

Direct Testimony and Schedules
Joshua C. Nowak

Before the Minnesota Public Utilities Commission
State of Minnesota

In the Matter of the Application of Northern States Power Company
for Authority to Increase Rates for Natural Gas Service in Minnesota

Docket No. G002/GR-23-413
Exhibit___(JCN-1)

Return on Equity

November 1, 2023

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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 Minnesota Public Utilities Commission
16 (the Commission) on behalf of Northern States Power Company, a Minnesota
17 corporation (NSPM 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 NSPM. My direct
14 testimony also discusses the Company's capital structure in comparison to the
15 proxy group 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 – Two-Growth DCF Analysis
- 25 • Schedule 6 – Market Risk Premium (MRP)
- 26 • Schedule 7 – Capital Asset Pricing Model (CAPM) Analysis
- 27 • Schedule 8 – Bond Yield Plus Risk Premium (Risk Premium) Analysis

- Schedule 9 – Expected Earnings Analysis
- Schedule 10 – Flotation Cost Analysis
- Schedule 11 – Regulatory Framework Comparison
- Schedule 12 – Capital Structure Analysis

II. SUMMARY OF TESTIMONY

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

A. I have estimated NSPM's ROE based on the results of the Constant Growth and Two-Growth DCF models, the CAPM, and the Bond Yield Plus Risk Premium model and the general economic and capital market environment and the influence such conditions exert over the results. To assess the reasonableness of the Constant Growth and Two-Growth DCF, CAPM, and Risk Premium results and evaluate the available returns for alternative investments, I also considered the Expected Earnings analysis. In addition, I analyzed the Company's business and regulatory risk profile that must be considered in determining where the Company's cost of equity falls within the range of analytical results. A summary of the results of my analyses are shown below in Table 1.

Table 1
Summary of Results Including Flotation Costs

	Average	Median
<i>Primary Analyses</i>		
Average DCF	10.09%	9.80%
Constant Growth DCF	10.08%	9.80%
Two-Growth DCF	10.10%	9.81%
CAPM	11.23%	11.15%
Risk Premium	10.33%	10.33%
Average	10.55%	10.53%
<i>Benchmark Analyses</i>		
Expected Earnings	9.94%	9.84%

The Constant Growth DCF, Two-Growth DCF, CAPM, Risk Premium, and the Expected Earnings analysis produce a range of estimates of the Company's cost of equity of 9.80 percent to 11.23 percent, including flotation costs, with an average of approximately 10.55 percent. Based on these analyses, I consider an ROE range of 9.90 percent to 10.90 percent to be reasonable. From within that range, I recommend an ROE of 10.20 percent. My recommendation is below the midpoint of the range and 35 basis points below the average of the DCF, CAPM, and Risk Premium analyses and therefore represents a conservative estimate of NSPM's cost of equity. As to the capital structure, NSPM's requested capital structure of 52.50 percent equity and 47.50 percent debt (46.87 percent long-term debt and 0.63 percent short-term debt) is within

1 the range of actual common equity ratios of 44.43 percent to 59.79 percent for
2 the operating companies held by the proxy group, and, therefore, reasonable.

3
4 Q. HOW IS THE REQUIRED ROE DETERMINED?

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

13
14 Q. PLEASE PROVIDE A BRIEF OVERVIEW OF THE ANALYSES THAT YOU CONDUCTED
15 TO SUPPORT YOUR ROE RECOMMENDATION.

16 A. As mentioned, my ROE recommendation is based on the range of results
17 produced from four modeling methodologies. Analysts and academics
18 understand that ROE models are tools to be used in the ROE estimation
19 process, and that strict adherence to any single approach, or the specific results
20 of any single approach, can lead to flawed conclusions. No model can exactly
21 pinpoint the correct cost of equity, but each is designed to provide a unique
22 estimate of the return required to attract equity investment. Therefore, my
23 analysis considers the range of results produced by these different analyses. The
24 Constant Growth and Two-Growth DCF analysis estimates the cost of equity
25 based on market data on dividend yields and analysts' projected earnings per
26 share growth rates from reputable third-party sources. The CAPM analysis is
27 based on both current and forecasted interest rates and a forward-looking

1 market risk premium. The Risk Premium approach calculates the risk premium
2 as the spread between authorized ROEs for natural gas distribution utilities and
3 Treasury bond yields. The Expected Earnings approach is based on projected
4 returns on book equity that investors expect to receive over the next three to
5 five years. My ROE recommendation is ultimately based on the range of results
6 produced by these methodologies.

7
8 My recommendation also considers the general economic and capital market
9 environment and the influence capital market conditions exert over the results
10 of the Constant Growth and Two-Growth DCF, CAPM, and Risk Premium
11 models. In addition, I consider the Company's business and regulatory risks in
12 relation to a set of proxy companies to assist in the determination of the
13 appropriate ROE and capital structure from within the range of my analytical
14 results.

15
16 Q. HOW IS THE REMAINDER OF YOUR DIRECT TESTIMONY ORGANIZED?

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

- 18 • Section III provides background on the regulatory principles that guide
19 the determination of ROE.
- 20 • Section IV presents a review of current and prospective economic and
21 capital market conditions and the implications on the cost of capital for
22 utilities.
- 23 • Section V describes the criteria and approach for the selection of a proxy
24 group of comparable companies.
- 25 • Section VI provides a description of the data and methodologies used to
26 estimate the cost of equity, as well as the results of the various ROE

1 estimation models and concludes with my recommendation and an
2 assessment of its reasonableness under the *Hope* test.

- 3 • Section VII discusses NSPM’s business risks relative to the proxy group
4 and other considerations relevant to determining the Company’s allowed
5 ROE.
- 6 • Section VIII reviews NSPM’s capital structure in the context of the proxy
7 group.
- 8 • Finally, Section IX summarizes my results, conclusions, and
9 recommendation.

11 III. REGULATORY PRINCIPLES

12
13 Q. PLEASE DESCRIBE THE GUIDING PRINCIPLES USED IN ESTABLISHING THE COST
14 OF CAPITAL FOR A REGULATED UTILITY.

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

23 A public utility is entitled to such rates as will permit it to earn a return
24 on the value of the property which it employs for the convenience of
25 the public equal to that generally being made at the same time and in
26 the same general part of the country on investments in other business
27 undertakings which are attended by corresponding risks and
28 uncertainties...

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

7 Later, in *Hope*, the Court expanded on the standard for setting an appropriate
8 ROE:

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

15 Q. DOES MINNESOTA LAW PROVIDE SIMILAR GUIDANCE IN ESTABLISHING THE
16 APPROPRIATE RETURN ON EQUITY?

17 A. Yes. Chapter 216B of the Minnesota Statutes states:

18 The commission [Minnesota Public Utilities Commission], in the
19 exercise of its powers under this chapter to provide just and
20 reasonable rates for public utilities, shall give due consideration to the
21 public need for adequate, efficient, and reasonable service and to the
22 need of the public utility for revenue sufficient to enable it to meet
23 the cost of furnishing the service, including adequate provision for
24 depreciation of its utility property used and useful in rendering service
25 to the public, and to earn a fair and reasonable return upon the
26 investment in such property.¹
27

28 Further, the Minnesota Supreme Court has adopted the *Bluefield* and *Hope*
29 requirements, stating that:

30 Rates which are not sufficient to yield a reasonable return on the value
31 of the property used, at the time it is being used to render the service,
32 are unjust, unreasonable, and confiscatory, and their enforcement

¹ Minn. Stat. § 216B.16(6) [clarification added].

1 deprives the public utility company of its property in violation of the
2 Fourteenth Amendment.²
3

4 Q. PLEASE EXPLAIN HOW THESE PRINCIPLES APPLY IN THE CONTEXT OF THE
5 REGULATED RATE OF RETURN.

6 A. Regulated utilities rely primarily on common stock and long-term debt to
7 finance permanent property, plant, and equipment. The allowed rate of return
8 for a regulated utility is based on its weighted average cost of capital, where the
9 costs of the individual sources of capital (*i.e.*, debt and equity) are weighted by
10 their respective book values. The ROE represents the cost of raising and
11 retaining equity capital and is estimated by using one or more analytical
12 techniques that use market data to quantify investor requirements for equity
13 returns. However, the ROE cannot be derived through quantitative metrics and
14 models alone. To properly estimate the ROE, the financial, regulatory, and
15 economic context must also be considered.
16

17 Based on these widely recognized standards, the Commission's order in this
18 case should provide NSPM with the opportunity to earn a return on equity that
19 is:

- 20 • Adequate to allow the Company to attract the capital that is necessary to
21 provide safe and reliable service (the capital attraction standard);
- 22 • Sufficient to ensure the Company's ability to maintain its financial
23 integrity (the financial integrity standard); and
- 24 • At a level that is comparable to returns required on investments of similar
25 risk (the comparability standard).

² *Hibbing Taconite Co. v. Minnesota Public Service Commission*, 302 N.W.2d 5, 10 (Minn. 1980), citing *Bluefield*, 262 U.S. at 690, 43 S. Ct. at 678.

1 Importantly, a fair return must satisfy all three of these standards established
2 under *Hope* and *Bluefield*. The allowed ROE should enable the Company to
3 finance capital expenditures on reasonable terms and provide it with the ability
4 to raise capital under a full range of capital market circumstances to serve its
5 customers. The DCF, CAPM, Risk Premium, and Expected Earnings
6 approaches, while fundamental to the ROE determination, are still only models.
7 The results of these models cannot be mechanically applied without also using
8 informed judgment to consider economic and capital market conditions and the
9 relative risk of NSPM as compared to the proxy group companies.

10
11 Q. HOW DO THESE PRINCIPLES SERVE CUSTOMER INTERESTS?

12 A. Because utility operations are capital intensive, regulatory decisions, including
13 the determination of the cost of equity, should enable the utility to attract capital
14 at reasonable terms. Doing so balances the long-term interests of investors and
15 customers. In particular, a fair return significantly contributes to the Company's
16 overall financial integrity. A strong financial profile is necessary to maintain
17 access to capital markets at reasonable terms. This ensures that the Company is
18 able to access lower borrowing costs for the investments necessary to provide
19 safe and reliable service and meet customers' evolving needs.

20
21 Q. IS NSPM'S ABILITY TO ATTRACT EQUITY CAPITAL AFFECTED BY ROES THAT
22 ARE AUTHORIZED FOR OTHER UTILITIES?

23 A. Yes, it is. NSPM competes with other investments of similar risk for equity
24 capital from the market. In addition, NSPM competes with other investments
25 within XEI for equity capital from its parent company. Therefore, the ROE
26 awarded to a utility sends an important signal to investors regarding whether
27 there is regulatory support for financial integrity, dividends, growth, and fair

1 compensation for business and financial risk. A company's cost of equity is
2 defined by, and equal to, the opportunity cost of investing in that company. In
3 other words, if higher returns are available from other investments of
4 comparable risk, investors (including parent companies) have an incentive to
5 direct their capital to those investments. This means that an authorized ROE
6 for NSPM that is below ROEs authorized for other utilities could increase the
7 overall cost of capital required for investments to be made on behalf of
8 customers in Minnesota.

9
10 Q. WHAT ARE YOUR CONCLUSIONS REGARDING REGULATORY PRINCIPLES?

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

IV. ECONOMIC AND CAPITAL MARKET CONDITIONS

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

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

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

A. The cost of equity for regulated utility companies is being affected by several key factors in the current and prospective capital markets including the Federal Reserve's aggressively tighter monetary policy, ongoing inflation concerns, and

1 the heightened uncertainty and volatility in equity markets. Collectively, these
2 factors contribute to heightened market risk and an increase in investor-
3 required returns. In this section, I discuss these factors and how they affect the
4 models used to estimate the cost of equity for regulated utilities.

5
6 **A. Monetary Policy**

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

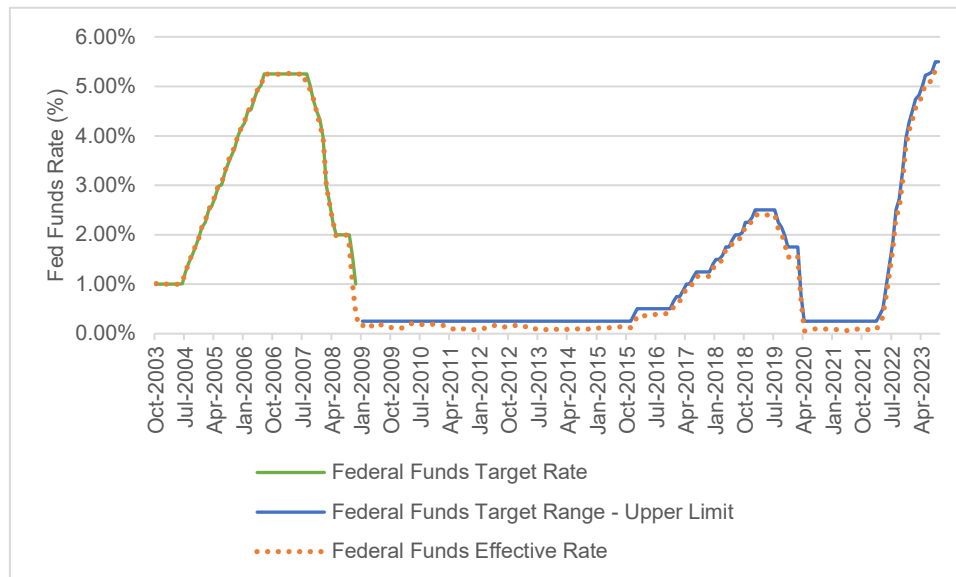
9 A. The Federal Reserve is responsible for “conducting the nation’s monetary
10 policy by influencing money and credit conditions in the economy in pursuit of
11 full employment and stable prices.”³ The Federal Reserve implements monetary
12 policy through raising or lowering interest rates, which impacts the demand for
13 goods and services. This, in turn, impacts employment and inflation. Monetary
14 policy has shifted dramatically over the past several years, in response first to
15 COVID-19, and then to record high inflation. The capital markets are
16 significantly affected by the Federal Reserve’s policy. While the primary
17 monetary policy tool used by the Federal Reserve is the short-term interest rate
18 for overnight interbank loans, it has far-reaching consequences for capital
19 markets and significantly influences long-term interest rates and the cost of
20 equity. As discussed in more detail below, current Federal Reserve policy is
21 increasingly focused on inflationary concerns, but it is important to note, even
22 if inflation moderates, the current monetary policy stance is likely to have a
23 long-lasting effect on capital market conditions.

³ Federal Reserve, “The Fed - What is the purpose of the Federal Reserve System?” available at https://www.federalreserve.gov/faqs/about_12594.htm.

1 Q. WHAT STEPS DID THE FEDERAL RESERVE TAKE TO STABILIZE FINANCIAL
2 MARKETS AND SUPPORT THE ECONOMY IN RESPONSE TO PERSISTENT
3 INFLATION?

4 A. Inflation surged to historically high levels in 2022, and the Federal Reserve had
5 little choice but to aggressively battle inflation through raising interest rates.
6 Previously, in response to the economic effects of COVID-19, the Federal
7 Reserve decreased the federal funds rate in March 2020 to a target range of 0.00
8 percent to 0.25 percent (which remained in effect until March 2022) in addition
9 to other stimulus measures that increased the supply of money in the economy.
10 The Federal Reserve began unwinding its quantitative easing program in 2022
11 and has thus far increased the target rate 11 times to a target rate of 5.25 percent
12 to 5.50 percent (the highest level the highest level in the last 20 years) as shown
13 in Figure 1 below.

14
15 **Figure 1**
16 **FOMC Federal Funds Rates**



1 In September 2023, the Federal Reserve indicated that inflation remains a key
2 consideration for the Committee:

3 The Committee seeks to achieve maximum employment and inflation
4 at the rate of 2 percent over the longer run. In support of these goals,
5 the Committee decided to raise the target range for the federal funds
6 rate to 5-1/4 to 5-1/2 percent. The Committee will continue to assess
7 additional information and its implications for monetary policy. In
8 determining the extent of additional policy firming that may be
9 appropriate to return inflation to 2 percent over time, the Committee
10 will take into account the cumulative tightening of monetary policy,
11 the lags with which monetary policy affects economic activity and
12 inflation, and economic and financial developments. In addition, the
13 Committee will continue reducing its holdings of Treasury securities
14 and agency debt and agency mortgage-backed securities, as described
15 in its previously announced plans. The Committee is strongly
16 committed to returning inflation to its 2 percent objective.⁴
17

18 Interest rates may not fully reflect the effects of inflation because no one knows
19 exactly how high interest rates must go before inflation returns to more
20 acceptable levels. Although year-over-year inflation rates have eased somewhat
21 over the last few months, the Federal Reserve also affirmed that inflation
22 “remains elevated,” and the “Committee remains highly attentive to inflation
23 risks.”⁵ Chairman of the Federal Reserve, Jerome Powell, recently reiterated the
24 Fed’s objective to bring inflation down to its 2.0 percent target, and is “prepared
25 to raise rates further if appropriate, and intend to hold policy at a restrictive
26 level until we are confident that inflation is moving sustainably down toward
27 our objective.”⁶

⁴ FOMC Press Release (September 20, 2023). Available here:

<https://www.federalreserve.gov/monetarypolicy/files/monetary20230920a1.pdf>

⁵ FOMC Press Release (September 20, 2023). Available here:

<https://www.federalreserve.gov/monetarypolicy/files/monetary20230920a1.pdf>

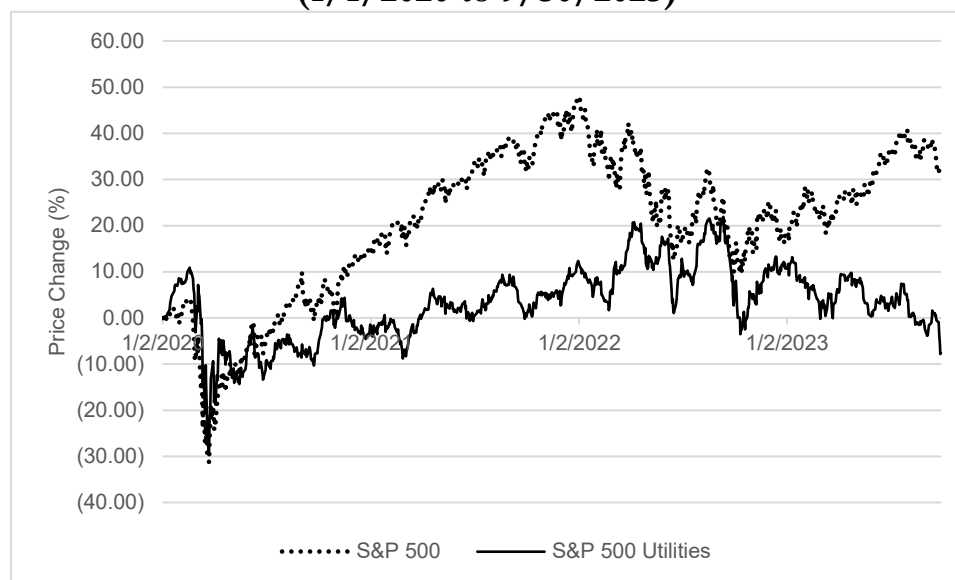
⁶ Board of Governors of the Federal Reserve System, Remarks by Jerome H. Powell, “Inflation: Progress and the Path Ahead,” August 25, 2023.

1 Q. HOW HAVE CAPITAL MARKETS RESPONDED?

2 A. In response to monetary policy, record high inflation and disappointing
3 earnings reports, capital markets have been volatile, and the stock market has
4 lost substantial value. While the S&P 500 closed at record highs on the first
5 trading day of 2022,⁷ by mid-June, the S&P 500 was down more than 21 percent,
6 wiping out all of 2021's gains. The utility sector has fared far worse. While the
7 overall market has surpassed its pre-pandemic levels, the same is not true with
8 regard to the utility sector as utilities have underperformed the broader market
9 since 2020, and especially in 2023. As shown in Figure 2, the broad market, as
10 measured by the S&P 500 Index has increased 31.62 percent. However, the
11 utility industry, as measured by the S&P 500 Utilities Index has *decreased* 7.60
12 percent. Over the last twelve months, the S&P 500 Utilities Index declined
13 10.02 percent as compared to an increase of 19.59 percent in the S&P 500
14 Index. This suggests a more difficult environment for raising capital for utilities
15 and upward pressure in the cost of equity capital for utilities. That is, a decrease
16 in stock price indicates investors require a higher return for an equity
17 investment.

⁷ 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>.

Figure 2
S&P 500 and S&P 500 Utilities Indices Performance
(1/1/2020 to 9/30/2023)



Q. HOW HAVE CAPITAL MARKETS CHANGED SINCE THE COMPANY'S LAST RATE DECISION?

A. The Company filed a settlement agreement on October 4, 2022, which included an ROE of 9.57 percent. The Commission issued its Order accepting the settlement agreement on April 13, 2023. As noted above, over the last twelve months (from October 1, 2022 through September 30, 2023), utilities have underperformed the broader market as utility stock prices have declined, which indicates an increase in cost of equity capital for utility companies. This is consistent with the increase in interest rates since the Company's settlement agreement was filed. On October 1, 2022, the 30-day average yield on the 30-year Treasury bond was 3.47 percent. For the 30-day period ending September 30, 2023, the average yield on the 30-year Treasury bond was 4.42 percent, representing a 95 basis point increase.

B. Persistent Inflation Risk

Q. PLEASE DESCRIBE THE SIGNIFICANCE OF CURRENT INFLATIONARY PRESSURE.

A. While inflation pressure has decreased since the highs seen in 2022—the highest level in approximately 40 years—due largely to the Federal Reserve’s interest rate hikes over 2022 and 2023, inflationary concerns persist, with inflation as of September 2023 at approximately 3.70 percent, based on the year-over-year (YOY) change in the Consumer Price Index (CPI) published by the Bureau of Labor Statistics.⁸ Indeed, the most recent monthly report on the CPI reported an increase from the prior month with a 3.7 percent increase over the prior year.⁹ As shown in Figure 3, despite the decline over 2023, inflation remains well above the Federal Reserve’s target of 2.00 percent.¹⁰

Figure 3
Consumer Price Index, 12-month Percentage Change vs Current Federal Reserve Target



⁸ Source: Bureau of Labor Statistics, <https://www.bls.gov/charts/consumer-price-index/consumer-price-index-by-category-line-chart.htm>.

⁹ US Bureau of Labor Statistics, Economic News Release, Consumer Price Index Summary, September 13, 2023.

¹⁰ Board of Governors of the Federal Reserve System, Remarks by Jerome H. Powell, “Inflation: Progress and the Path Ahead,” August 25, 2023.

1 Q. WHAT EFFECT WILL INFLATION HAVE ON LONG-TERM INTEREST RATES?

2 A. Inflation and the Federal Reserve's tighter monetary policy will likely result in
3 increases in long-term interest rates. Specifically, inflation reduces the
4 purchasing power of the future interest payments an investor expects to receive
5 over the duration of the bond. This risk increases the longer the duration of the
6 bond. As a result, if investors expect continued levels of high inflation, they will
7 require higher yields to compensate for the increased risk of inflation which
8 means interest rates will increase.

9
10 Looking forward, the inflation risks in the market are twofold: (1) either
11 inflation becomes embedded in the economy if the Federal Reserve does not
12 move aggressively enough in tightening monetary policy; or (2) the Federal
13 Reserve responds to inflationary pressure by raising short-term interest rates to
14 a level that causes a slowdown in economic growth or a recession.

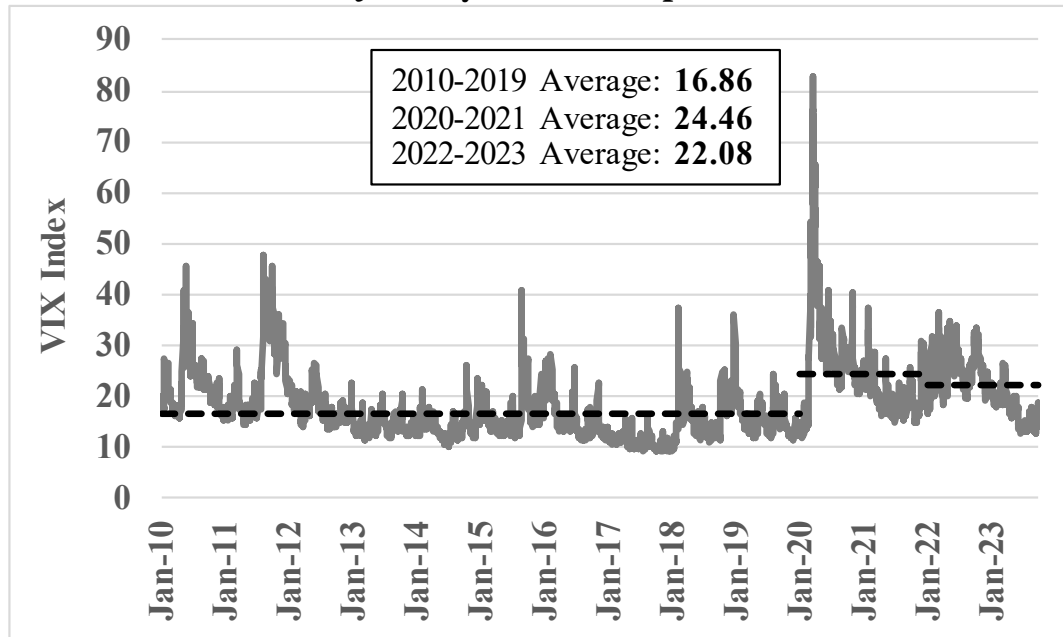
15
16 **C. Ongoing Uncertainty and Volatility in Capital Markets**

17 Q. ARE CONDITIONS EXPECTED TO STABILIZE IN THE NEAR TERM?

18 A. The economy remains in a tenuous phase of the business cycle with concerns
19 over a potential recession, persistent inflation, and potentially escalating interest
20 rates. As such, capital market conditions continue to be unstable as interest rates
21 and inflation have increased. The Chicago Board Options Exchange (CBOE)
22 Volatility Index (VIX) has remained above long-term historical levels, indicating
23 stock investors remain anxious about the economy and company earnings. The
24 VIX, a measure of expected price fluctuations in the S&P 500, reached 82.7 on
25 March 16, 2020, in response to the pandemic. As a point of comparison, the
26 VIX last traded above 80 in November 2008 during the financial crisis and
27 Great Recession of 2008/09. The VIX has continued to reach levels above 25.0

1 in 2023. As shown in Figure 4, the average level in 2022-2023 has been 22.08
2 through September 30, 2023, compared to the average of 16.86 from 2010-
3 2019.¹¹ This indicates that equity market volatility levels have partially settled
4 but continue to remain above the historical mean.

5
6 **Figure 4**
7 **CBOE VIX – January 1, 2010 – September 30, 2023⁴**



18
19 Similarly, the most recent Consumer Confidence Survey Expectations Index
20 findings (based on consumers' short-term economic outlook) dropped to 73.7
21 in September 2023, down from 83.3 in August 2023 (an index level of 80 or
22 below historically signals a recession within the next year). According to the
23 Conference Board, "Consumer fears of an impending recession also ticked back
24 up, consistent with the short and shallow economic contraction we anticipate
25 for the first half of 2024" and that "consumer confidence fell again in

¹¹ Source: Chicago Board Options Exchange (CBOE). Available at
https://www.cboe.com/tradable_products/vix/vix_historical_data/.

1 September 2023, marking two consecutive months of decline.”¹² Of note,
2 unlike the June and July Consumer Confidence surveys, the August and
3 September surveys factor in: (1) the most recent Federal Reserve interest rate
4 increase; and (2) the Fitch Ratings downgrade on U.S. debt to AA+ recently
5 from AAA. In its Rating Action Commentary, Fitch cites, among other factors,
6 the Federal Reserve’s monetary tightening measures, indicating expectations of
7 another rate hike to 5.50 percent to 5.75 percent, stating:

8 The resilience of the economy and the labor market are complicating
9 the Fed's goal of bringing inflation towards its 2% target. While
10 headline inflation fell to 3% in June, core PCE inflation, the Fed's key
11 price index, remained stubbornly high at 4.1% yoy. This will likely
12 preclude cuts in the Federal Funds Rate until March 2024.¹³
13

14 While market expectations of a “soft landing,” rather than a recession are
15 common among equity analysts, as Bank of America’s recently revised analysis
16 notes:

17 “[O]ur revisions imply we no longer expect a mild recession and,
18 instead, think the economy may be able to skirt one,” the research
19 note read. However, it added, “the economy is not entirely out of the
20 woods yet and a mild recession remains our second most likely
21 outcome.”¹⁴
22

¹² The Conference Board. Consumer Confidence Survey Press Release September 26, 2023.

