	0.76%	0.00%	8.00%	0.03%
Medtronic PLC	MDT	89.25	1,282	114,460	0.24%	3.14%	0.01%	6.50%	0.02%
Viatrix Inc	VTRS	11.60	1,194	13,846	0.03%	4.14%	0.00%	-1.50%	0.00%
CVS Health Corp	CVS	56.46	1,258	71,025	0.15%	4.71%	0.01%	2.50%	0.00%
DuPont de Nemours Inc	DD	82.99	417	34,648	0.07%	1.83%	0.00%	9.00%	0.01%
Micron Technology Inc	MU	99.65	1,109	110,486	0.23%	0.46%	0.00%	24.00%	0.06%
Motorola Solutions Inc	MSI	449.35	167	74,970	0.16%	0.87%	0.00%	10.00%	0.02%
Cboe Global Markets Inc	CBOE	213.57	105	22,347	0.05%	1.18%	0.00%	14.00%	0.01%
Newmont Corp	NEM	45.44	1,138	51,731	0.11%	2.20%	0.00%	13.00%	0.01%
NIKE Inc	NKE	77.13	1,191	91,831	0.19%	1.92%	0.00%	10.50%	0.02%
NISource Inc	NI	35.16	467	16,412	0.03%	3.01%	0.00%	9.50%	0.00%
Norfolk Southern Corp	NSC	250.43	226	56,657	0.12%	2.16%	0.00%	9.50%	0.01%
Principal Financial Group Inc	PFG	82.40	229	18,847	0.04%	3.54%	0.00%	4.00%	0.00%
Eversource Energy	ES	65.85	357	23,534	0.05%	4.34%	0.00%	6.00%	0.00%
Northrop Grumman Corp	NOC	509.02	146	74,162	0.16%	1.62%	0.00%	8.00%	0.01%
Wells Fargo & Co	WFC	64.92	3,329	216,151	0.45%	2.46%	0.01%	9.50%	0.04%
Nucor Corp	NUE	141.84	237	Excl.	0.00%	1.52%	0.00%	n/a	n/a
Occidental Petroleum Corp	OXY	50.11	916	45,911	0.10%	1.76%	0.00%	6.00%	0.01%
Omnicom Group Inc	OMC	101.00	195	19,704	0.04%	2.77%	0.00%	7.00%	0.00%
ONEOK Inc	OKE	96.88	584	56,596	0.12%	4.09%	0.00%	12.00%	0.01%
Raymond James Financial Inc	RJF	148.22	206	30,525	0.06%	1.21%	0.00%	10.00%	0.01%
PG&E Corp	PCG	20.22	2,137	43,219	0.09%	0.20%	0.00%	9.00%	0.01%
Parker-Hannifin Corp	PH	634.07	129	81,586	0.17%	1.03%	0.00%	12.50%	0.02%
Rollins Inc	ROL	47.14	484	22,830	0.05%	1.40%	0.00%	9.00%	0.00%
PPL Corp	PPL	32.56	738	24,022	0.05%	3.16%	0.00%	7.50%	0.00%
ConocoPhillips	COP	109.54	1,151	126,071	0.26%	2.85%	0.01%	4.00%	0.01%
PulteGroup Inc	PHM	129.53	205	26,564	0.06%	0.62%	0.00%	8.00%	0.00%
Pinnacle West Capital Corp	PNW	87.81	114	9,976	0.02%	4.08%	0.00%	4.50%	0.00%
PNC Financial Services Group Inc/The	PNC	188.27	397	74,837	0.16%	3.40%	0.01%	11.50%	0.02%
PPG Industries Inc	PPG	124.51	232	28,886	0.06%	2.18%	0.00%	7.00%	0.00%
Progressive Corp/The	PGR	242.83	586	142,217	0.30%	0.16%	0.00%	22.50%	0.07%
Verato Corp	VLTO	102.19	247	25,272	0.05%	0.35%	0.00%	6.00%	0.00%
Public Service Enterprise Group Inc	PEG	89.41	498	44,541	0.09%	2.68%	0.00%	5.00%	0.00%
Cooper Cos Inc/The	COO	104.68	199	20,848	0.04%	n/a	n/a	7.50%	0.00%
Edison International	EIX	82.40	387	31,901	0.07%	3.79%	0.00%	6.50%	0.00%
Schlumberger NV	SLB	40.07	1,412	56,585	0.12%	2.75%	0.00%	22.00%	0.03%
Charles Schwab Corp/The	SCHW	70.83	1,778	125,967	0.26%	1.41%	0.00%	10.50%	0.03%
Sherwin-Williams Co/The	SHW	358.77	252	90,357	0.19%	0.80%	0.00%	11.00%	0.02%
West Pharmaceutical Services Inc	WST	307.93	72	22,301	0.05%	0.27%	0.00%	7.50%	0.00%
J M Smucker Co/The	SJM	113.51	106	12,078	0.03%	3.81%	0.00%	7.00%	0.00%
Snap-on Inc	SNA	330.13	53	17,334	0.04%	2.25%	0.00%	5.50%	0.00%
AMETEK Inc	AME	183.34	231	42,408	0.09%	0.61%	0.00%	10.00%	0.01%
Uber Technologies Inc	UBER	72.05	2,106	Excl.	0.00%	n/a	n/a	n/a	n/a
Southern Co/The	SO	91.03	1,095	99,644	0.21%	3.16%	0.01%	6.50%	0.01%
Truist Financial Corp	TFC	43.05	1,339	57,650	0.12%	4.83%	0.01%	1.50%	0.00%
Southwest Airlines Co	LUV	30.58	600	Excl.	0.00%	2.35%	0.00%	n/a	n/a
W R Berkley Corp	WRB	57.17	381	21,756	0.05%	0.56%	0.00%	13.00%	0.01%
Stanley Black & Decker Inc	SWK	92.94	154	14,328	0.03%	3.53%	0.00%	11.00%	0.00%
Public Storage	PSA	329.06	176	57,817	0.12%	3.65%	0.00%	7.00%	0.01%
Arista Networks Inc	ANET	386.44	314	121,401	0.26%	n/a	n/a	19.50%	0.05%
Sysco Corp	SY	74.95	491	36,817	0.08%	2.72%	0.00%	13.50%	0.01%
Corteva Inc	CTVA	60.92	692	42,172	0.09%	1.12%	0.00%	9.50%	0.01%
Texas Instruments Inc	TXN	203.16	912	185,326	0.39%	2.68%	0.01%	3.00%	0.01%
Textron Inc	TXT	80.42	186	14,919	0.03%	0.10%	0.00%	13.00%	0.00%
Thermo Fisher Scientific Inc	TMO	546.32	382	208,692	0.44%	0.29%	0.00%	6.00%	0.03%
TJX Cos Inc/The	TJX	113.03	1,128	127,483	0.27%	1.33%	0.00%	17.00%	0.05%
Globe Life Inc	GL	105.60	90	9,485	0.02%	0.91%	0.00%	8.50%	0.00%
Johnson Controls International plc	JCI	75.55	668	50,468	0.11%	1.96%	0.00%	9.50%	0.01%
Ulta Beauty Inc	ULTA	368.98	47	17,384	0.04%	n/a	n/a	6.50%	0.00%
Union Pacific Corp	UNP	232.07	606	140,694	0.30%	2.31%	0.01%	8.00%	0.02%
Keysight Technologies Inc	KEYS	149.01	174	25,860	0.05%	n/a	n/a	8.00%	0.00%
UnitedHealth Group Inc	UNH	564.50	923	521,269	1.10%	1.49%	0.02%	12.00%	0.13%
Blackstone Inc	BX	167.75	720	120,793	0.25%	2.05%	0.01%	16.00%	0.04%
Marathon Oil Corp	MRO	27.70	559	15,495	0.03%	1.59%	0.00%	12.50%	0.00%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Ventas Inc	VTR	65.49	419	27,464	0.06%	2.75%	0.00%	23.00%	0.01%
Labcorp Holdings Inc	LH	228.27	84	19,092	0.04%	1.26%	0.00%	1.00%	0.00%
Vulcan Materials Co	VMC	273.93	132	36,175	0.08%	0.67%	0.00%	8.00%	0.01%
Weyerhaeuser Co	WY	31.16	727	22,640	0.05%	2.57%	0.00%	-2.00%	0.00%
Williams Cos Inc/The	WMB	52.37	1,219	63,835	0.13%	3.63%	0.00%	11.00%	0.01%
Constellation Energy Corp	CEG	262.96	315	Excl.	0.00%	0.54%	0.00%	n/a	n/a
WEC Energy Group Inc	WEC	95.53	316	30,195	0.06%	3.50%	0.00%	6.00%	0.00%
Adobe Inc	ADBE	478.08	440	210,451	0.44%	n/a	n/a	13.50%	0.06%
Vistra Corp	VST	124.96	344	Excl.	0.00%	0.71%	0.00%	n/a	n/a
AES Corp/The	AES	16.49	711	11,725	0.02%	4.18%	0.00%	14.00%	0.00%
Expeditors International of Washington Inc	EXPD	119.00	141	16,794	0.04%	1.23%	0.00%	-1.00%	0.00%
Amgen Inc	AMGN	320.16	538	172,097	0.36%	2.81%	0.01%	4.50%	0.02%
Apple Inc	AAPL	225.91	15,204	3,434,767	7.22%	0.44%	0.03%	8.00%	0.58%
Autodesk Inc	ADSK	283.80	215	61,017	0.13%	n/a	n/a	14.00%	0.02%
Cintas Corp	CTAS	205.81	403	83,003	0.17%	0.76%	0.00%	14.00%	0.02%
Comcast Corp	CMCSA	43.67	3,817	166,693	0.35%	2.84%	0.01%	7.50%	0.03%
Molson Coors Beverage Co	TAP	54.47	193	10,490	0.02%	3.23%	0.00%	11.50%	0.00%
KLA Corp	KLAC	666.23	134	89,115	0.19%	0.87%	0.00%	13.00%	0.02%
Marriott International Inc/MD	MAR	260.02	282	73,202	0.15%	0.97%	0.00%	11.00%	0.02%
Fiserv Inc	FI	197.90	569	112,589	0.24%	n/a	n/a	9.50%	0.02%
McCormick & Co Inc/MD	MKC	78.24	252	19,731	0.04%	2.15%	0.00%	4.50%	0.00%
PACCAR Inc	PCAR	104.28	524	54,674	0.11%	1.15%	0.00%	14.50%	0.02%
Costco Wholesale Corp	COST	874.18	443	387,326	0.81%	0.53%	0.00%	10.00%	0.08%
Stryker Corp	SYK	356.28	381	135,820	0.29%	0.90%	0.00%	9.50%	0.03%
Tyson Foods Inc	TSN	58.59	286	16,746	0.04%	3.35%	0.00%	6.00%	0.00%
Lamb Weston Holdings Inc	LW	77.69	143	11,078	0.02%	1.85%	0.00%	10.50%	0.00%
Applied Materials Inc	AMAT	181.58	824	149,695	0.31%	0.88%	0.00%	9.50%	0.03%
Cardinal Health Inc	CAH	108.52	242	26,258	0.06%	1.86%	0.00%	6.50%	0.00%
Cincinnati Financial Corp	CINF	140.83	156	22,014	0.05%	2.30%	0.00%	10.50%	0.00%
Paramount Global	PARA	10.94	626	6,849	0.01%	1.83%	0.00%	3.00%	0.00%
DR Horton Inc	DHI	169.00	326	55,101	0.12%	0.95%	0.00%	5.00%	0.01%
Electronic Arts Inc	EA	150.85	264	39,855	0.08%	0.50%	0.00%	14.00%	0.01%
Erie Indemnity Co	ERIE	448.84	46	20,731	0.04%	1.14%	0.00%	20.00%	0.01%
Fair Isaac Corp	FICO	1,993.11	25	48,869	0.10%	n/a	n/a	16.50%	0.02%
Fastenal Co	FAST	78.18	573	44,788	0.09%	2.00%	0.00%	9.00%	0.01%
M&T Bank Corp	MTB	194.68	167	Excl.	0.00%	2.77%	0.00%	n/a	n/a
Xcel Energy Inc	XEL	66.81	574	38,365	0.08%	3.28%	0.00%	6.00%	0.00%
Fifth Third Bancorp	FITB	43.68	677	29,563	0.06%	3.39%	0.00%	4.50%	0.00%
Gilead Sciences Inc	GILD	88.82	1,245	110,580	0.23%	3.47%	0.01%	2.50%	0.01%
Hasbro Inc	HAS	65.63	140	9,155	0.02%	4.27%	0.00%	8.50%	0.00%
Huntington Bancshares Inc/OH	HBAN	15.59	1,453	22,649	0.05%	3.98%	0.00%	7.50%	0.00%
Welltower Inc	WELL	134.88	623	83,988	0.18%	1.99%	0.00%	25.50%	0.05%
Biogen Inc	BIIB	174.00	146	25,355	0.05%	n/a	n/a	0.50%	0.00%
Northern Trust Corp	NTRS	100.52	198	19,925	0.04%	2.98%	0.00%	4.00%	0.00%
Packaging Corp of America	PKG	228.94	90	20,562	0.04%	2.18%	0.00%	9.00%	0.00%
Paychex Inc	PAYX	139.33	360	50,145	0.11%	2.81%	0.00%	8.00%	0.01%
QUALCOMM Inc	QCOM	162.77	1,114	181,326	0.38%	2.09%	0.01%	6.00%	0.02%
Ross Stores Inc	ROST	139.72	332	46,354	0.10%	1.05%	0.00%	14.00%	0.01%
IDEXX Laboratories Inc	IDXX	406.92	82	33,321	0.07%	n/a	n/a	10.50%	0.01%
Starbucks Corp	SBUX	97.70	1,133	110,714	0.23%	2.50%	0.01%	9.00%	0.02%
KeyCorp	KEY	17.25	991	17,099	0.04%	4.75%	0.00%	-2.00%	0.00%
Fox Corp	FOXA	42.00	225	9,435	0.02%	1.29%	0.00%	8.00%	0.00%
Fox Corp	FOX	38.96	236	Excl.	0.00%	1.39%	0.00%	n/a	n/a
State Street Corp	STT	92.80	293	Excl.	0.00%	3.28%	0.00%	n/a	n/a
Norwegian Cruise Line Holdings Ltd	NCLH	25.34	440	Excl.	0.00%	n/a	n/a	n/a	n/a
US Bancorp	USB	48.31	1,561	75,388	0.16%	4.14%	0.01%	4.00%	0.01%
A O Smith Corp	AOS	75.10	119	8,945	0.02%	1.81%	0.00%	9.00%	0.00%
Gen Digital Inc	GEN	29.11	616	17,938	0.04%	1.72%	0.00%	10.50%	0.00%
T Rowe Price Group Inc	TROW	109.86	223	24,455	0.05%	4.51%	0.00%	5.50%	0.00%
Waste Management Inc	WM	215.85	401	86,635	0.18%	1.39%	0.00%	6.00%	0.01%
Palantir Technologies Inc	PLTR	41.56	2,142	Excl.	0.00%	n/a	n/a	n/a	n/a
Constellation Brands Inc	STZ	232.34	182	42,178	0.09%	1.74%	0.00%	6.00%	0.01%
Invesco Ltd	IVZ	17.34	449	7,793	0.02%	4.73%	0.00%	10.00%	0.00%
Intuit Inc	INTU	610.30	280	171,062	0.36%	0.68%	0.00%	13.50%	0.05%
Morgan Stanley	MS	116.25	1,621	188,428	0.40%	3.18%	0.01%	9.50%	0.04%
Microchip Technology Inc	MCHP	73.37	537	39,363	0.08%	2.48%	0.00%	6.00%	0.00%
CrowdStrike Holdings Inc	CRWD	296.87	233	Excl.	0.00%	n/a	n/a	n/a	n/a
Chubb Ltd	CB	282.44	403	113,851	0.24%	1.29%	0.00%	13.00%	0.03%
Hologic Inc	HOLX	80.87	232	18,784	0.04%	n/a	n/a	-2.00%	0.00%
Citizens Financial Group Inc	CFG	42.12	448	18,882	0.04%	3.99%	0.00%	7.50%	0.00%
Jabil Inc	JBL	123.09	113	13,890	0.03%	0.26%	0.00%	13.50%	0.00%
O'Reilly Automotive Inc	ORLY	1,153.14	58	66,889	0.14%	n/a	n/a	10.50%	0.01%
Allstate Corp/The	ALL	186.52	265	49,391	0.10%	1.97%	0.00%	30.00%	0.03%
Equity Residential	EQR	70.37	379	26,680	0.06%	3.84%	0.00%	-4.00%	0.00%
BorgWarner Inc	BWA	33.63	219	7,355	0.02%	1.31%	0.00%	5.50%	0.00%
Keurig Dr Pepper Inc	KDP	32.95	1,356	44,695	0.09%	2.79%	0.00%	10.00%	0.01%
Host Hotels & Resorts Inc	HST	17.24	702	12,110	0.03%	4.64%	0.00%	51.00%	0.01%
Incyte Corp	INCY	74.12	193	14,279	0.03%	n/a	n/a	18.50%	0.01%
Simon Property Group Inc	SPG	169.12	326	55,139	0.12%	4.85%	0.01%	3.50%	0.00%
Eastman Chemical Co	EMN	105.09	117	12,281	0.03%	3.08%	0.00%	3.50%	0.00%
AvalonBay Communities Inc	AVB	221.61	142	31,517	0.07%	3.07%	0.00%	5.50%	0.00%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Prudential Financial Inc	PRU	122.48	356	43,603	0.09%	4.25%	0.00%	4.00%	0.00%
United Parcel Service Inc	UPS	134.06	733	98,200	0.21%	4.86%	0.01%	3.50%	0.01%
Walgreens Boots Alliance Inc	WBA	9.46	865	8,179	0.02%	10.57%	0.00%	-7.00%	0.00%
STERIS PLC	STE	221.85	99	21,878	0.05%	1.03%	0.00%	8.00%	0.00%
McKesson Corp	MCK	500.59	130	64,915	0.14%	0.57%	0.00%	10.00%	0.01%
Lockheed Martin Corp	LMT	546.05	237	129,433	0.27%	2.42%	0.01%	9.50%	0.03%
Cencora Inc	COR	228.08	196	44,706	0.09%	0.89%	0.00%	6.50%	0.01%
Capital One Financial Corp	COF	162.79	382	62,106	0.13%	1.47%	0.00%	2.50%	0.00%
Campbell Soup Co	CPB	46.65	298	13,884	0.03%	3.17%	0.00%	5.00%	0.00%
Waters Corp	WAT	323.11	59	19,180	0.04%	n/a	n/a	6.50%	0.00%
Nordson Corp	NDSN	247.89	57	14,175	0.03%	1.26%	0.00%	10.00%	0.00%
Dollar Tree Inc	DLTR	64.64	215	13,897	0.03%	n/a	n/a	20.00%	0.01%
Darden Restaurants Inc	DRI	160.02	118	18,802	0.04%	3.50%	0.00%	10.00%	0.00%
Evergy Inc	EVRG	60.44	230	13,886	0.03%	4.25%	0.00%	7.50%	0.00%
Match Group Inc	MTCH	36.03	258	9,292	0.02%	n/a	n/a	12.00%	0.00%
Domino's Pizza Inc	DPZ	413.73	35	14,287	0.03%	1.46%	0.00%	12.50%	0.00%
NVR Inc	NVR	9,152.81	3	28,169	0.06%	n/a	n/a	1.50%	0.00%
NetApp Inc	NTAP	115.31	205	23,613	0.05%	1.80%	0.00%	7.50%	0.00%
Old Dominion Freight Line Inc	ODFL	201.32	214	43,142	0.09%	0.52%	0.00%	7.50%	0.01%
DaVita Inc	DVA	139.81	82	11,464	0.02%	n/a	n/a	9.50%	0.00%
Hartford Financial Services Group Inc/The	HIG	110.44	290	32,016	0.07%	1.88%	0.00%	7.00%	0.00%
Iron Mountain Inc	IRM	123.73	293	36,294	0.08%	2.31%	0.00%	5.50%	0.00%
Estee Lauder Cos Inc/The	EL	68.94	233	16,093	0.03%	2.03%	0.00%	3.50%	0.00%
Cadence Design Systems Inc	CDNS	276.12	274	75,729	0.16%	n/a	n/a	12.00%	0.02%
Tyler Technologies Inc	TYL	605.59	43	25,918	0.05%	n/a	n/a	8.00%	0.00%