¹³ FitchRatings. “Rating Action Commentary.” August 1, 2023. Available at <https://www.fitchratings.com/research/sovereigns/fitch-downgrades-united-states-long-term-ratings-to-aa-from-aaa-outlook-stable-01-08-2023>

¹⁴ The Hill. “Bank of America now expecting ‘soft landing’ instead of recession.” August 4, 2023. Available at <https://thehill.com/business/economy/4138171-bank-of-america-now-expecting-soft-landing-instead-of-recession/>

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 in the range of 4.59 percent to 5.55 percent,¹⁵ utility dividend yields in
7 a range near 4.00 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. According to a recent report by S&P Global Ratings (S&P), credit ratings for
19 North American utilities "weakened sharply in 2020." According to S&P, "[t]he
20 percentage of North American regulated utilities with a negative outlook or on
21 CreditWatch with negative implications surged from 18% in 2019 to 36% in
22 2020." The report also indicated "that the number of downgrades exceeded the
23 number of upgrades by a wide margin in 2020 for the first time since 2010."
24 Regarding the causes of the weakening credit profiles, S&P stated: "The main

¹⁵ Source: Federal Reserve. On September 29, 2023 the yield on the 1-month Treasury bill was 5.55 percent, and the yield on the 10-year Treasury bond was 4.59 percent.

1 causes of weakening credit quality reflected environment, social, and
2 governance (ESG) risks, regulatory issues, and companies' practice of
3 strategically managing financial measures close to their downgrade threshold
4 with little or no cushion," and the COVID-19 pandemic "was not the culprit
5 for weaker credit quality" the report states.¹⁶ That trend continued in 2021, as
6 S&P noted that "credit quality weakened again in 2021 and represented the
7 second consecutive year that downgrades outpaced upgrades" primarily due to
8 weak financial measures and ESG-related risks.¹⁷ Fitch Ratings (Fitch) points to
9 capital spending, rising interest rates, and high fuel prices creating cost pressures
10 leading to a "deteriorating" outlook on the utilities sector.¹⁸ While the views of
11 rating agencies represent an important consideration, they are not the only
12 factor that equity investors consider. The important distinction is that credit
13 rating agencies are primarily focused on the ability of a utility to pay its debts,
14 while equity analysts and institutional investors are more concerned with
15 profitability and value creation.

16
17 Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE EFFECTS OF THE CURRENT
18 MARKET ENVIRONMENT ON THE COST OF EQUITY FOR NSPM?

19 A. The current capital market conditions are heavily influenced by monetary policy
20 aimed at mitigating inflationary pressures. This has caused both short-term and
21 long-term interest rates to increase substantially. As a practical matter, investors
22 consider a range of opportunities, which includes bonds. With the sustained

¹⁶ S&P Global Ratings, *Utility Sector's credit ratings weakened sharply in 2020*, January 21, 2021.

¹⁷ S&P Global Ratings, *For the First Time Ever, The Median Investor-Owned Utility Ratings Falls to The 'BBB' Category*, January 20, 2022.

¹⁸ S&P Global Market Intelligence, "Fitch sees various cost pressures behind 'deteriorating' US utilities outlook," November 14, 2022.

1 increase in interest rates, utilities are less attractive absent a corresponding
2 increase in returns. With the Federal Reserve's expectation for higher interest
3 rates for an extended period of time, this will continue to put upward pressure
4 on the cost of capital for utilities. Therefore, it is important that these factors
5 are accounted for in the cost of equity models.

6 7 **D. Conclusions**

8 Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR ANALYSIS OF CAPITAL MARKET
9 CONDITIONS?

10 A. Investors face inflationary pressures, as well as increasing debt costs as the
11 Federal Reserve continues its response to inflation concerns. Long-term interest
12 rates have increased substantially since the historical lows of 2020 and are
13 expected to remain elevated. Importantly, this requires the use of both current
14 and forecast bond yields in the CAPM and Risk Premium models. Fluctuations
15 in utility valuations impact the results of the Constant Growth and Two-
16 Growth DCF models. The dividend yield is calculated using historical average
17 stock prices, which may not fully reflect forward market expectations. These
18 circumstances collectively reinforce the importance of using multiple models,
19 as I have with the CAPM, DCF, Risk Premium, and Expected Earnings
20 approaches.

21 22 **V. PROXY GROUP SELECTION**

23
24 Q. WHY IS IT NECESSARY TO SELECT A PROXY GROUP TO ESTIMATE THE COST OF
25 EQUITY FOR NSPM?

26 A. Since the ROE is a market-based concept and NSPM is not publicly traded, it
27 is necessary to establish a group of companies that is both publicly traded and

1 comparable to NSPM as a proxy. Even if NSPM were a publicly traded entity,
2 it is possible that transitory events could bias the Company's market value in
3 one way or another in a given period. A significant benefit of using a proxy
4 group is the ability to mitigate the effects of short-term events that may be
5 associated with any one company. The proxy companies used in my ROE
6 analyses possess a set of business and operating characteristics similar to the
7 Company's natural gas utility operations, and thus provide a reasonable basis
8 for estimating the Company's ROE.

9
10 Q. PLEASE PROVIDE A SUMMARY PROFILE OF NSPM.

11 A. NSPM provides natural gas distribution and electric generation, transmission,
12 and distribution service to approximately 1.5 million retail electric customers
13 and 500,000 natural gas customers in Minnesota, North Dakota, and South
14 Dakota.¹⁹ The Company has long-term issuer ratings from S&P of A (Outlook:
15 Stable), Moody's Investors Service (Moody's) of Baa1 (Outlook: Stable), and
16 Fitch of A- (Outlook: Stable).²⁰

17
18 Q. PLEASE DESCRIBE THE SPECIFIC SCREENING CRITERIA YOU HAVE UTILIZED TO
19 SELECT A PROXY GROUP.

20 A. I began with the ten investor-owned domestic natural gas distribution
21 companies covered by Value Line and then screened companies according to
22 the following criteria:

¹⁹ Xcel Energy Inc., SEC Form 10-K, for the fiscal year ended December 31, 2022, at 10.

²⁰ S&P Global Ratings. "Research Update: Northern States Power Co. Upgraded to 'A' On Sustained Financial Performance, Outlook Stable; Debt Ratings Raised." July 24, 2023; Moody's. "Issuer Comment: Northern States Power Company (Minnesota)." August 15, 2023; FitchRatings. "Northern States Power Company-Minnesota." April 11, 2023.

1. Consistently pays quarterly cash dividends because it is a necessary assumption in the DCF model;
2. Maintains an investment grade long-term issuer rating (BBB- or higher) from S&P to ensure the proxy companies have a comparable financial risk profile to that of the Company;
3. Is covered by more than one equity analyst to ensure that estimates are consensus-based;
4. Has positive earnings growth rates, which is a necessary assumption in the DCF model, published by at least two of the following sources: Value Line, First Call (as reported by Yahoo! Finance), and Zacks Investment Research (Zacks);
5. Regulated net operating income makes up more than 60 percent of the consolidated company's net operating income (based on a 3-year average from 2020-2022) to ensure that the proxy companies are primarily regulated utilities;
6. Natural gas distribution net operating income makes up more than 60 percent of the consolidated company's regulated net operating income (based on a 3-year average from 2020-2022) to ensure the proxy companies have a comparable business risk profile to that of the Company; and
7. Is not involved in a significant merger, or other transformative transaction, as such activities may have a temporary effect on such companies' stock prices and projections unrelated to the overall cost of capital.

1 Q. DOES YOUR SCREENING CRITERIA RESULT IN A GROUP OF COMPANIES THAT
2 INVESTORS WOULD VIEW AS COMPARABLE TO NSPM?

3 A. Yes. While no proxy group will be identical in risk to the Company, I believe
4 this group of natural gas distribution utilities is reasonably comparable to the
5 financial and operational characteristics of NSPM's gas utility operations. The
6 proxy group screening criterion requiring an investment grade credit rating
7 ensures that the proxy group companies, like NSPM, are in sound financial
8 condition. Because credit ratings take into account business and financial risks,
9 the ratings provide a broad measure of investment risk for investors. I have
10 screened on the percentage contribution of the natural gas utility segment to
11 regulated consolidated financial results to select companies that, since this
12 proceeding is limited to determining the appropriate ROE for the stand-alone
13 natural gas operations of NSPM. These screens collectively reflect key risk
14 factors that investors consider in making investments in natural gas distribution
15 utilities. Further, the screening criteria that I applied are highly consistent with
16 the screening criteria used by Minnesota Department of Commerce (DOC) in
17 the Company's last case, Docket No. G002/GR-21-678. In fact, the proxy
18 group I have selected is identical to the DOC's proxy group in that case.²¹
19

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

21 A. Based on the screening criteria discussed above, and financial information
22 through fiscal year 2022, I arrived at a proxy group consisting of the six
23 companies shown in Table 2. The results of my screening process are shown in
24 Exhibit____(JCN-1), Schedule 3.

²¹ Docket No. G002/GR-21-678 Direct Testimony and Attachments of Craig Addonizio on Behalf of the Minnesota Department of Commerce Division of Energy Resources, filed on August 30, 2022, at 14.

Table 2
Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
New Jersey Resources Corporation	NJR
NiSource Inc.	NI
Northwest Natural Gas Company	NWN
ONE Gas Inc.	OGS
Spire, Inc.	SR

Q. IS IT APPROPRIATE TO INCLUDE NISOURCE, INC. IN YOUR PROXY GROUP, DESPITE ITS RECENT TRANSACTION?

A. Yes, it is. NiSource, Inc. (NiSource) announced that an affiliate of Blackstone Infrastructure Partners, L.P., a fund managed by Blackstone Inc., has agreed to acquire a 19.9 percent stake in Northern Indiana Public Service Company LLC from NiSource Inc.²² However, considering that the acquisition is a minority share transaction in a single NiSource operating company, it is not anticipated to have a transformative effect on the company. Further, the purpose of this screen is to eliminate the impact of extraordinary price changes, such as those often caused by merger and acquisition activity. However, since the announcement, in June 2023, there has been no meaningful change in NiSource's stock price performance relative to other utility companies.

²² "NiSource announces agreement to sell minority equity interest in NIPSCO to strengthen financial foundation and support sustainable, long-term growth." June 20, 2023. Available at <https://www.prnewswire.com/news-releases/nisource-announces-agreement-to-sell-minority-equity-interest-in-nipSCO-to-strengthen-financial-foundation-and-support-sustainable-long-term-growth-301855173.html>

1 Q. DID YOU INCLUDE OTHER NATURAL GAS DISTRIBUTION COMPANIES THAT ARE
2 REGULATED BY THE COMMISSION?

3 A. I did not. While CenterPoint Energy Resource Corporation (CenterPoint) and
4 Minnesota Energy Resources Corporation (MERC) are natural gas distribution
5 companies that face similar business and regulatory risks to NSPM, they are not
6 publicly-traded as standalone entities and therefore cannot be included in the
7 proxy group. The DCF and CAPM models require data from publicly-traded
8 entities. Rather, CenterPoint and MERC are owned by companies with
9 diversified holdings that include non-gas utility operations. As such, the parent
10 companies of CenterPoint and MERC, with significant non-gas distribution
11 business segments, are not suitable proxies for NSPM.

12
13 Q. WHAT IS YOUR CONCLUSION WITH REGARD TO THE PROXY GROUP FOR NSPM?

14 A. I conclude that my group of six natural gas distribution utilities adequately
15 reflects the broad set of risks that investors consider when investing in a U.S.
16 regulated natural gas utility such as NSPM.

17
18 **VI. DETERMINATION OF THE APPROPRIATE COST OF EQUITY**

19
20 Q. WHAT MODELS DID YOU USE IN YOUR ROE ANALYSES?

21 A. I have considered the results of several ROE estimation models, including the
22 Constant Growth DCF model, the Two-Growth DCF model, the CAPM, the
23 Bond Yield Plus Risk Premium approach, and an Expected Earnings analysis.
24 Consistent with the practice of many analysts, when estimating the cost of
25 equity, I gather and evaluate as much relevant data (both quantitative and
26 qualitative) as can be reasonably obtained.

1 A. Constant Growth DCF Model

2 Q. PLEASE DESCRIBE THE DCF APPROACH.

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

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

Where P_0 represents the current stock price, $D_1 \dots D_\infty$ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation, which can be simplified and rearranged, to the Constant Growth form of the DCF model, expressed as the sum of the expected dividend yield and long-term growth rate:

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

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

1 Q. WHAT ARE THE ASSUMPTIONS UNDERLYING THE CONSTANT GROWTH DCF
2 MODEL?

3 A. The Constant Growth DCF model is based on the following assumptions: (1)
4 a constant average growth rate for earnings and dividends; (2) a stable dividend
5 payout ratio; (3) a constant price-to-earnings multiple;²³ and (4) a discount rate
6 greater than the expected growth rate.

7
8 Q. PLEASE SUMMARIZE YOUR APPLICATION OF THE CONSTANT GROWTH DCF
9 MODEL.

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

- 12 • Average stock prices for the historical period, over 30, 90, and 180
13 trading days through September 30, 2023;
- 14 • Annualized dividend per share as of September 30, 2023; and
- 15 • Company-specific earnings growth forecasts for the term *g*.

16
17 My application of the Constant Growth DCF model is provided in Schedule 4.
18

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

20 A. It is important to use an average of recent trading days to calculate the term *P*
21 in the DCF model to ensure that the calculated ROE is not skewed by
22 anomalous events that may affect stock prices on any given trading day. At the
23 same time, it is important to reflect the conditions that have defined the
24 financial markets over the recent past. In the Company's last case, Docket No.

²³ The 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 G002/GR-21-678, the DOC relied on a 30-day averaging period.²⁴ In addition
2 to a 30-day period, I also consider 90-day and 180-day averaging periods. In my
3 view, consideration of those three averaging periods reasonably balances these
4 interests.

5
6 Q. DID YOU ADJUST THE DIVIDEND YIELD TO ACCOUNT FOR PERIODIC GROWTH
7 IN DIVIDENDS?

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

16
17 Q. WHAT SOURCES OF GROWTH HAVE YOU USED IN YOUR DCF ANALYSIS?

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

21
22 Q. WHY DID YOU FOCUS ON EPS GROWTH?

23 A. The Constant Growth DCF model assumes that dividends grow at a constant
24 rate in perpetuity. Accordingly, in order to reduce the long-term growth rate to

²⁴ Docket No. G002/GR-21-678 Direct Testimony and Attachments of Craig Addonizio on Behalf of the Minnesota Department of Commerce Division of Energy Resources, filed on August 30, 2022, at 18.

²⁵ The expected dividend yield is calculated as $d_1 = d_0 (1 + \frac{1}{2} g)$.

1 a single measure, one must assume a constant payout ratio, and that earnings
2 per share, dividends per share, and book value per share all grow at the same
3 constant rate. Over the long term, however, dividend growth can only be
4 sustained by earnings growth. As noted by Brigham and Houston in their text,
5 *Fundamentals of Financial Management*: “Growth in dividends occurs primarily as a
6 result of growth in *earnings per share* (EPS).”²⁶ It is therefore important to focus
7 on measures of long-term earnings growth from credible sources as an
8 appropriate measure of long-term growth in the DCF model.

9
10 Q. ARE OTHER SOURCES OF DIVIDEND GROWTH AVAILABLE TO INVESTORS?

11 A. Yes, although that does not mean that investors incorporate such estimates into
12 their investment decisions. Academic studies suggest that investors base their
13 investment decisions on analysts’ expectations of growth in earnings.²⁷ I am not
14 aware of any similar findings regarding non-earnings-based growth estimates.
15 In addition, the only forward-looking growth rates that are available on a
16 consensus basis are analysts’ EPS growth rates. The fact that earnings growth
17 projections are the only widely accepted estimates of growth provides further
18 support that earnings growth is the most meaningful measure of growth among
19 the investment community.

²⁶ Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management (Concise Fourth Edition, Thomson South-Western), at 317 (emphasis added).

²⁷ 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 Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

2 A. The results of my Constant Growth DCF analysis are provided in Schedule 4,
3 and Exhibit____(JCN-1), Schedule 2 includes my results including flotation
4 costs, which are summarized in Table 3.

5
6 **Table 3**
Constant Growth DCF Results including Flotation Costs

	Low	Mean	High
30-day average	9.22%	10.25%	11.72%
90-day average	9.07%	10.08%	11.66%
180-day average	8.86%	9.92%	11.62%

7
8
9
10
11
12
13
14 Q. HOW DID YOU CALCULATE THE MEAN HIGH, MEAN LOW, AND OVERALL
15 MEAN DCF RESULTS?

16 A. I calculated the Mean High DCF result using the maximum growth rate (*i.e.*, the
17 maximum of the First Call, Value Line, and Zacks EPS growth rates) in
18 combination with the expected dividend yield for each of the proxy group
19 companies. I used a similar method to calculate the Mean Low DCF results,
20 using the minimum growth rate for each company. The Mean results reflect the
21 average growth rate from each source for each company in combination with
22 the expected dividend yield.

23
24 **B. Two-Growth DCF Analysis**

25 Q. HAVE YOU CONSIDERED ANOTHER FORM OF THE DCF MODEL?

26 A. Given the Commission's prior consideration of the Two-Growth form of the
27 DCF model discussed in more detail below, I also conducted a Two-Growth

1 DCF analysis. Similar to the Constant Growth DCF model, the Two-Growth
2 form results in a cost of equity as the discount rate that sets the current price
3 equal to the discounted value of future cash flows. However, the Two-Growth
4 DCF model mitigates the effects of growth rates that are substantially lower or
5 higher than the proxy group average growth rate.

6
7 Q. PLEASE DESCRIBE THE TWO-GROWTH DCF MODEL?

8 A. As discussed earlier, the Constant Growth DCF model assumes a single growth
9 input in perpetuity, namely, the long-term earnings growth based on five-year
10 analyst estimates from First Call, Zacks, and Value Line, in my Constant
11 Growth analysis. By contrast, my Two-Growth DCF model limits the impact
12 of low or high earnings growth rates on the calculated ROE for each company
13 by estimating one short-term growth rate and a separate long-term growth rate.
14 Specifically, I applied these two separate growth rates for companies with a high
15 or low growth rate—defined as a company having an average earnings growth
16 rate outside the range determined by the proxy group average plus or minus one
17 standard deviation. For the companies with a high or low growth rate, I applied
18 the Constant Growth DCF model earnings growth for the first five years (*i.e.*,
19 short-term growth rate), and the proxy group average growth rate plus one
20 standard deviation for companies with a high growth rate and the proxy group
21 average minus one standard deviation for companies with a low growth rate.

22
23 Q. HAS THE COMMISSION PREVIOUSLY RELIED ON THE RESULT OF THE TWO-
24 GROWTH DCF MODEL?

25 A. Yes. The Commission has historically placed greater weight on the results of
26 the Two-Growth DCF model and used the results of other analytical models
27 such as the CAPM, and Bond Yield Risk Premium analyses as a check on the

1 reasonableness of the Two-Growth DCF results. When the results of the Two-
2 Growth DCF approach have diverged from other models, the Commission has,
3 generally, taken that into account. In most such cases the Commission has
4 employed a dynamic process that is more reflective of the manner equity
5 analysts and investors develop their return requirements, and established an
6 authorized ROE that was placed within the range of the mean and the mean-
7 high results of the Two-Growth DCF model.

8
9 For example, in a 2017 to 2018 case for Minnesota Power Inc. (Minnesota
10 Power) where the ROE was set above the mean results of the Two-Growth
11 DCF model, the Commission concluded that:

12 it is appropriate to establish an ROE toward the higher end of the
13 DCF-supported results to adjust for the divergence between ROEs
14 supported by the DCF models and the models the Commission has
15 historically relied upon for confirmation of reasonableness—the
16 CAPM and Bond Yield Plus Risk Premium models.²⁸

17
18 Similarly, in a 2018 Order for MERC, the Commission acknowledged that the
19 record included a broad diversity of modeling and noted that the authorized
20 ROE was set in light of the record as a whole.²⁹ In that case, the Commission
21 authorized an ROE of 9.70 percent and noted that the authorized ROE was
22 “comfortably between the mean growth-rate and high-growth-rate two-growth

²⁸ *In the Matter of the Application of Minnesota Power for Authority to Increase Rates for Electric Service in Minnesota*, Docket No. E015/GR-16-664, Findings of Fact, Conclusions and Order, at 61 (March 12, 2018).

²⁹ *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G011/GR-17-563, Findings of Fact, Conclusions and Order, at 26 (December 26, 2018).

DCF results calculated by both MERC and the OAG in surrebuttal testimony.”³⁰

Q. WHAT ARE THE RESULTS OF YOUR TWO-GROWTH DCF MODEL?

A. The results of my Two-Growth DCF analysis are provided in Exhibit____(JCN-1), Schedule 5, and Schedule 2 includes my results including flotation costs, which are summarized in Table 4.

Table 4
Two-Growth DCF Results including Flotation Costs

	Low	Mean	High
30-day average	9.22%	10.27%	11.38%
90-day average	9.07%	10.10%	11.32%
180-day average	9.00%	9.94%	11.28%

C. CAPM Analysis

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

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium (to compensate investors for the non-diversifiable or “systematic” risk of that

³⁰ *In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota*, Docket No. G011/GR-17-563, Findings of Fact, Conclusions and Order, at 27 (December 26, 2018).

1 security).³¹ As shown in Equation [3], the CAPM is defined by four
2 components, each of which must theoretically be a forward-looking estimate:

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

4 Where:

5 K_e = the required ROE for a given security;

6 r_f = the risk-free rate of return;

7 β = the Beta of an individual security; and

8 r_m = the required return for the market as a whole.

9
10 The term $(r_m - r_f)$ represents the Market Risk Premium. According to the theory
11 underlying the CAPM, since unsystematic risk can be diversified away, investors
12 should be concerned only with systematic or non-diversifiable risk. Non-
13 diversifiable risk is measured by Beta, which is defined as:

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

16 Where:

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

18
19 The variance of the market return, noted in Equation [4], is a measure of the
20 uncertainty of the general market, and the covariance between the return on a
21 specific security and the market reflects the extent to which the return on that
22 security will respond to a given change in the market return. Thus, Beta
23 represents the risk that the selected security will not be effective in diversifying
24 systematic market risks.

³¹ 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 Q. HAVE ECONOMIC AND FINANCIAL MARKET CONDITIONS ALSO AFFECTED THE
2 CAPM?

3 A. Yes. As the Federal Reserve is taking steps to tighten monetary policy, it is
4 important to consider both current and projected bond yields. Using the five-
5 year forecast of bond yields helps alleviate short-term market factors affecting
6 the risk-free rate, or “ r_f ” in the CAPM formula. As discussed in Section IV,
7 interest rates have increased in recent months and are expected to continue to
8 increase. Further, due to the fiscal and monetary stimulus provided to the U.S.
9 economy over the past two years, concerns over inflation remain. It is also
10 important to recognize that NSPM is financing long-lived assets, and the cost
11 of capital should be forward looking to reflect that perspective.
12

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

14 A. I considered three estimates of the expected risk-free rate: (1) the current 30-
15 day average yield on 30-year U.S. Treasury bonds (*i.e.*, 4.42 percent);³² (2) the
16 projected 30-year U.S. Treasury bond yield for Q1 2024 through Q1 2025 (*i.e.*,
17 4.16 percent);³³ and (3) the projected 30-year U.S. Treasury bond yield for 2025
18 through 2029 (*i.e.*, 3.80 percent).³⁴
19

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

21 A. As shown in Exhibit____(JCN-1), Schedule 7, I applied two measures of Beta
22 for the proxy group companies: (1) the reported Beta coefficients from
23 Bloomberg (which are calculated using ten years of weekly data against the S&P
24 500 Index); and (2) the reported Beta coefficients from Value Line (which are

³² Bloomberg Professional, as of September 30, 2023.

³³ Blue Chip Financial Forecasts, Vol. 42, No. 10, October 1, 2023, at 2.

³⁴ Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023, at 14.

1 calculated using five years of weekly data against the New York Stock Exchange
2 Composite Index).

3
4 Q. WHAT MARKET RISK PREMIUM DID YOU USE IN YOUR CAPM ANALYSIS?

5 A. As shown in Exhibit____(JCN-1), Schedule 6, consistent with the approach
6 adopted by FERC, I used the Constant Growth DCF model to estimate the
7 market capitalization-weighted total market return for the S&P 500 Index, using
8 projected earnings growth rates and dividend yields. To calculate the Constant
9 Growth DCF estimate for each company in the S&P 500 Index, I relied on
10 dividend yields as of September 30, 2023, as reported by Bloomberg
11 Professional, and projected EPS growth rates from Value Line. In my initial
12 analysis, I included all companies in the S&P 500. When investors purchase the
13 S&P 500 or a mutual fund or exchange traded fund that mirrors the S&P 500
14 Index, their total return is based on the returns for all 500 companies in the
15 S&P Index. As such, this methodology provides the best indication as to the
16 expected return for the overall market using the S&P 500 as a proxy. Applying
17 this methodology suggests an expected market return of 14.19 percent.
18 However, I applied an average of both the Value Line-derived market return
19 and FERC's more conservative convention to consider only a subset of S&P
20 500 companies with growth rates that are between 0 percent and 20 percent, or
21 an expected market return of 11.29 percent.

22
23 Q. WHAT ARE THE RESULTS OF YOUR CAPM ANALYSES?

24 A. The results of my CAPM analysis are provided in Schedule 7, and the results
25 including flotation costs are summarized in Schedule 2 and in Table 5.

Table 5
Proxy Group Average CAPM Results including Flotation Costs

	CAPM Result
<i>Value Line Beta Coefficients</i>	
Current Risk-Free Rate	11.65%
2024-25 Projected Risk-Free Rate	11.62%
2025-29 Projected Risk-Free Rate	11.56%
<i>Bloomberg Beta Coefficients</i>	
Current Risk-Free Rate	10.92%
2024-25 Projected Risk-Free Rate	10.86%
2025-29 Projected Risk-Free Rate	10.78%

D. Bond Yield Plus Risk Premium Analysis

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

A. In general terms, this approach recognizes that equity is riskier than debt because equity investors bear the residual risk associated with ownership. Equity investors, therefore, require a greater return (*i.e.*, a premium) than would a bondholder. The Risk Premium approach estimates the cost of equity as the sum of the Equity Risk Premium and the yield on a particular class of bonds.

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

Where:

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

Y = Applicable bond yield.

Since the equity risk premium is not directly observable, it is typically estimated using a variety of approaches, some of which incorporate *ex-ante*, or forward-

1 looking, estimates of the cost of equity and others that consider historical, or
2 *ex-post*, estimates. For my Risk Premium analysis, I have relied on authorized
3 returns from a large sample of natural gas utility companies.
4

5 Q. WHAT DID YOUR RISK PREMIUM ANALYSIS REVEAL?

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

$$8 \quad RP = a + (b \times Y) \quad [6]$$

9
10 Where:

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

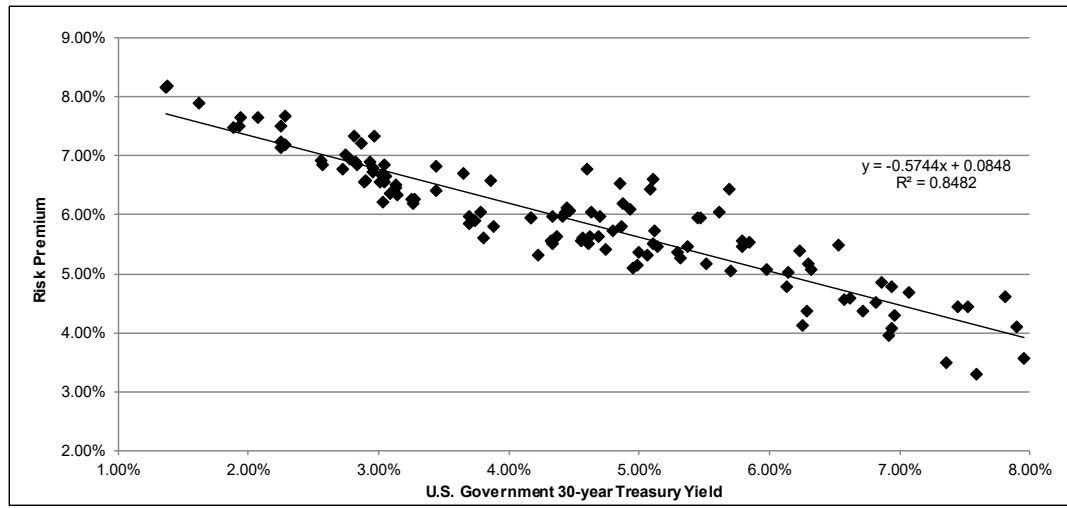
13 a = Intercept term;

14 b = Slope term; and

15 Y = 30-Year Treasury Yield.
16

17 Data regarding allowed ROEs were derived from 765 natural gas utility
18 company rate cases from January 1, 1992 through September 30, 2023, as
19 reported by Regulatory Research Associates.

Figure 5
Risk Premium Results



As illustrated by Figure 5 (above), the risk premium varies with the level of bond yield, and generally increases as the bond yields decrease, and vice versa. In order to apply this relationship to current and expected bond yields, I consider three estimates of the 30-year Treasury yield, including the current 30-day average, a near-term Blue Chip consensus forecast for Q1 2024 – Q1 2025, and a Blue Chip consensus forecast for 2025–2029. I find the projected five-year result to be most applicable for the following reasons: (1) investors are expecting increases in government bond yields and (2) investors typically have a multi-year view of their required returns on equity. Based on the regression coefficients in Exhibit____(JCN-1), Schedule 8, which allow for the estimation of the risk premium at varying bond yields, and results including flotation costs in Schedule 2, the results of my Risk Premium analysis are shown in Table 6 below.

Table 6
Risk Premium Results Using 30-Year Treasury Yield

	30-Day Average Yield on 30-Year Treasury Bond	Q1 2024–Q1 2025 Forecast for Yield on 30-Year Treasury Bond¹	2025-2029 Forecast for Yield 30-Year Treasury Bond¹
Yield	4.42%	4.16%	3.80%
Risk Premium	5.95%	6.09%	6.30%
Resulting ROE	10.36%	10.25%	10.10%
Flotation Costs	0.09%	0.09%	0.09%
ROE including flotation costs	10.45%	10.34%	10.19%

E. Expected Earnings Analysis

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

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

Q. WHAT IS AN EXPECTED EARNINGS ANALYSIS?

A. The Expected Earnings methodology is a comparable earnings analysis that calculates the earnings that an investor expects to receive on the book value of a stock. The Expected Earnings analysis is a forward-looking estimate of investors' expected returns. The use of an Expected Earnings approach based on the proxy companies provides a range of the expected returns on a group of risk-comparable companies to the subject company. This range is useful in

1 helping to determine the opportunity cost of investing in the subject company,
2 which is relevant in determining a company's ROE. The Expected Earnings
3 approach relying on expected returns for like-risk companies is a core strength
4 of the model and consistent with the basic tenets of *Hope*: "the return to the
5 equity owner should be commensurate with returns on investments in other
6 enterprises having corresponding risks." Since the Expected Earnings model
7 provides an accounting-based approach that relies on investment analysts'
8 projections of earnings on book equity, it affords the benefit of analyst insights,
9 knowledge, and expertise in interpreting a given company's earnings prospects
10 in the context of current market conditions.

11
12 Q. HOW IS THE EXPECTED EARNINGS APPROACH CALCULATED?

13 A. I relied on the projected ROE for the proxy companies as reported by Value
14 Line for the period from 2026-2028. I then adjusted those projected ROEs to
15 account for the fact that the ROEs reported by Value Line are calculated on the
16 basis of common shares outstanding at the end of the period, as opposed to
17 average shares outstanding over the entire period. As shown in Table 7 below
18 and Schedule 9, the Expected Earnings analysis, including flotation costs, results
19 in a mean of 9.94 percent and a median of 9.84 percent.

20
21 **Table 7**
22 **Expected Earnings Results including Flotation Costs**

	ROE
Proxy Group Average	9.94%
Proxy Group Median	9.84%

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

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

10
11 **F. Evaluating Model Results**

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

15 A As shown in Table 8, I have considered the results of the Constant Growth and
16 Two-Growth DCF, CAPM, Risk Premium, and Expected Earnings analyses.
17 For the Constant Growth and Two-Growth DCF results, I included the average
18 of the 30-day, 90-day, and 180-day analyses. For the CAPM result, I relied on
19 the average of current and projected Treasury yields, the average of Value Line
20 and Bloomberg Betas coefficients, and the MRP derived from the S&P 500
21 companies. For the Risk Premium analysis, I relied on the average of current
22 and projected Treasury yields.

Table 8
Base ROE Results including Flotation Costs

	Average	Median
<i>Primary Analyses</i>		
Average DCF	10.09%	9.80%
Constant Growth DCF	10.08%	9.80%
Two-Growth DCF	10.10%	9.81%
CAPM	11.23%	11.15%
Risk Premium	10.33%	10.33%
Average	10.55%	10.53%
<i>Benchmark Analyses</i>		
Expected Earnings	9.94%	9.84%

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 NSPM as compared to the proxy companies.

VII. BUSINESS RISKS AND OTHER CONSIDERATIONS

Q ARE THERE FACTORS SPECIFIC TO NSPM'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. Therefore, the Company's business and financial risks must also be taken into

1 consideration when determining where the Company's cost of equity falls
2 within the range of results. These risk factors, discussed below, should be
3 compared to the risks of the proxy group including: (1) the Company's capital
4 expenditure program; (2) and regulatory risk relative to the proxy group
5 companies; and (3) the regulatory framework in which NSPM operates and the
6 regulatory mechanisms available to the Company relative to those available to
7 the proxy companies. In addition, I considered the effect of flotation costs on
8 the cost of equity.

9
10 **A. Flotation Cost Adjustment**

11 Q WHAT ARE FLOTATION COSTS?

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

18
19 Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED
20 ROE?

21 A. Allowed ROE is the only ratemaking mechanism through which these necessary
22 costs are recovered. Flotation costs are reflected on the utility's balance sheet as
23 "paid in capital" and are not expensed on the utility's income statement. When
24 a company issues common stock, flotation costs are incurred and netted against
25 the proceeds from the issuance reducing the amount available for investment
26 in rate base by the amount of the flotation costs. If NSPM is denied the

1 opportunity to recover its prudently incurred flotation costs through its ROE,
2 its allowed return will be insufficient, and equity share value will be diluted.

3
4 Q. DO ACADEMIC AND FINANCIAL EXPERTS RECOGNIZE THE NEED TO CONSIDER
5 FLOTATION COSTS IN A UTILITY'S COST OF EQUITY?

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

8 The costs of issuing these securities are just as real as operating and
9 maintenance expenses or costs incurred to build utility plants, and fair
10 regulatory treatment must permit recovery of these costs.... The
11 simple fact of the matter is that common equity capital is not free....
12 [Flotation costs] must be recovered through a rate of return
13 adjustment.³⁵
14

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

16 Flotation costs occur when new issues of stock or debt are sold to the
17 public. The firm usually incurs several kinds of flotation or
18 transaction costs, which reduce the actual proceeds received by the
19 firm. Some of these are direct out-of-pocket outlays, such as fees paid
20 to underwriters, legal expenses, and prospectus preparation costs.
21 Because of this reduction in proceeds, the firm's required returns on
22 these proceeds equate to a higher return to compensate for the
23 additional costs. Flotation costs can be accounted for either by
24 amortizing the cost, thus reducing the cash flow to discount, or by
25 incorporating the cost into the cost of capital. Because flotation costs
26 are not typically applied to operating cash flow, one must incorporate
27 them into the cost of capital.³⁶
28

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

³⁵ Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006), at 321.

³⁶ Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

1 A. Based on the XEI's costs shown in Exhibit____(JCN-1), Schedule 10, I conclude
2 that flotation costs for XEI have equaled roughly 2.09 percent of gross equity
3 raised. To properly reflect these issuance costs in my cost of capital estimates,
4 it would require a 9 basis point addition to the ROE results produced by my
5 ROE estimates for NSPM, as shown in Schedule 10, which I have considered
6 in my recommendation.

7
8 **B. Capital Expenditure Program**

9 Q. PLEASE DISCUSS NSPM'S CAPITAL SPENDING PROGRAM.

10 A. The Company plans substantial capital investments on gas-related projects. As
11 with any utility facing significant capital expenditure requirements, the
12 Company's risk profile is affected in two significant and related ways: (1) the
13 heightened level of investment increases the risk of under recovery or delayed
14 recovery of the invested capital; and (2) an inadequate return would put
15 downward pressure on key credit metrics. The absolute level of investment
16 required will put significant pressure on the Company's ability to raise capital,
17 and the terms will have lasting impacts for the Company's customers.

18
19 Q. DO CREDIT RATING AGENCIES RECOGNIZE THE RISKS ASSOCIATED WITH
20 ELEVATED LEVELS OF CAPITAL EXPENDITURES?

21 A. Yes. From a credit perspective, the additional pressure on cash flows associated
22 with higher levels of capital expenditures exerts corresponding pressure on
23 credit metrics and, therefore, credit ratings. To that point, S&P explains the
24 importance of regulatory support for large capital projects:

25 When applicable, a jurisdiction's willingness to support large capital
26 projects with cash during construction is an important aspect of our
27 analysis. This is especially true when the project represents a major
28 addition to rate base and entails long lead times and technological
29 risks that make it susceptible to construction delays. Broad support

1 for all capital spending is the most credit-sustaining. Support for only
2 specific types of capital spending, such as specific environmental
3 projects or system integrity plans, is less so, but still favorable for
4 creditors. Allowance of a cash return on construction work-in-
5 progress or similar ratemaking methods historically were
6 extraordinary measures for use in unusual circumstances, but when
7 construction costs are rising, cash flow support could be crucial to
8 maintain credit quality through the spending program. Even more
9 favorable are those jurisdictions that present an opportunity for a
10 higher return on capital projects as an incentive to investors.³⁷

11
12 While NSPM's credit profile is based on its combined electric and gas
13 operations, capital spending is a significant concern to the credit rating agencies.
14 S&P acknowledged the expectation for the Company's "capital spending to
15 grow from historical levels."³⁸ Similarly, Fitch points to NSPM's "large capex
16 plan" as a key ratings driver.³⁹ Moody's observes that final rates from NSPM's
17 electric rate case, "along with any resulting adjustments to the utility's capital
18 expenditure program, will drive NSP-Minnesota's financial performance going
19 forward."⁴⁰ A key component in each of the credit rating agencies' review of
20 NSPM's capital expenditures is the expectation for the Company to "receive
21 balanced yet constructive rate outcomes."⁴¹ As I discuss in more detail later in
22 my testimony, the Company's authorized ROE is an important indication of the
23 regulatory risk and the determination of "constructive" rate outcomes. To the
24 extent that NSPM's rates do not permit the Company an opportunity to recover

³⁷ S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

³⁸ S&P Global Ratings, "Northern States Power Co. Upgraded To 'A' On Sustained Financial Performance, Outlook Stable; Debt Ratings Raised," July 24, 2023, at 1.

³⁹ Fitch Ratings, "Northern States Power Company-Minnesota," April 11, 2023, at 1.

⁴⁰ Moody's Investor Service, "Northern States Power Company (Minnesota)," August 15, 2023, at 2.

⁴¹ S&P Global Ratings, "Northern States Power Co. Upgraded To 'A' On Sustained Financial Performance, Outlook Stable; Debt Ratings Raised," July 24, 2023, at 1.

1 its full cost of doing business, NSPM will face increased pressure on its credit
2 metrics. Maintaining access to capital markets on favorable terms is especially
3 important for utilities and their customers, during periods of significant capital
4 investment.

5
6 Q. WHAT IS YOUR CONCLUSION REGARDING HOW NSPM'S PROJECTED CAPITAL
7 EXPENDITURE PROGRAM AFFECTS THE COMPANY'S RISK PROFILE AND COST OF
8 EQUITY?

9 A. My primary conclusion is that NSPM's substantial capital spending program will
10 require the Company to maintain access to capital markets on favorable terms
11 and conditions. The magnitude of NSPM's capital program places pressure on
12 the Company's cash flows and credit metrics. For these reasons, it is important
13 that the authorized ROE be set at a level that allows NSPM to continue to
14 attract both debt and equity under favorable terms under a variety of economic
15 and financial market conditions.

16
17 Q. DOES YOUR RECOMMENDATION INCLUDE A DOWNWARD OR UPWARD
18 ADJUSTMENT FOR NSPM'S CAPITAL EXPENDITURE PROGRAM?

19 A. No, it does not. All the proxy group natural gas distribution utilities face a
20 challenging environment requiring continuous access to capital in order to meet
21 public expectations of safe, reliable, and reasonably economic utility service.
22 NSPM's capital spending program will require the Company to maintain
23 continuous access to capital markets on reasonable terms and conditions. For
24 these reasons, it is important that the authorized ROE be set at a level that
25 allows NSPM to continue to attract both debt and equity under favorable terms
26 under a variety of economic and financial market conditions, including the
27 inflationary conditions we are facing today and in the foreseeable future. As

1 discussed in Section IV, investors consider a range of opportunities, which
2 includes bonds. The Company has to compete with a broad range of
3 investments to obtain the capital necessary to deliver on its investment program.
4 With the sustained increase in interest rates, utilities are less attractive absent a
5 corresponding increase in returns.

6
7 **C. Regulatory Framework**

8 Q. IS THERE ANY BASIS TO CONSIDER NSPM LESS RISKY THAN ITS PEER UTILITIES?

9 A. No, there is not. I have undertaken a review of regulatory mechanisms designed
10 to mitigate certain business risks, and they support treating the results from the
11 proxy group I selected as representative of the business risk of a prudently
12 managed regulated natural gas utility like NSPM. The results of my analysis are
13 presented in Exhibit___(JCN-1), Schedule 11. Specifically, I examined the
14 following factors that affect the regulatory risk of the Company and the proxy
15 group companies: (1) test year convention; (2) rate base convention; (3) revenue
16 decoupling; and (4) capital cost recovery.

17
18 As shown in Schedule 11, 48 percent of the operating companies in the proxy
19 group like NSPM provide service in jurisdictions that allow the use of a fully or
20 partially forecasted test year. Further, 43 percent of the operating companies in
21 the proxy group use average rate base like NSPM, while 57 percent are allowed
22 to use year-end rate base. NSPM has revenue protection against fluctuations in
23 customer demand, while approximately 86 percent of the operating companies
24 held by the proxy group have either full or partial revenue decoupling
25 mechanisms that protect against volumetric risk. Generally, the Company's
26 capital investment costs must be recovered through rate cases, but the Gas
27 Utility Infrastructure Cost Rider (GUIC) provides cost recovery for capital

1 infrastructure investments to improve safety and reliability. Approximately 71
2 percent of the operating companies in the proxy group have a cost recovery
3 mechanism for capital investment (e.g., infrastructure replacement).

4
5 Typically, a regulatory mechanism is proposed to offset the effect of an
6 incremental risk factor. In these circumstances, the effect of the regulatory
7 mechanism merely restores a utility's risk profile to the position it was in prior
8 to the incremental risk. As it relates to the determination of the cost of equity,
9 it is important to recognize an analysis of regulatory mechanisms as a
10 comparative assessment. For any regulatory mechanism to have an effect on the
11 cost of equity, it would require that the mechanism changes the risk relative to
12 the proxy companies, and investors change their return requirements as a
13 consequence of the mechanism. As discussed above and as shown in Schedule
14 11, the regulatory mechanisms proposed by the Company and the regulatory
15 mechanisms employed by the proxy companies indicate that NSPM and the
16 proxy group have comparable mechanisms, and therefore similar regulatory risk
17 profiles. As such, no adjustment to the Company's ROE is required.

18
19 Q. PLEASE EXPLAIN HOW THE REGULATORY FRAMEWORK AFFECTS INVESTORS'
20 RISK ASSESSMENTS.

21 A. The ratemaking process is premised on the principle that, for investors and
22 companies to commit the capital needed to provide safe and reliable utility
23 services, the utility must have the opportunity to recover invested capital and
24 the market-required return on such capital. Regulatory commissions recognize
25 that, because utility operations are capital intensive, regulatory decisions should
26 enable the utility to attract capital at reasonable terms, thereby balancing the
27 long-term interests of investors and customers. In that respect, the regulatory

framework in which a utility operates is one of the most important factors in both debt and equity investors' risk assessments. Because investors have many investment alternatives, even within a given market sector, the Company's authorized return must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

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

A. Moody's and S&P both consider the overall regulatory framework in establishing credit ratings. As shown in Table 9, Moody's establishes credit ratings based on four key factors:

Table 9
Moody's Rating Factors

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

Two of these factors (*i.e.*, regulatory framework and the ability to recover costs and earn returns) are based on the regulatory environment such that half of Moody's overall assessment of business and financial risk for regulated utilities is based upon the regulatory environment.⁴² Moody's further subdivides the first two factors, Regulatory Framework and the Ability to Recover Costs and

⁴² Moody's Investor Service, Rating Methodology, Regulated Electric and Gas Utilities, December 23, 2013, at 1,2.

1 Earn Returns, into sub-factors to help “provide more granularity and
2 transparency on the overall regulatory environment, which is the most
3 important consideration for this sector.”⁴³ Similarly, S&P has identified the
4 regulatory environment as an important factor, stating, “we believe the
5 fundamental regulatory environment in the jurisdictions in which a utility
6 operates often influence credit quality the most.”⁴⁴

7
8 Q. PLEASE EXPLAIN THE EFFECT OF REGULATORY RISK ON THE COMPANY’S
9 ABILITY TO RAISE CAPITAL AND THE IMPACT ON CUSTOMERS.

10 A. Given the Company’s capital spending requirements, and the consequent need
11 to raise capital, it is important that the Company be able to maintain access to
12 the capital markets at reasonable rates.

13
14 **D. Authorized ROEs and Regulatory Risk**

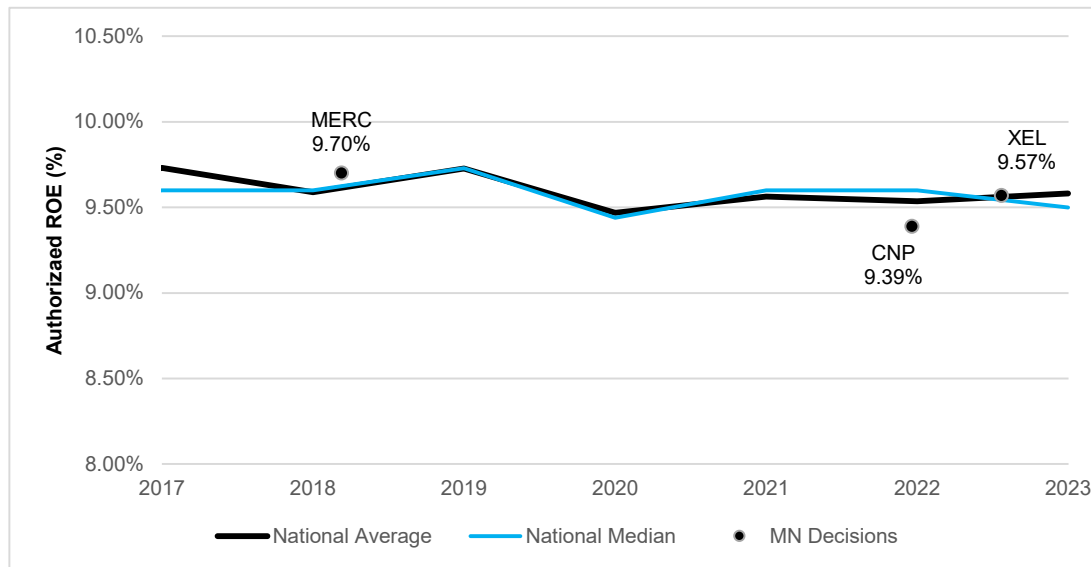
15 Q. HOW HAVE ROE AUTHORIZATIONS IN MINNESOTA COMPARED TO
16 COMPARABLE UTILITIES IN OTHER JURISDICTIONS?

17 A. As shown in Figure 6, the Commission has been generally supportive of gas
18 utilities’ capital needs and has historically authorized ROEs that are generally
19 comparable to the national average for other natural gas distribution utilities
20 during the same period.

⁴³ *Id.*, at 3.

⁴⁴ S&P, *Assessing U.S. Utility Regulatory Environments*, March 11, 2010, at 2.

Figure 6
Authorized ROEs for Natural Gas Utilities 2017-2023



However, the Commission recently authorized an ROE of 9.25 percent for NSPM's electric operations, which was below the national average for vertically integrated electric utilities in 2023.

Q. HOW WAS THE COMMISSION'S ROE DECISION IN THE COMPANY'S ELECTRIC PROCEEDING PERCEIVED BY THE INVESTMENT COMMUNITY?

A. The authorized ROE was below industry averages. A recent Regulatory Research Associates (RRA) report pointed to ROE as a concern in assessing NSPM's most recent electric decision, noting:

A recent rate case decision by the Minnesota Public Utilities Commission (PUC) for Xcel Energy subsidiary Northern States Power - Minnesota may signal a change in the tenor of regulation in that state. Minnesota has generally been considered relatively balanced from an investor viewpoint. However, in the aforementioned proceeding, the PUC authorized the company a below-industry average 9.25% ROE. This return was 40 basis points below the return approved earlier this year for another electric utility in the state. It is also concerning that the commission split 3-2 on this

1 issue. The unusual lack of consensus among the commissioners could
2 indicate a shift in the stance of one or more of the PUC members that
3 could lead to a tightening of the regulatory climate in the state.
4 Notably, the ROE supported by the two dissenting commissioners
5 was only marginally above that ultimately approved. The authorized
6 ROE is part of an MRP and the company cannot file a new case until
7 Nov. 1, 2024, at the earliest. The company has filed for rehearing,
8 raising objections with respect to the authorized ROE and what it
9 views as punitive disallowances related to depreciation, executive
10 compensation and insurance expense.⁴⁵
11

12 RRA ranks each of the state regulatory commissions in the U.S. on scale of
13 “Above Average,” “Average,” and “Below Average.” “Above Average”
14 indicates a relatively more constructive, lower-risk regulatory environment and
15 “Below Average” indicates less constructive, higher risk regulatory
16 environment. Within those categories, there are sub-ratings of “1,” “2,” and
17 “3,” with “1” indicating a more constructive, lower risk environment. Since
18 1990, RRA has rated the Commission as “Average / 2,” at the exact midpoint
19 of its ratings scale, which is remarkably consistent. No other utility has held the
20 same ranking over the course of the last 15 years, yet the Commission has
21 maintained its same midpoint ranking for more than 30 years. The fact that the
22 recent authorized ROE for NSPM’s electric operations “may signal a change in
23 the tenor of regulation” places significant emphasis on the ROE decision in this
24 proceeding. A continuation of the Commission establishing below-industry
25 average ROEs may send a message to investors that adversely affect the
26 Company’s financial stability. For example, S&P’s current ratings assessment of
27 NSPM is premised on the expectation that the Company will “receive balanced

⁴⁵ S&P Global Regulatory Research Associates. “RRA State Regulatory Evaluations – Energy” at 9. August 2023.

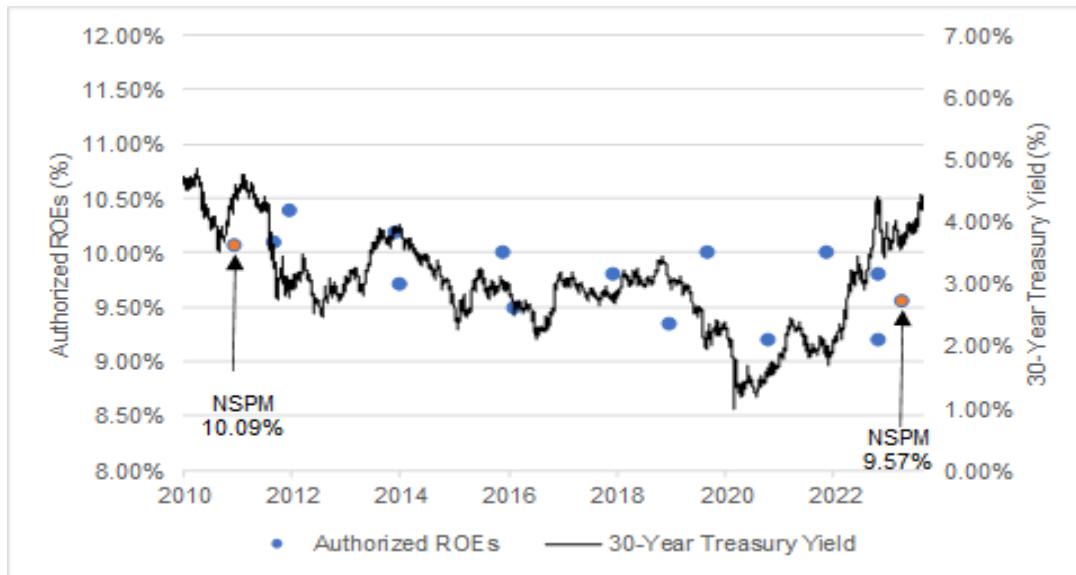
1 yet constructive rate outcomes”⁴⁶ highlighting the importance of a constructive
2 regulatory environment to provide timely cost recovery and ensure solvency of
3 a vital industry.
4

5 Q. ARE AUTHORIZED ROES FROM PRIOR XEI RATE CASES A REASONABLE
6 BENCHMARK TO ASSESS THE CURRENT COST OF EQUITY FOR NSPM?

7 A. Market conditions at the time the authorized returns were established are
8 different from conditions going forward. For example, equity returns set when
9 interest rates were lower in prior years are not a reasonable basis of comparison
10 for evaluating the authorized ROE for NSPM when bond yields have increased
11 and are projected to continue to increase as the Federal Reserve continues its
12 tighter monetary policy. As shown in Figure 7, the yield on the 30-year Treasury
13 have risen to levels last experienced at the time of the Company’s 2010 natural
14 gas decisions, when NSPM’s gas utility was authorized an ROE of 10.09 percent
15 by the Commission.

⁴⁶ S&P Global Ratings, “Northern States Power Co. Upgraded To 'A' On Sustained Financial Performance, Outlook Stable; Debt Ratings Raised,” July 24, 2023, at 1.

Figure 7
Authorized ROEs for XEI's Natural Gas Distribution Utilities¹



Utilities compete for capital with other investments of similar risk, including other natural gas distribution utilities. Thus, the ROE awarded to NSPM sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. As a result, returns that are comparable to other utilities help to assess the opportunity cost of investing in the subject company, which helps determine a company's ROE. Such comparable returns are a reflection of the conclusion that regulators make based on the evidence provided by such market-based analyses.

VIII. CAPITAL STRUCTURE

Q. WHAT IS NSPM'S PROPOSED CAPITAL STRUCTURE?

A. NSPM is proposing a financial capital structure targeting a mix of 52.50 percent common equity and 47.50 percent debt (46.87 percent long-term debt and 0.63 percent short-term debt).

Q. HOW HAVE YOU ASSESSED THE REASONABLENESS OF NSPM'S PROPOSED CAPITAL STRUCTURE WITH RESPECT TO THE PROXY GROUP?

A. The proxy group has been selected to reflect comparable companies in terms of business and financial risks. Therefore, it is appropriate to compare the financial capital structures of the proxy group companies to the financial capital structure proposed by the Company in order to assess whether the Company's capital structure is reasonable and consistent with industry standards for companies with commensurate risk. I calculated the weighted average capital structures for each of the proxy group operating companies for the past three years through 2022. Exhibit____(JCN-1), Schedule 12 shows that the Company's proposed common equity ratio of 52.50 percent is within the range of actual common equity ratios of 44.43 percent to 59.79 percent for the operating companies held by the proxy group over this period and is near the proxy group mean of 52.70 percent.

Q. WHAT IS YOUR CONCLUSION REGARDING THE APPROPRIATENESS OF NSPM'S PROPOSED CAPITAL STRUCTURE IN THIS PROCEEDING?

A. Based on the analysis presented in Schedule 12, my conclusion is that NSPM's proposed capital structure is reasonable. Sufficient equity in the capital structure is an important factor for maintaining NSPM's financial integrity and

1 investment grade credit rating and it is an essential component of NSPM's
2 financial policies enabling access to capital on favorable terms in a variety of
3 market circumstances.

4 5 **IX. CONCLUSION**

6
7 Q. PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS.

8 A. Based on the quantitative analyses provided in my Direct Testimony, I have
9 established a range of ROE results shown previously in Table 1 (also see
10 Schedule 2). The DCF, CAPM, and Bond Yield Risk Premium analysis produce
11 a range of estimates of the Company's cost of equity of 9.80 percent to 11.23
12 percent, including flotation costs. Based on these analyses, I consider an ROE
13 range of 9.90 percent to 10.90 percent to be reasonable. I recommend an ROE
14 of 10.20 percent, which is below the midpoint of the range and 35 basis points
15 below the average of the DCF, CAPM, and Risk Premium analyses and
16 therefore represents a conservative estimate of NSPM's cost of equity. In
17 addition, I support NSPM's actual capital structure of 52.50 percent common
18 equity and 47.50 percent debt (46.87 percent long-term debt and 0.63 percent
19 short-term debt) as reasonable relative to the range of capital structures for the
20 operating companies held by the proxy group companies.