Universal Health Services Inc	UHS	204.31	59	12,149	0.03%	0.39%	0.00%	9.00%	0.00%
Skyworks Solutions Inc	SWKS	87.58	160	Excl.	0.00%	3.20%	0.00%	n/a	n/a
Quest Diagnostics Inc	DGX	154.83	112	17,281	0.04%	1.94%	0.00%	3.00%	0.00%
Rockwell Automation Inc	ROK	266.71	113	30,263	0.06%	1.96%	0.00%	9.50%	0.01%
Kraft Heinz Co/The	KHC	33.46	1,209	40,459	0.09%	4.78%	0.00%	4.50%	0.00%
American Tower Corp	AMT	213.54	467	99,785	0.21%	3.03%	0.01%	11.00%	0.02%
Regeneron Pharmaceuticals Inc	REGN	838.20	108	90,586	0.19%	n/a	n/a	1.50%	0.00%
Amazon.com Inc	AMZN	186.40	10,496	1,956,374	4.11%	n/a	n/a	24.50%	1.01%
Jack Henry & Associates Inc	JKHY	181.93	73	13,266	0.03%	1.21%	0.00%	6.50%	0.00%
Ralph Lauren Corp	RL	197.93	40	7,929	0.02%	1.67%	0.00%	11.00%	0.00%
BXP Inc	BXP	80.56	158	12,723	0.03%	4.87%	0.00%	0.50%	0.00%
Amphenol Corp	APH	67.02	1,206	80,800	0.17%	0.98%	0.00%	13.50%	0.02%
Howmet Aerospace Inc	HWM	99.72	408	40,700	0.09%	0.32%	0.00%	12.00%	0.01%
Valero Energy Corp	VLO	129.76	317	41,080	0.09%	3.30%	0.00%	9.50%	0.01%
Synopsys Inc	SNPS	513.61	154	78,898	0.17%	n/a	n/a	12.50%	0.02%
CH Robinson Worldwide Inc	CHRW	103.04	117	12,085	0.03%	2.41%	0.00%	5.50%	0.00%
Accenture PLC	ACN	344.82	626	215,990	0.45%	1.72%	0.01%	12.50%	0.06%
TransDigm Group Inc	TDG	1,302.30	56	73,074	0.15%	n/a	n/a	22.00%	0.03%
Yum! Brands Inc	YUM	131.16	281	36,878	0.08%	2.04%	0.00%	10.00%	0.01%
Prologis Inc	PLD	112.94	926	104,572	0.22%	3.40%	0.01%	0.50%	0.00%
FirstEnergy Corp	FE	41.83	576	24,107	0.05%	4.06%	0.00%	5.50%	0.00%
VeriSign Inc	VRSN	176.84	96	16,994	0.04%	n/a	n/a	12.00%	0.00%
Quanta Services Inc	PWR	301.63	148	44,524	0.09%	0.12%	0.00%	16.50%	0.02%
Henry Schein Inc	HSIC	70.23	127	8,899	0.02%	n/a	n/a	8.50%	0.00%
Ameren Corp	AEE	87.11	267	23,216	0.05%	3.08%	0.00%	6.50%	0.00%
ANSYS Inc	ANSS	320.41	87	28,000	0.06%	n/a	n/a	9.50%	0.01%
FactSet Research Systems Inc	FDS	454.06	38	17,249	0.04%	0.92%	0.00%	11.00%	0.00%
NVIDIA Corp	NVDA	132.76	24,530	3,256,603	6.84%	0.03%	0.00%	41.00%	2.81%
Cognizant Technology Solutions Corp	CTSH	74.59	496	36,984	0.08%	1.61%	0.00%	8.00%	0.01%
Intuitive Surgical Inc	ISRG	503.84	356	179,457	0.38%	n/a	n/a	13.50%	0.05%
Take-Two Interactive Software Inc	TTWO	161.72	175	Excl.	0.00%	n/a	n/a	n/a	n/a
Republic Services Inc	RSG	198.00	313	62,004	0.13%	1.17%	0.00%	11.00%	0.01%
eBay Inc	EBAY	57.51	479	27,547	0.06%	1.88%	0.00%	9.50%	0.01%
Goldman Sachs Group Inc/The	GS	517.79	316	163,518	0.34%	2.32%	0.01%	7.50%	0.03%
SBA Communications Corp	SBAC	229.47	107	24,662	0.05%	1.71%	0.00%	16.50%	0.01%
Sempra	SRE	83.37	633	52,785	0.11%	2.97%	0.00%	7.00%	0.01%
Moody's Corp	MCO	454.04	181	82,272	0.17%	0.75%	0.00%	9.00%	0.02%
ON Semiconductor Corp	ON	70.49	426	30,014	0.06%	n/a	n/a	8.00%	0.01%
Booking Holdings Inc	BKNG	4,676.25	33	154,768	0.33%	0.75%	0.00%	22.00%	0.07%
F5 Inc	FFIV	233.88	58	13,632	0.03%	n/a	n/a	10.00%	0.00%
Akamai Technologies Inc	AKAM	101.08	152	15,316	0.03%	n/a	n/a	6.00%	0.00%
Charles River Laboratories International Inc	CRL	178.58	52	9,220	0.02%	n/a	n/a	7.00%	0.00%
MarketAxess Holdings Inc	MKTX	289.42	38	10,926	0.02%	1.02%	0.00%	9.00%	0.00%
Devon Energy Corp	DVN	38.68	626	24,221	0.05%	2.28%	0.00%	3.00%	0.00%
Bio-Techne Corp	TECH	73.75	159	11,702	0.02%	0.43%	0.00%	10.00%	0.00%
Alphabet Inc	GOOGL	171.11	5,843	Excl.	0.00%	0.47%	0.00%	n/a	n/a
Teleflex Inc	TFX	201.06	46	9,338	0.02%	0.68%	0.00%	8.50%	0.00%
Allegion plc	ALLE	139.63	87	12,138	0.03%	1.38%	0.00%	8.50%	0.00%
Netflix Inc	NFLX	756.03	427	323,171	0.68%	n/a	n/a	16.50%	0.11%
Agilent Technologies Inc	A	130.31	287	37,442	0.08%	0.72%	0.00%	8.00%	0.01%
Warner Bros Discovery Inc	WBD	8.13	2,452	Excl.	0.00%	n/a	n/a	n/a	n/a
Elevance Health Inc	ELV	405.76	232	94,105	0.20%	1.61%	0.00%	11.00%	0.02%
Trimble Inc	TRMB	60.50	244	14,775	0.03%	n/a	n/a	5.50%	0.00%
CME Group Inc	CME	225.36	360	81,151	0.17%	2.04%	0.00%	5.50%	0.01%
Juniper Networks Inc	JNPR	38.90	331	12,879	0.03%	2.26%	0.00%	7.50%	0.00%
DTE Energy Co	DTE	124.22	207	25,704	0.05%	3.28%	0.00%	4.50%	0.00%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Nasdaq Inc	NDAQ	73.92	575	42,486	0.09%	1.30%	0.00%	3.50%	0.00%
Celanese Corp	CE	125.97	109	13,764	0.03%	2.22%	0.00%	4.50%	0.00%
Philip Morris International Inc	PM	132.70	1,555	206,326	0.43%	4.07%	0.02%	5.00%	0.02%
Salesforce Inc	CRM	291.37	956	278,550	0.59%	0.55%	0.00%	24.00%	0.14%
Ingersoll Rand Inc	IR	96.00	403	38,734	0.08%	0.08%	0.00%	10.50%	0.01%
Huntington Ingalls Industries Inc	HII	184.96	39	7,237	0.02%	2.92%	0.00%	10.00%	0.00%
Roper Technologies Inc	ROP	537.73	107	57,644	0.12%	0.56%	0.00%	9.00%	0.01%
MetLife Inc	MET	78.42	700	54,919	0.12%	2.78%	0.00%	7.50%	0.01%
Tapestry Inc	TPR	47.45	233	11,037	0.02%	2.95%	0.00%	9.00%	0.00%
CSX Corp	CSX	33.64	1,928	64,872	0.14%	1.43%	0.00%	9.00%	0.01%
Edwards Lifesciences Corp	EW	67.01	602	40,367	0.08%	n/a	n/a	10.00%	0.01%
Ameriprise Financial Inc	AMP	510.30	98	50,106	0.11%	1.16%	0.00%	10.00%	0.01%
Zebra Technologies Corp	ZBRA	381.97	52	19,702	0.04%	n/a	n/a	1.00%	0.00%
Zimmer Biomet Holdings Inc	ZBH	106.92	199	21,285	0.04%	0.90%	0.00%	6.50%	0.00%
CBRE Group Inc	CBRE	130.97	306	40,079	0.08%	n/a	n/a	5.00%	0.00%
Camden Property Trust	CPT	115.79	107	12,347	0.03%	3.56%	0.00%	-6.50%	0.00%
Mastercard Inc	MA	499.59	911	455,011	0.96%	0.53%	0.01%	14.50%	0.14%
CarMax Inc	KMX	72.38	155	11,213	0.02%	n/a	n/a	3.50%	0.00%
Intercontinental Exchange Inc	ICE	155.87	574	89,497	0.19%	1.15%	0.00%	7.50%	0.01%
Smurfit WestRock PLC	SW	51.50	520	Excl.	0.00%	2.35%	0.00%	n/a	n/a
Fidelity National Information Services Inc	FIS	89.73	546	48,954	0.10%	1.60%	0.00%	4.00%	0.00%
Chipotle Mexican Grill Inc	CMG	55.77	1,363	75,992	0.16%	n/a	n/a	20.00%	0.03%
Wynn Resorts Ltd	WYNN	96.02	111	10,657	0.02%	1.04%	0.00%	27.00%	0.01%
Live Nation Entertainment Inc	LYV	117.14	232	Excl.	0.00%	n/a	n/a	n/a	n/a
Assurant Inc	AIZ	191.70	52	9,929	0.02%	1.50%	0.00%	9.50%	0.00%
NRG Energy Inc	NRG	90.40	206	18,657	0.04%	1.80%	0.00%	11.00%	0.00%
Regions Financial Corp	RF	23.87	915	21,844	0.05%	4.19%	0.00%	4.50%	0.00%
Monster Beverage Corp	MNST	52.68	980	51,602	0.11%	n/a	n/a	12.00%	0.01%
Mosaic Co/The	MOS	26.76	319	8,527	0.02%	3.14%	0.00%	-9.50%	0.00%
Baker Hughes Co	BKR	38.08	990	37,681	0.08%	2.21%	0.00%	29.50%	0.02%
Expedia Group Inc	EXPE	156.31	125	19,485	0.04%	n/a	n/a	39.00%	0.02%
CF Industries Holdings Inc	CF	82.23	174	14,310	0.03%	2.43%	0.00%	-1.50%	0.00%
Leidos Holdings Inc	LDOS	183.16	133	24,440	0.05%	0.87%	0.00%	9.50%	0.00%
APA Corp	APA	23.60	370	8,730	0.02%	4.24%	0.00%	6.00%	0.00%
Alphabet Inc	GOOG	172.69	5,534	955,666	2.01%	0.46%	0.01%	13.50%	0.27%
First Solar Inc	FSLR	194.48	107	20,821	0.04%	n/a	n/a	34.50%	0.02%
Discover Financial Services	DFS	148.43	251	37,267	0.08%	1.89%	0.00%	4.00%	0.00%
Visa Inc	V	289.85	1,670	484,178	1.02%	0.81%	0.01%	13.50%	0.14%
Mid-America Apartment Communities Inc	MAA	151.34	117	17,689	0.04%	3.89%	0.00%	-15.00%	-0.01%
Xylem Inc/NY	XYL	121.78	243	29,586	0.06%	1.18%	0.00%	12.00%	0.01%
Marathon Petroleum Corp	MPC	145.47	335	48,686	0.10%	2.50%	0.00%	-6.50%	-0.01%
Advanced Micro Devices Inc	AMD	144.07	1,623	233,798	0.49%	n/a	n/a	17.00%	0.08%
Tractor Supply Co	TSCO	265.51	108	28,640	0.06%	1.66%	0.00%	11.50%	0.01%
ResMed Inc	RMD	242.47	147	35,594	0.07%	0.87%	0.00%	10.00%	0.01%
Mettler-Toledo International Inc	MTD	1,291.75	21	27,588	0.06%	n/a	n/a	8.50%	0.00%
Jacobs Solutions Inc	J	140.58	124	17,467	0.04%	0.83%	0.00%	11.00%	0.00%
Copart Inc	CPRT	51.47	963	49,585	0.10%	n/a	n/a	9.00%	0.01%
VICI Properties Inc	VICI	31.76	1,043	33,130	0.07%	5.45%	0.00%	10.50%	0.01%
Fortinet Inc	FTNT	78.66	765	60,168	0.13%	n/a	n/a	24.00%	0.03%
Albemarle Corp	ALB	94.73	118	11,134	0.02%	1.71%	0.00%	-3.50%	0.00%
Moderna Inc	MRNA	54.36	384	20,896	0.04%	n/a	n/a	-18.50%	-0.01%
Essex Property Trust Inc	ESS	283.86	64	18,243	0.04%	3.45%	0.00%	4.50%	0.00%
CoStar Group Inc	CSGP	72.79	410	29,841	0.06%	n/a	n/a	16.50%	0.01%
Realty Income Corp	O	59.37	871	51,703	0.11%	5.33%	0.01%	5.00%	0.01%
Westinghouse Air Brake Technologies Corp	WAB	187.98	172	32,312	0.07%	0.43%	0.00%	16.00%	0.01%
Pool Corp	POOL	361.64	38	13,762	0.03%	1.33%	0.00%	14.00%	0.00%
Western Digital Corp	WDC	65.31	346	22,578	0.05%	n/a	n/a	22.50%	0.01%
PepsiCo Inc	PEP	166.08	1,372	227,860	0.48%	3.26%	0.02%	7.50%	0.04%
TE Connectivity PLC	TEL	147.42	304	44,804	0.09%	1.76%	0.00%	10.50%	0.01%
Diamondback Energy Inc	FANG	176.77	296	52,270	0.11%	5.30%	0.01%	2.50%	0.00%
Palo Alto Networks Inc	PANW	360.33	327	Excl.	0.00%	n/a	n/a	n/a	n/a
ServiceNow Inc	NOW	932.99	206	192,196	0.40%	n/a	n/a	32.50%	0.13%
Church & Dwight Co Inc	CHD	99.91	245	24,459	0.05%	1.14%	0.00%	6.50%	0.00%
Federal Realty Investment Trust	FRT	110.84	85	9,417	0.02%	3.97%	0.00%	2.50%	0.00%
Amentum Holdings Inc	AMTM	29.74	243	Excl.	0.00%	n/a	n/a	n/a	n/a
MGM Resorts International	MGM	36.87	298	10,978	0.02%	n/a	n/a	25.00%	0.01%
American Electric Power Co Inc	AEP	98.75	532	52,547	0.11%	3.77%	0.00%	6.50%	0.01%
Invitation Homes Inc	INVH	31.41	613	19,242	0.04%	3.57%	0.00%	13.50%	0.01%
PTC Inc	PTC	185.33	120	22,265	0.05%	n/a	n/a	29.00%	0.01%
JB Hunt Transport Services Inc	JBHT	180.62	101	18,212	0.04%	0.95%	0.00%	7.50%	0.00%
Lam Research Corp	LRCX	74.35	1,287	95,665	0.20%	1.24%	0.00%	12.50%	0.03%
Mohawk Industries Inc	MHK	134.27	63	8,475	0.02%	n/a	n/a	1.00%	0.00%
Pentair PLC	PNR	99.12	165	16,378	0.03%	0.93%	0.00%	12.00%	0.00%
GE HealthCare Technologies Inc	GEHC	87.35	457	Excl.	0.00%	0.14%	0.00%	n/a	n/a
Vertex Pharmaceuticals Inc	VRTX	475.98	258	122,851	0.26%	n/a	n/a	11.00%	0.03%
Amcor PLC	AMCR	11.13	1,445	16,087	0.03%	4.58%	0.00%	11.50%	0.00%
Meta Platforms Inc	META	567.58	2,180	1,237,325	2.60%	0.35%	0.01%	17.50%	0.46%
T-Mobile US Inc	TMUS	223.16	1,160	258,974	0.54%	1.58%	0.01%	20.00%	0.11%
United Rentals Inc	URI	812.80	66	53,338	0.11%	0.80%	0.00%	19.00%	0.02%
Honeywell International Inc	HON	205.68	650	133,743	0.28%	2.20%	0.01%	10.00%	0.03%
Alexandria Real Estate Equities Inc	ARE	111.55	175	19,495	0.04%	4.66%	0.00%	9.50%	0.00%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Delta Air Lines Inc	DAL	57.22	645	Excl.	0.00%	1.05%	0.00%		n/a
Seagate Technology Holdings PLC	STX	100.37	212	21,231	0.04%	2.87%	0.00%	32.00%	0.01%
United Airlines Holdings Inc	UAL	78.26	329	Excl.	0.00%	n/a	n/a		n/a
News Corp	NWS	29.04	190	Excl.	0.00%	0.69%	0.00%		n/a
Centene Corp	CNC	62.26	505	31,433	0.07%	n/a	n/a	10.00%	0.01%
Martin Marietta Materials Inc	MLM	592.34	61	36,203	0.08%	0.53%	0.00%	11.00%	0.01%
Teradyne Inc	TER	106.21	163	17,331	0.04%	0.45%	0.00%	9.50%	0.00%
PayPal Holdings Inc	PYPL	79.30	1,003	79,501	0.17%	n/a	n/a	11.50%	0.02%
Tesla Inc	TSLA	249.85	3,210	802,033	1.69%	n/a	n/a	19.00%	0.32%
Blackrock Inc	BLK	981.03	148	145,318	0.31%	2.08%	0.01%	9.50%	0.03%
Arch Capital Group Ltd	ACGL	98.56	376	37,064	0.08%	n/a	n/a	17.00%	0.01%
KKR & Co Inc	KKR	138.24	887	122,680	0.26%	0.51%	0.00%	5.00%	0.01%
Dow Inc	DOW	49.38	700	34,571	0.07%	5.67%	0.00%	0.50%	0.00%
Everest Group Ltd	EG	355.61	43	15,389	0.03%	2.25%	0.00%	10.50%	0.00%
Teledyne Technologies Inc	TDY	455.32	47	21,219	0.04%	n/a	n/a	7.00%	0.00%
GE Vernova Inc	GEV	301.66	276	Excl.	0.00%	n/a	n/a		n/a
News Corp	NWSA	27.25	379	10,338	0.02%	0.73%	0.00%	14.50%	0.00%
Exelon Corp	EXC	39.30	1,005	Excl.	0.00%	3.87%	0.00%		n/a
Global Payments Inc	GPX	103.71	254	26,394	0.06%	0.96%	0.00%	13.50%	0.01%
Crown Castle Inc	CCI	107.49	435	46,715	0.10%	5.82%	0.01%	-0.50%	0.00%
Aptiv PLC	APT	56.83	235	13,357	0.03%	n/a	n/a	28.50%	0.01%
Align Technology Inc	ALGN	205.03	75	15,315	0.03%	n/a	n/a	17.00%	0.01%
Kenvue Inc	KVUE	22.93	1,915	Excl.	0.00%	3.58%	0.00%		n/a
Targa Resources Corp	TRGP	166.96	219	36,578	0.08%	1.80%	0.00%	20.00%	0.02%
Bunge Global SA	BG	84.02	140	11,731	0.02%	3.24%	0.00%	0.00%	0.00%
Deckers Outdoor Corp	DECK	160.89	152	24,443	0.05%	n/a	n/a	16.00%	0.01%
LKQ Corp	LKQ	36.79	260	9,564	0.02%	3.26%	0.00%	7.00%	0.00%
Zoetis Inc	ZTS	178.78	453	80,996	0.17%	0.97%	0.00%	7.50%	0.01%
Digital Realty Trust Inc	DLR	178.23	327	58,354	0.12%	2.74%	0.00%	-5.00%	-0.01%
Equinix Inc	EQIX	908.08	96	87,619	0.18%	1.88%	0.00%	15.00%	0.03%
Las Vegas Sands Corp	LVS	51.85	725	Excl.	0.00%	1.54%	0.00%		n/a
Molina Healthcare Inc	MOH	321.22	57	18,374	0.04%	n/a	n/a	11.50%	0.00%