21
22 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

23 A. Yes, it does.



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, Connecticut, Kentucky, New Brunswick, New Hampshire, New York, 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



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



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



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
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				
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
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET	SUBJECT
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
New York Public Service Commission				
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
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



SPONSOR	DATE	CASE/APPLICANT	DOCKET	SUBJECT
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 DCF				TWO-GROWTH DCF				CAPM						Risk Premium (Average)						
										Value Line Beta			Long-Term Projected Yield	Bloomberg Beta			Average	Current Yield	Near-Term Projected Yield			Long-Term Projected Yield
		30-Day Average	90-Day Average	180-Day Average	Average	30-Day Average	90-Day Average	180-Day Average	Average	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield		Average	Current Yield	Near-Term Projected Yield				Long-Term Projected Yield		
Atmos Energy Corporation	ATO	9.97%	10.00%	10.04%	10.00%	9.97%	10.00%	10.04%	10.00%	11.38%	11.35%	11.32%	10.54%	10.50%	10.44%	10.92%	10.40%	10.32%	10.22%	10.31%	10.48%	10.41%
New Jersey Resources Corporation	NJR	9.45%	9.20%	9.05%	9.24%	9.45%	9.20%	9.05%	9.24%	12.21%	12.20%	12.19%	11.03%	11.00%	10.96%	11.60%	10.40%	10.32%	10.22%	10.31%	12.12%	10.38%
NiSource Inc.	NI	11.70%	11.65%	11.63%	11.66%	11.36%	11.31%	11.29%	11.32%	11.79%	11.78%	11.75%	11.09%	11.06%	11.02%	11.41%	10.40%	10.32%	10.22%	10.31%	10.63%	11.07%
Northwest Natural Gas Company	NWN	9.24%	9.05%	8.80%	9.03%	9.68%	9.49%	9.24%	9.47%	10.96%	10.93%	10.88%	10.14%	10.09%	10.02%	10.51%	10.40%	10.32%	10.22%	10.31%	9.26%	10.02%
ONE Gas Inc.	OGS	9.11%	9.03%	9.02%	9.05%	9.11%	9.03%	9.02%	9.05%	10.96%	10.93%	10.88%	10.83%	10.79%	10.74%	10.85%	10.40%	10.32%	10.22%	10.31%	8.92%	10.07%
Spire, Inc.	SR	11.10%	10.86%	10.64%	10.87%	11.10%	10.86%	10.64%	10.87%	11.38%	11.35%	11.32%	10.72%	10.68%	10.62%	11.01%	10.40%	10.32%	10.22%	10.31%	8.41%	10.73%
Low		9.11%	9.03%	8.80%	9.03%	9.11%	9.03%	9.02%	9.05%	10.96%	10.93%	10.88%	10.14%	10.09%	10.02%	10.51%					8.41%	10.02%
Median		9.71%	9.60%	9.55%	9.62%	9.83%	9.74%	9.64%	9.74%	11.38%	11.35%	11.32%	10.77%	10.73%	10.68%	10.97%	10.40%	10.32%	10.22%	10.31%	9.87%	10.40%
Mean		10.10%	9.96%	9.86%	9.97%	10.11%	9.98%	9.88%	9.99%	11.45%	11.42%	11.39%	10.73%	10.69%	10.63%	11.05%	10.40%	10.32%	10.22%	10.31%	9.97%	10.45%
High		11.70%	11.65%	11.63%	11.66%	11.36%	11.31%	11.29%	11.32%	12.21%	12.20%	12.19%	11.09%	11.06%	11.02%	11.60%					12.12%	11.07%

SUMMARY OF RESULTS EXCLUDING FLOTATION COSTS

Company	Ticker	Primary Analyses																		Benchmark Analysis	Average of DCF, CAPM, and Risk Premium	
		CONSTANT DCF				TWO-GROWTH DCF				CAPM						Risk Premium (Average)						
										Value Line Beta			Bloomberg Beta			Current Yield	Near-Term Projected Yield	Long-Term Projected Yield	Average			Current Yield
		30-Day Average	90-Day Average	180-Day Average	Average	30-Day Average	90-Day Average	180-Day Average	Average	Current Yield	Near-Term Projected Yield	Long-Term Projected Yield	Average									
Atmos Energy Corporation	ATO	9.85%	9.88%	9.92%	9.88%	9.85%	9.88%	9.92%	9.88%	11.26%	11.23%	11.20%	10.42%	10.38%	10.32%	10.80%	10.28%	10.20%	10.10%	10.19%	10.36%	10.34%
New Jersey Resources Corporation	NJR	9.33%	9.08%	8.93%	9.12%	9.33%	9.08%	8.93%	9.12%	12.09%	12.08%	12.07%	10.91%	10.88%	10.84%	11.48%	10.28%	10.20%	10.10%	10.19%	12.00%	10.30%
NiSource Inc.	NI	11.58%	11.53%	11.51%	11.54%	11.24%	11.19%	11.17%	11.20%	11.67%	11.66%	11.63%	10.97%	10.94%	10.90%	11.29%	10.28%	10.20%	10.10%	10.19%	10.51%	11.42%
Northwest Natural Gas Company	NWN	9.12%	8.93%	8.68%	8.91%	9.56%	9.37%	9.12%	9.35%	10.84%	10.81%	10.76%	10.02%	9.97%	9.90%	10.39%	10.28%	10.20%	10.10%	10.19%	9.14%	9.65%
ONE Gas Inc.	GWS	8.99%	8.91%	8.90%	8.93%	8.99%	8.91%	8.90%	8.93%	10.84%	10.81%	10.76%	10.71%	10.67%	10.62%	10.73%	10.28%	10.20%	10.10%	10.19%	8.80%	9.83%
Spire, Inc.	SR	10.98%	10.74%	10.52%	10.75%	10.98%	10.74%	10.52%	10.75%	11.26%	11.23%	11.20%	10.60%	10.56%	10.50%	10.89%	10.28%	10.20%	10.10%	10.19%	8.29%	10.82%
Low		8.99%	8.91%	8.68%	8.91%	8.99%	8.91%	8.90%	8.93%	10.84%	10.81%	10.76%	10.02%	9.97%	9.90%	10.39%					8.29%	9.65%
Median		9.59%	9.48%	9.43%	9.50%	9.71%	9.62%	9.52%	9.62%	11.26%	11.23%	11.20%	10.65%	10.61%	10.56%	10.85%	10.28%	10.20%	10.10%	10.19%	9.75%	10.32%
Mean		9.98%	9.84%	9.74%	9.85%	9.99%	9.86%	9.76%	9.87%	11.33%	11.30%	11.27%	10.61%	10.57%	10.51%	10.93%	10.28%	10.20%	10.10%	10.19%	9.85%	10.39%
High		11.58%	11.53%	11.51%	11.54%	11.24%	11.19%	11.17%	11.20%	12.09%	12.08%	12.07%	10.97%	10.94%	10.90%	11.48%					12.00%	11.42%

Northern States Power Company
Proxy Group Screening Analysis

PROXY GROUP SCREENING DATA AND RESULTS - PROXY GROUP

Docket No. G002/GR-23-413
Exhibit____(JCN-1), Schedule 3
Page 1 of 1

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
						%	%	
			S&P Credit Rating Between BBB- and AAA	Covered by More Than 1 Analyst	Positive Growth Rates From At Least 2 Sources	Regulated Operating Income of Total Income > 60%	Regulated Gas Income of Total Regulated Income > 60%	Significant Merger or Transaction
Company	Ticker	Dividends						
Atmos Energy Corporation	ATO	Yes	A-	Yes	Yes	100.00%	66.03%	No
Chesapeake Utilities Corporation	CPK	Yes	NR	Yes	Yes	81.13%	42.84%	No
New Jersey Resources Corporation	NJR	Yes	NR	Yes	Yes	66.35%	92.48%	No
NiSource Inc.	NI	Yes	BBB+	Yes	Yes	99.85%	65.67%	No
Northwest Natural Gas Company	NWN	Yes	A+	Yes	Yes	99.84%	91.01%	No
ONE Gas, Inc.	OGS	Yes	A-	Yes	Yes	100.00%	100.00%	No
Southwest Gas Corporation	SWX	Yes	BBB-	Yes	Yes	76.88%	100.00%	Yes
Spire, Inc.	SR	Yes	A-	Yes	Yes	88.78%	100.00%	No
UGI Corporation	UGI	Yes	NR	Yes	Yes	21.61%	100.00%	Yes

Notes:

[1] Source: Bloomberg Professional

[2] Source: SNL Financial

[3] Source: Yahoo! Finance and Zacks

[4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks

[5] - [6] Source: Form 10-Ks for 2020, 2021, & 2022, three-year average

[10] 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
Atmos Energy Corporation	ATO	\$2.96	\$113.74	2.60%	2.70%	7.00%	7.50%	7.30%	7.27%	9.69%	9.96%	10.20%
New Jersey Resources Corporation	NJR	\$1.68	\$42.32	3.97%	4.08%	5.00%	6.00%	6.00%	5.67%	9.07%	9.75%	10.09%
NiSource Inc.	NI	\$1.00	\$26.62	3.76%	3.90%	9.50%	6.70%	7.00%	7.73%	10.58%	11.63%	13.43%
Northwest Natural Gas Company	NWN	\$1.94	\$39.64	4.89%	5.00%	6.50%	2.80%	3.70%	4.33%	7.76%	9.33%	11.55%
ONE Gas Inc.	OGS	\$2.60	\$73.50	3.54%	3.63%	6.50%	5.00%	5.00%	5.50%	8.63%	9.13%	10.15%
Spire, Inc.	SR	\$2.88	\$58.75	4.90%	5.05%	8.00%	n/a	4.20%	6.10%	9.21%	11.15%	13.10%
Median				3.86%	3.99%	6.75%	6.00%	5.50%	5.88%	9.14%	9.86%	10.88%
Mean				3.94%	4.06%	7.08%	5.60%	5.53%	6.10%	9.16%	10.16%	11.42%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 30-day average as of September 30, 2023

[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
Atmos Energy Corporation	ATO	\$2.96	\$116.46	2.54%	2.63%	7.00%	7.50%	7.30%	7.27%	9.63%	9.90%	10.14%
New Jersey Resources Corporation	NJR	\$1.68	\$45.13	3.72%	3.83%	5.00%	6.00%	6.00%	5.67%	8.82%	9.49%	9.83%
NiSource Inc.	NI	\$1.00	\$27.05	3.70%	3.84%	9.50%	6.70%	7.00%	7.73%	10.52%	11.57%	13.37%
Northwest Natural Gas Company	NWN	\$1.94	\$41.70	4.65%	4.75%	6.50%	2.80%	3.70%	4.33%	7.52%	9.09%	11.30%
ONE Gas Inc.	OGS	\$2.60	\$76.77	3.39%	3.48%	6.50%	5.00%	5.00%	5.50%	8.47%	8.98%	10.00%
Spire, Inc.	SR	\$2.88	\$61.87	4.66%	4.80%	8.00%	n/a	4.20%	6.10%	8.95%	10.90%	12.84%
Median				3.71%	3.83%	6.75%	6.00%	5.50%	5.88%	8.88%	9.70%	10.72%
Mean				3.78%	3.89%	7.08%	5.60%	5.53%	6.10%	8.98%	9.99%	11.25%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 90-day average as of September 30, 2023

[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
Atmos Energy Corporation	ATO	\$2.96	\$115.49	2.56%	2.66%	7.00%	7.50%	7.30%	7.27%	9.65%	9.92%	10.16%
New Jersey Resources Corporation	NJR	\$1.68	\$48.28	3.48%	3.58%	5.00%	6.00%	6.00%	5.67%	8.57%	9.25%	9.58%
NiSource Inc.	NI	\$1.00	\$27.37	3.65%	3.80%	9.50%	6.70%	7.00%	7.73%	10.48%	11.53%	13.33%
Northwest Natural Gas Company	NWN	\$1.94	\$44.70	4.34%	4.43%	6.50%	2.80%	3.70%	4.33%	7.20%	8.77%	10.98%
ONE Gas Inc.	OGS	\$2.60	\$78.23	3.32%	3.41%	6.50%	5.00%	5.00%	5.50%	8.41%	8.91%	9.93%
Spire, Inc.	SR	\$2.88	\$66.00	4.36%	4.50%	8.00%	n/a	4.20%	6.10%	8.66%	10.60%	12.54%
Median				3.57%	3.69%	6.75%	6.00%	5.50%	5.88%	8.61%	9.58%	10.57%
Mean				3.62%	3.73%	7.08%	5.60%	5.53%	6.10%	8.83%	9.83%	11.09%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 180-day average as of September 30, 2023

[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])

30-DAY TWO-GROWTH DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
		Annualized	Stock	Dividend	Expected	Average	Second	Mean	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	PV of	Year 5	Year 5	Year 5	Year 5	
Company	Ticker	Dividend	Price	Yield	Dividend	Growth	Growth	ROE	Year 1	(1+k)^1	Year 2	Year 2	(1+k)^2	Year 2	Year 3	(1+k)^3	Year 4	Year 4	(1+k)^4	Year 4	Year 5	(1+k)^5	Year 5	Year 6	Stock	5 Stock	Current
									Div.		Div.	Div.		Div.	Div.		Div.	Div.		Div.	Div.		Div.	Div.	Price	Price	Stock Price
Atmos Energy Corporation	ATO	\$2.96	\$113.74	2.60%	2.70%	7.27%	7.27%	9.96%	\$3.07	1.10	2.79	\$3.29	1.21	2.72	\$3.53	1.33	2.65	\$3.79	1.46	2.59	\$4.06	1.61	2.53	\$4.36	\$161.53	\$100.46	\$113.74
New Jersey Resources Corporation	NJR	\$1.68	\$42.32	3.97%	4.08%	5.67%	5.67%	9.75%	\$1.73	1.10	1.57	\$1.83	1.20	1.52	\$1.93	1.32	1.46	\$2.04	1.45	1.40	\$2.15	1.59	1.35	\$2.28	\$55.75	\$35.01	\$42.32
NiSource Inc.	NI	\$1.00	\$26.62	3.76%	3.90%	7.73%	7.34%	11.29%	\$1.04	1.11	0.93	\$1.12	1.24	0.90	\$1.21	1.38	0.87	\$1.30	1.53	0.85	\$1.40	1.71	0.82	\$1.50	\$37.98	\$22.24	\$26.62
Northwest Natural Gas Company	NWN	\$1.94	\$39.64	4.89%	5.00%	4.33%	4.86%	9.77%	\$1.98	1.10	1.81	\$2.07	1.20	1.72	\$2.16	1.32	1.63	\$2.25	1.45	1.55	\$2.35	1.59	1.47	\$2.46	\$50.14	\$31.46	\$39.64
ONE Gas Inc.	OGS	\$2.60	\$73.50	3.54%	3.63%	5.50%	5.50%	9.13%	\$2.67	1.09	2.45	\$2.82	1.19	2.37	\$2.97	1.30	2.29	\$3.14	1.42	2.21	\$3.31	1.55	2.14	\$3.49	\$96.06	\$62.05	\$73.50
Spire, Inc.	SR	\$2.88	\$58.75	4.90%	5.05%	6.10%	6.10%	11.15%	\$2.97	1.11	2.67	\$3.15	1.24	2.55	\$3.34	1.37	2.43	\$3.54	1.53	2.32	\$3.76	1.70	2.22	\$3.99	\$78.99	\$46.56	\$58.75
Mean				3.94%	4.06%	6.10%	6.12%	10.18%																			
Flotation Cost								0.09%																			
Flotation Cost-Adjusted Result								10.27%																			

Standard Deviation [6] 1.24%
Avg. less Standard Dev [7] 4.86%
Avg. plus Standard Dev [8] 7.34%

Notes:
[1] Source: Schedule 4
[2] Source: Schedule 4
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [5])
[5] Source: Schedule 6
[6] Standard Deviation of Column [5]
[7] Mean of Column [5], minus [6]
[8] Mean of Column [5], plus [6]
[9] If [5] > [8], then [8]; If [5] < [7], then [7]. Else [5]
[10] ROE that sets [2] equal to [29] using Excel's goal seek function
[11] = [2] x [4]
[12] = (1 + [10]) ^ 1
[13] = [11] / [12]
[14] = [11] * (1 + [5])
[15] = (1 + [10]) ^ 2
[16] = [14] / [15]
[17] = [14] * (1 + [5])
[18] = (1 + [10]) ^ 3
[19] = [17] / [18]
[20] = [17] * (1 + [5])
[21] = (1 + [10]) ^ 4
[22] = [20] / [21]
[23] = [20] * (1 + [5])
[24] = (1 + [10]) ^ 5
[25] = [23] / [24]
[26] = [23] * (1 + [9])
[27] = [26] / ([10] - [9])
[28] = [27] / [24]
[29] = [13] + [16] + [19] + [22] + [25] + [28]

90-DAY TWO-GROWTH DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Average Growth Rate	Second Growth Rate	Mean ROE	Year 1 Div.	(1+k)^1	PV of Year 1 Div.	Year 2 Div.	(1+k)^2	PV of Year 2 Div.	Year 3 Div.	(1+k)^3	PV of Year 3 Div.	Year 4 Div.	(1+k)^4	PV of Year 4 Div.	Year 5 Div.	(1+k)^5	PV of Year 5 Div.	Year 6 Div.	Year 5 Stock Price	PV of Year 5 Stock Price	Current Stock Price
Atmos Energy Corporation	ATO	\$2.96	\$116.46	2.54%	2.63%	7.27%	7.27%	9.90%	\$3.07	1.10	2.79	\$3.29	1.21	2.72	\$3.53	1.33	2.66	\$3.79	1.46	2.60	\$4.06	1.60	2.53	\$4.36	\$165.39	\$103.16	\$116.46
New Jersey Resources Corporation	NJR	\$1.68	\$45.13	3.72%	3.83%	5.67%	5.67%	9.49%	\$1.73	1.09	1.58	\$1.83	1.20	1.52	\$1.93	1.31	1.47	\$2.04	1.44	1.42	\$2.15	1.57	1.37	\$2.28	\$59.45	\$37.77	\$45.13
NiSource Inc.	NI	\$1.00	\$27.05	3.70%	3.84%	7.73%	7.34%	11.23%	\$1.04	1.11	0.93	\$1.12	1.24	0.90	\$1.21	1.38	0.88	\$1.30	1.53	0.85	\$1.40	1.70	0.82	\$1.50	\$38.59	\$22.67	\$27.05
Northwest Natural Gas Company	NWN	\$1.94	\$41.70	4.65%	4.75%	4.33%	4.86%	9.53%	\$1.98	1.10	1.81	\$2.07	1.20	1.72	\$2.16	1.31	1.64	\$2.25	1.44	1.56	\$2.35	1.58	1.49	\$2.46	\$52.75	\$33.47	\$41.70
ONE Gas Inc.	OGS	\$2.60	\$76.77	3.39%	3.48%	5.50%	5.50%	8.98%	\$2.67	1.09	2.45	\$2.82	1.19	2.37	\$2.97	1.29	2.30	\$3.14	1.41	2.22	\$3.31	1.54	2.15	\$3.49	\$100.33	\$65.27	\$76.77
Spire, Inc.	SR	\$2.88	\$61.87	4.66%	4.80%	6.10%	6.10%	10.90%	\$2.97	1.11	2.68	\$3.15	1.23	2.56	\$3.34	1.36	2.45	\$3.54	1.51	2.34	\$3.76	1.68	2.24	\$3.99	\$83.18	\$49.60	\$61.87
Mean				3.78%	3.89%	6.10%	6.12%	10.01%																			
Flotation Cost								0.09%																			
Flotation Cost-Adjusted Result								10.10%																			

Standard Deviation [6] 1.24%
Avg. less Standard Dev [7] 4.86%
Avg. plus Standard Dev [8] 7.34%

Notes:

- [1] Source: Schedule 4
[2] Source: Schedule 4
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [5])
[5] Source: Schedule 6
[6] Standard Deviation of Column [5]
[7] Mean of Column [5], minus [6]
[8] Mean of Column [5], plus [6]
[9] If [5] > [8], then [8]; If [5] < [7], then [7]. Else [5]
[10] ROE that sets [2] equal to [29] using Excel's goal seek function
[11] = [2] x [4]
[12] = (1 + [10]) ^ 1
[13] = [11] / [12]
[14] = [11] * (1 + [5])
[15] = (1 + [10]) ^ 2
[16] = [14] / [15]
[17] = [14] * (1 + [5])
[18] = (1 + [10]) ^ 3
[19] = [17] / [18]
[20] = [17] * (1 + [5])
[21] = (1 + [10]) ^ 4
[22] = [20] / [21]
[23] = [20] * (1 + [5])
[24] = (1 + [10]) ^ 5
[25] = [23] / [24]
[26] = [23] * (1 + [9])
[27] = [26] / (([10] - [9])
[28] = [27] / [24]
[29] = [13] + [16] + [19] + [22] + [25] + [28]

180-DAY TWO-GROWTH DCF -- MEAN GROWTH RATE

		[1]	[2]	[3]	[4]	[5]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Average Growth Rate	Second Growth Rate	Mean ROE	Year 1 Div.	(1+k)^1	PV of Year 1 Div.	Year 2 Div.	(1+k)^2	PV of 2 Div.	Year 3 Div.	(1+k)^3	PV of 3 Div.	Year 4 Div.	(1+k)^4	PV of 4 Div.	Year 5 Div.	(1+k)^5	PV of 5 Div.	Year 6 Div.	Year 5 Stock Price	PV of Year 5 Stock Price	Current Stock Price
Company	Ticker																										
Atmos Energy Corporation	ATO	\$2.96	\$115.49	2.56%	2.66%	7.27%	7.27%	9.92%	\$3.07	1.10	2.79	\$3.29	1.21	2.72	\$3.53	1.33	2.66	\$3.79	1.46	2.59	\$4.06	1.60	2.53	\$4.36	\$164.01	\$102.20	\$115.49
New Jersey Resources Corporation	NJR	\$1.68	\$48.28	3.48%	3.58%	5.67%	5.67%	9.25%	\$1.73	1.09	1.58	\$1.83	1.19	1.53	\$1.93	1.30	1.48	\$2.04	1.42	1.43	\$2.15	1.56	1.38	\$2.28	\$63.60	\$40.87	\$48.28
NiSource Inc.	NI	\$1.00	\$27.37	3.65%	3.80%	7.73%	7.34%	11.19%	\$1.04	1.11	0.93	\$1.12	1.24	0.91	\$1.21	1.37	0.88	\$1.30	1.53	0.85	\$1.40	1.70	0.82	\$1.50	\$39.05	\$22.98	\$27.37
Northwest Natural Gas Company	NWN	\$1.94	\$44.70	4.34%	4.43%	4.33%	4.86%	9.21%	\$1.98	1.09	1.81	\$2.07	1.19	1.73	\$2.16	1.30	1.66	\$2.25	1.42	1.58	\$2.35	1.55	1.51	\$2.46	\$56.56	\$36.40	\$44.70
ONE Gas Inc.	OGS	\$2.60	\$78.23	3.32%	3.41%	5.50%	5.50%	8.91%	\$2.67	1.09	2.45	\$2.82	1.19	2.38	\$2.97	1.29	2.30	\$3.14	1.41	2.23	\$3.31	1.53	2.16	\$3.49	\$102.24	\$66.71	\$78.23
Spire, Inc.	SR	\$2.88	\$66.00	4.36%	4.50%	6.10%	6.10%	10.60%	\$2.97	1.11	2.68	\$3.15	1.22	2.57	\$3.34	1.35	2.47	\$3.54	1.50	2.37	\$3.76	1.65	2.27	\$3.99	\$88.73	\$53.63	\$66.00
Mean				3.62%	3.73%	6.10%	6.12%	9.85%																			
Flotation Cost								0.09%																			
Flotation Cost-Adjusted Result								9.94%																			

Standard Deviation [6] 1.24%
Avg. less Standard Dev [7] 4.86%
Avg. plus Standard Dev [8] 7.34%

Notes:

- [1] Source: Schedule 4
[2] Source: Schedule 4
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [5])
[5] Source: Schedule 6
[6] Standard Deviation of Column [5]
[7] Mean of Column [5], minus [6]
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[9] If [5] > [8], then [8]; If [5] < [7], then [7]. Else [5]
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[11] = [2] x [4]
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[15] = (1 + [10]) ^ 2
[16] = [14] / [15]
[17] = [14] * (1 + [5])
[18] = (1 + [10]) ^ 3
[19] = [17] / [18]
[20] = [17] * (1 + [5])
[21] = (1 + [10]) ^ 4
[22] = [20] / [21]
[23] = [20] * (1 + [5])
[24] = (1 + [10]) ^ 5
[25] = [23] / [24]
[26] = [23] * (1 + [9])
[27] = [26] / ([10] - [9])
[28] = [27] / [24]
[29] = [13] + [16] + [19] + [22] + [25] + [28]

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

[1] Estimate of the S&P 500 Dividend Yield	1.64%
[2] Estimate of the S&P 500 Growth Rate	12.44%
[3] S&P 500 Estimated Required Market Return	14.19%

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	94.70	324	30,701	0.09%	5.28%	0.00%	2.00%	0.00%
American Express Co	AXP	149.19	736	109,872	0.31%	1.61%	0.00%	8.50%	0.03%
Verizon Communications Inc	VZ	32.41	4,204	136,253	0.38%	8.21%	0.03%	1.50%	0.01%
Broadcom Inc	AVGO	830.58	413	342,810	0.97%	2.22%	0.02%	30.00%	0.29%
Boeing Co/The	BA	191.68	603	Excl.	0.00%	n/a	n/a		0.00%
Caterpillar Inc	CAT	273.00	510	139,269	0.39%	1.90%	0.01%	13.50%	0.05%
JPMorgan Chase & Co	JPM	145.02	2,906	421,440	1.19%	2.90%	0.03%	8.50%	0.10%
Chevron Corp	CVX	168.62	1,867	314,855	0.89%	3.58%	0.03%	21.50%	0.19%
Coca-Cola Co/The	KO	55.98	4,324	242,077	0.68%	3.29%	0.02%	7.50%	0.05%
AbbVie Inc	ABBV	149.06	1,765	263,098	0.74%	3.97%	0.03%	2.00%	0.01%
Walt Disney Co/The	DIS	81.05	1,830	148,304	0.42%	n/a	n/a	65.00%	0.27%
FleetCor Technologies Inc	FLT	255.34	74	18,884	0.05%	n/a	n/a	13.50%	0.01%
Extra Space Storage Inc	EXR	121.58	211	25,687	0.07%	2.01%	0.00%	5.00%	0.00%
Exxon Mobil Corp	XOM	117.58	4,003	470,695	1.33%	3.10%	0.04%	7.00%	0.09%
Phillips 66	PSX	120.15	445	53,501	0.15%	3.50%	0.01%	15.50%	0.02%
General Electric Co	GE	110.55	1,088	120,320	0.34%	0.29%	0.00%	26.00%	0.09%
HP Inc	HPQ	25.70	988	25,399	0.07%	4.09%	0.00%	12.50%	0.01%
Home Depot Inc/The	HD	302.16	1,000	302,180	0.85%	2.77%	0.02%	6.50%	0.06%
Monolithic Power Systems Inc	MPWR	462.00	48	22,073	0.06%	0.87%	0.00%	15.00%	0.01%
International Business Machines Corp	IBM	140.30	911	127,814	0.36%	4.73%	0.02%	3.00%	0.01%
Johnson & Johnson	JNJ	155.75	2,401	374,031	1.05%	3.06%	0.03%	5.00%	0.05%
McDonald's Corp	MCD	263.44	729	191,985	0.54%	2.31%	0.01%	10.50%	0.06%
Merck & Co Inc	MRK	102.95	2,538	261,238	0.74%	2.84%	0.02%	8.50%	0.06%
3M Co	MMM	93.62	552	51,677	0.15%	6.41%	0.01%	4.50%	0.01%
American Water Works Co Inc	AWK	123.83	195	24,106	0.07%	2.29%	0.00%	3.00%	0.00%
Bank of America Corp	BAC	27.38	7,946	217,572	0.61%	3.51%	0.02%	0.00%	0.00%
Pfizer Inc	PFE	33.17	5,646	187,276	0.53%	4.94%	0.03%	2.00%	0.01%
Procter & Gamble Co/The	PG	145.86	2,357	343,777	0.97%	2.58%	0.02%	5.50%	0.05%
AT&T Inc	T	15.02	7,149	107,378	0.30%	7.39%	0.02%	1.50%	0.00%
Travelers Cos Inc/The	TRV	163.31	229	37,389	0.11%	2.45%	0.00%	7.50%	0.01%
RTX Corp	RTX	71.97	1,456	104,753	0.30%	3.28%	0.01%	15.00%	0.04%
Analog Devices Inc	ADI	175.09	498	87,250	0.25%	1.96%	0.00%	11.50%	0.03%
Walmart Inc	WMT	159.93	2,692	430,462	1.21%	1.43%	0.02%	6.50%	0.08%
Cisco Systems Inc	CSCO	53.76	4,055	217,989	0.61%	2.90%	0.02%	8.50%	0.05%
Intel Corp	INTC	35.55	4,188	Excl.	0.00%	1.41%	0.00%		0.00%
General Motors Co	GM	32.97	1,376	45,364	0.13%	1.09%	0.00%	8.50%	0.01%
Microsoft Corp	MSFT	315.75	7,430	2,345,948	6.61%	0.95%	0.06%	12.50%	0.83%
Dollar General Corp	DG	105.80	219	23,221	0.07%	2.23%	0.00%	5.50%	0.00%
Cigna Group/The	CI	286.07	296	84,671	0.24%	1.72%	0.00%	10.00%	0.02%
Kinder Morgan Inc	KMI	16.58	2,228	36,943	0.10%	6.82%	0.01%	17.50%	0.02%
Citigroup Inc	C	41.13	1,926	79,204	0.22%	5.15%	0.01%	3.50%	0.01%
American International Group Inc	AIG	60.60	712	43,141	0.12%	2.38%	0.00%	4.00%	0.00%
Altria Group Inc	MO	42.05	1,775	74,622	0.21%	9.32%	0.02%	6.00%	0.01%
HCA Healthcare Inc	HCA	245.98	272	66,904	0.19%	0.98%	0.00%	12.50%	0.02%
International Paper Co	IP	35.47	346	12,273	0.03%	5.22%	0.00%	6.00%	0.00%
Hewlett Packard Enterprise Co	HPE	17.37	1,283	22,283	0.06%	2.76%	0.00%	7.50%	0.00%
Abbott Laboratories	ABT	96.85	1,735	168,069	0.47%	2.11%	0.01%	4.50%	0.02%
Aflac Inc	AFL	76.75	594	45,594	0.13%	2.19%	0.00%	8.00%	0.01%
Air Products and Chemicals Inc	APD	283.40	222	62,957	0.18%	2.47%	0.00%	10.50%	0.02%
Royal Caribbean Cruises Ltd	RCL	92.14	256	Excl.	0.00%	n/a	n/a		0.00%
Hess Corp	HES	153.00	307	46,980	0.13%	1.14%	0.00%	23.50%	0.03%
Archer-Daniels-Midland Co	ADM	75.42	536	40,433	0.11%	2.39%	0.00%	7.50%	0.01%
Automatic Data Processing Inc	ADP	240.58	412	99,116	0.28%	2.08%	0.01%	11.00%	0.03%
Verisk Analytics Inc	VRSK	236.24	145	34,261	0.10%	0.58%	0.00%	8.00%	0.01%
AutoZone Inc	AZO	2,539.99	18	46,116	0.13%	n/a	n/a	13.00%	0.02%
Avery Dennison Corp	AVY	182.67	81	14,720	0.04%	1.77%	0.00%	9.50%	0.00%
Enphase Energy Inc	ENPH	120.15	136	16,383	0.05%	n/a	n/a	27.50%	0.01%
MSCI Inc	MSCI	513.08	79	40,579	0.11%	1.08%	0.00%	12.50%	0.01%
Ball Corp	BALL	49.78	315	15,684	0.04%	1.61%	0.00%	13.00%	0.01%
Axon Enterprise Inc	AXON	198.99	75	14,876	0.04%	n/a	n/a	24.00%	0.01%
Ceridian HCM Holding Inc	CDAY	67.85	156	Excl.	0.00%	n/a	n/a		0.00%
Carrier Global Corp	CARR	55.20	838	46,237	0.13%	1.34%	0.00%	13.00%	0.02%

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			Shares	Market	Weight in	Current	Cap-Weighted	Value Line	Cap-Weighted
Name	Ticker	Price	Outstanding	Capitalization	Index	Dividend Yield	Dividend Yield	Long-Term Growth Est.	Long-Term Growth Est.
Bank of New York Mellon Corp/The	BK	42.65	779	33,215	0.09%	3.94%	0.00%	7.00%	0.01%
Otis Worldwide Corp	OTIS	80.31	412	33,067	0.09%	1.69%	0.00%	11.00%	0.01%
Baxter International Inc	BAX	37.74	506	19,112	0.05%	3.07%	0.00%	6.00%	0.00%
Becton Dickinson & Co	BDX	258.53	290	75,002	0.21%	1.41%	0.00%	5.00%	0.01%
Berkshire Hathaway Inc	BRK/B	350.30	1,308	458,217	1.29%	n/a	n/a	6.00%	0.08%
Best Buy Co Inc	BBY	69.47	218	15,119	0.04%	5.30%	0.00%	3.00%	0.00%
Boston Scientific Corp	BSX	52.80	1,464	77,311	0.22%	n/a	n/a	13.00%	0.03%
Bristol-Myers Squibb Co	BMJ	58.04	2,089	Excl.	0.00%	3.93%	0.00%		0.00%
Brown-Forman Corp	BF/B	57.69	310	17,892	0.05%	1.42%	0.00%	12.50%	0.01%
Coterra Energy Inc	CTRA	27.05	755	Excl.	0.00%	2.96%	0.00%		0.00%
Campbell Soup Co	CPB	41.08	298	12,240	0.03%	3.60%	0.00%	5.00%	0.00%
Hilton Worldwide Holdings Inc	HLT	150.18	262	Excl.	0.00%	0.40%	0.00%		0.00%
Carnival Corp	CCL	13.72	1,119	Excl.	0.00%	n/a	n/a		0.00%
Qorvo Inc	QRVO	95.47	98	9,347	0.03%	n/a	n/a	14.50%	0.00%
UDR Inc	UDR	35.67	329	11,753	0.03%	4.71%	0.00%	15.50%	0.01%
Clorox Co/The	CLX	131.06	124	16,229	0.05%	3.66%	0.00%	11.00%	0.01%
Paycom Software Inc	PAYC	259.27	60	15,677	0.04%	0.58%	0.00%	19.50%	0.01%
CMS Energy Corp	CMS	53.11	292	15,494	0.04%	3.67%	0.00%	6.50%	0.00%
Colgate-Palmolive Co	CL	71.11	827	58,786	0.17%	2.70%	0.00%	8.50%	0.01%
EPAM Systems Inc	EPAM	255.69	58	14,820	0.04%	n/a	n/a	20.50%	0.01%
Comerica Inc	CMA	41.55	132	5,475	0.02%	6.84%	0.00%	4.00%	0.00%
Conagra Brands Inc	CAG	27.42	478	13,103	0.04%	5.11%	0.00%	4.50%	0.00%
Airbnb Inc	ABNB	137.21	426	Excl.	0.00%	n/a	n/a		0.00%
Consolidated Edison Inc	ED	85.53	345	29,501	0.08%	3.79%	0.00%	6.00%	0.00%
Corning Inc	GLW	30.47	853	25,990	0.07%	3.68%	0.00%	17.50%	0.01%
Cummins Inc	CMI	228.46	142	32,361	0.09%	2.94%	0.00%	10.00%	0.01%
Caesars Entertainment Inc	CZR	46.35	215	Excl.	0.00%	n/a	n/a		0.00%
Danaher Corp	DHR	219.91	738	162,373	0.46%	0.49%	0.00%	11.00%	0.05%
Target Corp	TGT	110.57	462	51,040	0.14%	3.98%	0.01%	12.00%	0.02%
Deere & Co	DE	377.38	288	108,686	0.31%	1.43%	0.00%	13.50%	0.04%
Dominion Energy Inc	D	44.67	837	37,379	0.11%	5.98%	0.01%	2.50%	0.00%
Dover Corp	DOV	139.51	140	19,514	0.05%	1.46%	0.00%	6.50%	0.00%
Alliant Energy Corp	LNT	48.45	253	12,244	0.03%	3.74%	0.00%	6.50%	0.00%
Steel Dynamics Inc	STLD	107.22	166	17,760	0.05%	1.59%	0.00%	2.00%	0.00%
Duke Energy Corp	DUK	88.26	771	68,048	0.19%	4.65%	0.01%	5.00%	0.01%
Regency Centers Corp	REG	59.44	171	10,164	0.03%	4.37%	0.00%	10.50%	0.00%
Eaton Corp PLC	ETN	213.28	399	85,099	0.24%	1.61%	0.00%	12.00%	0.03%
Ecolab Inc	ECL	169.40	285	48,285	0.14%	1.25%	0.00%	10.00%	0.01%
Revvity Inc	RVTY	110.70	124	13,742	0.04%	0.25%	0.00%	-1.50%	0.00%
Emerson Electric Co	EMR	96.57	572	55,190	0.16%	2.15%	0.00%	6.50%	0.01%
EOG Resources Inc	EOG	126.76	582	73,807	0.21%	2.60%	0.01%	15.00%	0.03%
Aon PLC	AON	324.22	203	65,774	0.19%	0.76%	0.00%	9.50%	0.02%
Entergy Corp	ETR	92.50	211	19,560	0.06%	4.63%	0.00%	0.50%	0.00%
Equifax Inc	EFX	183.18	123	22,480	0.06%	0.85%	0.00%	12.00%	0.01%
EQT Corp	EQT	40.58	411	Excl.	0.00%	1.48%	0.00%		0.00%
IQVIA Holdings Inc	IQV	196.75	183	36,029	0.10%	n/a	n/a	14.50%	0.01%
Gartner Inc	IT	343.61	79	27,085	0.08%	n/a	n/a	10.50%	0.01%
FedEx Corp	FDX	264.92	251	66,606	0.19%	1.90%	0.00%	7.00%	0.01%
FMC Corp	FMC	66.97	125	8,353	0.02%	3.46%	0.00%	10.00%	0.00%
Brown & Brown Inc	BRO	69.84	284	19,808	0.06%	0.66%	0.00%	6.50%	0.00%
Ford Motor Co	F	12.42	3,931	48,828	0.14%	4.83%	0.01%	45.50%	0.06%
NextEra Energy Inc	NEE	57.29	2,024	115,939	0.33%	3.26%	0.01%	9.50%	0.03%
Franklin Resources Inc	BEN	24.58	499	12,265	0.03%	4.88%	0.00%	2.00%	0.00%
Garmin Ltd	GRMN	105.20	191	20,141	0.06%	2.78%	0.00%	5.00%	0.00%
Freeport-McMoRan Inc	FCX	37.29	1,434	53,460	0.15%	1.61%	0.00%	12.50%	0.02%
Dexcom Inc	DXCM	93.30	388	Excl.	0.00%	n/a	n/a		0.00%
General Dynamics Corp	GD	220.97	273	60,334	0.17%	2.39%	0.00%	9.50%	0.02%
General Mills Inc	GIS	63.99	581	37,196	0.10%	3.69%	0.00%	4.50%	0.00%
Genuine Parts Co	GPC	144.38	140	20,276	0.06%	2.63%	0.00%	9.00%	0.01%
Atmos Energy Corp	ATO	105.93	148	15,727	0.04%	2.79%	0.00%	7.00%	0.00%
WW Grainger Inc	GWV	691.84	50	34,593	0.10%	1.08%	0.00%	11.00%	0.01%
Halliburton Co	HAL	40.50	899	36,391	0.10%	1.58%	0.00%	30.00%	0.03%
L3Harris Technologies Inc	LHX	174.12	189	32,932	0.09%	2.62%	0.00%	19.50%	0.02%
Healthpeak Properties Inc	PEAK	18.36	547	10,044	0.03%	6.54%	0.00%	14.50%	0.00%
Insulet Corp	PODD	159.49	70	Excl.	0.00%	n/a	n/a		0.00%
Catalent Inc	CTLT	45.53	180	8,208	0.02%	n/a	n/a	21.00%	0.00%
Fortive Corp	FTV	74.16	352	26,106	0.07%	0.38%	0.00%	16.00%	0.01%
Hershey Co/The	HSY	200.08	150	29,983	0.08%	2.38%	0.00%	9.50%	0.01%
Synchrony Financial	SYF	30.57	418	12,784	0.04%	3.27%	0.00%	47.00%	0.02%
Hormel Foods Corp	HRL	38.03	546	20,783	0.06%	2.89%	0.00%	7.50%	0.00%
Arthur J Gallagher & Co	AJG	227.93	216	49,120	0.14%	0.97%	0.00%	22.00%	0.03%
Mondelez International Inc	MDLZ	69.40	1,360	94,413	0.27%	2.45%	0.01%	10.00%	0.03%
CenterPoint Energy Inc	CNP	26.85	629	16,900	0.05%	2.98%	0.00%	6.50%	0.00%
Humana Inc	HUM	486.52	124	60,283	0.17%	0.73%	0.00%	12.50%	0.02%
Willis Towers Watson PLC	WTW	208.96	105	21,904	0.06%	1.61%	0.00%	9.50%	0.01%
Illinois Tool Works Inc	ITW	230.31	302	69,643	0.20%	2.43%	0.00%	11.00%	0.02%
CDW Corp/DE	CDW	201.76	134	27,046	0.08%	1.17%	0.00%	7.00%	0.01%

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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.
Trane Technologies PLC	TT	202.91	228	46,344	0.13%	1.48%	0.00%	13.00%	0.02%
Interpublic Group of Cos Inc/The	IPG	28.66	385	11,032	0.03%	4.33%	0.00%	8.50%	0.00%
International Flavors & Fragrances Inc	IFF	68.17	255	17,401	0.05%	4.75%	0.00%	8.00%	0.00%
Generac Holdings Inc	GNRC	108.96	62	6,782	0.02%	n/a	n/a	19.00%	0.00%
NXP Semiconductors NV	NXPI	199.92	258	51,540	0.15%	2.03%	0.00%	8.50%	0.01%
Kellanova	K	55.84	342	19,117	0.05%	4.30%	0.00%	3.00%	0.00%
Broadridge Financial Solutions Inc	BR	179.05	118	21,060	0.06%	1.79%	0.00%	8.50%	0.01%
Kimberly-Clark Corp	KMB	120.85	338	40,870	0.12%	3.91%	0.00%	7.00%	0.01%
Kimco Realty Corp	KIM	17.59	620	10,904	0.03%	5.23%	0.00%	11.00%	0.00%
Oracle Corp	ORCL	105.92	2,739	290,155	0.82%	1.51%	0.01%	10.00%	0.08%
Kroger Co/The	KR	44.75	719	32,189	0.09%	2.59%	0.00%	6.00%	0.01%
Lennar Corp	LEN	112.23	250	28,075	0.08%	1.34%	0.00%	3.50%	0.00%
Eli Lilly & Co	LLY	537.13	949	509,895	1.44%	0.84%	0.01%	19.00%	0.27%
Bath & Body Works Inc	BBWI	33.80	227	7,685	0.02%	2.37%	0.00%	26.50%	0.01%
Charter Communications Inc	CHTR	439.82	150	65,828	0.19%	n/a	n/a	12.50%	0.02%
Loews Corp	L	63.31	226	14,277	0.04%	0.39%	0.00%	25.50%	0.01%
Lowe's Cos Inc	LOW	207.84	577	119,948	0.34%	2.12%	0.01%	8.00%	0.03%
IDEX Corp	IEX	208.02	76	15,727	0.04%	1.23%	0.00%	8.00%	0.00%
Marsh & McLennan Cos Inc	MMC	190.30	494	93,999	0.26%	1.49%	0.00%	9.00%	0.02%
Masco Corp	MAS	53.45	225	12,022	0.03%	2.13%	0.00%	6.50%	0.00%
S&P Global Inc	SPGI	365.41	318	116,273	0.33%	0.99%	0.00%	7.50%	0.02%
Medtronic PLC	MDT	78.36	1,331	104,261	0.29%	3.52%	0.01%	7.50%	0.02%
Viatis Inc	VTRS	9.86	1,200	Excl.	0.00%	4.87%	0.00%		0.00%
CVS Health Corp	CVS	69.82	1,284	89,677	0.25%	3.47%	0.01%	8.50%	0.02%
DuPont de Nemours Inc	DD	74.59	459	34,241	0.10%	1.93%	0.00%	9.50%	0.01%
Micron Technology Inc	MU	68.03	1,095	74,513	0.21%	0.68%	0.00%	9.50%	0.02%
Motorola Solutions Inc	MSI	272.24	167	45,470	0.13%	1.29%	0.00%	11.00%	0.01%
Cboe Global Markets Inc	CBOE	156.21	106	16,483	0.05%	1.41%	0.00%	12.50%	0.01%
Laboratory Corp of America Holdings	LH	201.05	89	17,813	0.05%	1.43%	0.00%	1.00%	0.00%
Newmont Corp	NEM	36.95	795	29,368	0.08%	4.33%	0.00%	8.00%	0.01%
NIKE Inc	NKE	95.62	1,225	117,142	0.33%	1.42%	0.00%	18.00%	0.06%
NiSource Inc	NI	24.68	413	10,199	0.03%	4.05%	0.00%	9.50%	0.00%
Norfolk Southern Corp	NSC	196.93	227	44,706	0.13%	2.74%	0.00%	8.50%	0.01%
Principal Financial Group Inc	PFG	72.07	242	17,420	0.05%	3.61%	0.00%	5.50%	0.00%
Eversource Energy	ES	58.15	349	20,299	0.06%	4.64%	0.00%	6.50%	0.00%
Northrop Grumman Corp	NOC	440.19	151	66,601	0.19%	1.70%	0.00%	9.50%	0.02%
Wells Fargo & Co	WFC	40.86	3,668	149,862	0.42%	3.43%	0.01%	12.00%	0.05%
Nucor Corp	NUE	156.35	249	38,888	0.11%	1.30%	0.00%	2.00%	0.00%
Occidental Petroleum Corp	OXY	64.88	885	57,398	0.16%	1.11%	0.00%	17.00%	0.03%
Omnicom Group Inc	OMC	74.48	198	14,715	0.04%	3.76%	0.00%	7.00%	0.00%
ONEOK Inc	OKE	63.43	582	36,946	0.10%	6.02%	0.01%	12.00%	0.01%
Raymond James Financial Inc	RJF	100.43	209	20,974	0.06%	1.67%	0.00%	15.00%	0.01%
PG&E Corp	PCG	16.13	2,091	33,732	0.10%	n/a	n/a	7.50%	0.01%
Parker-Hannifin Corp	PH	389.52	129	50,057	0.14%	1.52%	0.00%	14.50%	0.02%
Rollins Inc	ROL	37.33	484	18,071	0.05%	1.39%	0.00%	10.50%	0.01%
PPL Corp	PPL	23.56	737	17,366	0.05%	4.07%	0.00%	8.00%	0.00%
ConocoPhillips	COP	119.80	1,197	143,459	0.40%	0.50%	0.00%	9.00%	0.04%
PulteGroup Inc	PHM	74.05	219	16,250	0.05%	0.86%	0.00%	8.00%	0.00%
Pinnacle West Capital Corp	PNW	73.68	113	8,349	0.02%	4.70%	0.00%	2.50%	0.00%
PNC Financial Services Group Inc/The	PNC	122.77	398	48,894	0.14%	5.05%	0.01%	7.50%	0.01%
PPG Industries Inc	PPG	129.80	236	30,570	0.09%	2.00%	0.00%	3.00%	0.00%
Progressive Corp/The	PGR	139.30	585	81,504	0.23%	0.29%	0.00%	12.00%	0.03%
Public Service Enterprise Group Inc	PEG	56.91	499	28,404	0.08%	4.01%	0.00%	4.00%	0.00%
Robert Half Inc	RHI	73.28	107	7,847	0.02%	2.62%	0.00%	9.50%	0.00%
Cooper Cos Inc/The	COO	318.01	50	15,749	0.04%	0.02%	0.00%	12.00%	0.01%
Edison International	EIX	63.29	383	24,258	0.07%	4.66%	0.00%	4.50%	0.00%
Schlumberger NV	SLB	58.30	1,421	82,855	0.23%	1.72%	0.00%	26.00%	0.06%
Charles Schwab Corp/The	SCHW	54.90	1,770	97,185	0.27%	1.82%	0.00%	9.00%	0.02%
Sherwin-Williams Co/The	SHW	255.05	257	65,586	0.18%	0.95%	0.00%	7.00%	0.01%
West Pharmaceutical Services Inc	WST	375.21	74	27,713	0.08%	0.20%	0.00%	17.00%	0.01%
J M Smucker Co/The	SJM	122.91	102	12,554	0.04%	3.45%	0.00%	6.00%	0.00%
Snap-on Inc	SNA	255.06	53	13,497	0.04%	2.54%	0.00%	6.00%	0.00%
AMETEK Inc	AME	147.76	231	34,090	0.10%	0.68%	0.00%	10.00%	0.01%
Southern Co/The	SO	64.72	1,092	70,643	0.20%	4.33%	0.01%	6.50%	0.01%
Truist Financial Corp	TFC	28.61	1,332	38,108	0.11%	7.27%	0.01%	6.00%	0.01%
Southwest Airlines Co	LUV	27.07	596	Excl.	0.00%	2.66%	0.00%		0.00%
W R Berkley Corp	WRB	63.49	258	16,350	0.05%	0.69%	0.00%	15.00%	0.01%
Stanley Black & Decker Inc	SWK	83.58	153	12,807	0.04%	3.88%	0.00%	1.00%	0.00%
Public Storage	PSA	263.52	176	46,334	0.13%	4.55%	0.01%	7.50%	0.01%
Arista Networks Inc	ANET	183.93	310	56,941	0.16%	n/a	n/a	13.00%	0.02%
Sysco Corp	SYT	66.05	505	33,350	0.09%	3.03%	0.00%	18.50%	0.02%
Corteva Inc	CTVA	51.16	710	36,299	0.10%	1.25%	0.00%	13.50%	0.01%
Texas Instruments Inc	TXN	159.01	908	144,376	0.41%	3.27%	0.01%	3.00%	0.01%
Textron Inc	TXT	78.14	198	15,477	0.04%	0.10%	0.00%	16.00%	0.01%
Thermo Fisher Scientific Inc	TMO	506.17	386	195,356	0.55%	0.28%	0.00%	9.50%	0.05%
TJX Cos Inc/The	TJX	88.88	1,144	101,686	0.29%	1.50%	0.00%	17.00%	0.05%
Globe Life Inc	GL	108.73	95	10,310	0.03%	0.83%	0.00%	9.00%	0.00%

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Johnson Controls International plc	JCI	53.21	680	36,200	0.10%	2.78%	0.00%	11.50%	0.01%
Ulta Beauty Inc	ULTA	399.45	49	19,665	0.06%	n/a	n/a	13.50%	0.01%
Union Pacific Corp	UNP	203.63	609	124,104	0.35%	2.55%	0.01%	6.50%	0.02%
Keysight Technologies Inc	KEYS	132.31	178	23,495	0.07%	n/a	n/a	13.00%	0.01%
UnitedHealth Group Inc	UNH	504.19	926	467,034	1.32%	1.49%	0.02%	12.00%	0.16%
Blackstone Inc	BX	107.14	710	76,043	0.21%	2.95%	0.01%	15.00%	0.03%
Marathon Oil Corp	MRO	26.75	606	16,202	0.05%	1.50%	0.00%	22.50%	0.01%
Bio-Rad Laboratories Inc	BIO	358.45	24	8,604	0.02%	n/a	n/a	11.50%	0.00%
Ventas Inc	VTR	42.13	402	16,952	0.05%	4.27%	0.00%	23.50%	0.01%
VF Corp	VFC	17.67	389	6,871	0.02%	6.79%	0.00%	9.00%	0.00%
Vulcan Materials Co	VMC	202.02	133	26,842	0.08%	0.85%	0.00%	9.50%	0.01%
Weyerhaeuser Co	WY	30.66	731	22,405	0.06%	2.48%	0.00%	-2.50%	0.00%
Whirlpool Corp	WHR	133.70	55	7,329	0.02%	5.24%	0.00%	-1.50%	0.00%
Williams Cos Inc/The	WMB	33.69	1,216	40,981	0.12%	5.31%	0.01%	10.50%	0.01%
Constellation Energy Corp	CEG	109.08	322	Excl.	0.00%	1.03%	0.00%		0.00%
WEC Energy Group Inc	WEC	80.55	315	25,408	0.07%	3.87%	0.00%	6.00%	0.00%
Adobe Inc	ADBE	509.90	455	232,157	0.65%	n/a	n/a	11.00%	0.07%
AES Corp/The	AES	15.20	670	10,178	0.03%	4.37%	0.00%	14.00%	0.00%
Amgen Inc	AMGN	268.76	535	143,760	0.41%	3.17%	0.01%	6.00%	0.02%
Apple Inc	AAPL	171.21	15,634	2,676,737	7.54%	0.56%	0.04%	10.50%	0.79%
Autodesk Inc	ADSK	206.91	214	44,230	0.12%	n/a	n/a	10.00%	0.01%
Cintas Corp	CTAS	481.01	102	49,028	0.14%	1.12%	0.00%	14.00%	0.02%
Comcast Corp	CMCSA	44.34	4,116	182,490	0.51%	2.62%	0.01%	9.00%	0.05%
Molson Coors Beverage Co	TAP	63.59	201	12,779	0.04%	2.58%	0.00%	35.00%	0.01%
KLA Corp	KLAC	458.66	136	62,525	0.18%	1.13%	0.00%	13.50%	0.02%
Marriott International Inc/MD	MAR	196.56	298	58,622	0.17%	1.06%	0.00%	17.50%	0.03%
Fiserv Inc	FI	112.96	610	68,862	0.19%	n/a	n/a	9.50%	0.02%
McCormick & Co Inc/MD	MKC	75.64	251	18,993	0.05%	2.06%	0.00%	4.50%	0.00%
PACCAR Inc	PCAR	85.02	523	44,449	0.13%	1.27%	0.00%	5.00%	0.01%
Costco Wholesale Corp	COST	564.96	443	250,160	0.70%	0.72%	0.01%	10.50%	0.07%
Stryker Corp	SYK	273.27	380	103,782	0.29%	1.10%	0.00%	7.00%	0.02%
Tyson Foods Inc	TSN	50.49	286	14,417	0.04%	3.80%	0.00%	6.00%	0.00%
Lamb Weston Holdings Inc	LW	92.46	146	13,468	0.04%	1.21%	0.00%	15.50%	0.01%
Applied Materials Inc	AMAT	138.45	837	115,818	0.33%	0.92%	0.00%	5.50%	0.02%
American Airlines Group Inc	AAL	12.81	653	Excl.	0.00%	n/a	n/a		0.00%
Cardinal Health Inc	CAH	86.82	246	21,388	0.06%	2.31%	0.00%	6.50%	0.00%
Cincinnati Financial Corp	CINF	102.29	157	16,045	0.05%	2.93%	0.00%	10.50%	0.00%
Paramount Global	PARA	12.90	610	7,874	0.02%	1.55%	0.00%	1.50%	0.00%
DR Horton Inc	DHI	107.47	338	36,357	0.10%	0.93%	0.00%	5.00%	0.01%
Electronic Arts Inc	EA	120.40	271	32,618	0.09%	0.63%	0.00%	16.00%	0.01%
Fair Isaac Corp	FICO	868.53	25	21,589	0.06%	n/a	n/a	16.00%	0.01%
Expeditors International of Washington Inc	EXPD	114.63	148	16,953	0.05%	1.20%	0.00%	10.00%	0.00%
Fastenal Co	FAST	54.64	571	31,218	0.09%	2.56%	0.00%	6.50%	0.01%
M&T Bank Corp	MTB	126.45	166	20,984	0.06%	4.11%	0.00%	6.50%	0.00%
Xcel Energy Inc	XEL	57.22	552	31,559	0.09%	3.64%	0.00%	6.00%	0.01%
Fifth Third Bancorp	FITB	25.33	681	17,247	0.05%	5.53%	0.00%	4.50%	0.00%
Gilead Sciences Inc	GILD	74.94	1,246	93,376	0.26%	4.00%	0.01%	13.50%	0.04%
Hasbro Inc	HAS	66.14	139	9,176	0.03%	4.23%	0.00%	8.50%	0.00%
Huntington Bancshares Inc/OH	HBAN	10.40	1,448	15,058	0.04%	5.96%	0.00%	10.50%	0.00%
Welltower Inc	WELL	81.92	519	42,494	0.12%	2.98%	0.00%	12.00%	0.01%
Biogen Inc	BIIB	257.01	145	37,221	0.10%	n/a	n/a	-1.00%	0.00%
Northern Trust Corp	NTRS	69.48	207	14,383	0.04%	4.32%	0.00%	5.50%	0.00%
Packaging Corp of America	PKG	153.55	90	13,806	0.04%	3.26%	0.00%	9.00%	0.00%
Paychex Inc	PAYX	115.33	361	41,661	0.12%	3.09%	0.00%	9.50%	0.01%
QUALCOMM Inc	QCOM	111.06	1,116	123,943	0.35%	2.88%	0.01%	5.50%	0.02%
Ross Stores Inc	ROST	112.95	339	38,248	0.11%	1.19%	0.00%	14.00%	0.02%
IDEXX Laboratories Inc	IDXX	437.27	83	36,299	0.10%	n/a	n/a	10.50%	0.01%
Starbucks Corp	SBUX	91.27	1,145	104,541	0.29%	2.50%	0.01%	16.00%	0.05%
KeyCorp	KEY	10.76	936	10,070	0.03%	7.62%	0.00%	7.50%	0.00%
Fox Corp	FOXA	31.20	254	7,915	0.02%	1.67%	0.00%	8.50%	0.00%
Fox Corp	FOX	28.88	236	Excl.	0.00%	1.80%	0.00%		0.00%
State Street Corp	STT	66.96	319	21,336	0.06%	4.12%	0.00%	9.00%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	16.48	425	Excl.	0.00%	n/a	n/a		0.00%
US Bancorp	USB	33.06	1,557	51,473	0.15%	5.81%	0.01%	4.00%	0.01%
A O Smith Corp	AOS	66.13	125	8,239	0.02%	1.81%	0.00%	9.50%	0.00%
Gen Digital Inc	GEN	17.68	639	11,305	0.03%	2.83%	0.00%	10.50%	0.00%
T Rowe Price Group Inc	TROW	104.87	224	23,522	0.07%	4.65%	0.00%	2.00%	0.00%
Waste Management Inc	WM	152.44	405	61,747	0.17%	1.84%	0.00%	6.50%	0.01%
Constellation Brands Inc	STZ	251.33	183	46,069	0.13%	1.42%	0.00%	5.50%	0.01%
DENTSPLY SIRONA Inc	XRAY	34.16	212	7,232	0.02%	1.64%	0.00%	12.00%	0.00%
Zions Bancorp NA	ZION	34.89	148	5,169	0.01%	4.70%	0.00%	6.50%	0.00%
Alaska Air Group Inc	ALK	37.08	127	Excl.	0.00%	n/a	n/a		0.00%
Invesco Ltd	IVZ	14.52	449	6,514	0.02%	5.51%	0.00%	6.50%	0.00%
Intuit Inc	INTU	510.94	280	143,196	0.40%	0.70%	0.00%	14.50%	0.06%
Morgan Stanley	MS	81.67	1,657	135,324	0.38%	4.16%	0.02%	7.50%	0.03%
Microchip Technology Inc	MCHP	78.05	544	42,485	0.12%	2.10%	0.00%	10.00%	0.01%
Chubb Ltd	CB	208.18	411	85,507	0.24%	1.65%	0.00%	15.00%	0.04%