Notes:

- [4] Source: Bloomberg Professional
- [5] Source: Bloomberg Professional
- [6] Equals [4] x [5]
- [7] Equals [6] / Sum of Column [6]
- [8] Source: Bloomberg Professional
- [9] Equals [7] x [8]
- [10] Source: Value Line, as of October 31, 2024
- [11] Equals [7] x [10]

MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY

[1] Estimate of the S&P 500 Dividend Yield	1.53%
[2] Estimate of the S&P 500 Growth Rate	9.81%
[3] S&P 500 Estimated Required Market Return	11.41%

Notes:

- [1] Sum of [9]
[2] Sum of [11]
[3] Equals $([1] \times (1 + 0.5 \times [2])) + [2]$

STANDARD AND POOR'S 500 INDEX

	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	86.85	325	Excl.	Excl.	6.17%	n/a	-1.00%	n/a
American Express Co	AXP	270.08	704	190,257	0.50%	1.04%	0.01%	9.00%	0.05%
Verizon Communications Inc	VZ	42.13	4,210	177,352	0.47%	6.43%	0.03%	0.50%	0.00%
Broadcom Inc	AVGO	169.77	4,671	Excl.	Excl.	1.25%	n/a	30.00%	n/a
Boeing Co/The	BA	149.31	730	Excl.	Excl.	n/a	n/a	n/a	n/a
Solventum Corp	SOLV	72.58	173	Excl.	Excl.	n/a	n/a	n/a	n/a
Caterpillar Inc	CAT	376.20	485	182,419	0.48%	1.50%	0.01%	11.50%	0.06%
JPMorgan Chase & Co	JPM	221.92	2,815	624,780	1.66%	2.25%	0.04%	7.00%	0.12%
Chevron Corp	CVX	148.82	1,829	272,179	0.72%	4.38%	0.03%	5.00%	0.04%
Coca-Cola Co/The	KO	65.31	4,308	281,342	0.75%	2.97%	0.02%	7.00%	0.05%
AbbVie Inc	ABBV	203.87	1,766	360,105	0.96%	3.22%	0.03%	4.00%	0.04%
Walt Disney Co/The	DIS	96.20	1,814	Excl.	Excl.	0.94%	n/a	31.50%	n/a
Corpay Inc	CPAY	329.72	69	22,893	0.06%	n/a	n/a	15.50%	0.01%
Extra Space Storage Inc	EXR	163.30	212	34,608	0.09%	3.97%	0.00%	5.00%	0.00%
Exxon Mobil Corp	XOM	116.78	4,443	Excl.	Excl.	3.25%	n/a	-3.00%	n/a
Phillips 66	PSX	121.82	413	50,310	0.13%	3.78%	0.01%	0.50%	0.00%
General Electric Co	GE	171.78	1,082	Excl.	Excl.	0.65%	n/a	22.00%	n/a
HP Inc	HPQ	35.52	964	34,231	0.09%	3.10%	0.00%	12.50%	0.01%
Home Depot Inc/The	HD	393.75	993	391,109	1.04%	2.29%	0.02%	6.50%	0.07%
Monolithic Power Systems Inc	MPWR	759.30	49	37,017	0.10%	0.66%	0.00%	10.50%	0.01%
International Business Machines Corp	IBM	206.72	925	191,143	0.51%	3.23%	0.02%	3.00%	0.02%
Johnson & Johnson	JNJ	159.86	2,408	384,883	1.02%	3.10%	0.03%	3.00%	0.03%
Lululemon Athletica Inc	LULU	297.90	118	35,051	0.09%	n/a	n/a	13.00%	0.01%
McDonald's Corp	MCD	292.11	717	209,543	0.56%	2.42%	0.01%	8.00%	0.04%
Merck & Co Inc	MRK	102.32	2,535	259,362	0.69%	3.01%	0.02%	15.50%	0.11%
3M Co	MMM	128.47	545	Excl.	Excl.	2.18%	n/a	30.50%	n/a
American Water Works Co Inc	AWK	138.11	195	26,917	0.07%	2.22%	0.00%	4.50%	0.00%
Bank of America Corp	BAC	41.82	7,673	320,880	0.85%	2.49%	0.02%	7.00%	0.06%
Pfizer Inc	PFE	28.30	5,667	160,367	0.43%	5.94%	0.03%	2.50%	0.01%
Procter & Gamble Co/The	PG	165.18	2,355	389,006	1.03%	2.44%	0.03%	5.00%	0.05%
AT&T Inc	T	22.54	7,175	161,731	0.43%	4.92%	0.02%	4.00%	0.02%
Travelers Cos Inc/The	TRV	245.94	227	55,833	0.15%	1.71%	0.00%	12.00%	0.02%
RTX Corp	RTX	120.99	1,331	161,040	0.43%	2.08%	0.01%	12.00%	0.05%
Analog Devices Inc	ADI	223.11	496	110,773	0.29%	1.65%	0.00%	7.50%	0.02%
Walmart Inc	WMT	81.95	8,038	658,735	1.75%	1.01%	0.02%	9.50%	0.17%
Cisco Systems Inc	CSCO	54.77	3,986	218,314	0.58%	2.92%	0.02%	3.50%	0.02%
Intel Corp	INTC	21.52	4,276	Excl.	Excl.	n/a	n/a	-2.00%	n/a
General Motors Co	GM	50.76	1,100	55,815	0.15%	0.95%	0.00%	6.50%	0.01%
Microsoft Corp	MSFT	406.35	7,435	3,021,164	8.02%	0.82%	0.07%	14.00%	1.12%
Dollar General Corp	DG	80.04	220	Excl.	Excl.	2.95%	n/a	-0.50%	n/a
Cigna Group/The	CI	314.81	278	87,565	0.23%	1.78%	0.00%	12.00%	0.03%
Kinder Morgan Inc	KMI	24.51	2,222	54,452	0.14%	4.69%	0.01%	10.00%	0.01%
Citigroup Inc	C	64.17	1,908	122,423	0.32%	3.49%	0.01%	3.00%	0.01%
American International Group Inc	AIG	75.88	644	48,863	0.13%	2.11%	0.00%	13.00%	0.02%
Altria Group Inc	MO	54.46	1,695	92,300	0.24%	7.49%	0.02%	6.00%	0.01%
HCA Healthcare Inc	HCA	358.74	253	90,868	0.24%	0.74%	0.00%	10.50%	0.03%
International Paper Co	IP	55.54	347	19,293	0.05%	3.33%	0.00%	5.50%	0.00%
Hewlett Packard Enterprise Co	HPE	19.49	1,299	25,311	0.07%	2.67%	0.00%	7.50%	0.01%
Abbott Laboratories	ABT	113.37	1,734	196,635	0.52%	1.94%	0.01%	4.00%	0.02%
Aflac Inc	AFL	104.79	560	58,685	0.16%	1.91%	0.00%	7.50%	0.01%
Air Products and Chemicals Inc	APD	310.53	222	69,035	0.18%	2.28%	0.00%	10.50%	0.02%
Super Micro Computer Inc	SMCI	29.11	586	Excl.	Excl.	n/a	n/a	39.00%	n/a
Royal Caribbean Cruises Ltd	RCL	206.35	269	Excl.	Excl.	0.78%	n/a	n/a	n/a
Hess Corp	HES	134.48	308	41,435	0.11%	1.49%	0.00%	8.00%	0.01%
Archer-Daniels-Midland Co	ADM	55.21	478	26,398	0.07%	3.62%	0.00%	3.50%	0.00%
Automatic Data Processing Inc	ADP	289.24	408	117,960	0.31%	1.94%	0.01%	10.50%	0.03%
Verisk Analytics Inc	VRSK	274.72	141	38,793	0.10%	0.57%	0.00%	8.50%	0.01%
AutoZone Inc	AZO	3,009.00	17	50,865	0.13%	n/a	n/a	12.50%	0.02%
Linde PLC	LIN	456.15	476	217,199	0.58%	1.22%	0.01%	7.00%	0.04%
Avery Dennison Corp	AVY	207.03	80	16,634	0.04%	1.70%	0.00%	2.00%	0.00%
Enphase Energy Inc	ENPH	83.04	135	11,219	0.03%	n/a	n/a	14.00%	0.00%
MSCI Inc	MSCI	571.20	78	44,766	0.12%	1.12%	0.00%	9.50%	0.01%
Ball Corp	BALL	59.25	298	17,682	0.05%	1.35%	0.00%	10.50%	0.00%
Axon Enterprise Inc	AXON	423.50	76	Excl.	Excl.	n/a	n/a	25.00%	n/a
Dayforce Inc	DAY	70.95	158	Excl.	Excl.	n/a	n/a	n/a	n/a
Carrier Global Corp	CARR	72.72	897	65,246	0.17%	1.05%	0.00%	12.00%	0.02%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Bank of New York Mellon Corp/The	BK	75.36	738	55,612	0.15%	2.49%	0.00%	15.00%	0.02%
Otis Worldwide Corp	OTIS	98.20	399	39,227	0.10%	1.59%	0.00%	11.00%	0.01%
Baxter International Inc	BAX	35.70	510	18,213	0.05%	3.25%	0.00%	3.00%	0.00%
Becton Dickinson & Co	BDX	233.59	289	67,517	0.18%	1.63%	0.00%	6.00%	0.01%
Berkshire Hathaway Inc	BRK/B	450.92	1,325	597,556	1.59%	n/a	n/a	9.00%	0.14%
Best Buy Co Inc	BBY	90.43	215	19,418	0.05%	4.16%	0.00%	1.00%	0.00%
Boston Scientific Corp	BSX	84.02	1,473	123,730	0.33%	n/a	n/a	13.00%	0.04%
Bristol-Myers Squibb Co	BMJ	55.77	2,028	113,111	0.30%	4.30%	0.01%	1.00%	0.00%
Brown-Forman Corp	BF/B	44.03	304	13,365	0.04%	1.98%	0.00%	15.00%	0.01%
Colerra Energy Inc	CTRA	23.92	739	17,683	0.05%	3.51%	0.00%	4.50%	0.00%
Hilton Worldwide Holdings Inc	HLT	234.85	244	Excl.	Excl.	0.26%	n/a	n/a	n/a
Carnival Corp	CCL	22.00	1,154	Excl.	Excl.	n/a	n/a	n/a	n/a
Qorvo Inc	QRVO	71.26	95	6,736	0.02%	n/a	n/a	5.50%	0.00%
Builders FirstSource Inc	BLDR	171.40	116	19,960	0.05%	n/a	n/a	6.50%	0.00%
UDR Inc	UDR	42.19	330	13,921	0.04%	4.03%	0.00%	2.50%	0.00%
Clorox Co/The	CLX	158.55	124	19,625	0.05%	3.08%	0.00%	7.00%	0.00%
Paycom Software Inc	PAYC	209.03	58	Excl.	Excl.	0.72%	n/a	21.00%	n/a
CMS Energy Corp	CMS	69.61	299	20,798	0.06%	2.96%	0.00%	6.00%	0.00%
Colgate-Palmolive Co	CL	93.71	817	76,562	0.20%	2.13%	0.00%	11.50%	0.02%
EPAM Systems Inc	EPAM	188.65	57	Excl.	Excl.	n/a	n/a	20.50%	n/a
Conagra Brands Inc	CAG	28.94	477	13,812	0.04%	4.84%	0.00%	3.00%	0.00%
Airbnb Inc	ABNB	134.79	440	Excl.	Excl.	n/a	n/a	23.00%	n/a
Consolidated Edison Inc	ED	101.68	346	35,196	0.09%	3.27%	0.00%	6.00%	0.01%
Corning Inc	GLW	47.59	856	40,723	0.11%	2.35%	0.00%	17.50%	0.02%
GoDaddy Inc	GDDY	166.80	140	Excl.	Excl.	n/a	n/a	27.00%	n/a
Cummins Inc	CMI	328.98	137	45,086	0.12%	2.21%	0.00%	6.00%	0.01%
Caesars Entertainment Inc	CZR	40.05	212	Excl.	Excl.	n/a	n/a	n/a	n/a
Danaher Corp	DHR	245.66	722	177,434	0.47%	0.44%	0.00%	5.50%	0.03%
Target Corp	TGT	150.04	461	69,120	0.18%	2.99%	0.01%	9.50%	0.02%
Deere & Co	DE	404.69	274	110,723	0.29%	1.45%	0.00%	4.00%	0.01%
Dominion Energy Inc	D	59.53	839	49,942	0.13%	4.49%	0.01%	3.00%	0.00%
Dover Corp	DOV	189.33	137	25,975	0.07%	1.09%	0.00%	6.00%	0.00%
Alliant Energy Corp	LNT	60.00	256	15,390	0.04%	3.20%	0.00%	6.00%	0.00%
Steel Dynamics Inc	STLD	130.50	154	20,137	0.05%	1.41%	0.00%	2.00%	0.00%
Duke Energy Corp	DUK	115.27	771	88,873	0.24%	3.63%	0.01%	5.00%	0.01%
Regency Centers Corp	REG	71.44	181	12,966	0.03%	3.75%	0.00%	11.50%	0.00%
Eaton Corp PLC	ETN	331.58	395	131,040	0.35%	1.13%	0.00%	11.00%	0.04%
Ecolab Inc	ECL	245.73	283	69,581	0.18%	0.93%	0.00%	11.00%	0.02%
Revvity Inc	RVTY	118.59	123	Excl.	Excl.	0.24%	n/a	-2.50%	n/a
Dell Technologies Inc	DELL	123.63	334	41,277	0.11%	1.44%	0.00%	2.50%	0.00%
Emerson Electric Co	EMR	108.27	573	62,006	0.16%	1.94%	0.00%	7.00%	0.01%
EOG Resources Inc	EOG	121.96	569	69,346	0.18%	2.98%	0.01%	8.00%	0.01%
Aon PLC	AON	366.87	216	79,342	0.21%	0.74%	0.00%	12.50%	0.03%
Entergy Corp	ETR	154.78	214	33,097	0.09%	3.10%	0.00%	0.50%	0.00%
Equifax Inc	EFX	265.02	124	32,850	0.09%	0.59%	0.00%	7.00%	0.01%
EQT Corp	EQT	36.54	597	Excl.	Excl.	1.72%	n/a	n/a	n/a
IQVIA Holdings Inc	IQV	205.82	182	37,356	0.10%	n/a	n/a	11.00%	0.01%
Gartner Inc	IT	502.50	77	38,723	0.10%	n/a	n/a	8.00%	0.01%
FedEx Corp	FDX	273.85	244	66,908	0.18%	2.02%	0.00%	3.50%	0.01%
FMC Corp	FMC	64.99	125	8,113	0.02%	3.57%	0.00%	4.00%	0.00%
Brown & Brown Inc	BRO	104.64	286	29,923	0.08%	0.57%	0.00%	12.50%	0.01%
Ford Motor Co	F	10.29	3,903	Excl.	Excl.	5.83%	n/a	35.00%	n/a
NextEra Energy Inc	NEE	79.25	2,056	162,970	0.43%	2.60%	0.01%	8.00%	0.03%
Franklin Resources Inc	BEN	20.77	523	10,863	0.03%	5.97%	0.00%	4.00%	0.00%
Garmin Ltd	GRMN	198.35	192	38,088	0.10%	1.51%	0.00%	5.00%	0.01%
Freight-McMoRan Inc	FCX	45.02	1,437	64,687	0.17%	1.33%	0.00%	11.00%	0.02%
Dexcom Inc	DXCM	70.48	391	Excl.	Excl.	n/a	n/a	n/a	n/a
General Dynamics Corp	GD	291.61	275	80,184	0.21%	1.95%	0.00%	10.00%	0.02%
General Mills Inc	GIS	68.02	555	37,762	0.10%	3.53%	0.00%	5.00%	0.01%
Genuine Parts Co	GPC	114.70	139	15,947	0.04%	3.49%	0.00%	8.50%	0.00%
Atmos Energy Corp	ATO	138.78	155	21,543	0.06%	2.32%	0.00%	7.00%	0.00%
WW Grainger Inc	GWV	1,109.23	49	54,020	0.14%	0.74%	0.00%	7.00%	0.01%
Halliburton Co	HAL	27.74	883	24,490	0.06%	2.45%	0.00%	18.00%	0.01%
L3Harris Technologies Inc	LHX	247.47	190	46,937	0.12%	1.87%	0.00%	11.50%	0.01%
Healthpeak Properties Inc	DOC	22.45	699	15,702	0.04%	5.35%	0.00%	7.00%	0.00%
Insulet Corp	PODD	231.53	70	Excl.	Excl.	n/a	n/a	n/a	n/a
Catalent Inc	CTLT	58.60	181	Excl.	Excl.	n/a	n/a	21.00%	n/a
Fortive Corp	FTV	71.43	347	24,783	0.07%	0.45%	0.00%	15.00%	0.01%
Hershey Co/The	HSY	177.58	148	26,224	0.07%	3.09%	0.00%	7.00%	0.00%
Synchrony Financial	SYF	55.14	389	Excl.	Excl.	1.81%	n/a	47.00%	n/a
Hormel Foods Corp	HRL	30.55	548	16,753	0.04%	3.70%	0.00%	7.50%	0.00%
Arthur J Gallagher & Co	AJG	281.20	219	61,695	0.16%	0.85%	0.00%	14.00%	0.02%
Mondelez International Inc	MDLZ	68.48	1,337	91,571	0.24%	2.75%	0.01%	7.50%	0.02%
CenterPoint Energy Inc	CNP	29.53	652	19,245	0.05%	2.84%	0.00%	6.50%	0.00%
Humana Inc	HUM	257.83	120	31,046	0.08%	1.37%	0.00%	4.50%	0.00%
Willis Towers Watson PLC	WTW	302.19	101	30,438	0.08%	1.16%	0.00%	9.50%	0.01%
Illinois Tool Works Inc	ITW	261.13	295	77,112	0.20%	2.30%	0.00%	9.00%	0.02%
CDW Corp/DE	CDW	188.23	133	25,084	0.07%	1.33%	0.00%	7.00%	0.00%
Trane Technologies PLC	TT	370.16	225	83,295	0.22%	0.91%	0.00%	14.00%	0.03%
Interpublic Group of Cos Inc/The	IPG	29.40	373	10,952	0.03%	4.49%	0.00%	8.50%	0.00%
International Flavors & Fragrances Inc	IFF	99.43	256	25,420	0.07%	1.61%	0.00%	0.50%	0.00%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Generac Holdings Inc	GNRC	165.55	60	9,958	0.03%	n/a	n/a	12.50%	0.00%
NXP Semiconductors NV	NXPI	234.50	255	59,735	0.16%	1.73%	0.00%	7.50%	0.01%
Kellanova	K	80.65	345	27,800	0.07%	2.83%	0.00%	3.00%	0.00%
Broadridge Financial Solutions Inc	BR	210.86	117	24,647	0.07%	1.67%	0.00%	9.50%	0.01%
Kimberly-Clark Corp	KMB	134.18	333	44,747	0.12%	3.64%	0.00%	7.50%	0.01%
Kimco Realty Corp	KIM	23.72	674	15,990	0.04%	4.22%	0.00%	18.00%	0.01%
Oracle Corp	ORCL	167.84	2,771	465,095	1.23%	0.95%	0.01%	10.00%	0.12%
Kroger Co/The	KR	55.77	723	40,349	0.11%	2.30%	0.00%	5.00%	0.01%
Lennar Corp	LEN	170.30	239	40,669	0.11%	1.17%	0.00%	6.00%	0.01%
Eli Lilly & Co	LLY	829.74	949	Excl.	Excl.	0.63%	n/a	28.50%	n/a
Charter Communications Inc	CHTR	327.61	143	46,763	0.12%	n/a	n/a	6.50%	0.01%
Loews Corp	L	78.96	220	17,333	0.05%	0.32%	0.00%	14.50%	0.01%
Lowe's Cos Inc	LOW	261.83	567	148,535	0.39%	1.76%	0.01%	5.50%	0.02%
Hubbell Inc	HUBB	427.03	54	22,919	0.06%	1.24%	0.00%	9.00%	0.01%
IDEX Corp	IEX	214.64	76	16,253	0.04%	1.29%	0.00%	5.00%	0.00%
Marsh & McLennan Cos Inc	MMC	218.24	491	107,182	0.28%	1.49%	0.00%	12.00%	0.03%
Masco Corp	MAS	79.91	216	17,240	0.05%	1.45%	0.00%	9.50%	0.00%
S&P Global Inc	SPGI	480.36	318	152,514	0.40%	0.76%	0.00%	8.00%	0.03%
Medtronic PLC	MDT	89.25	1,282	114,460	0.30%	3.14%	0.01%	6.50%	0.02%
Viatris Inc	VTRS	11.60	1,194	Excl.	Excl.	4.14%	n/a	-1.50%	n/a
CVS Health Corp	CVS	56.46	1,258	71,025	0.19%	4.71%	0.01%	2.50%	0.00%
DuPont de Nemours Inc	DD	82.99	417	34,648	0.09%	1.83%	0.00%	9.00%	0.01%
Micron Technology Inc	MU	99.65	1,109	Excl.	Excl.	0.46%	n/a	24.00%	n/a
Motorola Solutions Inc	MSI	449.35	167	74,970	0.20%	0.87%	0.00%	10.00%	0.02%
Cboe Global Markets Inc	CBOE	213.57	105	22,347	0.06%	1.18%	0.00%	14.00%	0.01%
Newmont Corp	NEM	45.44	1,138	51,731	0.14%	2.20%	0.00%	13.00%	0.02%
NIKE Inc	NKE	77.13	1,191	91,831	0.24%	1.92%	0.00%	10.50%	0.03%
NiSource Inc	NI	35.16	467	16,412	0.04%	3.01%	0.00%	9.50%	0.00%
Norfolk Southern Corp	NSC	250.43	226	56,657	0.15%	2.16%	0.00%	9.50%	0.01%
Principal Financial Group Inc	PFG	82.40	229	18,847	0.05%	3.54%	0.00%	4.00%	0.00%
Eversource Energy	ES	65.85	357	23,534	0.06%	4.34%	0.00%	6.00%	0.00%
Northrop Grumman Corp	NOC	509.02	146	74,162	0.20%	1.62%	0.00%	8.00%	0.02%
Wells Fargo & Co	WFC	64.92	3,329	216,151	0.57%	2.46%	0.01%	9.50%	0.05%
Nucor Corp	NUE	141.84	237	Excl.	Excl.	1.52%	n/a	n/a	n/a
Occidental Petroleum Corp	OXY	50.11	916	45,911	0.12%	1.76%	0.00%	6.00%	0.01%
Omnicom Group Inc	OMC	101.00	195	19,704	0.05%	2.77%	0.00%	7.00%	0.00%
ONEOK Inc	OKE	96.88	584	56,596	0.15%	4.09%	0.01%	12.00%	0.02%
Raymond James Financial Inc	RJF	148.22	206	30,525	0.08%	1.21%	0.00%	10.00%	0.01%
PG&E Corp	PCG	20.22	2,137	43,219	0.11%	0.20%	0.00%	9.00%	0.01%
Parker-Hannifin Corp	PH	634.07	129	81,586	0.22%	1.03%	0.00%	12.50%	0.03%
Rollins Inc	ROL	47.14	484	22,830	0.06%	1.40%	0.00%	9.00%	0.01%
PPL Corp	PPL	32.56	738	24,022	0.06%	3.16%	0.00%	7.50%	0.00%
ConocoPhillips	COP	109.54	1,151	126,071	0.33%	2.85%	0.01%	4.00%	0.01%
PulteGroup Inc	PHM	129.53	205	26,564	0.07%	0.62%	0.00%	8.00%	0.01%
Pinnacle West Capital Corp	PNW	87.81	114	9,976	0.03%	4.08%	0.00%	4.50%	0.00%
PNC Financial Services Group Inc/The	PNC	188.27	397	74,837	0.20%	3.40%	0.01%	11.50%	0.02%
PPG Industries Inc	PPG	124.51	232	28,886	0.08%	2.18%	0.00%	7.00%	0.01%
Progressive Corp/The	PGR	242.83	586	Excl.	Excl.	0.16%	n/a	22.50%	n/a
Veralto Corp	VLTO	102.19	247	25,272	0.07%	0.35%	0.00%	6.00%	0.00%
Public Service Enterprise Group Inc	PEG	89.41	498	44,541	0.12%	2.68%	0.00%	5.00%	0.01%
Cooper Cos Inc/The	COO	104.68	199	20,848	0.06%	n/a	n/a	7.50%	0.00%
Edison International	EIX	82.40	387	31,901	0.08%	3.79%	0.00%	6.50%	0.01%
Schlumberger NV	SLB	40.07	1,412	Excl.	Excl.	2.75%	n/a	22.00%	n/a
Charles Schwab Corp/The	SCHW	70.83	1,778	125,967	0.33%	1.41%	0.00%	10.50%	0.04%
Sherwin-Williams Co/The	SHW	358.77	252	90,357	0.24%	0.80%	0.00%	11.00%	0.03%
West Pharmaceutical Services Inc	WST	307.93	72	22,301	0.06%	0.27%	0.00%	7.50%	0.00%
J M Smucker Co/The	SJM	113.51	106	12,078	0.03%	3.81%	0.00%	7.00%	0.00%
Snap-on Inc	SNA	330.13	53	17,334	0.05%	2.25%	0.00%	5.50%	0.00%
AMETEK Inc	AME	183.34	231	42,408	0.11%	0.61%	0.00%	10.00%	0.01%
Uber Technologies Inc	UBER	72.05	2,106	Excl.	Excl.	n/a	n/a	n/a	n/a
Southern Co/The	SO	91.03	1,095	99,644	0.26%	3.16%	0.01%	6.50%	0.02%
Truist Financial Corp	TFC	43.05	1,339	57,650	0.15%	4.83%	0.01%	1.50%	0.00%
Southwest Airlines Co	LUV	30.58	600	Excl.	Excl.	2.35%	n/a	n/a	n/a
W R Berkley Corp	WRB	57.17	381	21,756	0.06%	0.56%	0.00%	13.00%	0.01%
Stanley Black & Decker Inc	SWK	92.94	154	14,328	0.04%	3.53%	0.00%	11.00%	0.00%
Public Storage	PSA	329.06	176	57,817	0.15%	3.65%	0.01%	7.00%	0.01%
Arista Networks Inc	ANET	386.44	314	121,401	0.32%	n/a	n/a	19.50%	0.06%
Sysco Corp	SY	74.95	491	36,817	0.10%	2.72%	0.00%	13.50%	0.01%
Corteva Inc	CTVA	60.92	692	42,172	0.11%	1.12%	0.00%	9.50%	0.01%
Texas Instruments Inc	TXN	203.16	912	185,326	0.49%	2.68%	0.01%	3.00%	0.01%
Textron Inc	TXT	80.42	186	14,919	0.04%	0.10%	0.00%	13.00%	0.01%
Thermo Fisher Scientific Inc	TMO	546.32	382	208,692	0.55%	0.29%	0.00%	6.00%	0.03%
TJX Cos Inc/The	TJX	113.03	1,128	127,483	0.34%	1.33%	0.00%	17.00%	0.06%
Globe Life Inc	GL	105.60	90	9,485	0.03%	0.91%	0.00%	8.50%	0.00%
Johnson Controls International plc	JCI	75.55	668	50,468	0.13%	1.96%	0.00%	9.50%	0.01%
Ulta Beauty Inc	ULTA	368.98	47	17,384	0.05%	n/a	n/a	6.50%	0.00%
Union Pacific Corp	UNP	232.07	606	140,694	0.37%	2.31%	0.01%	8.00%	0.03%
Keysight Technologies Inc	KEYS	149.01	174	25,860	0.07%	n/a	n/a	8.00%	0.01%
UnitedHealth Group Inc	UNH	564.50	923	521,269	1.38%	1.49%	0.02%	12.00%	0.17%
Blackstone Inc	BX	167.75	720	120,793	0.32%	2.05%	0.01%	16.00%	0.05%
Marathon Oil Corp	MRO	27.70	559	15,495	0.04%	1.59%	0.00%	12.50%	0.01%

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Ventas Inc	VTR	65.49	419	Excl.	Excl.	2.75%	n/a	23.00%	n/a
Labcorp Holdings Inc	LH	228.27	84	19,092	0.05%	1.26%	0.00%	1.00%	0.00%
Vulcan Materials Co	VMC	273.93	132	36,175	0.10%	0.67%	0.00%	8.00%	0.01%
Weyerhaeuser Co	WY	31.16	727	Excl.	Excl.	2.57%	n/a	-2.00%	n/a
Williams Cos Inc/The	WMB	52.37	1,219	63,835	0.17%	3.63%	0.01%	11.00%	0.02%
Constellation Energy Corp	CEG	262.96	315	Excl.	Excl.	0.54%	n/a	n/a	n/a
WEC Energy Group Inc	WEC	95.53	316	30,195	0.08%	3.50%	0.00%	6.00%	0.00%
Adobe Inc	ADBE	478.08	440	210,451	0.56%	n/a	n/a	13.50%	0.08%
Vistra Corp	VST	124.96	344	Excl.	Excl.	0.71%	n/a	n/a	n/a
AES Corp/The	AES	16.49	711	11,725	0.03%	4.18%	0.00%	14.00%	0.00%
Expeditors International of Washington Inc	EXPD	119.00	141	Excl.	Excl.	1.23%	n/a	-1.00%	n/a
Amgen Inc	AMGN	320.16	538	172,097	0.46%	2.81%	0.01%	4.50%	0.02%
Apple Inc	AAPL	225.91	15,204	3,434,767	9.11%	0.44%	0.04%	8.00%	0.73%
Autodesk Inc	ADSK	283.80	215	61,017	0.16%	n/a	n/a	14.00%	0.02%
Cintas Corp	CTAS	205.81	403	83,003	0.22%	0.76%	0.00%	14.00%	0.03%
Comcast Corp	CMCSA	43.67	3,817	166,693	0.44%	2.84%	0.01%	7.50%	0.03%
Molson Coors Beverage Co	TAP	54.47	193	10,490	0.03%	3.23%	0.00%	11.50%	0.00%
KLA Corp	KLAC	666.23	134	89,115	0.24%	0.87%	0.00%	13.00%	0.03%
Marriott International Inc/MD	MAR	260.02	282	73,202	0.19%	0.97%	0.00%	11.00%	0.02%
Fiserv Inc	FI	197.90	569	112,589	0.30%	n/a	n/a	9.50%	0.03%
McCormick & Co Inc/MD	MKC	78.24	252	19,731	0.05%	2.15%	0.00%	4.50%	0.00%
PACCAR Inc	PACAR	104.28	524	54,674	0.15%	1.15%	0.00%	14.50%	0.02%
Costco Wholesale Corp	COST	874.18	443	387,326	1.03%	0.53%	0.01%	10.00%	0.10%
Stryker Corp	SYK	356.28	381	135,820	0.36%	0.90%	0.00%	9.50%	0.03%
Tyson Foods Inc	TSN	58.59	286	16,746	0.04%	3.35%	0.00%	6.00%	0.00%
Lamb Weston Holdings Inc	LW	77.69	143	11,078	0.03%	1.85%	0.00%	10.50%	0.00%
Applied Materials Inc	AMAT	181.58	824	149,695	0.40%	0.88%	0.00%	9.50%	0.04%
Cardinal Health Inc	CAH	108.52	242	26,258	0.07%	1.86%	0.00%	6.50%	0.00%
Cincinnati Financial Corp	CINF	140.83	156	22,014	0.06%	2.30%	0.00%	10.50%	0.01%
Paramount Global	PARA	10.94	626	6,849	0.02%	1.83%	0.00%	3.00%	0.00%
DR Horton Inc	DHI	169.00	326	55,101	0.15%	0.95%	0.00%	5.00%	0.01%
Electronic Arts Inc	EA	150.85	264	39,855	0.11%	0.50%	0.00%	14.00%	0.01%
Erie Indemnity Co	ERIE	448.84	46	20,731	0.06%	1.14%	0.00%	20.00%	0.01%
Fair Isaac Corp	FICO	1,993.11	25	48,869	0.13%	n/a	n/a	16.50%	0.02%
Fastenal Co	FAST	78.18	573	44,788	0.12%	2.00%	0.00%	9.00%	0.01%
M&T Bank Corp	MTB	194.68	167	Excl.	Excl.	2.77%	n/a	n/a	n/a
Xcel Energy Inc	XEL	66.81	574	38,365	0.10%	3.28%	0.00%	6.00%	0.01%
Fifth Third Bancorp	FITB	43.68	677	29,563	0.08%	3.39%	0.00%	4.50%	0.00%
Gilead Sciences Inc	GILD	88.82	1,245	110,580	0.29%	3.47%	0.01%	2.50%	0.01%
Hasbro Inc	HAS	65.63	140	9,155	0.02%	4.27%	0.00%	8.50%	0.00%
Huntington Bancshares Inc/OH	HBAN	15.59	1,453	22,649	0.06%	3.98%	0.00%	7.50%	0.00%
Welltower Inc	WELL	134.88	623	Excl.	Excl.	1.99%	n/a	26.50%	n/a
Biogen Inc	BIIB	174.00	146	25,355	0.07%	n/a	n/a	0.50%	0.00%
Northern Trust Corp	NTRS	100.52	198	19,925	0.05%	2.98%	0.00%	4.00%	0.00%
Packaging Corp of America	PKG	228.94	90	20,562	0.05%	2.18%	0.00%	9.00%	0.00%
Paychex Inc	PAYX	139.33	360	50,145	0.13%	2.81%	0.00%	8.00%	0.01%
QUALCOMM Inc	QCOM	162.77	1,114	181,326	0.48%	2.09%	0.01%	6.00%	0.03%
Ross Stores Inc	ROST	139.72	332	46,354	0.12%	1.05%	0.00%	14.00%	0.02%
IDEXX Laboratories Inc	IDXX	406.92	82	33,321	0.09%	n/a	n/a	10.50%	0.01%
Starbucks Corp	SBUX	97.70	1,133	110,714	0.29%	2.50%	0.01%	9.00%	0.03%
KeyCorp	KEY	17.25	991	Excl.	Excl.	4.75%	n/a	-2.00%	n/a
Fox Corp	FOXA	42.00	225	9,435	0.03%	1.29%	0.00%	8.00%	0.00%
Fox Corp	FOX	38.96	236	Excl.	Excl.	1.39%	n/a	n/a	n/a
State Street Corp	STT	92.80	293	Excl.	Excl.	3.28%	n/a	n/a	n/a
Norwegian Cruise Line Holdings Ltd	NCLH	25.34	440	Excl.	Excl.	n/a	n/a	n/a	n/a
US Bancorp	USB	48.31	1,561	75,388	0.20%	4.14%	0.01%	4.00%	0.01%
A O Smith Corp	AOS	75.10	119	8,945	0.02%	1.81%	0.00%	9.00%	0.00%
Gen Digital Inc	GEN	29.11	616	17,938	0.05%	1.72%	0.00%	10.50%	0.00%
T Rowe Price Group Inc	TROW	109.86	223	24,455	0.06%	4.51%	0.00%	5.50%	0.00%
Waste Management Inc	WM	215.85	401	86,635	0.23%	1.39%	0.00%	6.00%	0.01%
Palantir Technologies Inc	PLTR	41.56	2,142	Excl.	Excl.	n/a	n/a	n/a	n/a
Constellation Brands Inc	STZ	232.34	182	42,178	0.11%	1.74%	0.00%	6.00%	0.01%
Invesco Ltd	IVZ	17.34	449	7,793	0.02%	4.73%	0.00%	10.00%	0.00%
Intuit Inc	INTU	610.30	280	171,062	0.45%	0.68%	0.00%	13.50%	0.06%
Morgan Stanley	MS	116.25	1,621	188,428	0.50%	3.18%	0.02%	9.50%	0.05%
Microchip Technology Inc	MCHP	73.37	537	39,363	0.10%	2.48%	0.00%	6.00%	0.01%
CrowdStrike Holdings Inc	CRWD	296.87	233	Excl.	Excl.	n/a	n/a	n/a	n/a
Chubb Ltd	CB	282.44	403	113,851	0.30%	1.29%	0.00%	13.00%	0.04%
Hologic Inc	HOLX	80.87	232	Excl.	Excl.	n/a	n/a	-2.00%	n/a
Citizens Financial Group Inc	CFG	42.12	448	18,882	0.05%	3.99%	0.00%	7.50%	0.00%
Jabil Inc	JBL	123.09	113	13,890	0.04%	0.26%	0.00%	13.50%	0.00%
O'Reilly Automotive Inc	ORLY	1,153.14	58	66,889	0.18%	n/a	n/a	10.50%	0.02%
Allstate Corp/The	ALL	186.52	265	Excl.	Excl.	1.97%	n/a	30.00%	n/a
Equity Residential	EQR	70.37	379	Excl.	Excl.	3.84%	n/a	-4.00%	n/a
BorgWarner Inc	BWA	33.63	219	7,355	0.02%	1.31%	0.00%	5.50%	0.00%
Keurig Dr Pepper Inc	KDP	32.95	1,356	44,695	0.12%	2.79%	0.00%	10.00%	0.01%
Host Hotels & Resorts Inc	HST	17.24	702	Excl.	Excl.	4.64%	n/a	51.00%	n/a
Incyte Corp	INCY	74.12	193	14,279	0.04%	n/a	n/a	18.50%	0.01%
Simon Property Group Inc	SPG	169.12	326	55,139	0.15%	4.85%	0.01%	3.50%	0.01%
Eastman Chemical Co	EMN	105.09	117	12,281	0.03%	3.08%	0.00%	3.50%	0.00%
AvalonBay Communities Inc	AVB	221.61	142	31,517	0.08%	3.07%	0.00%	5.50%	0.00%

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Prudential Financial Inc	PRU	122.48	356	43,603	0.12%	4.25%	0.00%	4.00%	0.00%
United Parcel Service Inc	UPS	134.06	733	98,200	0.26%	4.86%	0.01%	3.50%	0.01%
Walgreens Boots Alliance Inc	WBA	9.46	865	Excl.	Excl.	10.57%	n/a	-7.00%	n/a
STERIS PLC	STE	221.85	99	21,878	0.06%	1.03%	0.00%	8.00%	0.00%
McKesson Corp	MCK	500.59	130	64,915	0.17%	0.57%	0.00%	10.00%	0.02%
Lockheed Martin Corp	LMT	546.05	237	129,433	0.34%	2.42%	0.01%	9.50%	0.03%
Cencora Inc	COR	228.08	196	44,706	0.12%	0.89%	0.00%	6.50%	0.01%
Capital One Financial Corp	COF	162.79	382	62,106	0.16%	1.47%	0.00%	2.50%	0.00%
Campbell Soup Co	CPB	46.65	298	13,884	0.04%	3.17%	0.00%	5.00%	0.00%
Waters Corp	WAT	323.11	59	19,180	0.05%	n/a	n/a	6.50%	0.00%
Nordson Corp	NDSN	247.89	57	14,175	0.04%	1.26%	0.00%	10.00%	0.00%
Dollar Tree Inc	DLTR	64.64	215	13,897	0.04%	n/a	n/a	20.00%	0.01%
Darden Restaurants Inc	DRI	160.02	118	18,802	0.05%	3.50%	0.00%	10.00%	0.00%
Everygy Inc	EVERG	60.44	230	13,886	0.04%	4.25%	0.00%	7.50%	0.00%
Match Group Inc	MTCH	36.03	258	9,292	0.02%	n/a	n/a	12.00%	0.00%
Domino's Pizza Inc	DPZ	413.73	35	14,287	0.04%	1.46%	0.00%	12.50%	0.00%
NVR Inc	NVR	9,152.81	3	28,169	0.07%	n/a	n/a	1.50%	0.00%
NetApp Inc	NTAP	115.31	205	23,613	0.06%	1.80%	0.00%	7.50%	0.00%
Old Dominion Freight Line Inc	ODFL	201.32	214	43,142	0.11%	0.52%	0.00%	7.50%	0.01%
DaVita Inc	DVA	139.81	82	11,464	0.03%	n/a	n/a	9.50%	0.00%
Hartford Financial Services Group Inc/The	HIG	110.44	290	32,016	0.08%	1.88%	0.00%	7.00%	0.01%
Iron Mountain Inc	IRM	123.73	293	36,294	0.10%	2.31%	0.00%	5.50%	0.01%
Estee Lauder Cos Inc/The	EL	68.94	233	16,093	0.04%	2.03%	0.00%	3.50%	0.00%
Cadence Design Systems Inc	CDNS	276.12	274	75,729	0.20%	n/a	n/a	12.00%	0.02%
Tyler Technologies Inc	TYL	605.59	43	25,918	0.07%	n/a	n/a	8.00%	0.01%
Universal Health Services Inc	UHS	204.31	59	12,149	0.03%	0.39%	0.00%	9.00%	0.00%
Skyworks Solutions Inc	SWKS	87.58	160	Excl.	Excl.	3.20%	n/a	n/a	n/a
Quest Diagnostics Inc	DGX	154.83	112	17,281	0.05%	1.94%	0.00%	3.00%	0.00%
Rockwell Automation Inc	ROK	266.71	113	30,263	0.08%	1.96%	0.00%	9.50%	0.01%
Kraft Heinz Co/The	KHC	33.46	1,209	40,459	0.11%	4.78%	0.01%	4.50%	0.00%
American Tower Corp	AMT	213.54	467	99,785	0.26%	3.03%	0.01%	11.00%	0.03%
Regeneron Pharmaceuticals Inc	REGN	838.20	108	90,586	0.24%	n/a	n/a	1.50%	0.00%
Amazon.com Inc	AMZN	186.40	10,496	Excl.	Excl.	n/a	n/a	24.50%	n/a
Jack Henry & Associates Inc	JKHY	181.93	73	13,266	0.04%	1.21%	0.00%	6.50%	0.00%
Ralph Lauren Corp	RL	197.93	40	7,929	0.02%	1.67%	0.00%	11.00%	0.00%
BXP Inc	BXP	80.56	158	12,723	0.03%	4.87%	0.00%	0.50%	0.00%
Amphenol Corp	APH	67.02	1,206	80,800	0.21%	0.98%	0.00%	13.50%	0.03%
Howmet Aerospace Inc	HWM	99.72	408	40,700	0.11%	0.32%	0.00%	12.00%	0.01%
Valero Energy Corp	VLO	129.76	317	41,080	0.11%	3.30%	0.00%	9.50%	0.01%
Synopsys Inc	SNPS	513.61	154	78,898	0.21%	n/a	n/a	12.50%	0.03%
CH Robinson Worldwide Inc	CHRW	103.04	117	12,085	0.03%	2.41%	0.00%	5.50%	0.00%
Accenture PLC	ACN	344.82	626	215,990	0.57%	1.72%	0.01%	12.50%	0.07%
TransDigm Group Inc	TDG	1,302.30	56	Excl.	Excl.	n/a	n/a	22.00%	n/a
Yum! Brands Inc	YUM	131.16	281	36,878	0.10%	2.04%	0.00%	10.00%	0.01%
Prologis Inc	PLD	112.94	926	104,572	0.28%	3.40%	0.01%	0.50%	0.00%
FirstEnergy Corp	FE	41.83	576	24,107	0.06%	4.06%	0.00%	5.50%	0.00%
VeriSign Inc	VRSN	176.84	96	16,994	0.05%	n/a	n/a	12.00%	0.01%
Quanta Services Inc	PWR	301.63	148	44,524	0.12%	0.12%	0.00%	16.50%	0.02%
Henry Schein Inc	HSIC	70.23	127	8,899	0.02%	n/a	n/a	8.50%	0.00%
Ameren Corp	AEE	87.11	267	23,216	0.06%	3.08%	0.00%	6.50%	0.00%
ANSYS Inc	ANSS	320.41	87	28,000	0.07%	n/a	n/a	9.50%	0.01%
FactSet Research Systems Inc	FDS	454.06	38	17,249	0.05%	0.92%	0.00%	11.00%	0.01%
NVIDIA Corp	NVDA	132.76	24,530	Excl.	Excl.	0.03%	n/a	41.00%	n/a
Cognizant Technology Solutions Corp	CTSH	74.59	496	36,984	0.10%	1.61%	0.00%	8.00%	0.01%
Intuitive Surgical Inc	ISRG	503.84	356	179,457	0.48%	n/a	n/a	13.50%	0.06%
Take-Two Interactive Software Inc	TTWO	161.72	175	Excl.	Excl.	n/a	n/a	n/a	n/a
Republic Services Inc	RSG	198.00	313	62,004	0.16%	1.17%	0.00%	11.00%	0.02%
eBay Inc	EBAY	57.51	479	27,547	0.07%	1.88%	0.00%	9.50%	0.01%
Goldman Sachs Group Inc/The	GS	517.79	316	163,518	0.43%	2.32%	0.01%	7.50%	0.03%
SBA Communications Corp	SBAC	229.47	107	24,662	0.07%	1.71%	0.00%	16.50%	0.01%
Sempra	SRE	83.37	633	52,785	0.14%	2.97%	0.00%	7.00%	0.01%
Moody's Corp	MCO	454.04	181	82,272	0.22%	0.75%	0.00%	9.00%	0.02%
ON Semiconductor Corp	ON	70.49	426	30,014	0.08%	n/a	n/a	8.00%	0.01%
Booking Holdings Inc	BKNG	4,676.25	33	Excl.	Excl.	0.75%	n/a	22.00%	n/a
F5 Inc	FFIV	233.88	58	13,632	0.04%	n/a	n/a	10.00%	0.00%
Akamai Technologies Inc	AKAM	101.08	152	15,316	0.04%	n/a	n/a	6.00%	0.00%
Charles River Laboratories International Inc	CRL	178.58	52	9,220	0.02%	n/a	n/a	7.00%	0.00%
MarketAxess Holdings Inc	MKTX	289.42	38	10,926	0.03%	1.02%	0.00%	9.00%	0.00%
Devon Energy Corp	DVN	38.68	626	24,221	0.06%	2.28%	0.00%	3.00%	0.00%
Bio-Techne Corp	TECH	73.75	159	11,702	0.03%	0.43%	0.00%	10.00%	0.00%
Alphabet Inc	GOOGL	171.11	5,843	Excl.	Excl.	0.47%	n/a	n/a	n/a
Teleflex Inc	TFX	201.06	46	9,338	0.02%	0.68%	0.00%	8.50%	0.00%
Allegion plc	ALLE	139.63	87	12,138	0.03%	1.38%	0.00%	8.50%	0.00%
Netflix Inc	NFLX	756.03	427	323,171	0.86%	n/a	n/a	16.50%	0.14%
Agilent Technologies Inc	A	130.31	287	37,442	0.10%	0.72%	0.00%	8.00%	0.01%
Warner Bros Discovery Inc	WBD	8.13	2,452	Excl.	Excl.	n/a	n/a	n/a	n/a
Elevance Health Inc	ELV	405.76	232	94,105	0.25%	1.61%	0.00%	11.00%	0.03%
Trimble Inc	TRMB	60.50	244	14,775	0.04%	n/a	n/a	5.50%	0.00%
CME Group Inc	CME	225.36	360	81,151	0.22%	2.04%	0.00%	5.50%	0.01%
Juniper Networks Inc	JNPR	38.90	331	12,879	0.03%	2.26%	0.00%	7.50%	0.00%
DTE Energy Co	DTE	124.22	207	25,704	0.07%	3.28%	0.00%	4.50%	0.00%