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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.
Hologic Inc	HOLX	69.40	245	16,999	0.05%	n/a	n/a	25.00%	0.01%
Citizens Financial Group Inc	CFG	26.80	472	12,657	0.04%	6.27%	0.00%	7.50%	0.00%
O'Reilly Automotive Inc	ORLY	908.86	60	54,766	0.15%	n/a	n/a	12.00%	0.02%
Allstate Corp/The	ALL	111.41	262	29,142	0.08%	3.20%	0.00%	10.50%	0.01%
Equity Residential	EQR	58.71	379	22,253	0.06%	4.51%	0.00%	-5.00%	0.00%
BorgWarner Inc	BWA	40.37	235	9,489	0.03%	1.09%	0.00%	7.00%	0.00%
Keurig Dr Pepper Inc	KDP	31.57	1,397	44,111	0.12%	2.72%	0.00%	12.50%	0.02%
Organon & Co	OGN	17.36	256	Excl.	0.00%	6.45%	0.00%		0.00%
Host Hotels & Resorts Inc	HST	16.07	712	11,435	0.03%	4.48%	0.00%	51.00%	0.02%
Incyte Corp	INCY	57.77	224	12,946	0.04%	n/a	n/a	32.00%	0.01%
Simon Property Group Inc	SPG	108.03	327	35,346	0.10%	7.04%	0.01%	3.50%	0.00%
Eastman Chemical Co	EMN	76.72	119	9,096	0.03%	4.12%	0.00%	6.00%	0.00%
AvalonBay Communities Inc	AVB	171.74	142	24,390	0.07%	3.84%	0.00%	6.00%	0.00%
Prudential Financial Inc	PRU	94.89	363	34,445	0.10%	5.27%	0.01%	3.00%	0.00%
United Parcel Service Inc	UPS	155.87	723	112,737	0.32%	4.16%	0.01%	7.50%	0.02%
Walgreens Boots Alliance Inc	WBA	22.24	863	19,199	0.05%	8.63%	0.00%	1.00%	0.00%
STERIS PLC	STE	219.42	99	21,675	0.06%	0.95%	0.00%	10.00%	0.01%
McKesson Corp	MCK	434.85	135	58,662	0.17%	0.57%	0.00%	9.00%	0.01%
Lockheed Martin Corp	LMT	408.96	252	102,989	0.29%	2.93%	0.01%	7.00%	0.02%
Cencora Inc	COR	179.97	202	36,385	0.10%	1.08%	0.00%	9.00%	0.01%
Capital One Financial Corp	COF	97.05	381	37,019	0.10%	2.47%	0.00%	4.00%	0.00%
Waters Corp	WAT	274.21	59	16,207	0.05%	n/a	n/a	10.00%	0.00%
Nordson Corp	NDSN	223.17	57	12,724	0.04%	1.22%	0.00%	9.00%	0.00%
Dollar Tree Inc	DLTR	106.45	220	23,420	0.07%	n/a	n/a	9.00%	0.01%
Darden Restaurants Inc	DRI	143.22	120	17,232	0.05%	3.66%	0.00%	15.00%	0.01%
Evergy Inc	EVER	50.70	230	11,640	0.03%	4.83%	0.00%	7.50%	0.00%
Match Group Inc	MTCH	39.18	278	10,894	0.03%	n/a	n/a	16.50%	0.01%
Dominio's Pizza Inc	DPZ	378.79	35	13,293	0.04%	1.28%	0.00%	12.00%	0.00%
NVR Inc	NVR	5,963.30	3	19,464	0.05%	n/a	n/a	3.50%	0.00%
NetApp Inc	NTAP	75.88	209	15,843	0.04%	2.64%	0.00%	8.00%	0.00%
DXC Technology Co	DXC	20.83	205	4,274	0.01%	n/a	n/a	9.00%	0.00%
Old Dominion Freight Line Inc	ODFL	409.14	109	44,706	0.13%	0.39%	0.00%	9.00%	0.01%
DaVita Inc	DVA	94.53	91	8,631	0.02%	n/a	n/a	7.00%	0.00%
Hartford Financial Services Group Inc/The	HIG	70.91	306	21,685	0.06%	2.40%	0.00%	8.00%	0.00%
Iron Mountain Inc	IRM	59.45	292	17,351	0.05%	4.37%	0.00%	4.00%	0.00%
Estee Lauder Cos Inc/The	EL	144.55	232	33,579	0.09%	1.83%	0.00%	8.00%	0.01%
Cadence Design Systems Inc	CDNS	234.30	272	63,680	0.18%	n/a	n/a	12.00%	0.02%
Tyler Technologies Inc	TYL	386.14	42	16,248	0.05%	n/a	n/a	10.50%	0.00%
Universal Health Services Inc	UHS	125.73	62	7,813	0.02%	0.64%	0.00%	6.00%	0.00%
Skyworks Solutions Inc	SWKS	98.59	159	15,715	0.04%	2.76%	0.00%	3.50%	0.00%
Quest Diagnostics Inc	DGX	121.86	112	13,677	0.04%	2.33%	0.00%	4.00%	0.00%
Activision Blizzard Inc	ATVI	93.63	787	73,668	0.21%	1.06%	0.00%	13.50%	0.03%
Rockwell Automation Inc	ROK	285.87	115	32,835	0.09%	1.65%	0.00%	9.50%	0.01%
Kraft Heinz Co/The	KHC	33.64	1,228	41,320	0.12%	4.76%	0.01%	6.00%	0.01%
American Tower Corp	AMT	164.45	466	76,659	0.22%	3.94%	0.01%	5.00%	0.01%
Regeneron Pharmaceuticals Inc	REGN	822.96	107	87,844	0.25%	n/a	n/a	1.50%	0.00%
Amazon.com Inc	AMZN	127.12	10,318	1,311,593	3.70%	n/a	n/a	19.50%	0.72%
Jack Henry & Associates Inc	JKHY	151.14	73	11,023	0.03%	1.38%	0.00%	7.00%	0.00%
Ralph Lauren Corp	RL	116.09	40	4,689	0.01%	2.58%	0.00%	12.50%	0.00%
Boston Properties Inc	BXP	59.48	157	9,330	0.03%	6.59%	0.00%	-1.00%	0.00%
Amphenol Corp	APH	83.99	596	50,096	0.14%	1.00%	0.00%	12.50%	0.02%
Howmet Aerospace Inc	HWM	46.25	412	19,065	0.05%	0.43%	0.00%	12.00%	0.01%
Pioneer Natural Resources Co	PXD	229.55	233	53,518	0.15%	3.21%	0.00%	8.50%	0.01%
Valero Energy Corp	VLO	141.71	353	50,042	0.14%	2.88%	0.00%	1.50%	0.00%
Synopsys Inc	SNPS	458.97	152	69,802	0.20%	n/a	n/a	15.00%	0.03%
Etsy Inc	ETSY	64.58	123	7,944	0.02%	n/a	n/a	10.00%	0.00%
CH Robinson Worldwide Inc	CHRW	86.13	116	10,029	0.03%	2.83%	0.00%	6.00%	0.00%
Accenture PLC	ACN	307.11	631	193,723	0.55%	1.68%	0.01%	12.50%	0.07%
TransDigm Group Inc	TDG	843.13	55	46,526	0.13%	n/a	n/a	26.00%	0.03%
Yum! Brands Inc	YUM	124.94	280	35,010	0.10%	1.94%	0.00%	11.50%	0.01%
Prologis Inc	PLD	112.21	924	103,667	0.29%	3.10%	0.01%	2.50%	0.01%
FirstEnergy Corp	FE	34.18	573	19,598	0.06%	4.80%	0.00%	4.00%	0.00%
VeriSign Inc	VERI	202.53	103	20,888	0.06%	n/a	n/a	13.00%	0.01%
Quanta Services Inc	PWR	187.07	145	27,162	0.08%	0.17%	0.00%	15.00%	0.01%
Henry Schein Inc	HSIC	74.25	131	9,696	0.03%	n/a	n/a	9.00%	0.00%
Ameren Corp	AEE	74.83	262	19,641	0.06%	3.37%	0.00%	6.50%	0.00%
ANSYS Inc	ANSS	297.55	87	25,825	0.07%	n/a	n/a	8.50%	0.01%
FactSet Research Systems Inc	FDS	437.26	38	16,680	0.05%	0.90%	0.00%	10.50%	0.00%
NVIDIA Corp	NVDA	434.99	2,470	1,074,425	3.03%	0.04%	0.00%	40.00%	1.21%
Sealed Air Corp	SEE	32.86	144	4,745	0.01%	2.43%	0.00%	7.50%	0.00%
Cognizant Technology Solutions Corp	CTSH	67.74	505	34,211	0.10%	1.71%	0.00%	8.00%	0.01%
Intuitive Surgical Inc	ISRG	292.29	351	102,698	0.29%	n/a	n/a	12.50%	0.04%
Take-Two Interactive Software Inc	TTWO	140.39	170	Excl.	0.00%	n/a	n/a		0.00%
Republic Services Inc	RSG	142.51	316	45,080	0.13%	1.50%	0.00%	12.50%	0.02%
eBay Inc	EBAY	44.09	532	23,463	0.07%	2.27%	0.00%	9.50%	0.01%
Goldman Sachs Group Inc/The	GS	323.57	330	106,672	0.30%	3.40%	0.01%	5.00%	0.02%
SBA Communications Corp	SBAC	200.17	108	21,695	0.06%	1.70%	0.00%	23.50%	0.01%

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Sempra	SRE	68.03	629	42,812	0.12%	3.50%	0.00%	7.00%	0.01%
Moody's Corp	MCO	316.17	184	58,017	0.16%	0.97%	0.00%	16.00%	0.03%
ON Semiconductor Corp	ON	92.95	432	40,111	0.11%	n/a	n/a	13.00%	0.01%
Booking Holdings Inc	BKNG	3,083.95	36	110,072	0.31%	n/a	n/a	22.00%	0.07%
F5 Inc	FFIV	161.14	59	9,557	0.03%	n/a	n/a	10.00%	0.00%
Akamai Technologies Inc	AKAM	106.54	152	16,164	0.05%	n/a	n/a	5.00%	0.00%
Charles River Laboratories International Inc	CRL	195.98	51	10,048	0.03%	n/a	n/a	8.00%	0.00%
MarketAxess Holdings Inc	MKTX	213.64	38	8,049	0.02%	1.35%	0.00%	10.50%	0.00%
Devon Energy Corp	DVN	47.70	641	30,561	0.09%	4.11%	0.00%	10.50%	0.01%
Bio-Techne Corp	TECH	68.07	158	10,771	0.03%	0.47%	0.00%	13.00%	0.00%
Alphabet Inc	GOOGL	130.86	5,933	Excl.	0.00%	n/a	n/a		0.00%
Teleflex Inc	TFX	196.41	47	9,230	0.03%	0.69%	0.00%	10.00%	0.00%
Bunge Ltd	BG	108.25	151	16,307	0.05%	2.45%	0.00%	1.50%	0.00%
Allegion plc	ALLE	104.20	88	9,147	0.03%	1.73%	0.00%	10.50%	0.00%
Netflix Inc	NFLX	377.60	443	167,332	0.47%	n/a	n/a	13.00%	0.06%
Agilent Technologies Inc	A	111.82	293	32,717	0.09%	0.80%	0.00%	13.50%	0.01%
Warner Bros Discovery Inc	WBD	10.86	2,437	Excl.	0.00%	n/a	n/a		0.00%
Elevance Health Inc	ELV	435.42	236	102,606	0.29%	1.36%	0.00%	12.50%	0.04%
Trimble Inc	TRMB	53.86	248	13,375	0.04%	n/a	n/a	5.50%	0.00%
CME Group Inc	CME	200.22	360	72,028	0.20%	2.20%	0.00%	7.50%	0.02%
Juniper Networks Inc	JNPR	27.79	321	8,931	0.03%	3.17%	0.00%	10.50%	0.00%
BlackRock Inc	BLK	646.49	149	96,523	0.27%	3.09%	0.01%	7.50%	0.02%
DTE Energy Co	DTE	99.28	206	20,463	0.06%	3.84%	0.00%	4.50%	0.00%
Nasdaq Inc	NDAQ	48.59	491	23,873	0.07%	1.81%	0.00%	6.00%	0.00%
Celanese Corp	CE	125.52	109	13,663	0.04%	2.23%	0.00%	6.50%	0.00%
Philip Morris International Inc	PM	92.58	1,552	143,716	0.40%	5.62%	0.02%	5.00%	0.02%
Salesforce Inc	CRM	202.78	973	197,305	0.56%	n/a	n/a	18.00%	0.10%
Ingersoll Rand Inc	IR	63.72	404	25,768	0.07%	0.13%	0.00%	12.00%	0.01%
Roper Technologies Inc	ROP	484.28	107	51,678	0.15%	0.56%	0.00%	8.00%	0.01%
Huntington Ingalls Industries Inc	HII	204.58	40	8,156	0.02%	2.42%	0.00%	10.00%	0.00%
MetLife Inc	MET	62.91	752	47,310	0.13%	3.31%	0.00%	7.50%	0.01%
Tapestry Inc	TPR	28.75	227	6,539	0.02%	4.87%	0.00%	12.00%	0.00%
CSX Corp	CSX	30.75	2,006	61,695	0.17%	1.43%	0.00%	8.50%	0.01%
Edwards Lifesciences Corp	EW	69.28	608	42,116	0.12%	n/a	n/a	10.50%	0.01%
Ameriprise Financial Inc	AMP	329.68	103	33,834	0.10%	1.64%	0.00%	11.00%	0.01%
Zebra Technologies Corp	ZBRA	236.53	51	12,143	0.03%	n/a	n/a	1.50%	0.00%
Zimmer Biomet Holdings Inc	ZBH	112.22	209	23,450	0.07%	0.86%	0.00%	6.50%	0.00%
CBRE Group Inc	CBRE	73.86	310	22,885	0.06%	n/a	n/a	8.50%	0.01%
Camden Property Trust	CPT	94.58	107	10,098	0.03%	4.23%	0.00%	-3.00%	0.00%
Mastercard Inc	MA	395.91	935	370,116	1.04%	0.58%	0.01%	16.00%	0.17%
CarMax Inc	KMX	70.73	159	11,223	0.03%	n/a	n/a	-3.50%	0.00%
Intercontinental Exchange Inc	ICE	110.02	595	65,455	0.18%	1.53%	0.00%	6.00%	0.01%
Fidelity National Information Services Inc	FIS	55.27	592	32,746	0.09%	3.76%	0.00%	23.50%	0.02%
Chipotle Mexican Grill Inc	CMG	1,831.83	28	50,537	0.14%	n/a	n/a	20.00%	0.03%
Wynn Resorts Ltd	WYNN	92.41	114	10,529	0.03%	1.08%	0.00%	27.00%	0.01%
Live Nation Entertainment Inc	LYV	83.04	230	Excl.	0.00%	n/a	n/a		0.00%
Assurant Inc	AIZ	143.58	53	7,613	0.02%	1.95%	0.00%	10.50%	0.00%
NRG Energy Inc	NRG	38.52	229	8,826	0.02%	3.92%	0.00%	-2.50%	0.00%
Regions Financial Corp	RF	17.20	938	16,140	0.05%	5.58%	0.00%	11.50%	0.01%
Monster Beverage Corp	MNST	52.95	1,048	55,466	0.16%	n/a	n/a	11.00%	0.02%
Mosaic Co/The	MOS	35.60	332	11,829	0.03%	2.25%	0.00%	1.50%	0.00%
Baker Hughes Co	BKR	35.32	1,010	Excl.	0.00%	2.27%	0.00%		0.00%
Expedia Group Inc	EXPE	103.07	138	Excl.	0.00%	n/a	n/a		0.00%
CF Industries Holdings Inc	CF	85.74	193	16,543	0.05%	1.87%	0.00%	9.00%	0.00%
Leidos Holdings Inc	LDOS	92.16	137	12,658	0.04%	1.56%	0.00%	7.00%	0.00%
APA Corp	APA	41.10	307	12,629	0.04%	2.43%	0.00%	21.00%	0.01%
Alphabet Inc	GOOG	131.85	5,801	764,862	2.16%	n/a	n/a	10.50%	0.23%
First Solar Inc	FSLR	161.59	107	17,263	0.05%	n/a	n/a	27.50%	0.01%
TE Connectivity Ltd	TEL	123.53	314	38,781	0.11%	1.91%	0.00%	10.50%	0.01%
Discover Financial Services	DFS	86.63	250	21,653	0.06%	3.23%	0.00%	4.00%	0.00%
Linde PLC	LIN	372.35	488	181,687	0.51%	1.37%	0.01%	8.50%	0.04%
Visa Inc	V	230.01	1,607	369,577	1.04%	0.78%	0.01%	13.50%	0.14%
Mid-America Apartment Communities Inc	MAA	128.65	117	15,010	0.04%	4.35%	0.00%	-12.50%	-0.01%
Xylem Inc/NY	XYL	91.03	241	21,923	0.06%	1.45%	0.00%	6.00%	0.00%
Marathon Petroleum Corp	MPC	151.34	400	60,512	0.17%	1.98%	0.00%	14.50%	0.02%
Tractor Supply Co	TSCO	203.05	109	22,093	0.06%	2.03%	0.00%	13.50%	0.01%
Advanced Micro Devices Inc	AMD	102.82	1,616	166,123	0.47%	n/a	n/a	25.50%	0.12%
ResMed Inc	RMD	147.87	147	21,747	0.06%	1.30%	0.00%	9.50%	0.01%
Mettler-Toledo International Inc	MTD	1,108.07	22	24,228	0.07%	n/a	n/a	11.00%	0.01%
Jacobs Solutions Inc	J	136.50	126	17,188	0.05%	0.76%	0.00%	11.00%	0.01%
Copart Inc	CPRT	43.09	957	41,252	0.12%	n/a	n/a	7.00%	0.01%
VICI Properties Inc	VICI	29.10	1,013	29,491	0.08%	5.70%	0.00%	8.00%	0.01%
Albemarle Corp	ALB	170.04	117	19,954	0.06%	0.94%	0.00%	-4.50%	0.00%
Fortinet Inc	FTNT	58.68	785	46,084	0.13%	n/a	n/a	24.00%	0.03%
Moderna Inc	MRNA	103.29	381	39,311	0.11%	n/a	n/a	-20.00%	-0.02%
Essex Property Trust Inc	ESS	212.09	64	13,613	0.04%	4.36%	0.00%	2.00%	0.00%
CoStar Group Inc	CSGP	76.89	408	31,397	0.09%	n/a	n/a	14.00%	0.01%

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.
Realty Income Corp	O	49.94	709	35,397	0.10%	6.15%	0.01%	5.50%	0.01%
Westrock Co	WRK	35.80	256	9,179	0.03%	3.07%	0.00%	8.50%	0.00%
Westinghouse Air Brake Technologies Corp	WAB	106.27	179	19,036	0.05%	0.64%	0.00%	10.50%	0.01%
Pool Corp	POOL	356.10	39	13,906	0.04%	1.24%	0.00%	14.00%	0.01%
Western Digital Corp	WDC	45.63	322	14,688	0.04%	n/a	n/a	3.00%	0.00%
PepsiCo Inc	PEP	169.44	1,377	233,248	0.66%	2.99%	0.02%	5.50%	0.04%
Diamondback Energy Inc	FANG	154.88	179	Excl.	0.00%	2.17%	0.00%		0.00%
Palo Alto Networks Inc	PANW	234.44	309	Excl.	0.00%	n/a	n/a		0.00%
ServiceNow Inc	NOW	558.96	204	114,028	0.32%	n/a	n/a	61.00%	0.20%
Church & Dwight Co Inc	CHD	91.63	246	22,545	0.06%	1.19%	0.00%	6.00%	0.00%
Federal Realty Investment Trust	FRT	90.63	82	7,388	0.02%	4.81%	0.00%	2.50%	0.00%
MGM Resorts International	MGM	36.76	351	12,899	0.04%	n/a	n/a	25.00%	0.01%
American Electric Power Co Inc	AEP	75.22	515	38,752	0.11%	4.41%	0.00%	6.50%	0.01%
SolarEdge Technologies Inc	SEDG	129.51	57	7,325	0.02%	n/a	n/a	27.00%	0.01%
Invitation Homes Inc	INVH	31.69	612	Excl.	0.00%	3.28%	0.00%		0.00%
PTC Inc	PTC	141.68	119	16,836	0.05%	n/a	n/a	15.00%	0.01%
JB Hunt Transport Services Inc	JBHT	188.52	103	19,483	0.05%	0.89%	0.00%	9.00%	0.00%
Lam Research Corp	LRCX	626.77	133	83,055	0.23%	1.28%	0.00%	8.00%	0.02%
Mohawk Industries Inc	MHK	85.81	64	5,465	0.02%	n/a	n/a	2.50%	0.00%
GE HealthCare Technologies Inc	GEHC	68.04	455	Excl.	0.00%	0.18%	0.00%		0.00%
Pentair PLC	PNR	64.75	165	10,691	0.03%	1.36%	0.00%	12.00%	0.00%
Vertex Pharmaceuticals Inc	VRTX	347.74	258	89,750	0.25%	n/a	n/a	12.00%	0.03%
Ancor PLC	AMCR	9.16	1,446	13,249	0.04%	5.35%	0.00%	13.00%	0.00%
Meta Platforms Inc	META	300.21	2,223	667,242	1.88%	n/a	n/a	9.00%	0.17%
T-Mobile US Inc	TMUS	140.05	1,176	164,763	0.46%	1.86%	0.01%	20.00%	0.09%
United Rentals Inc	URI	444.57	68	30,357	0.09%	1.33%	0.00%	17.00%	0.01%
Honeywell International Inc	HON	184.74	664	122,660	0.35%	2.34%	0.01%	11.00%	0.04%
Alexandria Real Estate Equities Inc	ARE	100.10	173	17,320	0.05%	4.96%	0.00%	11.00%	0.01%
Delta Air Lines Inc	DAL	37.00	643	Excl.	0.00%	1.08%	0.00%		0.00%
Seagate Technology Holdings PLC	STX	65.95	207	13,678	0.04%	4.25%	0.00%	7.00%	0.00%
United Airlines Holdings Inc	UAL	42.30	327	Excl.	0.00%	n/a	n/a		0.00%
News Corp	NWS	20.87	192	Excl.	0.00%	0.96%	0.00%		0.00%
Centene Corp	CNC	68.88	541	37,297	0.11%	n/a	n/a	10.00%	0.01%
Martin Marietta Materials Inc	MLM	410.48	62	25,369	0.07%	0.72%	0.00%	12.00%	0.01%
Teradyne Inc	TER	100.46	154	15,472	0.04%	0.44%	0.00%	12.50%	0.01%
PayPal Holdings Inc	PYPL	58.46	1,098	64,191	0.18%	n/a	n/a	12.00%	0.02%
Tesla Inc	TSLA	250.22	3,174	794,197	2.24%	n/a	n/a	26.00%	0.58%
Arch Capital Group Ltd	ACGL	79.71	373	29,728	0.08%	n/a	n/a	21.00%	0.02%
Dow Inc	DOW	51.56	703	36,251	0.10%	5.43%	0.01%	7.00%	0.01%
Everest Group Ltd	EG	371.67	43	16,132	0.05%	1.88%	0.00%	10.00%	0.00%
Teledyne Technologies Inc	TDY	408.58	47	19,234	0.05%	n/a	n/a	9.50%	0.01%
News Corp	NWSA	20.06	380	Excl.	0.00%	1.00%	0.00%		0.00%
Exelon Corp	EXC	37.79	994	Excl.	0.00%	3.81%	0.00%		0.00%
Global Payments Inc	GPN	115.39	260	30,001	0.08%	0.87%	0.00%	13.50%	0.01%
Crown Castle Inc	CCI	92.03	434	39,911	0.11%	6.80%	0.01%	7.00%	0.01%
Aptiv PLC	APTIV	98.59	283	27,884	0.08%	n/a	n/a	33.50%	0.03%
Align Technology Inc	ALGN	305.32	77	23,367	0.07%	n/a	n/a	17.00%	0.01%
Illumina Inc	ILMN	137.28	158	21,731	0.06%	n/a	n/a	6.50%	0.00%
Kenvue Inc	KVUE	20.08	1,915	Excl.	0.00%	3.98%	0.00%		0.00%
Targa Resources Corp	TRGP	85.72	224	Excl.	0.00%	2.33%	0.00%		0.00%
LKQ Corp	LKQ	49.51	268	13,247	0.04%	2.22%	0.00%	13.00%	0.00%
Zoetis Inc	ZTS	173.98	460	80,086	0.23%	0.86%	0.00%	9.00%	0.02%
Equinix Inc	EQIX	726.26	94	67,953	0.19%	1.88%	0.00%	15.00%	0.03%
Digital Realty Trust Inc	DLR	121.02	303	36,634	0.10%	4.03%	0.00%	-3.00%	0.00%
Molina Healthcare Inc	MOH	327.89	58	19,116	0.05%	n/a	n/a	11.50%	0.01%
Las Vegas Sands Corp	LVS	45.84	764	Excl.	0.00%	1.75%	0.00%		n/a

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 September 30, 2023

[11] Equals [7] x [10]

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

[1] Estimate of the S&P 500 Dividend Yield	1.69%
[2] Estimate of the S&P 500 Growth Rate	9.52%
[3] S&P 500 Estimated Required Market Return	11.29%