STANDARD AND POOR'S 500 INDEX

Name	Ticker	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Nasdaq Inc	NDAQ	73.92	575	42,486	0.11%	1.30%	0.00%	3.50%	0.00%
Celanese Corp	CE	125.97	109	13,764	0.04%	2.22%	0.00%	4.50%	0.00%
Philip Morris International Inc	PM	132.70	1,555	206,326	0.55%	4.07%	0.02%	5.00%	0.03%
Salesforce Inc	CRM	291.37	956	Excl.	Excl.	0.55%	n/a	24.00%	n/a
Ingersoll Rand Inc	IR	96.00	403	38,734	0.10%	0.08%	0.00%	10.50%	0.01%
Huntington Ingalls Industries Inc	HII	184.96	39	7,237	0.02%	2.92%	0.00%	10.00%	0.00%
Roper Technologies Inc	ROP	537.73	107	57,644	0.15%	0.56%	0.00%	9.00%	0.01%
MetLife Inc	MET	78.42	700	54,919	0.15%	2.78%	0.00%	7.50%	0.01%
Tapestry Inc	TPR	47.45	233	11,037	0.03%	2.95%	0.00%	9.00%	0.00%
CSX Corp	CSX	33.64	1,928	64,872	0.17%	1.43%	0.00%	9.00%	0.02%
Edwards Lifesciences Corp	EW	67.01	602	40,367	0.11%	n/a	n/a	10.00%	0.01%
Ameriprise Financial Inc	AMP	510.30	98	50,106	0.13%	1.16%	0.00%	10.00%	0.01%
Zebra Technologies Corp	ZBRA	381.97	52	19,702	0.05%	n/a	n/a	1.00%	0.00%
Zimmer Biomet Holdings Inc	ZBH	106.92	199	21,285	0.06%	0.90%	0.00%	6.50%	0.00%
CBRE Group Inc	CBRE	130.97	306	40,079	0.11%	n/a	n/a	5.00%	0.01%
Camden Property Trust	CPT	115.79	107	Excl.	Excl.	3.56%	n/a	-6.50%	n/a
Mastercard Inc	MA	499.59	911	455,011	1.21%	0.53%	0.01%	14.50%	0.18%
CarMax Inc	KMX	72.38	155	11,213	0.03%	n/a	n/a	3.50%	0.00%
Intercontinental Exchange Inc	ICE	155.87	574	89,497	0.24%	1.15%	0.00%	7.50%	0.02%
Smurfit WestRock PLC	SW	51.50	520	Excl.	Excl.	2.35%	n/a	n/a	n/a
Fidelity National Information Services Inc	FIS	89.73	546	48,954	0.13%	1.60%	0.00%	4.00%	0.01%
Chipotle Mexican Grill Inc	CMG	55.77	1,363	75,992	0.20%	n/a	n/a	20.00%	0.04%
Wynn Resorts Ltd	WYNN	96.02	111	Excl.	Excl.	1.04%	n/a	27.00%	n/a
Live Nation Entertainment Inc	LYV	117.14	232	Excl.	Excl.	n/a	n/a	n/a	n/a
Assurant Inc	AIZ	191.70	52	9,929	0.03%	1.50%	0.00%	9.50%	0.00%
NRG Energy Inc	NRG	90.40	206	18,657	0.05%	1.80%	0.00%	11.00%	0.01%
Regions Financial Corp	RF	23.87	915	21,844	0.06%	4.19%	0.00%	4.50%	0.00%
Monster Beverage Corp	MNST	52.68	980	51,602	0.14%	n/a	n/a	12.00%	0.02%
Mosaic Co/The	MOS	26.76	319	Excl.	Excl.	3.14%	n/a	-9.50%	n/a
Baker Hughes Co	BKR	38.08	990	Excl.	Excl.	2.21%	n/a	29.50%	n/a
Expedia Group Inc	EXPE	156.31	125	Excl.	Excl.	n/a	n/a	39.00%	n/a
CF Industries Holdings Inc	CF	82.23	174	Excl.	Excl.	2.43%	n/a	-1.50%	n/a
Leidos Holdings Inc	LDOS	183.16	133	24,440	0.06%	0.87%	0.00%	9.50%	0.01%
APA Corp	APA	23.60	370	8,730	0.02%	4.24%	0.00%	6.00%	0.00%
Alphabet Inc	GOOG	172.69	5,534	955,666	2.54%	0.46%	0.01%	13.50%	0.34%
First Solar Inc	FSLR	194.48	107	Excl.	Excl.	n/a	n/a	34.50%	n/a
Discover Financial Services	DFS	148.43	251	37,267	0.10%	1.89%	0.00%	4.00%	0.00%
Visa Inc	V	289.85	1,670	484,178	1.28%	0.81%	0.01%	13.50%	0.17%
Mid-America Apartment Communities Inc	MAA	151.34	117	Excl.	Excl.	3.89%	n/a	-15.00%	n/a
Xylem Inc/NY	XYL	121.78	243	29,586	0.08%	1.18%	0.00%	12.00%	0.01%
Marathon Petroleum Corp	MPC	145.47	335	Excl.	Excl.	2.50%	n/a	-6.50%	n/a
Advanced Micro Devices Inc	AMD	144.07	1,623	233,798	0.62%	n/a	n/a	17.00%	0.11%
Tractor Supply Co	TSCO	265.51	108	28,640	0.08%	1.66%	0.00%	11.50%	0.01%
ResMed Inc	RMD	242.47	147	35,594	0.09%	0.87%	0.00%	10.00%	0.01%
Mettler-Toledo International Inc	MTD	1,291.75	21	27,588	0.07%	n/a	n/a	8.50%	0.01%
Jacobs Solutions Inc	J	140.58	124	17,467	0.05%	0.83%	0.00%	11.00%	0.01%
Copart Inc	CPRT	51.47	963	49,585	0.13%	n/a	n/a	9.00%	0.01%
VICI Properties Inc	VICI	31.76	1,043	33,130	0.09%	5.45%	0.00%	10.50%	0.01%
Fortinet Inc	FTNT	78.66	765	Excl.	Excl.	n/a	n/a	24.00%	n/a
Albemarle Corp	ALB	94.73	118	Excl.	Excl.	1.71%	n/a	-3.50%	n/a
Moderna Inc	MRNA	54.36	384	Excl.	Excl.	n/a	n/a	-18.50%	n/a
Essex Property Trust Inc	ESS	283.86	64	18,243	0.05%	3.45%	0.00%	4.50%	0.00%
CoStar Group Inc	CSGP	72.79	410	29,841	0.08%	n/a	n/a	16.50%	0.01%
Realty Income Corp	O	59.37	871	51,703	0.14%	5.33%	0.01%	5.00%	0.01%
Westinghouse Air Brake Technologies Corp	WAB	187.98	172	32,312	0.09%	0.43%	0.00%	16.00%	0.01%
Pool Corp	POOL	361.64	38	13,762	0.04%	1.33%	0.00%	14.00%	0.01%
Western Digital Corp	WDC	65.31	346	Excl.	Excl.	n/a	n/a	22.50%	n/a
PepsiCo Inc	PEP	166.08	1,372	227,860	0.60%	3.26%	0.02%	7.50%	0.05%
TE Connectivity PLC	TEL	147.42	304	44,804	0.12%	1.76%	0.00%	10.50%	0.01%
Diamondback Energy Inc	FANG	176.77	296	52,270	0.14%	5.30%	0.01%	2.50%	0.00%
Palo Alto Networks Inc	PANW	360.33	327	Excl.	Excl.	n/a	n/a	n/a	n/a
ServiceNow Inc	NOW	932.99	206	Excl.	Excl.	n/a	n/a	32.50%	n/a
Church & Dwight Co Inc	CHD	99.91	245	24,459	0.06%	1.14%	0.00%	6.50%	0.00%
Federal Realty Investment Trust	FRT	110.84	85	9,417	0.02%	3.97%	0.00%	2.50%	0.00%
Amentum Holdings Inc	AMTM	29.74	243	Excl.	Excl.	n/a	n/a	n/a	n/a
MGM Resorts International	MGM	36.87	298	Excl.	Excl.	n/a	n/a	25.00%	n/a
American Electric Power Co Inc	AEP	98.75	532	52,547	0.14%	3.77%	0.01%	6.50%	0.01%
Invitation Homes Inc	INVH	31.41	613	19,242	0.05%	3.57%	0.00%	13.50%	0.01%
PTC Inc	PTC	185.33	120	Excl.	Excl.	n/a	n/a	29.00%	n/a
JB Hunt Transport Services Inc	JBHT	180.62	101	18,212	0.05%	0.95%	0.00%	7.50%	0.00%
Lam Research Corp	LRCX	74.35	1,287	95,665	0.25%	1.24%	0.00%	12.50%	0.03%
Mohawk Industries Inc	MHK	134.27	63	8,475	0.02%	n/a	n/a	1.00%	0.00%
Pentair PLC	PNR	99.12	165	16,378	0.04%	0.93%	0.00%	12.00%	0.01%
GE HealthCare Technologies Inc	GEHC	87.35	457	Excl.	Excl.	0.14%	n/a	n/a	n/a
Vertex Pharmaceuticals Inc	VRTX	475.98	258	122,851	0.33%	n/a	n/a	11.00%	0.04%
Amcpr PLC	AMCR	11.13	1,445	16,087	0.04%	4.58%	0.00%	11.50%	0.00%
Meta Platforms Inc	META	567.58	2,180	1,237,325	3.28%	0.35%	0.01%	17.50%	0.57%
T-Mobile US Inc	TMUS	223.16	1,160	258,974	0.69%	1.58%	0.01%	20.00%	0.14%
United Rentals Inc	URI	812.80	66	53,338	0.14%	0.80%	0.00%	19.00%	0.03%
Honeywell International Inc	HON	205.68	650	133,743	0.35%	2.20%	0.01%	10.00%	0.04%
Alexandria Real Estate Equities Inc	ARE	111.55	175	19,495	0.05%	4.66%	0.00%	9.50%	0.00%

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Name	Ticker	Price	Shares Outstanding	Market Capitalization	Weight in Index	Current Dividend Yield	Cap-Weighted Dividend Yield	Value Line Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Delta Air Lines Inc	DAL	57.22	645	Excl.	Excl.	1.05%	n/a		n/a
Seagate Technology Holdings PLC	STX	100.37	212	Excl.	Excl.	2.87%	n/a	32.00%	n/a
United Airlines Holdings Inc	UAL	78.26	329	Excl.	Excl.	n/a	n/a		n/a
News Corp	NWS	29.04	190	Excl.	Excl.	0.69%	n/a		n/a
Centene Corp	CNC	62.26	505	31,433	0.08%	n/a	n/a	10.00%	0.01%
Martin Marietta Materials Inc	MLM	592.34	61	36,203	0.10%	0.53%	0.00%	11.00%	0.01%
Teradyne Inc	TER	106.21	163	17,331	0.05%	0.45%	0.00%	9.50%	0.00%
PayPal Holdings Inc	PYPL	79.30	1,003	79,501	0.21%	n/a	n/a	11.50%	0.02%
Tesla Inc	TSLA	249.85	3,210	802,033	2.13%	n/a	n/a	19.00%	0.40%
Blackrock Inc	BLK	981.03	148	145,318	0.39%	2.08%	0.01%	9.50%	0.04%
Arch Capital Group Ltd	ACGL	98.56	376	37,064	0.10%	n/a	n/a	17.00%	0.02%
KKR & Co Inc	KKR	138.24	887	122,680	0.33%	0.51%	0.00%	5.00%	0.02%
Dow Inc	DOW	49.38	700	34,571	0.09%	5.67%	0.01%	0.50%	0.00%
Everest Group Ltd	EG	355.61	43	15,389	0.04%	2.25%	0.00%	10.50%	0.00%
Teledyne Technologies Inc	TDY	455.32	47	21,219	0.06%	n/a	n/a	7.00%	0.00%
GE Vernova Inc	GEV	301.66	276	Excl.	Excl.	n/a	n/a		n/a
News Corp	NWSA	27.25	379	10,338	0.03%	0.73%	0.00%	14.50%	0.00%
Exelon Corp	EXC	39.30	1,005	Excl.	Excl.	3.87%	n/a		n/a
Global Payments Inc	GPN	103.71	254	26,394	0.07%	0.96%	0.00%	13.50%	0.01%
Crown Castle Inc	CCI	107.49	435	Excl.	Excl.	5.82%	n/a	-0.50%	n/a
Aptiv PLC	APTIV	56.83	235	Excl.	Excl.	n/a	n/a	28.50%	n/a
Align Technology Inc	ALGN	205.03	75	15,315	0.04%	n/a	n/a	17.00%	0.01%
Kenvue Inc	KVUE	22.93	1,915	Excl.	Excl.	3.58%	n/a		n/a
Targa Resources Corp	TRGP	166.96	219	36,578	0.10%	1.80%	0.00%	20.00%	0.02%
Bunge Global SA	BG	84.02	140	11,731	0.03%	3.24%	0.00%	0.00%	0.00%
Deckers Outdoor Corp	DECK	160.89	152	24,443	0.06%	n/a	n/a	16.00%	0.01%
LKQ Corp	LKQ	36.79	260	9,564	0.03%	3.26%	0.00%	7.00%	0.00%
Zoetis Inc	ZTS	178.78	453	80,996	0.21%	0.97%	0.00%	7.50%	0.02%
Digital Realty Trust Inc	DLR	178.23	327	Excl.	Excl.	2.74%	n/a	-5.00%	n/a
Equinix Inc	EQIX	908.08	96	87,619	0.23%	1.88%	0.00%	15.00%	0.03%
Las Vegas Sands Corp	LVS	51.85	725	Excl.	Excl.	1.54%	n/a		n/a
Molina Healthcare Inc	MOH	321.22	57	18,374	0.05%	n/a	n/a	11.50%	0.01%

Notes:

- [4] Source: Bloomberg Professional
- [5] Source: Bloomberg Professional
- [6] Equals [4] x [5]
- [7] Equals [6] / Sum of Column [6]
- [8] Source: Bloomberg Professional
- [9] Equals [7] x [8]
- [10] Source: Value Line, as of October 31, 2024
- [11] Equals [7] x [10]

CAPITAL ASSET PRICING MODEL - CURRENT RISK-FREE RATE, VALUE LINE BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		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)
Company	Ticker					
Alliant Energy Corporation	LNT	4.30%	0.90	15.07%	10.76%	13.99%
Ameren Corporation	AEE	4.30%	0.90	15.07%	10.76%	13.99%
American Electric Power Company, Inc.	AEP	4.30%	0.85	15.07%	10.76%	13.45%
Duke Energy Corporation	DUK	4.30%	0.90	15.07%	10.76%	13.99%
Entergy Corporation	ETR	4.30%	1.00	15.07%	10.76%	15.07%
Energy, Inc.	EVRG	4.30%	0.95	15.07%	10.76%	14.53%
IDACORP, Inc.	IDA	4.30%	0.85	15.07%	10.76%	13.45%
NextEra Energy, Inc.	NEE	4.30%	1.05	15.07%	10.76%	15.61%
NorthWestern Corporation	NWE	4.30%	0.95	15.07%	10.76%	14.53%
OGE Energy Corporation	OGE	4.30%	1.05	15.07%	10.76%	15.61%
Pinnacle West Capital Corporation	PNW	4.30%	0.95	15.07%	10.76%	14.53%
Portland General Electric Company	POR	4.30%	0.95	15.07%	10.76%	14.53%
PPL Corporation	PPL	4.30%	1.15	15.07%	10.76%	16.68%
Southern Company	SO	4.30%	0.95	15.07%	10.76%	14.53%
TXNM Energy, Inc.	TXNM	4.30%	0.90	15.07%	10.76%	13.99%
Median			0.95			14.53%
Mean			0.95			14.56%

Notes:

- [1] Source: Bloomberg Professional, 30-day average as of October 31, 2024
 [2] Source: Value Line Reports
 [3] Source: Exhibit__(JCN-1), Schedule 5, page 1
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE, VALUE LINE BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Near-term projected 30-year U.S. Treasury bond yield (Q1 2025 - Q1 2026)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Alliant Energy Corporation	LNT	4.20%	0.90	15.07%	10.87%	13.98%
Ameren Corporation	AEE	4.20%	0.90	15.07%	10.87%	13.98%
American Electric Power Company, Inc.	AEP	4.20%	0.85	15.07%	10.87%	13.44%
Duke Energy Corporation	DUK	4.20%	0.90	15.07%	10.87%	13.98%
Entergy Corporation	ETR	4.20%	1.00	15.07%	10.87%	15.07%
Energy, Inc.	EVRG	4.20%	0.95	15.07%	10.87%	14.52%
IDACORP, Inc.	IDA	4.20%	0.85	15.07%	10.87%	13.44%
NextEra Energy, Inc.	NEE	4.20%	1.05	15.07%	10.87%	15.61%
NorthWestern Corporation	NWE	4.20%	1.00	15.07%	10.87%	15.07%
OGE Energy Corporation	OGE	4.20%	1.05	15.07%	10.87%	15.61%
Pinnacle West Capital Corporation	PNW	4.20%	0.95	15.07%	10.87%	14.52%
Portland General Electric Company	POR	4.20%	0.95	15.07%	10.87%	14.52%
PPL Corporation	PPL	4.20%	1.15	15.07%	10.87%	16.70%
Southern Company	SO	4.20%	0.95	15.07%	10.87%	14.52%
TXNM Energy, Inc.	TXNM	4.20%	0.90	15.07%	10.87%	13.98%
Median			0.95			14.52%
Mean			0.96			14.60%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 11, November 1, 2024 at 2
 [2] Source: Value Line Reports
 [3] Source: Exhibit__(JCN-1), Schedule 5, page 1
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE, VALUE LINE BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Projected 30-year U.S. Treasury bond yield (2026 - 2030)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Alliant Energy Corporation	LNT	4.30%	0.90	15.07%	10.77%	13.99%
Ameren Corporation	AEE	4.30%	0.90	15.07%	10.77%	13.99%
American Electric Power Company, Inc.	AEP	4.30%	0.85	15.07%	10.77%	13.45%
Duke Energy Corporation	DUK	4.30%	0.90	15.07%	10.77%	13.99%
Entergy Corporation	ETR	4.30%	1.00	15.07%	10.77%	15.07%
Energy, Inc.	EVRG	4.30%	0.95	15.07%	10.77%	14.53%
IDACORP, Inc.	IDA	4.30%	0.85	15.07%	10.77%	13.45%
NextEra Energy, Inc.	NEE	4.30%	1.05	15.07%	10.77%	15.61%
NorthWestern Corporation	NWE	4.30%	0.95	15.07%	10.77%	14.53%
OGE Energy Corporation	OGE	4.30%	1.05	15.07%	10.77%	15.61%
Pinnacle West Capital Corporation	PNW	4.30%	0.95	15.07%	10.77%	14.53%
Portland General Electric Company	POR	4.30%	0.95	15.07%	10.77%	14.53%
PPL Corporation	PPL	4.30%	1.15	15.07%	10.77%	16.68%
Southern Company	SO	4.30%	0.95	15.07%	10.77%	14.53%
TXNM Energy, Inc.	TXNM	4.30%	0.90	15.07%	10.77%	13.99%
Median			0.95			14.53%
Mean			0.95			14.56%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 6, June 1, 2024 at 14
 [2] Source: Value Line Reports
 [3] Source: Exhibit__(JCN-1), Schedule 5, page 1
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL – CURRENT RISK-FREE RATE, BLOOMBERG BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		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)
Company	Ticker					
Alliant Energy Corporation	LNT	4.30%	0.77	15.07%	10.76%	12.61%
Ameren Corporation	AEE	4.30%	0.73	15.07%	10.76%	12.17%
American Electric Power Company, Inc.	AEP	4.30%	0.74	15.07%	10.76%	12.23%
Duke Energy Corporation	DUK	4.30%	0.71	15.07%	10.76%	11.89%
Entergy Corporation	ETR	4.30%	0.84	15.07%	10.76%	13.32%
Energy, Inc.	EVRG	4.30%	0.77	15.07%	10.76%	12.54%
IDACORP, Inc.	IDA	4.30%	0.77	15.07%	10.76%	12.54%
NextEra Energy, Inc.	NEE	4.30%	0.80	15.07%	10.76%	12.91%
NorthWestern Corporation	NWE	4.30%	0.86	15.07%	10.76%	13.53%
OGE Energy Corporation	OGE	4.30%	0.89	15.07%	10.76%	13.87%
Pinnacle West Capital Corporation	PNW	4.30%	0.80	15.07%	10.76%	12.92%
Portland General Electric Company	POR	4.30%	0.76	15.07%	10.76%	12.53%
PPL Corporation	PPL	4.30%	0.93	15.07%	10.76%	14.29%
Southern Company	SO	4.30%	0.76	15.07%	10.76%	12.52%
TXNM Energy, Inc.	TXNM	4.30%	0.80	15.07%	10.76%	12.95%
Median			0.77			12.61%
Mean			0.79			12.85%

Notes:

- [1] Source: Bloomberg Professional, 30-day average as of October 31, 2024
- [2] Source: Bloomberg Professional, as of August 31, 2024
- [3] Source: Exhibit__(JCN-1), Schedule 5, page 1
- [4] Equals [3] - [1]
- [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL – NEAR-TERM PROJECTED RISK-FREE RATE, BLOOMBERG BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Near-term projected 30-year U.S. Treasury bond yield (Q1 2025 - Q1 2026)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Alliant Energy Corporation	LNT	4.20%	0.77	15.07%	10.87%	12.58%
Ameren Corporation	AEE	4.20%	0.73	15.07%	10.87%	12.15%
American Electric Power Company, Inc.	AEP	4.20%	0.74	15.07%	10.87%	12.21%
Duke Energy Corporation	DUK	4.20%	0.71	15.07%	10.87%	11.86%
Entergy Corporation	ETR	4.20%	0.84	15.07%	10.87%	13.30%
Energy, Inc.	EVRG	4.20%	0.77	15.07%	10.87%	12.52%
IDACORP, Inc.	IDA	4.20%	0.77	15.07%	10.87%	12.51%
NextEra Energy, Inc.	NEE	4.20%	0.80	15.07%	10.87%	12.89%
NorthWestern Corporation	NWE	4.20%	0.86	15.07%	10.87%	13.51%
OGE Energy Corporation	OGE	4.20%	0.89	15.07%	10.87%	13.86%
Pinnacle West Capital Corporation	PNW	4.20%	0.80	15.07%	10.87%	12.90%
Portland General Electric Company	POR	4.20%	0.76	15.07%	10.87%	12.51%
PPL Corporation	PPL	4.20%	0.93	15.07%	10.87%	14.28%
Southern Company	SO	4.20%	0.76	15.07%	10.87%	12.50%
TXNM Energy, Inc.	TXNM	4.20%	0.80	15.07%	10.87%	12.93%
Median			0.77			12.58%
Mean			0.79			12.83%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 11, November 1, 2024 at 2
- [2] Source: Bloomberg Professional, as of August 31, 2024
- [3] Source: Exhibit__(JCN-1), Schedule 5, page 1
- [4] Equals [3] - [1]
- [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL – LONG-TERM PROJECTED RISK-FREE RATE, BLOOMBERG BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - ALL COMPANIES
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Projected 30-year U.S. Treasury bond yield (2026 - 2030)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Alliant Energy Corporation	LNT	4.30%	0.77	15.07%	10.77%	12.61%
Ameren Corporation	AEE	4.30%	0.73	15.07%	10.77%	12.17%
American Electric Power Company, Inc.	AEP	4.30%	0.74	15.07%	10.77%	12.23%
Duke Energy Corporation	DUK	4.30%	0.71	15.07%	10.77%	11.89%
Entergy Corporation	ETR	4.30%	0.84	15.07%	10.77%	13.32%
Energy, Inc.	EVRG	4.30%	0.77	15.07%	10.77%	12.54%
IDACORP, Inc.	IDA	4.30%	0.77	15.07%	10.77%	12.54%
NextEra Energy, Inc.	NEE	4.30%	0.80	15.07%	10.77%	12.91%
NorthWestern Corporation	NWE	4.30%	0.86	15.07%	10.77%	13.52%
OGE Energy Corporation	OGE	4.30%	0.89	15.07%	10.77%	13.87%
Pinnacle West Capital Corporation	PNW	4.30%	0.80	15.07%	10.77%	12.92%
Portland General Electric Company	POR	4.30%	0.76	15.07%	10.77%	12.53%
PPL Corporation	PPL	4.30%	0.93	15.07%	10.77%	14.29%
Southern Company	SO	4.30%	0.76	15.07%	10.77%	12.52%
TXNM Energy, Inc.	TXNM	4.30%	0.80	15.07%	10.77%	12.95%
Median			0.77			12.61%
Mean			0.79			12.85%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 6, June 1, 2024 at 14
- [2] Source: Bloomberg Professional, as of August 31, 2024
- [3] Source: Exhibit__(JCN-1), Schedule 5, page 1
- [4] Equals [3] - [1]
- [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL – CURRENT RISK-FREE RATE, VALUE LINE BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		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)
Company	Ticker					
Alliant Energy Corporation	LNT	4.30%	0.90	11.41%	7.11%	10.70%
Ameren Corporation	AEE	4.30%	0.90	11.41%	7.11%	10.70%
American Electric Power Company, Inc.	AEP	4.30%	0.85	11.41%	7.11%	10.34%
Duke Energy Corporation	DUK	4.30%	0.90	11.41%	7.11%	10.70%
Energy Corporation	ETR	4.30%	1.00	11.41%	7.11%	11.41%
Energy, Inc.	EVRG	4.30%	0.95	11.41%	7.11%	11.05%
IDACORP, Inc.	IDA	4.30%	0.85	11.41%	7.11%	10.34%
NextEra Energy, Inc.	NEE	4.30%	1.05	11.41%	7.11%	11.76%
NorthWestern Corporation	NWE	4.30%	0.95	11.41%	7.11%	11.05%
OGE Energy Corporation	OGE	4.30%	1.05	11.41%	7.11%	11.76%
Pinnacle West Capital Corporation	PNW	4.30%	0.95	11.41%	7.11%	11.05%
Portland General Electric Company	POR	4.30%	0.95	11.41%	7.11%	11.05%
PPL Corporation	PPL	4.30%	1.15	11.41%	7.11%	12.47%
Southern Company	SO	4.30%	0.95	11.41%	7.11%	11.05%
TXNM Energy, Inc.	TXNM	4.30%	0.90	11.41%	7.11%	10.70%
Median			0.95			11.05%
Mean			0.95			11.08%

Notes:

- [1] Source: Bloomberg Professional, 30-day average as of October 31, 2024
- [2] Source: Value Line Reports
- [3] Source: Exhibit__(JCN-1), Schedule 5, page 8
- [4] Equals [3] - [1]
- [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL – NEAR-TERM PROJECTED RISK-FREE RATE, VALUE LINE BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Near-term projected 30-year U.S. Treasury bond yield (Q1 2025 - Q1 2026)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Alliant Energy Corporation	LNT	4.20%	0.90	11.41%	7.21%	10.69%
Ameren Corporation	AEE	4.20%	0.90	11.41%	7.21%	10.69%
American Electric Power Company, Inc.	AEP	4.20%	0.85	11.41%	7.21%	10.33%
Duke Energy Corporation	DUK	4.20%	0.90	11.41%	7.21%	10.69%
Energy Corporation	ETR	4.20%	1.00	11.41%	7.21%	11.41%
Energy, Inc.	EVRG	4.20%	0.95	11.41%	7.21%	11.05%
IDACORP, Inc.	IDA	4.20%	0.85	11.41%	7.21%	10.33%
NextEra Energy, Inc.	NEE	4.20%	1.05	11.41%	7.21%	11.77%
NorthWestern Corporation	NWE	4.20%	0.95	11.41%	7.21%	11.05%
OGE Energy Corporation	OGE	4.20%	1.05	11.41%	7.21%	11.77%
Pinnacle West Capital Corporation	PNW	4.20%	0.95	11.41%	7.21%	11.05%
Portland General Electric Company	POR	4.20%	0.95	11.41%	7.21%	11.05%
PPL Corporation	PPL	4.20%	1.15	11.41%	7.21%	12.49%
Southern Company	SO	4.20%	0.95	11.41%	7.21%	11.05%
TXNM Energy, Inc.	TXNM	4.20%	0.90	11.41%	7.21%	10.69%
Median			0.95			11.05%
Mean			0.95			11.07%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 11, November 1, 2024 at 2
- [2] Source: Value Line Reports
- [3] Source: Exhibit__(JCN-1), Schedule 5, page 8
- [4] Equals [3] - [1]
- [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL – LONG-TERM PROJECTED RISK-FREE RATE, VALUE LINE BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Projected 30-year U.S. Treasury bond yield (2026 - 2030)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Alliant Energy Corporation	LNT	4.30%	0.90	11.41%	7.11%	10.70%
Ameren Corporation	AEE	4.30%	0.90	11.41%	7.11%	10.70%
American Electric Power Company, Inc.	AEP	4.30%	0.85	11.41%	7.11%	10.34%
Duke Energy Corporation	DUK	4.30%	0.90	11.41%	7.11%	10.70%
Energy Corporation	ETR	4.30%	1.00	11.41%	7.11%	11.41%
Energy, Inc.	EVRG	4.30%	0.95	11.41%	7.11%	11.05%
IDACORP, Inc.	IDA	4.30%	0.85	11.41%	7.11%	10.34%
NextEra Energy, Inc.	NEE	4.30%	1.05	11.41%	7.11%	11.76%
NorthWestern Corporation	NWE	4.30%	0.95	11.41%	7.11%	11.05%
OGE Energy Corporation	OGE	4.30%	1.05	11.41%	7.11%	11.76%
Pinnacle West Capital Corporation	PNW	4.30%	0.95	11.41%	7.11%	11.05%
Portland General Electric Company	POR	4.30%	0.95	11.41%	7.11%	11.05%
PPL Corporation	PPL	4.30%	1.15	11.41%	7.11%	12.47%
Southern Company	SO	4.30%	0.95	11.41%	7.11%	11.05%
TXNM Energy, Inc.	TXNM	4.30%	0.90	11.41%	7.11%	10.70%
Median			0.95			11.05%
Mean			0.95			11.08%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 6, June 1, 2024 at 14
- [2] Source: Value Line Reports
- [3] Source: Exhibit__(JCN-1), Schedule 5, page 8
- [4] Equals [3] - [1]
- [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE, BLOOMBERG BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Alliant Energy Corporation	LNT	4.30%	0.77	11.41%	7.11%	9.79%
Ameren Corporation	AEE	4.30%	0.73	11.41%	7.11%	9.50%
American Electric Power Company, Inc.	AEP	4.30%	0.74	11.41%	7.11%	9.54%
Duke Energy Corporation	DUK	4.30%	0.71	11.41%	7.11%	9.31%
Entergy Corporation	ETR	4.30%	0.84	11.41%	7.11%	10.25%
Energy, Inc.	EVRG	4.30%	0.77	11.41%	7.11%	9.74%
IDACORP, Inc.	IDA	4.30%	0.77	11.41%	7.11%	9.74%
NextEra Energy, Inc.	NEE	4.30%	0.80	11.41%	7.11%	9.99%
NorthWestern Corporation	NWE	4.30%	0.86	11.41%	7.11%	10.39%
OGE Energy Corporation	OGE	4.30%	0.89	11.41%	7.11%	10.62%
Pinnacle West Capital Corporation	PNW	4.30%	0.80	11.41%	7.11%	9.99%
Portland General Electric Company	POR	4.30%	0.76	11.41%	7.11%	9.74%
PPL Corporation	PPL	4.30%	0.93	11.41%	7.11%	10.89%
Southern Company	SO	4.30%	0.76	11.41%	7.11%	9.73%
TXNM Energy, Inc.	TXNM	4.30%	0.80	11.41%	7.11%	10.01%
Median			0.77			9.79%
Mean			0.79			9.95%

Notes:

- [1] Source: Bloomberg Professional, 30-day average as of October 31, 2024
 [2] Source: Bloomberg Professional, as of August 31, 2024
 [3] Source: Exhibit (JCN-1), Schedule 5, page 8
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE, BLOOMBERG BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Near-term projected 30-year U.S. Treasury bond yield (Q1 2025 - Q1 2026)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Alliant Energy Corporation	LNT	4.20%	0.77	11.41%	7.21%	9.76%
Ameren Corporation	AEE	4.20%	0.73	11.41%	7.21%	9.47%
American Electric Power Company, Inc.	AEP	4.20%	0.74	11.41%	7.21%	9.51%
Duke Energy Corporation	DUK	4.20%	0.71	11.41%	7.21%	9.28%
Entergy Corporation	ETR	4.20%	0.84	11.41%	7.21%	10.24%
Energy, Inc.	EVRG	4.20%	0.77	11.41%	7.21%	9.72%
IDACORP, Inc.	IDA	4.20%	0.77	11.41%	7.21%	9.72%
NextEra Energy, Inc.	NEE	4.20%	0.80	11.41%	7.21%	9.97%
NorthWestern Corporation	NWE	4.20%	0.86	11.41%	7.21%	10.38%
OGE Energy Corporation	OGE	4.20%	0.89	11.41%	7.21%	10.61%
Pinnacle West Capital Corporation	PNW	4.20%	0.80	11.41%	7.21%	9.97%
Portland General Electric Company	POR	4.20%	0.76	11.41%	7.21%	9.71%
PPL Corporation	PPL	4.20%	0.93	11.41%	7.21%	10.89%
Southern Company	SO	4.20%	0.76	11.41%	7.21%	9.70%
TXNM Energy, Inc.	TXNM	4.20%	0.80	11.41%	7.21%	9.99%
Median			0.77			9.76%
Mean			0.79			9.93%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 11, November 1, 2024 at 2
 [2] Source: Bloomberg Professional, as of August 31, 2024
 [3] Source: Exhibit (JCN-1), Schedule 5, page 8
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE, BLOOMBERG BETA, AND
MARKET RISK PREMIUM DERIVED FROM S&P 500 - FERC METHODOLOGY
 $K = R_f + \beta (R_m - R_f)$

		[1]	[2]	[3]	[4]	[5]
		Projected 30-year U.S. Treasury bond yield (2026 - 2030)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Alliant Energy Corporation	LNT	4.30%	0.77	11.41%	7.11%	9.78%
Ameren Corporation	AEE	4.30%	0.73	11.41%	7.11%	9.50%
American Electric Power Company, Inc.	AEP	4.30%	0.74	11.41%	7.11%	9.54%
Duke Energy Corporation	DUK	4.30%	0.71	11.41%	7.11%	9.31%
Entergy Corporation	ETR	4.30%	0.84	11.41%	7.11%	10.25%
Energy, Inc.	EVRG	4.30%	0.77	11.41%	7.11%	9.74%
IDACORP, Inc.	IDA	4.30%	0.77	11.41%	7.11%	9.74%
NextEra Energy, Inc.	NEE	4.30%	0.80	11.41%	7.11%	9.99%
NorthWestern Corporation	NWE	4.30%	0.86	11.41%	7.11%	10.39%
OGE Energy Corporation	OGE	4.30%	0.89	11.41%	7.11%	10.62%
Pinnacle West Capital Corporation	PNW	4.30%	0.80	11.41%	7.11%	9.99%
Portland General Electric Company	POR	4.30%	0.76	11.41%	7.11%	9.74%
PPL Corporation	PPL	4.30%	0.93	11.41%	7.11%	10.89%
Southern Company	SO	4.30%	0.76	11.41%	7.11%	9.73%
TXNM Energy, Inc.	TXNM	4.30%	0.80	11.41%	7.11%	10.01%
Median			0.77			9.78%
Mean			0.79			9.95%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 43, No. 6, June 1, 2024 at 14
 [2] Source: Bloomberg Professional, as of August 31, 2024
 [3] Source: Exhibit (JCN-1), Schedule 5, page 8
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]

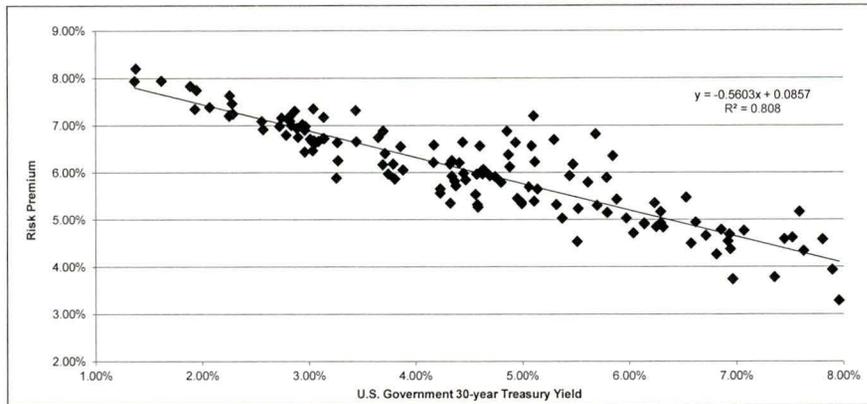
BOND YIELD PLUS RISK PREMIUM ANALYSIS
 Risk Premium -- Vertically Integrated Electric Utilities (US)

	[1]	[2]	[3]
	Average		
	Authorized VI	U.S. Govt. 30-	
	Electric ROE	year Treasury	Risk Premium
1992.1	12.38%	7.80%	4.58%
1992.2	11.83%	7.89%	3.93%
1992.3	12.03%	7.45%	4.59%
1992.4	12.14%	7.52%	4.62%
1993.1	11.84%	7.07%	4.77%
1993.2	11.64%	6.86%	4.79%
1993.3	11.15%	6.31%	4.84%
1993.4	11.04%	6.14%	4.90%
1994.1	11.07%	6.57%	4.49%
1994.2	11.13%	7.35%	3.78%
1994.3	12.75%	7.58%	5.17%
1994.4	11.24%	7.96%	3.28%
1995.1	11.96%	7.63%	4.34%
1995.2	11.32%	6.94%	4.37%
1995.3	11.37%	6.71%	4.66%
1995.4	11.58%	6.23%	5.35%
1996.1	11.46%	6.29%	5.17%
1996.2	11.46%	6.92%	4.54%
1996.3	10.70%	6.96%	3.74%
1996.4	11.56%	6.62%	4.94%
1997.1	11.08%	6.81%	4.27%
1997.2	11.62%	6.93%	4.68%
1997.3	12.00%	6.53%	5.47%
1997.4	11.06%	6.14%	4.92%
1998.1	11.31%	5.88%	5.43%
1998.2	12.20%	5.85%	6.35%
1998.3	11.65%	5.47%	6.18%
1998.4	12.30%	5.10%	7.20%
1999.1	10.40%	5.37%	5.03%
1999.2	10.94%	5.79%	5.15%
1999.3	10.75%	6.04%	4.71%
1999.4	11.10%	6.25%	4.85%
2000.1	11.21%	6.29%	4.92%
2000.2	11.00%	5.97%	5.03%
2000.3	11.68%	5.79%	5.89%
2000.4	12.50%	5.69%	6.81%
2001.1	11.38%	5.44%	5.93%
2001.2	11.00%	5.70%	5.30%
2001.3	10.76%	5.52%	5.23%
2001.4	11.99%	5.30%	6.70%
2002.1	10.05%	5.51%	4.54%
2002.2	11.41%	5.61%	5.79%
2002.3	11.65%	5.08%	6.57%
2002.4	11.57%	4.93%	6.64%
2003.1	11.72%	4.85%	6.87%
2003.2	11.16%	4.60%	6.56%
2003.3	10.50%	5.11%	5.39%
2003.4	11.34%	5.11%	6.23%
2004.1	11.00%	4.88%	6.12%
2004.2	10.64%	5.32%	5.32%
2004.3	10.75%	5.06%	5.69%
2004.4	11.24%	4.86%	6.38%
2005.1	10.63%	4.69%	5.93%
2005.2	10.31%	4.47%	5.85%
2005.3	11.08%	4.44%	6.65%
2005.4	10.63%	4.68%	5.95%
2006.1	10.70%	4.63%	6.06%
2006.2	10.79%	5.14%	5.65%
2006.3	10.35%	4.99%	5.35%
2006.4	10.65%	4.74%	5.91%
2007.1	10.59%	4.80%	5.80%
2007.2	10.33%	4.99%	5.34%
2007.3	10.40%	4.95%	5.45%
2007.4	10.65%	4.61%	6.04%
2008.1	10.62%	4.41%	6.21%
2008.2	10.54%	4.57%	5.97%
2008.3	10.43%	4.44%	5.98%
2008.4	10.39%	3.65%	6.74%
2009.1	10.75%	3.44%	7.31%
2009.2	10.75%	4.17%	6.58%
2009.3	10.50%	4.32%	6.18%
2009.4	10.59%	4.34%	6.26%
2010.1	10.59%	4.62%	5.97%
2010.2	10.18%	4.36%	5.82%
2010.3	10.40%	3.86%	6.55%
2010.4	10.38%	4.17%	6.21%
2011.1	10.09%	4.56%	5.53%
2011.2	10.26%	4.34%	5.92%
2011.3	10.57%	3.69%	6.88%
2011.4	10.39%	3.04%	7.35%
2012.1	10.30%	3.14%	7.17%
2012.2	9.95%	2.93%	7.02%
2012.3	9.90%	2.74%	7.16%
2012.4	10.16%	2.86%	7.30%

BOND YIELD PLUS RISK PREMIUM ANALYSIS
 Risk Premium -- Vertically Integrated Electric Utilities (US)

	[1]	[2]	[3]
	Average		
	Authorized VI	U.S. Govt. 30-	
	Electric ROE	year Treasury	Risk Premium
2013.1	9.85%	3.13%	6.72%
2013.2	9.86%	3.14%	6.72%
2013.3	10.12%	3.71%	6.41%
2013.4	9.97%	3.79%	6.18%
2014.1	9.86%	3.69%	6.17%
2014.2	10.10%	3.44%	6.66%
2014.3	9.90%	3.26%	6.64%
2014.4	9.94%	2.96%	6.98%
2015.1	9.64%	2.55%	7.08%
2015.2	9.83%	2.88%	6.94%
2015.3	9.40%	2.96%	6.44%
2015.4	9.86%	2.96%	6.90%
2016.1	9.70%	2.72%	6.98%
2016.2	9.48%	2.57%	6.91%
2016.3	9.74%	2.28%	7.46%
2016.4	9.83%	2.83%	7.00%
2017.1	9.72%	3.04%	6.67%
2017.2	9.64%	2.90%	6.75%
2017.3	10.00%	2.82%	7.18%
2017.4	9.91%	2.82%	7.09%
2018.1	9.69%	3.02%	6.66%
2018.2	9.75%	3.09%	6.66%
2018.3	9.69%	3.06%	6.63%
2018.4	9.52%	3.27%	6.25%
2019.1	9.72%	3.01%	6.71%
2019.2	9.58%	2.78%	6.79%
2019.3	9.53%	2.29%	7.24%
2019.4	9.89%	2.25%	7.63%
2020.1	9.72%	1.89%	7.83%
2020.2	9.58%	1.38%	8.20%
2020.3	9.30%	1.37%	7.93%
2020.4	9.56%	1.62%	7.94%
2021.1	9.45%	2.07%	7.38%
2021.2	9.47%	2.25%	7.21%
2021.3	9.27%	1.93%	7.34%
2021.4	9.69%	1.94%	7.75%
2022.1	9.45%	2.25%	7.20%
2022.2	9.50%	3.03%	6.47%
2022.3	9.14%	3.26%	5.88%
2022.4	9.94%	3.88%	6.06%
2023.1	9.72%	3.74%	5.97%
2023.2	9.67%	3.80%	5.86%
2023.3	9.79%	4.23%	5.56%
2023.4	9.85%	4.58%	5.27%
2024.1	9.67%	4.32%	5.35%
2024.2	9.90%	4.58%	5.32%
2024.3	9.88%	4.23%	5.65%
2024.4	10.10%	4.38%	5.72%
AVERAGE	10.56%	4.53%	6.03%
MEDIAN	10.46%	4.56%	6.09%

BOND YIELD PLUS RISK PREMIUM ANALYSIS
 Risk Premium -- Vertically Integrated Electric Utilities (US)



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.898876091
R Square	0.807978227
Adjusted R Square	0.806501137
Standard Error	0.004412698
Observations	132

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.010651259	0.010651259	547.0065614	2.02972E-48
Residual	130	0.002531348	1.94719E-05		
Total	131	0.013182607			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.085655622	0.00115177	74.36869396	2.0838E-108	0.083376983	0.08793426
X Variable 1	-0.560267003	0.023955144	-23.3881714	2.02972E-48	-0.60765939	-0.5128746

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	4.30%	6.16%	10.46%
Blue Chip Near-Term Projected Forecast (Q1 2025 - Q1 2026) [5]	4.20%	6.21%	10.41%
Blue Chip Long-Term Projected Forecast (2026-2030) [6]	4.30%	6.16%	10.46%
AVERAGE			10.44%

Notes:

- [1] Source: Regulatory Research Associates, rate cases through October 31, 2024
- [2] Source: Bloomberg Professional, quarterly bond yields are the average of each trading day in the quarter
- [3] Equals Column [1] - Column [2]
- [4] Source: Bloomberg Professional, 30-day average as of September 30, 2024
- [5] Source: Blue Chip Financial Forecasts, Vol. 43, No. 11, November 1, 2024 at 2
- [6] Source: Blue Chip Financial Forecasts, Vol. 43, No. 6, June 1, 2024 at 14
- [7] See notes [4], [5] & [6]
- [8] Equals 0.085656 + (-0.560267 x Column [7])
- [9] Equals Column [7] + Column [8]

EXPECTED EARNINGS ANALYSIS

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
		Value Line ROE 2027-2029	Value Line Total Capital 2023	Value Line Common Equity Ratio 2023	Total Equity 2023	Value Line Total Capital 2027-2029	Value Line Common Equity Ratio 2027-2029	Total Equity 2027-2029	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
Alliant Energy Corporation	LNT	12.00%	15,002.00	45.20%	6,781	17,070.00	48.00%	8,193.60	3.86%	1.019	12.23%
Ameren Corporation	AEE	10.00%	24,847.00	43.80%	10,883	29,500.00	48.50%	14,307.50	5.62%	1.027	10.27%
American Electric Power Company, Inc.	AEP	11.00%	62,837.00	42.00%	26,392	75,900.00	42.50%	32,257.50	4.10%	1.020	11.22%
Duke Energy Corporation	DUK	9.00%	121,564.00	40.40%	49,112	144,100.00	37.50%	54,037.50	1.93%	1.010	9.09%
Entergy Corporation	ETR	9.50%	37,851.00	38.60%	14,610	50,555.00	39.00%	19,716.45	6.18%	1.030	9.78%
Eergy, Inc.	EVRG	10.00%	20,019.00	48.00%	9,609	23,400.00	46.50%	10,881.00	2.52%	1.012	10.12%
IDACORP, Inc.	IDA	9.00%	5,683.40	51.20%	2,910	7,500.00	50.50%	3,787.50	5.41%	1.026	9.24%
NextEra Energy, Inc.	NEE	13.50%	108,873.00	43.60%	47,469	176,200.00	42.50%	74,885.00	9.55%	1.046	14.12%
NorthWestern Corporation	NWE	8.00%	5,475.40	50.90%	2,787	6,700.00	49.50%	3,316.50	3.54%	1.017	8.14%
OGE Energy Corporation	OGE	13.00%	9,238.20	49.60%	4,582	10,400.00	50.00%	5,200.00	2.56%	1.013	13.16%
Pinnacle West Capital Corporation	PNW	8.50%	13,718.00	45.00%	6,173	18,350.00	48.00%	8,808.00	7.37%	1.036	8.80%
Portland General Electric Company	POR	9.50%	7,513.00	44.20%	3,321	10,900.00	41.00%	4,469.00	6.12%	1.030	9.78%
PPL Corporation	PPL	9.50%	28,544.00	48.80%	13,929	34,280.00	50.50%	17,311.40	4.44%	1.022	9.71%
Southern Company	SO	14.50%	83,654.00	37.60%	31,454	93,500.00	37.00%	34,595.00	1.92%	1.010	14.64%
TXNM Energy, Inc.	TXNM	10.00%	6,602.30	35.60%	2,350	10,400.00	30.50%	3,172.00	6.18%	1.030	10.30%
Median											10.12%
Mean											10.71%

Notes:

- [1] Source: Value Line
- [2] Source: Value Line
- [3] Source: Value Line
- [4] Equals [2] x [3]
- [5] Source: Value Line
- [6] Source: Value Line
- [7] Equals [5] x [6]
- [8] Equals ([7] / [4]) ^ (1/5) - 1
- [9] Equals 2 x (1 + [8]) / (2 + [8])
- [10] Equals [1] x [9]