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	94.70	324	30,701	0.09%	5.28%	0.00%	2.00%	0.00%
American Express Co	AXP	149.19	736	109,872	0.33%	1.61%	0.01%	8.50%	0.03%
Verizon Communications Inc	VZ	32.41	4,204	136,253	0.41%	8.21%	0.03%	1.50%	0.01%
Broadcom Inc	AVGO	830.58	413	Excl.	Excl.	2.22%	n/a	30.00%	n/a
Boeing Co/The	BA	191.68	603	115,622	0.35%	n/a	n/a	0.00%	0.00%
Caterpillar Inc	CAT	273.00	510	139,269	0.42%	1.90%	0.01%	13.50%	0.06%
JPMorgan Chase & Co	JPM	145.02	2,906	421,440	1.27%	2.90%	0.04%	8.50%	0.11%
Chevron Corp	CVX	168.62	1,867	Excl.	Excl.	3.58%	n/a	21.50%	n/a
Coca-Cola Co/The	KO	55.98	4,324	242,077	0.73%	3.29%	0.02%	7.50%	0.05%
AbbVie Inc	ABBV	149.06	1,765	263,098	0.79%	3.97%	0.03%	2.00%	0.02%
Walt Disney Co/The	DIS	81.05	1,830	Excl.	Excl.	n/a	n/a	65.00%	n/a
FleetCor Technologies Inc	FLT	255.34	74	18,884	0.06%	n/a	n/a	13.50%	0.01%
Extra Space Storage Inc	EXR	121.58	211	25,687	0.08%	2.01%	0.00%	5.00%	0.00%
Exxon Mobil Corp	XOM	117.58	4,003	470,695	1.42%	3.10%	0.04%	7.00%	0.10%
Phillips 66	PSX	120.15	445	53,501	0.16%	3.50%	0.01%	15.50%	0.02%
General Electric Co	GE	110.55	1,088	Excl.	Excl.	0.29%	n/a	26.00%	n/a
HP Inc	HPQ	25.70	988	25,399	0.08%	4.09%	0.00%	12.50%	0.01%
Home Depot Inc/The	HD	302.16	1,000	302,180	0.91%	2.77%	0.03%	6.50%	0.06%
Monolithic Power Systems Inc	MPWR	462.00	48	22,073	0.07%	0.87%	0.00%	15.00%	0.01%
International Business Machines Corp	IBM	140.30	911	127,814	0.38%	4.73%	0.02%	3.00%	0.01%
Johnson & Johnson	JNJ	155.75	2,401	374,031	1.12%	3.06%	0.03%	5.00%	0.06%
McDonald's Corp	MCD	263.44	729	191,985	0.58%	2.31%	0.01%	10.50%	0.06%
Merck & Co Inc	MRK	102.95	2,538	261,238	0.79%	2.84%	0.02%	8.50%	0.07%
3M Co	MMM	93.62	552	51,677	0.16%	6.41%	0.01%	4.50%	0.01%
American Water Works Co Inc	AWK	123.83	195	24,106	0.07%	2.29%	0.00%	3.00%	0.00%
Bank of America Corp	BAC	27.38	7,946	217,572	0.65%	3.51%	0.02%	0.00%	0.00%
Pfizer Inc	PFE	33.17	5,646	187,276	0.56%	4.94%	0.03%	2.00%	0.01%
Procter & Gamble Co/The	PG	145.86	2,357	343,777	1.03%	2.58%	0.03%	5.50%	0.06%
AT&T Inc	T	15.02	7,149	107,378	0.32%	7.39%	0.02%	1.50%	0.00%
Travelers Cos Inc/The	TRV	163.31	229	37,389	0.11%	2.45%	0.00%	7.50%	0.01%
RTX Corp	RTX	71.97	1,456	104,753	0.31%	3.28%	0.01%	15.00%	0.05%
Analog Devices Inc	ADI	175.09	498	87,250	0.26%	1.96%	0.01%	11.50%	0.03%
Walmart Inc	WMT	159.93	2,692	430,462	1.29%	1.43%	0.02%	6.50%	0.08%
Cisco Systems Inc	CSCO	53.76	4,055	217,989	0.66%	2.90%	0.02%	8.50%	0.06%
Intel Corp	INTC	35.55	4,188	148,883	0.45%	1.41%	0.01%	0.00%	0.00%
General Motors Co	GM	32.97	1,376	45,364	0.14%	1.09%	0.00%	8.50%	0.01%
Microsoft Corp	MSFT	315.75	7,430	2,345,948	7.05%	0.95%	0.07%	12.50%	0.88%
Dollar General Corp	DG	105.80	219	23,221	0.07%	2.23%	0.00%	5.50%	0.00%
Cigna Group/The	CI	286.07	296	84,671	0.25%	1.72%	0.00%	10.00%	0.03%
Kinder Morgan Inc	KMI	16.58	2,228	36,943	0.11%	6.82%	0.01%	17.50%	0.02%
Citigroup Inc	C	41.13	1,926	79,204	0.24%	5.15%	0.01%	3.50%	0.01%
American International Group Inc	AIG	60.60	712	43,141	0.13%	2.38%	0.00%	4.00%	0.01%
Altria Group Inc	MO	42.05	1,775	74,622	0.22%	9.32%	0.02%	6.00%	0.01%
HCA Healthcare Inc	HCA	245.98	272	66,904	0.20%	0.98%	0.00%	12.50%	0.03%
International Paper Co	IP	35.47	346	12,273	0.04%	5.22%	0.00%	6.00%	0.00%
Hewlett Packard Enterprise Co	HPE	17.37	1,283	22,283	0.07%	2.76%	0.00%	7.50%	0.01%
Abbott Laboratories	ABT	96.85	1,735	168,069	0.51%	2.11%	0.01%	4.50%	0.02%
Aflac Inc	AFL	76.75	594	45,594	0.14%	2.19%	0.00%	8.00%	0.01%
Air Products and Chemicals Inc	APD	283.40	222	62,957	0.19%	2.47%	0.00%	10.50%	0.02%
Royal Caribbean Cruises Ltd	RCL	92.14	256	23,604	0.07%	n/a	n/a	0.00%	0.00%
Hess Corp	HES	153.00	307	Excl.	Excl.	1.14%	n/a	23.50%	n/a
Archer-Daniels-Midland Co	ADM	75.42	536	40,433	0.12%	2.39%	0.00%	7.50%	0.01%
Automatic Data Processing Inc	ADP	240.58	412	99,116	0.30%	2.08%	0.01%	11.00%	0.03%
Verisk Analytics Inc	VRSK	236.24	145	34,261	0.10%	0.58%	0.00%	8.00%	0.01%
AutoZone Inc	AZO	2,539.99	18	46,116	0.14%	n/a	n/a	13.00%	0.02%
Avery Dennison Corp	AVY	182.67	81	14,720	0.04%	1.77%	0.00%	9.50%	0.00%
Enphase Energy Inc	ENPH	120.15	136	Excl.	Excl.	n/a	n/a	27.50%	n/a
MSCI Inc	MSCI	513.08	79	40,579	0.12%	1.08%	0.00%	12.50%	0.02%
Ball Corp	BALL	49.78	315	15,684	0.05%	1.61%	0.00%	13.00%	0.01%
Axon Enterprise Inc	AXON	198.99	75	Excl.	Excl.	n/a	n/a	24.00%	n/a
Ceridian HCM Holding Inc	CDAY	67.85	156	10,558	0.03%	n/a	n/a	0.00%	0.00%
Carrier Global Corp	CARR	55.20	838	46,237	0.14%	1.34%	0.00%	13.00%	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	42.65	779	33,215	0.10%	3.94%	0.00%	7.00%	0.01%
Otis Worldwide Corp	OTIS	80.31	412	33,067	0.10%	1.69%	0.00%	11.00%	0.01%
Baxter International Inc	BAX	37.74	506	19,112	0.06%	3.07%	0.00%	6.00%	0.00%
Becton Dickinson & Co	BDX	258.53	290	75,002	0.23%	1.41%	0.00%	5.00%	0.01%
Berkshire Hathaway Inc	BRK/B	350.30	1,308	458,217	1.38%	n/a	n/a	6.00%	0.08%
Best Buy Co Inc	BBY	69.47	218	15,119	0.05%	5.30%	0.00%	3.00%	0.00%
Boston Scientific Corp	BSX	52.80	1,464	77,311	0.23%	n/a	n/a	13.00%	0.03%
Bristol-Myers Squibb Co	BMJ	58.04	2,089	121,252	0.36%	3.93%	0.01%	0.00%	0.00%
Brown-Forman Corp	BF/B	57.69	310	17,892	0.05%	1.42%	0.00%	12.50%	0.01%
Coterra Energy Inc	CTRA	27.05	755	20,424	0.06%	2.96%	0.00%	0.00%	0.00%
Campbell Soup Co	CPB	41.08	298	12,240	0.04%	3.60%	0.00%	5.00%	0.00%
Hilton Worldwide Holdings Inc	HLT	150.18	262	39,274	0.12%	0.40%	0.00%	0.00%	0.00%
Carnival Corp	CCL	13.72	1,119	15,359	0.05%	n/a	n/a	0.00%	0.00%
Qorvo Inc	QRVO	95.47	98	9,347	0.03%	n/a	n/a	14.50%	0.00%
UDR Inc	UDR	35.67	329	11,753	0.04%	4.71%	0.00%	15.50%	0.01%
Clorox Co/The	CLX	131.06	124	16,229	0.05%	3.66%	0.00%	11.00%	0.01%
Paycom Software Inc	PAYC	259.27	60	15,677	0.05%	0.58%	0.00%	19.50%	0.01%
CMS Energy Corp	CMS	53.11	292	15,494	0.05%	3.67%	0.00%	6.50%	0.00%
Colgate-Palmolive Co	CL	71.11	827	58,786	0.18%	2.70%	0.00%	8.50%	0.02%
EPAM Systems Inc	EPAM	255.69	58	Excl.	Excl.	n/a	n/a	20.50%	n/a
Comerica Inc	CMA	41.55	132	5,475	0.02%	6.84%	0.00%	4.00%	0.00%
Conagra Brands Inc	CAG	27.42	478	13,103	0.04%	5.11%	0.00%	4.50%	0.00%
Airbnb Inc	ABNB	137.21	426	58,501	0.18%	n/a	n/a	0.00%	0.00%
Consolidated Edison Inc	ED	85.53	345	29,501	0.09%	3.79%	0.00%	6.00%	0.01%
Corning Inc	GLW	30.47	853	25,990	0.08%	3.68%	0.00%	17.50%	0.01%
Cummins Inc	CMI	228.46	142	32,361	0.10%	2.94%	0.00%	10.00%	0.01%
Caesars Entertainment Inc	CZR	46.35	215	9,979	0.03%	n/a	n/a	0.00%	0.00%
Danaher Corp	DHR	219.91	738	162,373	0.49%	0.49%	0.00%	11.00%	0.05%
Target Corp	TGT	110.57	462	51,040	0.15%	3.98%	0.01%	12.00%	0.02%
Deere & Co	DE	377.38	288	108,686	0.33%	1.43%	0.00%	13.50%	0.04%
Dominion Energy Inc	D	44.67	837	37,379	0.11%	5.98%	0.01%	2.50%	0.00%
Dover Corp	DOV	139.51	140	19,514	0.06%	1.46%	0.00%	6.50%	0.00%
Alliant Energy Corp	LNT	48.45	253	12,244	0.04%	3.74%	0.00%	6.50%	0.00%
Steel Dynamics Inc	STLD	107.22	166	17,760	0.05%	1.59%	0.00%	2.00%	0.00%
Duke Energy Corp	DUK	88.26	771	68,048	0.20%	4.65%	0.01%	5.00%	0.01%
Regency Centers Corp	REG	59.44	171	10,164	0.03%	4.37%	0.00%	10.50%	0.00%
Eaton Corp PLC	ETN	213.28	399	85,099	0.26%	1.61%	0.00%	12.00%	0.03%
Ecolab Inc	ECL	169.40	285	48,285	0.15%	1.25%	0.00%	10.00%	0.01%
Revvity Inc	RVTY	110.70	124	Excl.	Excl.	0.25%	n/a	-1.50%	n/a
Emerson Electric Co	EMR	96.57	572	55,190	0.17%	2.15%	0.00%	6.50%	0.01%
EOG Resources Inc	EOG	126.76	582	73,807	0.22%	2.60%	0.01%	15.00%	0.03%
Aon PLC	AON	324.22	203	65,774	0.20%	0.76%	0.00%	9.50%	0.02%
Entergy Corp	ETR	92.50	211	19,560	0.06%	4.63%	0.00%	0.50%	0.00%
Equifax Inc	EFX	183.18	123	22,480	0.07%	0.85%	0.00%	12.00%	0.01%
EQT Corp	EQT	40.58	411	16,689	0.05%	1.48%	0.00%	0.00%	0.00%
IQVIA Holdings Inc	IQV	196.75	183	36,029	0.11%	n/a	n/a	14.50%	0.02%
Gartner Inc	IT	343.61	79	27,085	0.08%	n/a	n/a	10.50%	0.01%
FedEx Corp	FDX	264.92	251	66,606	0.20%	1.90%	0.00%	7.00%	0.01%
FMC Corp	FMC	66.97	125	8,353	0.03%	3.46%	0.00%	10.00%	0.00%
Brown & Brown Inc	BRO	69.84	284	19,808	0.06%	0.66%	0.00%	6.50%	0.00%
Ford Motor Co	F	12.42	3,931	Excl.	Excl.	4.83%	n/a	45.50%	n/a
NextEra Energy Inc	NEE	57.29	2,024	115,939	0.35%	3.26%	0.01%	9.50%	0.03%
Franklin Resources Inc	BEN	24.58	499	12,265	0.04%	4.88%	0.00%	2.00%	0.00%
Garmin Ltd	GRMN	105.20	191	20,141	0.06%	2.78%	0.00%	5.00%	0.00%
Freeport-McMoRan Inc	FCX	37.29	1,434	53,460	0.16%	1.61%	0.00%	12.50%	0.02%
Dexcom Inc	DXCM	93.30	388	36,188	0.11%	n/a	n/a	0.00%	0.00%
General Dynamics Corp	GD	220.97	273	60,334	0.18%	2.39%	0.00%	9.50%	0.02%
General Mills Inc	GIS	63.99	581	37,196	0.11%	3.69%	0.00%	4.50%	0.01%
Genuine Parts Co	GPC	144.38	140	20,276	0.06%	2.63%	0.00%	9.00%	0.01%
Atmos Energy Corp	ATO	105.93	148	15,727	0.05%	2.79%	0.00%	7.00%	0.00%
WW Grainger Inc	GWV	691.84	50	34,593	0.10%	1.08%	0.00%	11.00%	0.01%
Halliburton Co	HAL	40.50	899	Excl.	Excl.	1.58%	n/a	30.00%	n/a
L3Harris Technologies Inc	LHX	174.12	189	32,932	0.10%	2.62%	0.00%	19.50%	0.02%
Healthpeak Properties Inc	PEAK	18.36	547	10,044	0.03%	6.54%	0.00%	14.50%	0.00%
Insulet Corp	PODD	159.49	70	11,136	0.03%	n/a	n/a	0.00%	0.00%
Catalent Inc	CTLT	45.53	180	Excl.	Excl.	n/a	n/a	21.00%	n/a
Fortive Corp	FTV	74.16	352	26,106	0.08%	0.38%	0.00%	16.00%	0.01%
Hershey Co/The	HSY	200.08	150	29,983	0.09%	2.38%	0.00%	9.50%	0.01%
Synchrony Financial	SYF	30.57	418	Excl.	Excl.	3.27%	n/a	47.00%	n/a
Hormel Foods Corp	HRL	38.03	546	20,783	0.06%	2.89%	0.00%	7.50%	0.00%
Arthur J Gallagher & Co	AJG	227.93	216	Excl.	Excl.	0.97%	n/a	22.00%	n/a
Mondelez International Inc	MDLZ	69.40	1,360	94,413	0.28%	2.45%	0.01%	10.00%	0.03%
CenterPoint Energy Inc	CNP	26.85	629	16,900	0.05%	2.98%	0.00%	6.50%	0.00%
Humana Inc	HUM	486.52	124	60,283	0.18%	0.73%	0.00%	12.50%	0.02%
Willis Towers Watson PLC	WTW	208.96	105	21,904	0.07%	1.61%	0.00%	9.50%	0.01%
Illinois Tool Works Inc	ITW	230.31	302	69,643	0.21%	2.43%	0.01%	11.00%	0.02%
CDW Corp/DE	CDW	201.76	134	27,046	0.08%	1.17%	0.00%	7.00%	0.01%

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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.
Trane Technologies PLC	TT	202.91	228	46,344	0.14%	1.48%	0.00%	13.00%	0.02%
Interpublic Group of Cos Inc/The	IPG	28.66	385	11,032	0.03%	4.33%	0.00%	8.50%	0.00%
International Flavors & Fragrances Inc	IFF	68.17	255	17,401	0.05%	4.75%	0.00%	8.00%	0.00%
Generac Holdings Inc	GNRC	108.96	62	6,782	0.02%	n/a	n/a	19.00%	0.00%
NXP Semiconductors NV	NXPI	199.92	258	51,540	0.15%	2.03%	0.00%	8.50%	0.01%
Kellanova	K	55.84	342	19,117	0.06%	4.30%	0.00%	3.00%	0.00%
Broadridge Financial Solutions Inc	BR	179.05	118	21,060	0.06%	1.79%	0.00%	8.50%	0.01%
Kimberly-Clark Corp	KMB	120.85	338	40,870	0.12%	3.91%	0.00%	7.00%	0.01%
Kimco Realty Corp	KIM	17.59	620	10,904	0.03%	5.23%	0.00%	11.00%	0.00%
Oracle Corp	ORCL	105.92	2,739	290,155	0.87%	1.51%	0.01%	10.00%	0.09%
Kroger Co/The	KR	44.75	719	32,189	0.10%	2.59%	0.00%	6.00%	0.01%
Lennar Corp	LEN	112.23	250	28,075	0.08%	1.34%	0.00%	3.50%	0.00%
Eli Lilly & Co	LLY	537.13	949	509,895	1.53%	0.84%	0.01%	19.00%	0.29%
Bath & Body Works Inc	BBWI	33.80	227	Excl.	Excl.	2.37%	n/a	26.50%	n/a
Charter Communications Inc	CHTR	439.82	150	65,828	0.20%	n/a	n/a	12.50%	0.02%
Loews Corp	L	63.31	226	Excl.	Excl.	0.39%	n/a	25.50%	n/a
Lowe's Cos Inc	LOW	207.84	577	119,948	0.36%	2.12%	0.01%	8.00%	0.03%
IDEX Corp	IEX	208.02	76	15,727	0.05%	1.23%	0.00%	8.00%	0.00%
Marsh & McLennan Cos Inc	MMC	190.30	494	93,999	0.28%	1.49%	0.00%	9.00%	0.03%
Masco Corp	MAS	53.45	225	12,022	0.04%	2.13%	0.00%	6.50%	0.00%
S&P Global Inc	SPGI	365.41	318	116,273	0.35%	0.99%	0.00%	7.50%	0.03%
Medtronic PLC	MDT	78.36	1,331	104,261	0.31%	3.52%	0.01%	7.50%	0.02%
Viatis Inc	VTRS	9.86	1,200	11,827	0.04%	4.87%	0.00%	0.00%	0.00%
CVS Health Corp	CVS	69.82	1,284	89,677	0.27%	3.47%	0.01%	8.50%	0.02%
DuPont de Nemours Inc	DD	74.59	459	34,241	0.10%	1.93%	0.00%	9.50%	0.01%
Micron Technology Inc	MU	68.03	1,095	74,513	0.22%	0.68%	0.00%	9.50%	0.02%
Motorola Solutions Inc	MSI	272.24	167	45,470	0.14%	1.29%	0.00%	11.00%	0.02%
Choe Global Markets Inc	CBOE	156.21	106	16,483	0.05%	1.41%	0.00%	12.50%	0.01%
Laboratory Corp of America Holdings	LH	201.05	89	17,813	0.05%	1.43%	0.00%	1.00%	0.00%
Newmont Corp	NEM	36.95	795	29,368	0.09%	4.33%	0.00%	8.00%	0.01%
NIKE Inc	NKE	95.62	1,225	117,142	0.35%	1.42%	0.01%	18.00%	0.06%
NiSource Inc	NI	24.68	413	10,199	0.03%	4.05%	0.00%	9.50%	0.00%
Norfolk Southern Corp	NSC	196.93	227	44,706	0.13%	2.74%	0.00%	8.50%	0.01%
Principal Financial Group Inc	PFG	72.07	242	17,420	0.05%	3.61%	0.00%	5.50%	0.00%
Eversource Energy	ES	58.15	349	20,299	0.06%	4.64%	0.00%	6.50%	0.00%
Northrop Grumman Corp	NOC	440.19	151	66,601	0.20%	1.70%	0.00%	9.50%	0.02%
Wells Fargo & Co	WFC	40.86	3,668	149,862	0.45%	3.43%	0.02%	12.00%	0.05%
Nucor Corp	NUE	156.35	249	38,888	0.12%	1.30%	0.00%	2.00%	0.00%
Occidental Petroleum Corp	OXY	64.88	885	57,398	0.17%	1.11%	0.00%	17.00%	0.03%
Omnicom Group Inc	OMC	74.48	198	14,715	0.04%	3.76%	0.00%	7.00%	0.00%
ONEOK Inc	OKE	63.43	582	36,946	0.11%	6.02%	0.01%	12.00%	0.01%
Raymond James Financial Inc	RJF	100.43	209	20,974	0.06%	1.67%	0.00%	15.00%	0.01%
PG&E Corp	PCG	16.13	2,091	33,732	0.10%	n/a	n/a	7.50%	0.01%
Parker-Hannifin Corp	PH	389.52	129	50,057	0.15%	1.52%	0.00%	14.50%	0.02%
Rollins Inc	ROL	37.33	484	18,071	0.05%	1.39%	0.00%	10.50%	0.01%
PPL Corp	PPL	23.56	737	17,366	0.05%	4.07%	0.00%	8.00%	0.00%
ConocoPhillips	COP	119.80	1,197	143,459	0.43%	0.50%	0.00%	9.00%	0.04%
PulteGroup Inc	PHM	74.05	219	16,250	0.05%	0.86%	0.00%	8.00%	0.00%
Pinnacle West Capital Corp	PNW	73.68	113	8,349	0.03%	4.70%	0.00%	2.50%	0.00%
PNC Financial Services Group Inc/The	PNC	122.77	398	48,894	0.15%	5.05%	0.01%	7.50%	0.01%
PPG Industries Inc	PPG	129.80	236	30,570	0.09%	2.00%	0.00%	3.00%	0.00%
Progressive Corp/The	PGR	139.30	585	81,504	0.25%	0.29%	0.00%	12.00%	0.03%
Public Service Enterprise Group Inc	PEG	56.91	499	28,404	0.09%	4.01%	0.00%	4.00%	0.00%
Robert Half Inc	RHI	73.28	107	7,847	0.02%	2.62%	0.00%	9.50%	0.00%
Cooper Cos Inc/The	COO	318.01	50	15,749	0.05%	0.02%	0.00%	12.00%	0.01%
Edison International	EIX	63.29	383	24,258	0.07%	4.66%	0.00%	4.50%	0.00%
Schlumberger NV	SLB	58.30	1,421	Excl.	Excl.	1.72%	n/a	26.00%	n/a
Charles Schwab Corp/The	SCHW	54.90	1,770	97,185	0.29%	1.82%	0.01%	9.00%	0.03%
Sherwin-Williams Co/The	SHW	255.05	257	65,586	0.20%	0.95%	0.00%	7.00%	0.01%
West Pharmaceutical Services Inc	WST	375.21	74	27,713	0.08%	0.20%	0.00%	17.00%	0.01%
J M Smucker Co/The	SJM	122.91	102	12,554	0.04%	3.45%	0.00%	6.00%	0.00%
Snap-on Inc	SNA	255.06	53	13,497	0.04%	2.54%	0.00%	6.00%	0.00%
AMETEK Inc	AME	147.76	231	34,090	0.10%	0.68%	0.00%	10.00%	0.01%
Southern Co/The	SO	64.72	1,092	70,643	0.21%	4.33%	0.01%	6.50%	0.01%
Truist Financial Corp	TFC	28.61	1,332	38,108	0.11%	7.27%	0.01%	6.00%	0.01%
Southwest Airlines Co	LUV	27.07	596	16,124	0.05%	2.66%	0.00%	0.00%	0.00%
W R Berkley Corp	WRB	63.49	258	16,350	0.05%	0.69%	0.00%	15.00%	0.01%
Stanley Black & Decker Inc	SWK	83.58	153	12,807	0.04%	3.88%	0.00%	1.00%	0.00%
Public Storage	PSA	263.52	176	46,334	0.14%	4.55%	0.01%	7.50%	0.01%
Arista Networks Inc	ANET	183.93	310	56,941	0.17%	n/a	n/a	13.00%	0.02%
Sysco Corp	SY	66.05	505	33,350	0.10%	3.03%	0.00%	18.50%	0.02%
Corteva Inc	CTVA	51.16	710	36,299	0.11%	1.25%	0.00%	13.50%	0.01%
Texas Instruments Inc	TXN	159.01	908	144,376	0.43%	3.27%	0.01%	3.00%	0.01%
Textron Inc	TXT	78.14	198	15,477	0.05%	0.10%	0.00%	16.00%	0.01%
Thermo Fisher Scientific Inc	TMO	506.17	386	195,356	0.59%	0.28%	0.00%	9.50%	0.06%
TJX Cos Inc/The	TJX	88.88	1,144	101,686	0.31%	1.50%	0.00%	17.00%	0.05%
Globe Life Inc	GL	108.73	95	10,310	0.03%	0.83%	0.00%	9.00%	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.
Johnson Controls International plc	JCI	53.21	680	36,200	0.11%	2.78%	0.00%	11.50%	0.01%
Ulta Beauty Inc	ULTA	399.45	49	19,665	0.06%	n/a	n/a	13.50%	0.01%
Union Pacific Corp	UNP	203.63	609	124,104	0.37%	2.55%	0.01%	6.50%	0.02%
Keysight Technologies Inc	KEYS	132.31	178	23,495	0.07%	n/a	n/a	13.00%	0.01%
UnitedHealth Group Inc	UNH	504.19	926	467,034	1.40%	1.49%	0.02%	12.00%	0.17%
Blackstone Inc	BX	107.14	710	76,043	0.23%	2.95%	0.01%	15.00%	0.03%
Marathon Oil Corp	MRO	26.75	606	Excl.	Excl.	1.50%	n/a	22.50%	n/a
Bio-Rad Laboratories Inc	BIO	358.45	24	8,604	0.03%	n/a	n/a	11.50%	0.00%
Ventas Inc	VTR	42.13	402	Excl.	Excl.	4.27%	n/a	23.50%	n/a
VF Corp	VFC	17.67	389	6,871	0.02%	6.79%	0.00%	9.00%	0.00%
Vulcan Materials Co	VMC	202.02	133	26,842	0.08%	0.85%	0.00%	9.50%	0.01%
Weyerhaeuser Co	WY	30.66	731	Excl.	Excl.	2.48%	n/a	-2.50%	n/a
Whirlpool Corp	WHR	133.70	55	Excl.	Excl.	5.24%	n/a	-1.50%	n/a
Williams Cos Inc/The	WMB	33.69	1,216	40,981	0.12%	5.31%	0.01%	10.50%	0.01%
Constellation Energy Corp	CEG	109.08	322	35,079	0.11%	1.03%	0.00%	0.00%	0.00%
WEC Energy Group Inc	WEC	80.55	315	25,408	0.08%	3.87%	0.00%	6.00%	0.00%
Adobe Inc	ADBE	509.90	455	232,157	0.70%	n/a	n/a	11.00%	0.08%
AES Corp/The	AES	15.20	670	10,178	0.03%	4.37%	0.00%	14.00%	0.00%
Amgen Inc	AMGN	268.76	535	143,760	0.43%	3.17%	0.01%	6.00%	0.03%
Apple Inc	AAPL	171.21	15,634	2,676,737	8.05%	0.56%	0.05%	10.50%	0.85%
Autodesk Inc	ADSK	206.91	214	44,230	0.13%	n/a	n/a	10.00%	0.01%
Cintas Corp	CTAS	481.01	102	49,028	0.15%	1.12%	0.00%	14.00%	0.02%
Comcast Corp	CMCSA	44.34	4,116	182,490	0.55%	2.62%	0.01%	9.00%	0.05%
Molson Coors Beverage Co	TAP	63.59	201	Excl.	Excl.	2.58%	n/a	35.00%	n/a
KLAC Corp	KLAC	458.66	136	62,525	0.19%	1.13%	0.00%	13.50%	0.03%
Marriott International Inc/MD	MAR	196.56	298	58,622	0.18%	1.06%	0.00%	17.50%	0.03%
Fiserv Inc	FI	112.96	610	68,862	0.21%	n/a	n/a	9.50%	0.02%
McCormick & Co Inc/MD	MKC	75.64	251	18,993	0.06%	2.06%	0.00%	4.50%	0.00%
PACCAR Inc	PCAR	85.02	523	44,449	0.13%	1.27%	0.00%	5.00%	0.01%
Costco Wholesale Corp	COST	564.96	443	250,160	0.75%	0.72%	0.01%	10.50%	0.08%
Stryker Corp	SYK	273.27	380	103,782	0.31%	1.10%	0.00%	7.00%	0.02%
Tyson Foods Inc	TSN	50.49	286	14,417	0.04%	3.80%	0.00%	6.00%	0.00%
Lamb Weston Holdings Inc	LW	92.46	146	13,468	0.04%	1.21%	0.00%	15.50%	0.01%
Applied Materials Inc	AMAT	138.45	837	115,818	0.35%	0.92%	0.00%	5.50%	0.02%
American Airlines Group Inc	AAL	12.81	653	8,370	0.03%	n/a	n/a	0.00%	0.00%
Cardinal Health Inc	CAH	86.82	246	21,388	0.06%	2.31%	0.00%	6.50%	0.00%
Cincinnati Financial Corp	CINF	102.29	157	16,045	0.05%	2.93%	0.00%	10.50%	0.01%
Paramount Global	PARA	12.90	610	7,874	0.02%	1.55%	0.00%	1.50%	0.00%
DR Horton Inc	DHI	107.47	338	36,357	0.11%	0.93%	0.00%	5.00%	0.01%
Electronic Arts Inc	EA	120.40	271	32,618	0.10%	0.63%	0.00%	16.00%	0.02%
Fair Isaac Corp	FICO	868.53	25	21,589	0.06%	n/a	n/a	16.00%	0.01%
Expeditors International of Washington Inc	EXPD	114.63	148	16,953	0.05%	1.20%	0.00%	10.00%	0.01%
Fastenal Co	FAST	54.64	571	31,218	0.09%	2.56%	0.00%	6.50%	0.01%
M&T Bank Corp	MTB	126.45	166	20,984	0.06%	4.11%	0.00%	6.50%	0.00%
Xcel Energy Inc	XEL	57.22	552	31,559	0.09%	3.64%	0.00%	6.00%	0.01%
Fifth Third Bancorp	FITB	25.33	681	17,247	0.05%	5.53%	0.00%	4.50%	0.00%
Gilead Sciences Inc	GILD	74.94	1,246	93,376	0.28%	4.00%	0.01%	13.50%	0.04%
Hasbro Inc	HAS	66.14	139	9,176	0.03%	4.23%	0.00%	8.50%	0.00%
Huntington Bancshares Inc/OH	HBAN	10.40	1,448	15,058	0.05%	5.96%	0.00%	10.50%	0.00%
Welltower Inc	WELL	81.92	519	42,494	0.13%	2.98%	0.00%	12.00%	0.02%
Biogen Inc	BIIB	257.01	145	Excl.	Excl.	n/a	n/a	-1.00%	n/a
Northern Trust Corp	NTRS	69.48	207	14,383	0.04%	4.32%	0.00%	5.50%	0.00%
Packaging Corp of America	PKG	153.55	90	13,806	0.04%	3.26%	0.00%	9.00%	0.00%
Paychex Inc	PAYX	115.33	361	41,661	0.13%	3.09%	0.00%	9.50%	0.01%
QUALCOMM Inc	QCOM	111.06	1,116	123,943	0.37%	2.88%	0.01%	5.50%	0.02%
Ross Stores Inc	ROST	112.95	339	38,248	0.12%	1.19%	0.00%	14.00%	0.02%
IDEXX Laboratories Inc	IDXX	437.27	83	36,299	0.11%	n/a	n/a	10.50%	0.01%
Starbucks Corp	SBUX	91.27	1,145	104,541	0.31%	2.50%	0.01%	16.00%	0.05%
KeyCorp	KEY	10.76	936	10,070	0.03%	7.62%	0.00%	7.50%	0.00%
Fox Corp	FOXA	31.20	254	7,915	0.02%	1.67%	0.00%	8.50%	0.00%
Fox Corp	FOX	28.88	236	6,804	0.02%	1.80%	0.00%	0.00%	0.00%
State Street Corp	STT	66.96	319	21,336	0.06%	4.12%	0.00%	9.00%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	16.48	425	7,011	0.02%	n/a	n/a	0.00%	0.00%
US Bancorp	USB	33.06	1,557	51,473	0.15%	5.81%	0.01%	4.00%	0.01%
A O Smith Corp	AOS	66.13	125	8,239	0.02%	1.81%	0.00%	9.50%	0.00%
Gen Digital Inc	GEN	17.68	639	11,305	0.03%	2.83%	0.00%	10.50%	0.00%
T Rowe Price Group Inc	TROW	104.87	224	23,522	0.07%	4.65%	0.00%	2.00%	0.00%
Waste Management Inc	WM	152.44	405	61,747	0.19%	1.84%	0.00%	6.50%	0.01%
Constellation Brands Inc	STZ	251.33	183	46,069	0.14%	1.42%	0.00%	5.50%	0.01%
DENTSPLY SIRONA Inc	XRAY	34.16	212	7,232	0.02%	1.64%	0.00%	12.00%	0.00%
Zions Bancorp NA	ZION	34.89	148	5,169	0.02%	4.70%	0.00%	6.50%	0.00%
Alaska Air Group Inc	ALK	37.08	127	4,717	0.01%	n/a	n/a	0.00%	0.00%
Invesco Ltd	IVZ	14.52	449	6,514	0.02%	5.51%	0.00%	6.50%	0.00%
Intuit Inc	INTU	510.94	280	143,196	0.43%	0.70%	0.00%	14.50%	0.06%
Morgan Stanley	MS	81.67	1,657	135,324	0.41%	4.16%	0.02%	7.50%	0.03%
Microchip Technology Inc	MCHP	78.05	544	42,485	0.13%	2.10%	0.00%	10.00%	0.01%
Chubb Ltd	CB	208.18	411	85,507	0.26%	1.65%	0.00%	15.00%	0.04%