FLOTATION COST ADJUSTMENT

Flotation Costs from Inception to Date

Date	Issuing Company	Shares Issued	Market Price	Offering Price	Underwriting Discount	Offering Expense	Net Proceeds	Total Flotation Costs	Gross Equity Issue before Costs	Net Proceeds	Flotation Cost Percentage	
11/16/1949	Northern States Power	1,584,238	\$10.750	\$10.250	\$0.124	\$0.137	\$9,989	\$1,205,605	\$17,030,559	\$15,824,953	7.079%	
6/4/1952	Northern States Power	1,108,966	\$10.500	\$10.500	\$0.098	\$0.162	\$10,240	\$288,331	\$11,644,143	\$11,355,812	2.476%	
4/14/1954	Northern States Power	1,219,856	\$15.250	\$14.000	\$0.060	\$0.124	\$13,816	\$1,749,274	\$18,602,804	\$16,853,530	9.403%	
2/29/1956	Northern States Power	670,920	\$17.825	\$16.750	\$0.050	\$0.221	\$16,479	\$903,058	\$11,959,149	\$11,056,091	7.551%	
7/22/1959	Northern States Power	952,033	\$23.375	\$22.000	\$0.069	\$0.191	\$21,740	\$1,556,574	\$22,253,771	\$20,697,197	6.995%	
7/28/1965	Northern States Power	772,008	\$35.250	\$33.000	\$0.092	\$0.225	\$32,683	\$1,981,745	\$27,213,282	\$25,231,537	7.282%	
1/22/1969	Northern States Power	1,080,811	\$29.000	\$27.000	\$0.119	\$0.187	\$26,694	\$2,492,350	\$31,343,519	\$28,851,169	7.952%	
10/21/1970	Northern States Power	1,729,298	\$23.125	\$21.500	\$0.175	\$0.149	\$21,176	\$3,370,402	\$39,990,016	\$36,619,614	8.428%	
7/26/1972	Northern States Power	1,902,228	\$25.000	\$23.500	\$0.129	\$0.166	\$23,205	\$3,414,499	\$47,555,700	\$44,141,201	7.180%	
10/10/1973	Northern States Power	2,092,451	\$25.825	\$24.500	\$0.128	\$0.153	\$24,219	\$3,360,476	\$54,037,547	\$50,677,071	6.219%	
11/20/1974	Northern States Power	2,300,000	\$17.625	\$17.500	\$0.910	\$0.069	\$16,521	\$2,539,200	\$40,537,500	\$37,998,300	6.264%	
8/14/1975	Northern States Power	1,750,000	\$23.000	\$23.000	\$0.740	\$0.077	\$22,183	\$1,429,750	\$40,250,000	\$38,820,250	3.552%	
6/3/1976	Northern States Power	2,000,000	\$24.000	\$24.000	\$0.720	\$0.064	\$23,216	\$1,568,000	\$48,000,000	\$46,432,000	3.267%	
5/31/1993	Northern States Power	3,041,955	\$44.125	\$43.625	\$1.200	\$0.048	\$42,377	\$5,317,337	\$134,226,264	\$128,908,927	3.961%	
9/23/1997	Northern States Power	4,500,000	\$49.938	\$49.563	\$1.230	\$0.133	\$48,200	\$7,821,000	\$224,721,000	\$216,900,000	3.480%	
9/29/1997	Northern States Power	400,000	\$50.500	\$49.563	\$1.230	\$0.133	\$48,200	\$920,000	\$20,200,000	\$19,280,000	4.554%	
2/25/2002	Xcel Energy, Inc.	20,000,000	\$22.950	\$22.500	\$0.730	\$0.015	\$21,755	\$23,900,000	\$459,000,000	\$435,100,000	5.207%	
9/9/2008	Xcel Energy, Inc.	17,250,000	\$20.860	\$20.200	\$0.100	\$0.006	\$20,094	\$13,218,352	\$359,835,000	\$346,616,648	3.673%	
8/3/2010	Xcel Energy, Inc.	21,850,000	\$22.100	\$21.500	\$0.645	\$0.013	\$20,842	\$27,496,537	\$482,885,000	\$455,388,463	5.694%	
March 2013	Xcel Energy, Inc.	7,757,449	\$29.057	\$29.057	\$0.291	\$0.052	\$28,714	\$2,657,558	\$225,407,642	\$222,750,085	1.179%	
June 2014	Xcel Energy, Inc.	5,693,946	\$30.663	\$30.663	\$0.307	\$0.030	\$30,326	\$1,915,210	\$174,592,340	\$172,677,130	1.097%	
September 2018	Xcel Energy, Inc.	4,733,435	\$47.885	\$47.885	\$0.407	\$0.073	\$47,405	\$2,271,040	\$226,661,287	\$224,390,247	1.002%	
8/29/2019	Xcel Energy, Inc.	9,359,103	\$48.416	\$48.416	\$0.161	\$0.041	\$48,215	\$1,886,029	\$453,132,797	\$451,246,767	0.416%	
11/30/2020	Xcel Energy, Inc.	11,845,000	\$60.865	\$60.865	\$0.665	\$0.025	\$60,175	\$8,168,737	\$720,941,187	\$712,772,450	1.133%	
Nov-Dec 2021	Xcel Energy, Inc.	5,325,674	\$65.625	\$65.625	\$0.558	\$0.038	\$65,029	\$3,175,377	\$349,499,767	\$346,324,389	0.909%	
May 2022	Xcel Energy, Inc.	1,032,571	\$72.634	\$72.634	\$0.617	\$0.046	\$71,971	\$684,896	\$75,000,034	\$74,315,138	0.913%	
June 2022	Xcel Energy, Inc.	1,098,042	\$68.303	\$68.303	\$0.581	\$0.013	\$67,710	\$651,698	\$74,999,936	\$74,348,239	0.869%	
Nov-Dec 2022	Xcel Energy, Inc.	2,170,134	\$69.120	\$69.120	\$0.588	\$0.037	\$68,495	\$1,356,113	\$149,999,763	\$148,643,651	0.904%	
May 2023	Xcel Energy, Inc.	896,275	\$68.950	\$68.950	\$0.586	\$0.147	\$68,218	\$656,624	\$61,798,311	\$61,141,687	1.063%	
Nov 2023	Xcel Energy, Inc.	3,116,417	\$60.390	\$60.390	\$0.513	\$0.164	\$59,713	\$2,110,085	\$188,201,629	\$186,091,544	1.121%	
June 2024	Xcel Energy, Inc.	1,675,870	\$55.307	\$55.307	\$0.470	\$0.000	\$54,837	\$787,846	\$92,687,812	\$91,899,966	0.850%	
August 2024	Xcel Energy, Inc.	9,600,357	\$59.601	\$59.601	\$0.475	\$0.000	\$59,126	\$4,559,957	\$572,189,071	\$567,629,114	0.797%	
Total Public Issuances								\$135,413,660	\$5,456,396,832	\$5,320,983,172	2.482%	
Total Non-Public Issuances (Employee Benefit Plans)								\$0	\$1,816,462,000	\$1,816,462,000	0.000%	
Weighted Average Flotation Costs								Total	\$135,413,660	\$7,272,858,832	\$7,137,445,172	1.862%

The flotation adjustment is derived by dividing the dividend yield by 1-F (where F = flotation costs expressed in percentage terms), or by 0.9814, 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:

Source: Company data.

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

FLOTATION COST ADJUSTMENT

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Expected Dividend Yield Adjusted for Flotation Costs	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth Estimate	DCF k(e)	Flotation Adjusted DCF k(e)
Alliant Energy Corporation	LNT	\$ 1.92	\$ 60.53	3.17%	3.28%	3.34%	6.00%	7.70%	6.80%	6.83%	10.11%	10.18%
Ameren Corporation	AEE	\$ 2.68	\$ 87.24	3.07%	3.17%	3.23%	6.50%	6.20%	6.60%	6.43%	9.60%	9.66%
American Electric Power Company, Inc.	AEP	\$ 3.52	\$ 100.00	3.52%	3.63%	3.70%	6.50%	6.62%	6.20%	6.44%	10.07%	10.14%
Duke Energy Corporation	DUK	\$ 4.18	\$ 116.17	3.60%	3.70%	3.78%	5.00%	6.71%	6.10%	5.94%	9.64%	9.71%
Entergy Corporation	ETR	\$ 4.52	\$ 133.42	3.39%	3.47%	3.54%	0.50%	7.08%	7.30%	4.96%	8.43%	8.50%
Evergy, Inc.	EVRG	\$ 2.57	\$ 60.85	4.22%	4.36%	4.44%	7.50%	6.20%	5.80%	6.50%	10.86%	10.94%
IDACORP, Inc.	IDA	\$ 3.32	\$ 102.82	3.23%	3.32%	3.38%	6.00%	5.50%	5.50%	5.67%	8.99%	9.05%
NextEra Energy, Inc.	NEE	\$ 2.06	\$ 82.96	2.48%	2.58%	2.63%	8.00%	8.17%	8.10%	8.09%	10.67%	10.72%
NorthWestern Corporation	NWE	\$ 2.60	\$ 55.70	4.67%	4.79%	4.89%	4.00%	6.10%	6.10%	5.40%	10.19%	10.29%
OGE Energy Corporation	OGE	\$ 1.69	\$ 40.54	4.16%	4.28%	4.36%	6.50%	Negative	5.20%	5.85%	10.13%	10.21%
Pinnacle West Capital Corporation	PNW	\$ 3.52	\$ 88.10	4.00%	4.13%	4.21%	4.50%	7.20%	8.20%	6.63%	10.76%	10.84%
Portland General Electric Company	POR	\$ 2.00	\$ 47.64	4.20%	4.42%	4.50%	6.00%	12.60%	12.60%	10.40%	14.82%	14.90%
PPL Corporation	PPL	\$ 1.03	\$ 32.51	3.17%	3.28%	3.34%	7.50%	6.80%	6.80%	7.03%	10.31%	10.38%
Southern Company	SO	\$ 2.88	\$ 90.75	3.17%	3.28%	3.35%	6.50%	7.30%	7.00%	6.93%	10.22%	10.28%
TXNM Energy, Inc.	TXNM	\$ 1.55	\$ 43.54	3.56%	3.64%	3.71%	5.00%	4.42%	n/a	4.71%	8.35%	8.42%
PROXY GROUP MEAN				3.57%	3.69%	3.76%	5.73%	7.04%	7.02%	6.52%	10.21%	10.28%
MEAN												10.28%
UNADJUSTED CONSTANT GROWTH DCF MEAN												10.21%
DIFFERENCE (FLOTATION COST ADJUSTMENT)												[12] 0.07%

[1] Source: Bloomberg Professional
 [2] Source: Bloomberg Professional, equals 30-day average as of October 31, 2024
 [3] Equals [2] / [1]
 [4] Equals [3] x (1 + 0.50 x [9])
 [5] Equals [4] / (1 - [Flotation Cost Percentage])
 [6] Source: Value Line
 [7] Source: Yahoo! Finance
 [8] Source: Zacks
 [9] Equals average ([6], [7], [8])
 [10] Equals [4] + [9]
 [11] Equals [5] + [9]
 [12] Equals [11] - [10]

COMPARISON OF NSP AND PROXY GROUP COMPANIES
RISK ASSESSMENT

Company	Jurisdiction/Service	[1]	[2]	[3]	[4]			
		Test Year	Rate Base	Revenue Decoupling	Capital Cost Recovery Mechanism			
Ameren Illinois Company	Illinois - Electric	Historical	Year End	Partial		Yes		
Union Electric Company	Missouri - Electric	Historical	Year End	Partial		Yes		
Southwestern Electric Power Company	Arkansas - Electric	Historical	Year End	Partial		Yes		
Indiana Michigan Power Company	Indiana - Electric	Fully Forecast	Year End	Partial		Yes		
Kentucky Power Company	Kentucky - Electric	Historical	Year End	Partial		Yes		
Southwestern Electric Power Company	Louisiana - Electric	Historical	Year End	Partial		No		
Indiana Michigan Power Company	Michigan - Electric	Fully Forecast	Average	Partial		Yes		
Ohio Power Company	Ohio - Electric	Partially Forecast	Year End	Partial		Yes		
Public Service Company of Oklahoma	Oklahoma - Electric	Historical	Year End	Partial		Yes		
Kingsport Power Company	Tennessee - Electric	Fully Forecast	Average	No		No		
AEP Texas Inc.	Texas - Electric	Historical	Year End	No		Yes		
Southwestern Electric Power Company	Texas - Electric	Historical	Year End	No		Yes		
Appalachian Power Company	Virginia - Electric	Fully Forecast	Year End	No		Yes		
Appalachian Power / Wheeling Power	West Virginia - Electric	Historical	Average	No		Yes		
Duke Energy Florida, LLC	Florida - Electric	Fully Forecast	Average	No		Yes		
Duke Energy Indiana, LLC	Indiana - Electric	Fully Forecast	Year End	Partial		Yes		
Duke Energy Kentucky, Inc.	Kentucky - Electric	Fully Forecast	Average	Partial		Yes		
Duke Energy Carolinas, LLC	North Carolina - Electric	Historical	Year End	No		Yes		
Duke Energy Progress, LLC	North Carolina - Electric	Historical	Year End	No		Yes		
Duke Energy Ohio, Inc.	Ohio - Electric	Partially Forecast	Year End	Partial		Yes		
Duke Energy Carolinas, LLC	South Carolina - Electric	Historical	Year End	No		Yes		
Duke Energy Progress, LLC	South Carolina - Electric	Historical	Year End	No		Yes		
Entergy Arkansas, LLC	Arkansas - Electric	Fully Forecast	Average	Partial		Yes		
Entergy Louisiana, LLC	Louisiana - Electric	Historical	Average	Partial		Yes		
Entergy Mississippi, LLC	Mississippi - Electric	Partially Forecast	Average	Partial		No		
Entergy New Orleans, LLC	Louisiana - Electric	Partially Forecast	Year End	No		Yes		
Entergy Texas, Inc.	Texas - Electric	Fully Forecast	Year End	No		Yes		
Evergy Kansas Central	Kansas - Electric	Historical	Year End	Partial		Yes		
Evergy Kansas South	Kansas - Electric	Historical	Year End	Partial		Yes		
Evergy Kansas Metro	Kansas - Electric	Historical	Year End	No		Yes		
Evergy Missouri Metro	Missouri - Electric	Historical	Year End	Partial		Yes		
Evergy Missouri West	Missouri - Electric	Historical	Year End	Partial		Yes		
Idaho Power Company	Idaho - Electric	Partially Forecast	Average	Full		No		
Idaho Power Company	Oregon - Electric	Fully Forecast	Average	No		No		
Interstate Power and Light Company	Iowa - Electric	Fully Forecast	Average	No		Yes		
Wisconsin Power and Light Company	Wisconsin - Electric	Fully Forecast	Average	No		No		
Florida Power & Light Company	Florida - Electric	Fully Forecast	Average	No		Yes		
NorthWestern Energy	Montana - Electric	Historical	Average	No		No		
NorthWestern Energy	South Dakota - Electric	Historical	Average	No		No		
Oklahoma Gas and Electric Company	Arkansas - Electric	Historical	Year End	Partial		Yes		
Oklahoma Gas and Electric Company	Oklahoma - Electric	Historical	Year End	Partial		Yes		
Arizona Public Service Company	Arizona - Electric	Historical	Year End	Partial		Yes		
Portland General Electric Company	Oregon - Electric	Fully Forecast	Average	No		Yes		
Louisville Gas & Electric Co.	Kentucky - Electric	Fully Forecast	Year End	Partial		Yes		
PPL Electric Utilities Corp.	Pennsylvania - Electric	Fully Forecast	Year End	No		Yes		
The Narragansett Electric Co.	Rhode Island - Electric	Historical	Average	Full		Yes		
Kentucky Utilities Co.	Virginia - Electric	Historical	Average	No		No		
Alabama Power Company	Alabama - Electric	Fully Forecast	Year End	No		Yes		
Georgia Power Company	Georgia - Electric	Fully Forecast	Average	No		Yes		
Mississippi Power Company	Mississippi - Electric	Fully Forecast	Year End	Partial		Yes		
TXNM Energy, Inc.	Texas - Electric	Historical	Year End	No		Yes		
Proxy Group Operating Company Count	Fully Forecast	19	Year End	32	Full	2	Yes	42
	Partially Forecast	5	Average	19	Partial	24	No	9
	Historical	27	Date Certain	0	No	24		
	Forecast	47.06%	Year End	62.75%	RDM	52.00%	CCRM	82.35%
Northern States Power (Electric)	North Dakota	Fully Forecast	Average	No		Yes		

Notes

[1] Source: S&P Global - Market

[2] Source: S&P Global - Market Intelligence Rate Case History (Past Rate Cases), accessed 8/31/2024

[3] - [4] Source: "Adjustment Clauses: A State-by-state Overview," Regulatory Research Associates, June 2022. Operating subsidiaries not covered in this report were excluded from this exhibit.

TEST YEAR 2025 WEIGHTED AVERAGE COST OF CAPITAL

<u>Capitalization:</u>	<u>(\$000's) Amount</u>	<u>Percent of Total Capitalization</u>	<u>Cost of Capital</u>	<u>Weighted Cost of Capital*</u>
Long-Term Debt	\$8,630,824	46.71%	4.51%	2.11%
Short-Term Debt	<u>\$146,297</u>	<u>0.79%</u>	5.31%	<u>0.04%</u>
Total Debt	\$8,777,121	47.50%		2.15%
Net Common Equity	<u>\$9,702,241</u>	<u>52.50%</u>	10.30%	<u>5.41%</u>
Total Capitalization	<u>\$18,479,362</u>	<u>100.00%</u>		<u>7.56%</u>

Short Term Debt and Long Term Debt Amounts are 12 Month Average Balances.
 Equity Amounts are 13 Month Average Balances.

TEST YEAR - 2025 FORECASTED EQUITY BALANCES (\$000s)

<u>Month</u>	<u>GAAP Common Equity Outstanding</u>	<u>Non-Regulated Subsidiaries (1)</u>	<u>Regulated Common Equity</u>
2024 Dec	\$9,312,560	\$14,328	\$9,298,232
2025 Jan	\$9,463,075	\$14,328	\$9,448,747
2025 Feb	\$9,585,866	\$14,328	\$9,571,538
2025 Mar	\$9,534,715	\$14,328	\$9,520,387
2025 Apr	\$9,566,335	\$14,328	\$9,552,007
2025 May	\$9,614,283	\$14,328	\$9,599,955
2025 Jun	\$9,595,298	\$14,328	\$9,580,970
2025 Jul	\$9,712,022	\$14,328	\$9,697,694
2025 Aug	\$9,870,275	\$14,328	\$9,855,947
2025 Sep	\$9,891,607	\$14,328	\$9,877,279
2025 Oct	\$10,000,495	\$14,328	\$9,986,167
2025 Nov	\$10,099,931	\$14,328	\$10,085,603
2025 Dec	\$10,068,932	\$14,328	\$10,054,604
13 Month Average	\$9,716,569	\$14,328	\$9,702,241

(1) United Power and Land.

TEST YEAR - 2025 FORECASTED LONG TERM DEBT AND COST (\$000s)

Description	Coupon Rate	Issue Date	Maturity Date	Amount	Premium or Hedge Gain/(Loss)	Bond Discount	Bond Expense	LRD Expense	(1) Capital Employed	Total Bond Cost						Cost of Capital	Capital Cost %
										(2) Interest Charge	Premium/ Hedge Amortization	Discount Amortization	Expense Amortization	LRD Amortization			
First Mortgage Bonds																	
Series due July 1, 2025 (FMB) (3)	7.1250	Jul-95	Jul-25	83,333	-	8	7	-	83,319	5,938	-	39	32	-	6,008	7.21%	
Series due March 1, 2028 (FMB)	6.5000	Mar-98	Mar-28	150,000	-	154	129	-	149,717	9,750	-	59	49	-	9,858	6.58%	
Series Due July 15, 2035 (FMB)	5.2500	Jul-05	Jul-35	250,000	-	162	1,011	-	248,827	13,125	-	16	101	-	13,242	5.32%	
Series Due June 1, 2036 (FMB)	6.2500	May-06	May-36	400,000	5,926	509	1,767	-	403,650	25,000	545	47	162	-	24,665	6.11%	
Series Due July 1, 2037 (FMB)	6.2000	Jun-07	Jun-37	350,000	-	792	1,728	-	347,480	21,700	-	66	144	-	21,911	6.31%	
Series Due November 1, 2039 (FMB)	5.3500	Nov-09	Nov-39	300,000	(1,530)	272	1,982	-	296,216	16,050	(107)	19	139	-	16,315	5.51%	
Series Due August 15, 2040 (FMB)	4.8500	Aug-10	Aug-40	250,000	-	355	1,517	-	248,127	12,125	-	24	101	-	12,249	4.94%	
Series Due August 15, 2042 (FMB)	3.4000	Aug-12	Aug-42	500,000	(25,576)	2,174	3,572	-	468,678	17,000	(1,496)	127	209	-	18,833	4.02%	
Series Due May 15, 2044 (FMB)	4.1250	May-14	May-44	300,000	-	548	2,399	-	297,053	12,375	-	29	127	-	12,532	4.22%	
Series Due Aug 15, 2045 (FMB)	4.0000	Aug-15	Aug-45	300,000	-	3,277	2,609	-	294,113	12,000	-	163	130	-	12,293	4.18%	
Series Due May 15, 2046 (FMB)	3.6000	May-16	May-46	350,000	-	1,455	3,760	-	344,785	12,600	-	70	181	-	12,850	3.73%	
Series Due Sep 15, 2047 (FMB)	3.6000	Sep-17	Sep-47	600,000	-	4,418	6,500	6,186	582,896	21,600	-	199	293	279	22,372	3.84%	
Series Due Mar 1, 2050 (FMB)	2.9000	Sep-19	Sep-49	600,000	-	9,351	7,056	-	583,593	17,400	-	380	287	-	18,066	3.10%	
Series Due Jun 1, 2051 (FMB)	2.6000	Jun-20	Jun-51	700,000	-	11,009	8,183	-	680,809	18,200	-	425	316	-	18,942	2.78%	
Series Due Apr 1, 2031 (FMB)	2.2500	Mar-21	Apr-31	425,000	-	1,013	2,930	-	421,057	9,563	-	177	513	-	10,253	2.44%	
Series Due Apr 1, 2052 (FMB)	3.2000	Mar-21	Apr-52	425,000	-	1,358	5,239	-	418,403	13,600	-	51	196	-	13,847	3.31%	
Series Due Jun 1, 2052 (FMB)	4.5000	May-22	Jun-52	500,000	-	3,223	6,800	-	489,977	22,500	-	120	253	-	22,873	4.67%	
Series Due May 1, 2053 (FMB)	5.1000	May-23	May-53	800,000	4,441	5,533	10,595	-	788,313	40,800	159	199	381	-	41,220	5.23%	
Series Due Mar 1, 2054 (FMB)	5.4000	Feb-24	Mar-54	700,000	8,114	2,585	9,660	-	695,869	37,800	283	90	337	-	37,944	5.45%	
2025 Forecasted 30 Year Bond (4)	5.4000	May-25	May-55	400,000	-	-	5,925	-	394,075	21,600	-	-	200	-	21,800	5.53%	
2025 Forecasted 10 Year Bond (5)	4.9000	May-25	May-35	400,000	-	-	5,775	-	394,225	19,600	-	-	600	-	20,200	5.12%	
Other Debt																	
Right of Way Notes	var	var	var	2,033	-	-	-	-	2,033	-	-	-	-	-	-	0.00%	
TOTAL DEBT				8,785,366	(8,626)	48,196	89,144	6,186	8,633,214	380,325	(617)	2,300	4,751	279	388,272	4.50%	
Unamortized Loss on Reacquired Debt									(2,391)						500		
Fees on 5-year Credit Facility (6)									-						405		
GRAND TOTAL and COST OF DEBT									8,630,824						389,178	4.51%	

- (1) Capital Employed is based on the Premium / Discount / Expense Balances representing average declining balances. New and Maturing Debt averaged on number of months in the year.
- (2) Interest Expense is a Straight Interest Expense calculation.
- (3) NSPM 1995 issuance of \$250M 30 year bond, balance is 4 of 12 months reflective of a planned early call.
- (4) NSPM planned 2025 issuance of \$600M 30 year bond, average balance for 8 of 12 months.
- (5) NSPM planned 2025 issuance of \$600M 10 year bond, average balance for 8 of 12 months.
- (6) Fees associated with the 5 Year Credit Facility are amortized over the life of the facility and are incorporated into the long-term debt rate.

TEST YEAR - 2025 FORECASTED SHORT TERM DEBT AND COST

	<u>Month End Balances</u>	<u>Average Of Month End Balances (1)</u>	<u>Monthly Interest Expense (2)</u>	<u>Monthly Fees Expense (3)</u>	<u>Average Short Term Debt Cost</u>
2025 Jan	\$394,405,770	\$255,192,085	\$1,127,355	\$59,018	
2025 Feb	\$398,436,805	\$396,421,287	\$1,581,783	\$55,210	
2025 Mar	\$187,805,770	\$293,121,288	\$1,294,914	\$59,018	
2025 Apr	\$296,670,368	\$242,238,069	\$981,105	\$57,114	
2025 May	\$0	\$148,335,184	\$620,808	\$59,270	
2025 June	\$0	\$0	\$0	\$57,358	
2025 Jul	\$0	\$0	\$0	\$59,017	
2025 Aug	\$0	\$0	\$0	\$59,018	
2025 Sep	\$0	\$0	\$0	\$57,114	
2025 Oct	\$95,949,617	\$47,974,809	\$164,015	\$59,018	
2025 Nov	\$184,472,239	\$140,210,928	\$463,888	\$57,114	
2025 Dec	\$197,820,319	\$191,146,279	\$653,488	\$59,018	
Average Balance	\$146,296,741	\$142,886,661			
Total Expense			\$ 6,887,355	\$ 697,285	
Cost of Short-Term Debt			4.82%	0.49%	5.31%

(1) January through December Average of Month End Balances.

(2) Monthly Interest Expense is based on the weighted average of short term debt outstanding and Interest Rates are based on the S&P Global Macro Forecast with additional spread.

(3) Ongoing fees for NSP-MN's five-year credit facility that was re-syndicated on September 19, 2022. This expense represents the monthly cost of NSP-MN unused portion of the credit facility. Credit facility is used primarily as back up for commercial paper and letters of credit. (Upfront expenses for the five year credit facility are amortized over the life of the facility and are included in the cost of long term debt.)

COMMON EQUITY RATIO [1]

Proxy Group Company	Ticker	2023	2022	2021	2021-2023
					Average
Alliant Energy Corporation	LNT	52.10%	52.60%	51.32%	52.01%
Ameren Corporation	AEE	52.82%	52.32%	53.05%	52.73%
American Electric Power Company, Inc.	AEP	48.45%	48.56%	47.76%	48.26%
Duke Energy Corporation	DUK	52.87%	53.04%	53.39%	53.10%
Entergy Corporation	ETR	51.96%	47.65%	45.48%	48.36%
Evergy, Inc.	EVRG	61.98%	63.11%	62.87%	62.65%
IDACORP, Inc.	IDA	49.42%	54.37%	55.00%	52.93%
NextEra Energy, Inc.	NEE	58.43%	62.92%	61.84%	61.07%
NorthWestern Corporation	NWE	49.89%	50.34%	47.82%	49.35%
OGE Energy Corporation	OGE	53.53%	55.65%	53.38%	54.19%
Pinnacle West Capital Corporation	PNW	49.55%	50.25%	51.12%	50.31%
Portland General Electric Company	POR	44.48%	43.24%	45.09%	44.27%
PPL Corporation	PPL	52.32%	52.65%	55.97%	53.65%
Southern Company	SO	54.82%	54.58%	54.38%	54.59%
TXNM Energy, Inc.	TXNM	48.50%	47.58%	50.69%	48.92%
Proxy Group					
MEAN		52.07%	52.59%	52.61%	52.43%
LOW		44.48%	43.24%	45.09%	44.27%
HIGH		61.98%	63.11%	62.87%	62.65%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2023	2022	2021	2021-2023
					Average
Interstate Power and Light Company	LNT	49.7%	50.5%	50.2%	50.2%
Wisconsin Power and Light Company	LNT	54.8%	55.0%	52.9%	54.2%
Ameren Illinois Company	AEE	54.6%	54.3%	55.2%	54.7%
Union Electric Company	AEE	51.2%	50.5%	51.1%	51.0%
AEP Texas Inc.	AEP	45.7%	42.1%	42.8%	43.5%
Appalachian Power Company	AEP	48.4%	47.8%	48.3%	48.2%
Indiana Michigan Power Company	AEP	48.3%	49.3%	47.4%	48.3%
Kentucky Power Company	AEP	42.3%	43.8%	44.2%	43.4%
Kingsport Power Company	AEP	51.1%	53.9%	54.2%	53.1%
Ohio Power Company	AEP	51.3%	50.8%	48.8%	50.3%
Public Service Company of Oklahoma	AEP	51.7%	55.7%	54.4%	53.9%
Southwestern Electric Power Company	AEP	50.7%	52.5%	48.7%	50.6%
Wheeling Power Company	AEP	40.0%	49.1%	54.0%	47.7%
Duke Energy Carolinas, LLC	DUK	52.0%	52.8%	52.1%	52.3%
Duke Energy Florida, LLC	DUK	51.3%	50.7%	52.6%	51.6%
Duke Energy Indiana, LLC	DUK	52.5%	52.1%	53.6%	52.7%
Duke Energy Kentucky, Inc.	DUK	61.5%	53.0%	52.9%	55.8%
Duke Energy Ohio, Inc.	DUK	64.4%	65.9%	64.4%	64.9%
Duke Energy Progress, LLC	DUK	50.7%	51.3%	51.8%	51.3%
Entergy Arkansas, LLC	ETR	45.1%	48.0%	47.8%	47.0%
Entergy Louisiana, LLC	ETR	55.5%	47.2%	43.1%	48.6%
Entergy Mississippi, LLC	ETR	49.3%	46.4%	45.5%	NA
Entergy New Orleans, LLC	ETR	54.4%	47.9%	45.5%	49.3%
Entergy Texas, Inc.	ETR	50.7%	50.0%	51.3%	50.7%
Evergy Kansas Central, Inc.	EVRG	65.1%	67.1%	67.0%	66.4%
Evergy Kansas South, Inc.	EVRG	85.2%	83.7%	83.1%	84.0%
Evergy Metro, Inc.	EVRG	52.0%	52.0%	51.4%	51.8%
Evergy Missouri West, Inc.	EVRG	56.0%	54.4%	52.0%	54.1%
Westar Energy (KPL)	EVRG	55.2%	58.0%	58.5%	57.2%
Idaho Power Company	IDA	49.4%	54.4%	55.0%	52.9%
Florida Power & Light Company	NEE	58.4%	62.9%	61.8%	61.1%
NorthWestern Corporation	NWE	49.9%	50.3%	47.8%	49.3%
Oklahoma Gas and Electric Company	OGE	53.5%	55.7%	53.4%	54.2%
Arizona Public Service Company	PNW	49.6%	50.3%	51.1%	50.3%
Portland General Electric Company	POR	44.5%	43.2%	45.1%	44.3%
PPL Corporation	PPL	52.3%	52.7%	56.0%	53.6%
Alabama Power Company	SO	52.4%	52.2%	52.4%	52.3%
Georgia Power Company	SO	56.3%	56.0%	55.6%	56.0%
Mississippi Power Company	SO	55.0%	55.7%	55.4%	55.4%
Texas-New Mexico Power Company	TXNM	48.4%	49.6%	50.4%	49.5%
Public Service Company of New Mexico	TXNM	48.6%	46.5%	50.8%	48.6%

Notes:

[1] Ratios are weighted by actual common capital, long-term debt, and short-term debt of Operating Subsidiaries.

[2] Natural Gas operating subsidiaries where data was unable to be obtained for 2021-2023 were removed from the analysis.

LONG-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2023	2022	2021	2021-2023
					Average
Alliant Energy Corporation	LNT	47.90%	47.40%	48.68%	47.99%
Ameren Corporation	AEE	45.11%	45.19%	45.71%	45.34%
American Electric Power Company, Inc.	AEP	51.55%	51.44%	52.24%	51.74%
Duke Energy Corporation	DUK	47.13%	46.96%	46.61%	46.90%
Entergy Corporation	ETR	48.04%	52.35%	54.52%	51.64%
Evergy, Inc.	EVRG	38.02%	36.89%	37.13%	37.35%
IDACORP, Inc.	IDA	50.58%	45.63%	45.00%	47.07%
NextEra Energy, Inc.	NEE	41.16%	36.73%	37.71%	38.53%
NorthWestern Corporation	NWE	50.11%	49.66%	52.18%	50.65%
OGE Energy Corporation	OGE	46.47%	44.35%	46.62%	45.81%
Pinnacle West Capital Corporation	PNW	50.44%	49.75%	48.88%	49.69%
Portland General Electric Company	POR	53.56%	56.76%	54.91%	55.08%
PPL Corporation	PPL	43.45%	43.01%	43.70%	43.39%
Southern Company	SO	45.18%	45.42%	45.62%	45.41%
TXNM Energy, Inc.	TXNM	48.63%	48.90%	49.18%	48.90%
Proxy Group					
MEAN		47.16%	46.70%	47.25%	47.03%
LOW		38.02%	36.73%	37.13%	37.29%
HIGH		53.56%	56.76%	54.91%	55.08%

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2023	2022	2021	2021-2023
					Average
Interstate Power and Light Company	LNT	50.3%	49.5%	49.8%	49.8%
Wisconsin Power and Light Company	LNT	45.2%	45.0%	47.1%	45.8%
Ameren Illinois Company	AEE	42.5%	43.3%	43.8%	43.2%
Union Electric Company	AEE	47.5%	46.9%	47.4%	47.3%
AEP Texas Inc.	AEP	54.3%	57.9%	57.2%	56.5%
Appalachian Power Company	AEP	51.6%	52.2%	51.7%	51.8%
Indiana Michigan Power Company	AEP	51.7%	50.7%	52.6%	51.7%
Kentucky Power Company	AEP	57.7%	56.2%	55.8%	56.6%
Kingsport Power Company	AEP	48.9%	46.1%	45.8%	46.9%
Ohio Power Company	AEP	48.7%	49.2%	51.2%	49.7%
Public Service Company of Oklahoma	AEP	48.3%	44.3%	45.6%	46.1%
Southwestern Electric Power Company	AEP	49.3%	47.5%	51.3%	49.4%
Wheeling Power Company	AEP	60.0%	50.9%	46.0%	52.3%
Duke Energy Carolinas, LLC	DUK	48.0%	47.2%	47.9%	47.7%
Duke Energy Florida, LLC	DUK	48.7%	49.3%	47.4%	48.4%
Duke Energy Indiana, LLC	DUK	47.5%	47.9%	46.4%	47.3%
Duke Energy Kentucky, Inc.	DUK	38.5%	47.0%	47.1%	44.2%
Duke Energy Ohio, Inc.	DUK	35.6%	34.1%	35.6%	35.1%
Duke Energy Progress, LLC	DUK	49.3%	48.7%	48.2%	48.7%
Entergy Arkansas, LLC	ETR	54.9%	52.0%	52.2%	53.0%
Entergy Louisiana, LLC	ETR	44.5%	52.8%	56.9%	51.4%
Entergy Mississippi, LLC	ETR	50.7%	53.6%	54.5%	NA
Entergy New Orleans, LLC	ETR	45.6%	52.1%	54.5%	50.7%
Entergy Texas, Inc.	ETR	49.3%	50.0%	48.7%	49.3%
Evergy Kansas Central, Inc.	EVRG	34.9%	32.9%	33.0%	33.6%
Evergy Kansas South, Inc.	EVRG	14.8%	16.3%	16.9%	16.0%
Evergy Metro, Inc.	EVRG	48.0%	48.0%	48.6%	48.2%
Evergy Missouri West, Inc.	EVRG	44.0%	45.6%	48.0%	45.9%
Westar Energy (KPL)	EVRG	44.8%	42.0%	41.5%	42.8%
Idaho Power Company	IDA	50.6%	45.6%	45.0%	47.1%
Florida Power & Light Company	NEE	41.2%	36.7%	37.7%	38.5%
NorthWestern Corporation	NWE	50.1%	49.7%	52.2%	50.7%
Oklahoma Gas and Electric Company	OGE	46.5%	44.3%	46.6%	45.8%
Arizona Public Service Company	PNW	50.4%	49.7%	48.9%	49.7%
Portland General Electric Company	POR	53.6%	56.8%	54.9%	55.1%
PPL Corporation	PPL	43.4%	43.0%	43.7%	43.4%
Alabama Power Company	SO	47.6%	47.8%	47.6%	47.7%
Texas-New Mexico Power Company	TXNM	43.7%	44.0%	44.4%	44.0%
Public Service Company of New Mexico	TXNM	45.0%	44.3%	44.6%	44.6%
Texas-New Mexico Power Company	TXNM	49.6%	48.8%	49.5%	49.3%
Public Service Company of New Mexico	TXNM	48.0%	49.0%	49.0%	48.7%

Notes:

[1] Ratios are weighted by actual common capital, long-term debt, and short-term debt of Operating Subsidiaries.

[2] Natural Gas operating subsidiaries where data was unable to be obtained for 2021-2023 were removed from the analysis.

SHORT-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2023	2022	2021	2021-2023
					Average
Alliant Energy Corporation	LNT	0.00%	0.00%	0.00%	0.00%
Ameren Corporation	AEE	2.06%	2.48%	1.24%	1.93%
American Electric Power Company, Inc.	AEP	0.00%	0.00%	0.00%	0.00%
Duke Energy Corporation	DUK	0.00%	0.00%	0.00%	0.00%
Entergy Corporation	ETR	0.00%	0.00%	0.00%	0.00%
Evergy, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%
IDACORP, Inc.	IDA	0.00%	0.00%	0.00%	0.00%
NextEra Energy, Inc.	NEE	0.41%	0.35%	0.44%	0.40%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%
OGE Energy Corporation	OGE	0.00%	0.00%	0.00%	0.00%
Pinnacle West Capital Corporation	PNW	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	1.96%	0.00%	0.00%	0.65%
PPL Corporation	PPL	4.24%	4.33%	0.33%	2.97%
Southern Company	SO	0.00%	0.00%	0.00%	0.00%
TXNM Energy, Inc.	TXNM	2.86%	3.51%	0.14%	2.17%
Proxy Group					
MEAN		0.77%	0.71%	0.14%	0.54%
LOW		0.00%	0.00%	0.00%	0.00%
HIGH		4.24%	4.33%	1.24%	3.27%

SHORT-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2023	2022	2021	2021-2023
					Average
Interstate Power and Light Company	LNT	0.00%	0.00%	0.00%	0.0%
Wisconsin Power and Light Company	LNT	0.00%	0.00%	0.00%	0.0%
Ameren Illinois Company	AEE	2.94%	2.33%	1.01%	2.1%
Union Electric Company	AEE	1.26%	2.60%	1.44%	1.8%
AEP Texas Inc.	AEP	0.00%	0.00%	0.00%	0.0%
Appalachian Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Indiana Michigan Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Kentucky Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Kingsport Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Ohio Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Public Service Company of Oklahoma	AEP	0.00%	0.00%	0.00%	0.0%
Southwestern Electric Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Wheeling Power Company	AEP	0.00%	0.00%	0.00%	0.0%
Duke Energy Carolinas, LLC	DUK	0.00%	0.00%	0.00%	0.0%
Duke Energy Florida, LLC	DUK	0.00%	0.00%	0.00%	0.0%
Duke Energy Indiana, LLC	DUK	0.00%	0.00%	0.00%	0.0%
Duke Energy Kentucky, Inc.	DUK	0.00%	0.00%	0.00%	0.0%
Duke Energy Ohio, Inc.	DUK	0.00%	0.00%	0.00%	0.0%
Duke Energy Progress, LLC	DUK	0.00%	0.00%	0.00%	0.0%
Entergy Arkansas, LLC	ETR	0.00%	0.00%	0.00%	0.0%
Entergy Louisiana, LLC	ETR	0.00%	0.00%	0.00%	0.0%
Entergy Mississippi, LLC	ETR	0.00%	0.00%	0.00%	NA
Entergy New Orleans, LLC	ETR	0.00%	0.00%	0.00%	0.0%
Entergy Texas, Inc.	ETR	0.00%	0.00%	0.00%	0.0%
Evergy Kansas Central, Inc.	EVRG	0.00%	0.00%	0.00%	0.0%
Evergy Kansas South, Inc.	EVRG	0.00%	0.00%	0.00%	0.0%
Evergy Metro, Inc.	EVRG	0.00%	0.00%	0.00%	0.0%
Evergy Missouri West, Inc.	EVRG	0.00%	0.00%	0.00%	0.0%
Westar Energy (KPL)	EVRG	0.00%	0.00%	0.00%	0.0%
Idaho Power Company	IDA	0.00%	0.00%	0.00%	0.0%
Florida Power & Light Company	NEE	0.41%	0.35%	0.44%	0.4%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.0%
Oklahoma Gas and Electric Company	OGE	0.00%	0.00%	0.00%	0.0%
Arizona Public Service Company	PNW	0.00%	0.00%	0.00%	0.0%
Portland General Electric Company	POR	1.96%	0.00%	0.00%	0.7%
PPL Corporation	PPL	4.24%	4.33%	0.33%	3.0%
Alabama Power Company	SO	0.00%	0.00%	0.00%	0.0%
Texas-New Mexico Power Company	TXNM	0.00%	0.00%	0.00%	0.0%
Public Service Company of New Mexico	TXNM	0.00%	0.00%	0.00%	0.0%
Texas-New Mexico Power Company	TXNM	1.99%	1.65%	0.02%	1.2%
Public Service Company of New Mexico	TXNM	3.41%	4.52%	0.19%	2.7%

Notes:

[1] Ratios are weighted by actual common capital, long-term debt, and short-term debt of Operating Subsidiaries.

[2] Natural Gas operating subsidiaries where data was unable to be obtained for 2021-2023 were removed from the analysis.

PREFERRED EQUITY RATIO [1]

Proxy Group Company	Ticker	2023	2022	2021	2021-2023
					Average
Alliant Energy Corporation	LNT	0.00%	0.00%	0.00%	0.00%
Ameren Corporation	AEE	0.50%	0.54%	0.60%	0.55%
American Electric Power Company, Inc.	AEP	0.00%	0.00%	0.00%	0.00%
Duke Energy Corporation	DUK	0.00%	0.00%	0.00%	0.00%
Entergy Corporation	ETR	0.09%	0.10%	0.11%	0.10%
Evergy, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%
IDACORP, Inc.	IDA	0.00%	0.00%	0.00%	0.00%
NextEra Energy, Inc.	NEE	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%
OGE Energy Corporation	OGE	0.00%	0.00%	0.00%	0.00%
Pinnacle West Capital Corporation	PNW	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%
PPL Corporation	PPL	0.00%	0.00%	0.00%	0.00%
Southern Company	SO	0.00%	0.00%	0.54%	0.18%
Pinnacle West Capital Corporation	PNW	0.18%	0.18%	0.20%	0.19%
Proxy Group					
MEAN		0.05%	0.05%	0.10%	0.07%
LOW		0.00%	0.00%	0.00%	0.00%
HIGH		0.50%	0.54%	0.60%	0.55%

PREFERRED EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2023	2022	2021	2021-2023
					Average
Interstate Power and Light Company	LNT	0.00%	0.00%	0.00%	0.00%
Wisconsin Power and Light Company	LNT	0.00%	0.00%	0.00%	0.00%
Ameren Illinois Company	AEE	0.39%	0.43%	0.48%	0.43%
Union Electric Company	AEE	0.60%	0.64%	0.70%	0.65%
AEP Texas Inc.	AEP	0.00%	0.00%	0.00%	0.00%
Appalachian Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Indiana Michigan Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Kentucky Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Kingsport Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Ohio Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Public Service Company of Oklahoma	AEP	0.00%	0.00%	0.00%	0.00%
Southwestern Electric Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Wheeling Power Company	AEP	0.00%	0.00%	0.00%	0.00%
Duke Energy Carolinas, LLC	DUK	0.00%	0.00%	0.00%	0.00%
Duke Energy Florida, LLC	DUK	0.00%	0.00%	0.00%	0.00%
Duke Energy Indiana, LLC	DUK	0.00%	0.00%	0.00%	0.00%
Duke Energy Kentucky, Inc.	DUK	0.00%	0.00%	0.00%	0.00%
Duke Energy Ohio, Inc.	DUK	0.00%	0.00%	0.00%	0.00%
Duke Energy Progress, LLC	DUK	0.00%	0.00%	0.00%	0.00%
Entergy Arkansas, LLC	ETR	0.00%	0.00%	0.00%	0.00%
Entergy Louisiana, LLC	ETR	0.00%	0.00%	0.00%	0.00%
Entergy Mississippi, LLC	ETR	0.00%	0.00%	0.00%	0.00%
Entergy New Orleans, LLC	ETR	0.00%	0.00%	0.00%	0.00%
Entergy Texas, Inc.	ETR	0.63%	0.73%	0.81%	0.72%
Evergy Kansas Central, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%
Evergy Kansas South, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%
Evergy Metro, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%
Evergy Missouri West, Inc.	EVRG	0.00%	0.00%	0.00%	0.00%
Westar Energy (KPL)	EVRG	0.00%	0.00%	0.00%	0.00%
Idaho Power Company	IDA	0.00%	0.00%	0.00%	0.00%
Florida Power & Light Company	NEE	0.00%	0.00%	0.00%	0.00%
NorthWestern Corporation	NWE	0.00%	0.00%	0.00%	0.00%
Oklahoma Gas and Electric Company	OGE	0.00%	0.00%	0.00%	0.00%
Arizona Public Service Company	PNW	0.00%	0.00%	0.00%	0.00%
Alabama Power Company	SO	0.00%	0.00%	0.00%	0.00%
Georgia Power Company	SO	0.00%	0.00%	0.00%	0.00%
Mississippi Power Company	SO	0.00%	0.00%	1.43%	0.48%
Texas-New Mexico Power Company	TXNM	0.00%	0.00%	0.00%	0.00%
Public Service Company of New Mexico	TXNM	0.00%	0.00%	0.00%	0.00%
Portland General Electric Company	POR	0.00%	0.00%	0.00%	0.00%
PPL Corporation	PPL	0.29%	0.28%	0.30%	0.29%

Notes:

[1] Ratios are weighted by actual common capital, long-term debt, and short-term debt of Operating Subsidiaries.

[2] Natural Gas operating subsidiaries where data was unable to be obtained for 2021-2023 were

STATE OF NORTH DAKOTA
BEFORE THE
PUBLIC SERVICE COMMISSION

NORTHERN STATES POWER COMPANY)
2025 ELECTRIC RATE INCREASE)
APPLICATION)

Case No. PU-24-___

**AFFIDAVIT OF
Joshua C. Nowak**

I, the undersigned, being first duly sworn, depose and say that the foregoing is the Direct Testimony of the undersigned, and that such Direct Testimony and the exhibits or schedules sponsored by me to the best of my knowledge, information and belief, are true, correct, accurate and complete, and I hereby adopt said testimony as if given by me in formal hearing, under oath.



Joshua C. Nowak

Subscribed and sworn to before me, this 22nd day of November, 2024.



Notary Public

Notary Public

My Commission Expires: *November 27, 2026*