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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.
Hologic Inc	HOLX	69.40	245	Excl.	Excl.	n/a	n/a	25.00%	n/a
Citizens Financial Group Inc	CFG	26.80	472	12,657	0.04%	6.27%	0.00%	7.50%	0.00%
O'Reilly Automotive Inc	ORLY	908.86	60	54,766	0.16%	n/a	n/a	12.00%	0.02%
Allstate Corp/The	ALL	111.41	262	29,142	0.09%	3.20%	0.00%	10.50%	0.01%
Equity Residential	EQR	58.71	379	Excl.	Excl.	4.51%	n/a	-5.00%	n/a
BorgWarner Inc	BWA	40.37	235	9,489	0.03%	1.09%	0.00%	7.00%	0.00%
Keurig Dr Pepper Inc	KDP	31.57	1,397	44,111	0.13%	2.72%	0.00%	12.50%	0.02%
Organon & Co	OGN	17.36	256	4,437	0.01%	6.45%	0.00%	0.00%	0.00%
Host Hotels & Resorts Inc	HST	16.07	712	Excl.	Excl.	4.48%	n/a	51.00%	n/a
Incyte Corp	INCY	57.77	224	Excl.	Excl.	n/a	n/a	32.00%	n/a
Simon Property Group Inc	SPG	108.03	327	35,346	0.11%	7.04%	0.01%	3.50%	0.00%
Eastman Chemical Co	EMN	76.72	119	9,096	0.03%	4.12%	0.00%	6.00%	0.00%
AvalonBay Communities Inc	AVB	171.74	142	24,390	0.07%	3.84%	0.00%	6.00%	0.00%
Prudential Financial Inc	PRU	94.89	363	34,445	0.10%	5.27%	0.01%	3.00%	0.00%
United Parcel Service Inc	UPS	155.87	723	112,737	0.34%	4.16%	0.01%	7.50%	0.03%
Walgreens Boots Alliance Inc	WBA	22.24	863	19,199	0.06%	8.63%	0.00%	1.00%	0.00%
STERIS PLC	STE	219.42	99	21,675	0.07%	0.95%	0.00%	10.00%	0.01%
McKesson Corp	MCK	434.85	135	58,662	0.18%	0.57%	0.00%	9.00%	0.02%
Lockheed Martin Corp	LMT	408.96	252	102,989	0.31%	2.93%	0.01%	7.00%	0.02%
Cencora Inc	COR	179.97	202	36,385	0.11%	1.08%	0.00%	9.00%	0.01%
Capital One Financial Corp	COF	97.05	381	37,019	0.11%	2.47%	0.00%	4.00%	0.00%
Waters Corp	WAT	274.21	59	16,207	0.05%	n/a	n/a	10.00%	0.00%
Nordson Corp	NDSN	223.17	57	12,724	0.04%	1.22%	0.00%	9.00%	0.00%
Dollar Tree Inc	DLTR	106.45	220	23,420	0.07%	n/a	n/a	9.00%	0.01%
Darden Restaurants Inc	DRI	143.22	120	17,232	0.05%	3.66%	0.00%	15.00%	0.01%
Evergy Inc	EVRG	50.70	230	11,640	0.03%	4.83%	0.00%	7.50%	0.00%
Match Group Inc	MTCH	39.18	278	10,894	0.03%	n/a	n/a	16.50%	0.01%
Dominio's Pizza Inc	DPZ	378.79	35	13,293	0.04%	1.28%	0.00%	12.00%	0.00%
NVR Inc	NVR	5,963.30	3	19,464	0.06%	n/a	n/a	3.50%	0.00%
NetApp Inc	NTAP	75.88	209	15,843	0.05%	2.64%	0.00%	8.00%	0.00%
DXC Technology Co	DXC	20.83	205	4,274	0.01%	n/a	n/a	9.00%	0.00%
Old Dominion Freight Line Inc	ODFL	409.14	109	44,706	0.13%	0.39%	0.00%	9.00%	0.01%
DaVita Inc	DVA	94.53	91	8,631	0.03%	n/a	n/a	7.00%	0.00%
Hartford Financial Services Group Inc/The	HIG	70.91	306	21,685	0.07%	2.40%	0.00%	8.00%	0.01%
Iron Mountain Inc	IRM	59.45	292	17,351	0.05%	4.37%	0.00%	4.00%	0.00%
Estee Lauder Cos Inc/The	EL	144.55	232	33,579	0.10%	1.83%	0.00%	8.00%	0.01%
Cadence Design Systems Inc	CDNS	234.30	272	63,680	0.19%	n/a	n/a	12.00%	0.02%
Tyler Technologies Inc	TYL	386.14	42	16,248	0.05%	n/a	n/a	10.50%	0.01%
Universal Health Services Inc	UHS	125.73	62	7,813	0.02%	0.64%	0.00%	6.00%	0.00%
Skyworks Solutions Inc	SWKS	98.59	159	15,715	0.05%	2.76%	0.00%	3.50%	0.00%
Quest Diagnostics Inc	DGX	121.86	112	13,677	0.04%	2.33%	0.00%	4.00%	0.00%
Activision Blizzard Inc	ATVI	93.63	787	73,668	0.22%	1.06%	0.00%	13.50%	0.03%
Rockwell Automation Inc	ROK	285.87	115	32,835	0.10%	1.65%	0.00%	9.50%	0.01%
Kraft Heinz Co/The	KHC	33.64	1,228	41,320	0.12%	4.76%	0.01%	6.00%	0.01%
American Tower Corp	AMT	164.45	466	76,659	0.23%	3.94%	0.01%	5.00%	0.01%
Regeneron Pharmaceuticals Inc	REGN	822.96	107	87,844	0.26%	n/a	n/a	1.50%	0.00%
Amazon.com Inc	AMZN	127.12	10,318	1,311,593	3.94%	n/a	n/a	19.50%	0.77%
Jack Henry & Associates Inc	JKHY	151.14	73	11,023	0.03%	1.38%	0.00%	7.00%	0.00%
Ralph Lauren Corp	RL	116.09	40	4,689	0.01%	2.58%	0.00%	12.50%	0.00%
Boston Properties Inc	BXP	59.48	157	Excl.	Excl.	6.59%	n/a	-1.00%	n/a
Amphenol Corp	APH	83.99	596	50,096	0.15%	1.00%	0.00%	12.50%	0.02%
Howmet Aerospace Inc	HWM	46.25	412	19,065	0.06%	0.43%	0.00%	12.00%	0.01%
Pioneer Natural Resources Co	PXD	229.55	233	53,518	0.16%	3.21%	0.01%	8.50%	0.01%
Valero Energy Corp	VLO	141.71	353	50,042	0.15%	2.88%	0.00%	1.50%	0.00%
Synopsys Inc	SNPS	458.97	152	69,802	0.21%	n/a	n/a	15.00%	0.03%
Etsy Inc	ETSY	64.58	123	7,944	0.02%	n/a	n/a	10.00%	0.00%
CH Robinson Worldwide Inc	CHRW	86.13	116	10,029	0.03%	2.83%	0.00%	6.00%	0.00%
Accenture PLC	ACN	307.11	631	193,723	0.58%	1.68%	0.01%	12.50%	0.07%
TransDigm Group Inc	TDG	843.13	55	Excl.	Excl.	n/a	n/a	26.00%	n/a
Yum! Brands Inc	YUM	124.94	280	35,010	0.11%	1.94%	0.00%	11.50%	0.01%
Prologis Inc	PLD	112.21	924	103,667	0.31%	3.10%	0.01%	2.50%	0.01%
FirstEnergy Corp	FE	34.18	573	19,598	0.06%	4.80%	0.00%	4.00%	0.00%
VeriSign Inc	VERI	202.53	103	20,888	0.06%	n/a	n/a	13.00%	0.01%
Quanta Services Inc	PWR	187.07	145	27,162	0.08%	0.17%	0.00%	15.00%	0.01%
Henry Schein Inc	HSIC	74.25	131	9,696	0.03%	n/a	n/a	9.00%	0.00%
Ameren Corp	AEE	74.83	262	19,641	0.06%	3.37%	0.00%	6.50%	0.00%
ANSYS Inc	ANSS	297.55	87	25,825	0.08%	n/a	n/a	8.50%	0.01%
FactSet Research Systems Inc	FDS	437.26	38	16,680	0.05%	0.90%	0.00%	10.50%	0.01%
NVIDIA Corp	NVDA	434.99	2,470	Excl.	Excl.	0.04%	n/a	40.00%	n/a
Sealed Air Corp	SEE	32.86	144	4,745	0.01%	2.43%	0.00%	7.50%	0.00%
Cognizant Technology Solutions Corp	CTSH	67.74	505	34,211	0.10%	1.71%	0.00%	8.00%	0.01%
Intuitive Surgical Inc	ISRG	292.29	351	102,698	0.31%	n/a	n/a	12.50%	0.04%
Take-Two Interactive Software Inc	TTWO	140.39	170	23,843	0.07%	n/a	n/a	0.00%	0.00%
Republic Services Inc	RSG	142.51	316	45,080	0.14%	1.50%	0.00%	12.50%	0.02%
eBay Inc	EBAY	44.09	532	23,463	0.07%	2.27%	0.00%	9.50%	0.01%
Goldman Sachs Group Inc/The	GS	323.57	330	106,672	0.32%	3.40%	0.01%	5.00%	0.02%
SBA Communications Corp	SBAC	200.17	108	Excl.	Excl.	1.70%	n/a	23.50%	n/a

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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.
Sempra	SRE	68.03	629	42,812	0.13%	3.50%	0.00%	7.00%	0.01%
Moody's Corp	MCO	316.17	184	58,017	0.17%	0.97%	0.00%	16.00%	0.03%
ON Semiconductor Corp	ON	92.95	432	40,111	0.12%	n/a	n/a	13.00%	0.02%
Booking Holdings Inc	BKNG	3,083.95	36	Excl.	Excl.	n/a	n/a	22.00%	n/a
F5 Inc	FFIV	161.14	59	9,557	0.03%	n/a	n/a	10.00%	0.00%
Akamai Technologies Inc	AKAM	106.54	152	16,164	0.05%	n/a	n/a	5.00%	0.00%
Charles River Laboratories International Inc	CRL	195.98	51	10,048	0.03%	n/a	n/a	8.00%	0.00%
MarketAxess Holdings Inc	MKTX	213.64	38	8,049	0.02%	1.35%	0.00%	10.50%	0.00%
Devon Energy Corp	DEV	47.70	641	30,561	0.09%	4.11%	0.00%	10.50%	0.01%
Bio-Techne Corp	TECH	68.07	158	10,771	0.03%	0.47%	0.00%	13.00%	0.00%
Alphabet Inc	GOOGL	130.86	5,933	776,392	2.33%	n/a	n/a	0.00%	0.00%
Teleflex Inc	TFX	196.41	47	9,230	0.03%	0.69%	0.00%	10.00%	0.00%
Bunge Ltd	BG	108.25	151	16,307	0.05%	2.45%	0.00%	1.50%	0.00%
Allegion plc	ALLE	104.20	88	9,147	0.03%	1.73%	0.00%	10.50%	0.00%
Netflix Inc	NFLX	377.60	443	167,332	0.50%	n/a	n/a	13.00%	0.07%
Agilent Technologies Inc	A	111.82	293	32,717	0.10%	0.80%	0.00%	13.50%	0.01%
Warner Bros Discovery Inc	WBD	10.86	2,437	26,470	0.08%	n/a	n/a	0.00%	0.00%
Elevance Health Inc	ELV	435.42	236	102,606	0.31%	1.36%	0.00%	12.50%	0.04%
Trimble Inc	TRMB	53.86	248	13,375	0.04%	n/a	n/a	5.50%	0.00%
CME Group Inc	CME	200.22	360	72,028	0.22%	2.20%	0.00%	7.50%	0.02%
Juniper Networks Inc	JNPR	27.79	321	8,931	0.03%	3.17%	0.00%	10.50%	0.00%
BlackRock Inc	BLK	646.49	149	96,523	0.29%	3.09%	0.01%	7.50%	0.02%
DTE Energy Co	DTE	99.28	206	20,463	0.06%	3.84%	0.00%	4.50%	0.00%
Nasdaq Inc	NDAQ	48.59	491	23,873	0.07%	1.81%	0.00%	6.00%	0.00%
Celanese Corp	CE	125.52	109	13,663	0.04%	2.23%	0.00%	6.50%	0.00%
Philip Morris International Inc	PM	92.58	1,552	143,716	0.43%	5.62%	0.02%	5.00%	0.02%
Salesforce Inc	CRM	202.78	973	197,305	0.59%	n/a	n/a	18.00%	0.11%
Ingersoll Rand Inc	IR	63.72	404	25,768	0.08%	0.13%	0.00%	12.00%	0.01%
Roper Technologies Inc	ROP	484.28	107	51,678	0.16%	0.56%	0.00%	8.00%	0.01%
Huntington Ingalls Industries Inc	HII	204.58	40	8,156	0.02%	2.42%	0.00%	10.00%	0.00%
MetLife Inc	MET	62.91	752	47,310	0.14%	3.31%	0.00%	7.50%	0.01%
Tapestry Inc	TPR	28.75	227	6,539	0.02%	4.87%	0.00%	12.00%	0.00%
CSX Corp	CSX	30.75	2,006	61,695	0.19%	1.43%	0.00%	8.50%	0.02%
Edwards Lifesciences Corp	EW	69.28	608	42,116	0.13%	n/a	n/a	10.50%	0.01%
Ameriprise Financial Inc	AMP	329.68	103	33,834	0.10%	1.64%	0.00%	11.00%	0.01%
Zebra Technologies Corp	ZBRA	236.53	51	12,143	0.04%	n/a	n/a	1.50%	0.00%
Zimmer Biomet Holdings Inc	ZBH	112.22	209	23,450	0.07%	0.86%	0.00%	6.50%	0.00%
CBRE Group Inc	CBRE	73.86	310	22,885	0.07%	n/a	n/a	8.50%	0.01%
Camden Property Trust	CPT	94.58	107	Excl.	Excl.	4.23%	n/a	-3.00%	n/a
Mastercard Inc	MA	395.91	935	370,116	1.11%	0.58%	0.01%	16.00%	0.18%
CarMax Inc	KMX	70.73	159	Excl.	Excl.	n/a	n/a	-3.50%	n/a
Intercontinental Exchange Inc	ICE	110.02	595	65,455	0.20%	1.53%	0.00%	6.00%	0.01%
Fidelity National Information Services Inc	FIS	55.27	592	Excl.	Excl.	3.76%	n/a	23.50%	n/a
Chipotle Mexican Grill Inc	CMG	1,831.83	28	50,537	0.15%	n/a	n/a	20.00%	0.03%
Wynn Resorts Ltd	WYNN	92.41	114	Excl.	Excl.	1.08%	n/a	27.00%	n/a
Live Nation Entertainment Inc	LYV	83.04	230	19,112	0.06%	n/a	n/a	0.00%	0.00%
Assurant Inc	AIZ	143.58	53	7,613	0.02%	1.95%	0.00%	10.50%	0.00%
NRG Energy Inc	NRG	38.52	229	Excl.	Excl.	3.92%	n/a	-2.50%	n/a
Regions Financial Corp	RF	17.20	938	16,140	0.05%	5.58%	0.00%	11.50%	0.01%
Monster Beverage Corp	MNST	52.95	1,048	55,466	0.17%	n/a	n/a	11.00%	0.02%
Mosaic Co/The	MOS	35.60	332	11,829	0.04%	2.25%	0.00%	1.50%	0.00%
Baker Hughes Co	BKR	35.32	1,010	35,661	0.11%	2.27%	0.00%	0.00%	0.00%
Expedia Group Inc	EXPE	103.07	138	14,207	0.04%	n/a	n/a	0.00%	0.00%
CF Industries Holdings Inc	CF	85.74	193	16,543	0.05%	1.87%	0.00%	9.00%	0.00%
Leidos Holdings Inc	LDOS	92.16	137	12,658	0.04%	1.56%	0.00%	7.00%	0.00%
APA Corp	APA	41.10	307	Excl.	Excl.	2.43%	n/a	21.00%	n/a
Alphabet Inc	GOOG	131.85	5,801	764,862	2.30%	n/a	n/a	10.50%	0.24%
First Solar Inc	FSLR	161.59	107	Excl.	Excl.	n/a	n/a	27.50%	n/a
TE Connectivity Ltd	TEL	123.53	314	38,781	0.12%	1.91%	0.00%	10.50%	0.01%
Discover Financial Services	DFS	86.63	250	21,653	0.07%	3.23%	0.00%	4.00%	0.00%
Linde PLC	LIN	372.35	488	181,687	0.55%	1.37%	0.01%	8.50%	0.05%
Visa Inc	V	230.01	1,607	369,577	1.11%	0.78%	0.01%	13.50%	0.15%
Mid-America Apartment Communities Inc	MAA	128.65	117	Excl.	Excl.	4.35%	n/a	-12.50%	n/a
Xylem Inc/NY	XYL	91.03	241	21,923	0.07%	1.45%	0.00%	6.00%	0.00%
Marathon Petroleum Corp	MPC	151.34	400	60,512	0.18%	1.98%	0.00%	14.50%	0.03%
Tractor Supply Co	TSCO	203.05	109	22,093	0.07%	2.03%	0.00%	13.50%	0.01%
Advanced Micro Devices Inc	AMD	102.82	1,616	Excl.	Excl.	n/a	n/a	25.50%	n/a
ResMed Inc	RMD	147.87	147	21,747	0.07%	1.30%	0.00%	9.50%	0.01%
Mettler-Toledo International Inc	MTD	1,108.07	22	24,228	0.07%	n/a	n/a	11.00%	0.01%
Jacobs Solutions Inc	J	136.50	126	17,188	0.05%	0.76%	0.00%	11.00%	0.01%
Copart Inc	CPRT	43.09	957	41,252	0.12%	n/a	n/a	7.00%	0.01%
VICI Properties Inc	VICI	29.10	1,013	29,491	0.09%	5.70%	0.01%	8.00%	0.01%
Albemarle Corp	ALB	170.04	117	Excl.	Excl.	0.94%	n/a	-4.50%	n/a
Fortinet Inc	FTNT	58.68	785	Excl.	Excl.	n/a	n/a	24.00%	n/a
Moderna Inc	MRNA	103.29	381	Excl.	Excl.	n/a	n/a	-20.00%	n/a
Essex Property Trust Inc	ESS	212.09	64	13,613	0.04%	4.36%	0.00%	2.00%	0.00%
CoStar Group Inc	CSGP	76.89	408	31,397	0.09%	n/a	n/a	14.00%	0.01%

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.
Realty Income Corp	O	49.94	709	35,397	0.11%	6.15%	0.01%	5.50%	0.01%
Westrock Co	WRK	35.80	256	9,179	0.03%	3.07%	0.00%	8.50%	0.00%
Westinghouse Air Brake Technologies Corp	WAB	106.27	179	19,036	0.06%	0.64%	0.00%	10.50%	0.01%
Pool Corp	POOL	356.10	39	13,906	0.04%	1.24%	0.00%	14.00%	0.01%
Western Digital Corp	WDC	45.63	322	14,688	0.04%	n/a	n/a	3.00%	0.00%
PepsiCo Inc	PEP	169.44	1,377	233,248	0.70%	2.99%	0.02%	5.50%	0.04%
Diamondback Energy Inc	FANG	154.88	179	27,695	0.08%	2.17%	0.00%	0.00%	0.00%
Palo Alto Networks Inc	PANW	234.44	309	72,347	0.22%	n/a	n/a	0.00%	0.00%
ServiceNow Inc	NOW	558.96	204	Excl.	Excl.	n/a	n/a	61.00%	n/a
Church & Dwight Co Inc	CHD	91.63	246	22,545	0.07%	1.19%	0.00%	6.00%	0.00%
Federal Realty Investment Trust	FRT	90.63	82	7,388	0.02%	4.81%	0.00%	2.50%	0.00%
MGM Resorts International	MGM	36.76	351	Excl.	Excl.	n/a	n/a	25.00%	n/a
American Electric Power Co Inc	AEP	75.22	515	38,752	0.12%	4.41%	0.01%	6.50%	0.01%
SolarEdge Technologies Inc	SEDG	129.51	57	Excl.	Excl.	n/a	n/a	27.00%	n/a
Invitation Homes Inc	INVH	31.69	612	19,393	0.06%	3.28%	0.00%	0.00%	0.00%
PTC Inc	PTC	141.68	119	16,836	0.05%	n/a	n/a	15.00%	0.01%
JB Hunt Transport Services Inc	JBHT	188.52	103	19,483	0.06%	0.89%	0.00%	9.00%	0.01%
Lam Research Corp	LRCX	626.77	133	83,055	0.25%	1.28%	0.00%	8.00%	0.02%
Mohawk Industries Inc	MHK	85.81	64	5,465	0.02%	n/a	n/a	2.50%	0.00%
GE HealthCare Technologies Inc	GEHC	68.04	455	30,947	0.09%	0.18%	0.00%	0.00%	0.00%
Pentair PLC	PNR	64.75	165	10,691	0.03%	1.36%	0.00%	12.00%	0.00%
Vertex Pharmaceuticals Inc	VRTX	347.74	258	89,750	0.27%	n/a	n/a	12.00%	0.03%
Amcor PLC	AMCR	9.16	1,446	13,249	0.04%	5.35%	0.00%	13.00%	0.01%
Meta Platforms Inc	META	300.21	2,223	667,242	2.01%	n/a	n/a	9.00%	0.18%
T-Mobile US Inc	TMUS	140.05	1,176	164,763	0.50%	1.86%	0.01%	20.00%	0.10%
United Rentals Inc	URI	444.57	68	30,357	0.09%	1.33%	0.00%	17.00%	0.02%
Honeywell International Inc	HON	184.74	664	122,660	0.37%	2.34%	0.01%	11.00%	0.04%
Alexandria Real Estate Equities Inc	ARE	100.10	173	17,320	0.05%	4.96%	0.00%	11.00%	0.01%
Delta Air Lines Inc	DAL	37.00	643	23,806	0.07%	1.08%	0.00%	0.00%	0.00%
Seagate Technology Holdings PLC	STX	65.95	207	13,678	0.04%	4.25%	0.00%	7.00%	0.00%
United Airlines Holdings Inc	UAL	42.30	327	13,821	0.04%	n/a	n/a	0.00%	0.00%
News Corp	NWS	20.87	192	4,004	0.01%	0.96%	0.00%	0.00%	0.00%
Centene Corp	CNC	68.88	541	37,297	0.11%	n/a	n/a	10.00%	0.01%
Martin Marietta Materials Inc	MLM	410.48	62	25,369	0.08%	0.72%	0.00%	12.00%	0.01%
Teradyne Inc	TER	100.46	154	15,472	0.05%	0.44%	0.00%	12.50%	0.01%
PayPal Holdings Inc	PYPL	58.46	1,098	64,191	0.19%	n/a	n/a	12.00%	0.02%
Tesla Inc	TSLA	250.22	3,174	Excl.	Excl.	n/a	n/a	26.00%	n/a
Arch Capital Group Ltd	ACGL	79.71	373	Excl.	Excl.	n/a	n/a	21.00%	n/a
Dow Inc	DOW	51.56	703	36,251	0.11%	5.43%	0.01%	7.00%	0.01%
Everest Group Ltd	EG	371.67	43	16,132	0.05%	1.88%	0.00%	10.00%	0.00%
Teledyne Technologies Inc	TDY	408.58	47	19,234	0.06%	n/a	n/a	9.50%	0.01%
News Corp	NWSA	20.06	380	7,614	0.02%	1.00%	0.00%	0.00%	0.00%
Exelon Corp	EXC	37.79	994	37,575	0.11%	3.81%	0.00%	0.00%	0.00%
Global Payments Inc	GPX	115.39	260	30,001	0.09%	0.87%	0.00%	13.50%	0.01%
Crown Castle Inc	CCI	92.03	434	39,911	0.12%	6.80%	0.01%	7.00%	0.01%
Aptiv PLC	APT	98.59	283	Excl.	Excl.	n/a	n/a	33.50%	n/a
Align Technology Inc	ALGN	305.32	77	23,367	0.07%	n/a	n/a	17.00%	0.01%
Illumina Inc	ILMN	137.28	158	21,731	0.07%	n/a	n/a	6.50%	0.00%
Kenvue Inc	KVUE	20.08	1,915	38,451	0.12%	3.98%	0.00%	0.00%	0.00%
Targa Resources Corp	TRGP	85.72	224	19,177	0.06%	2.33%	0.00%	0.00%	0.00%
LKQ Corp	LKQ	49.51	268	13,247	0.04%	2.22%	0.00%	13.00%	0.01%
Zoetis Inc	ZTS	173.98	460	80,086	0.24%	0.86%	0.00%	9.00%	0.02%
Equinix Inc	EQIX	726.26	94	67,953	0.20%	1.88%	0.00%	15.00%	0.03%
Digital Realty Trust Inc	DLR	121.02	303	Excl.	Excl.	4.03%	n/a	-3.00%	n/a
Molina Healthcare Inc	MOH	327.89	58	19,116	0.06%	n/a	n/a	11.50%	0.01%
Las Vegas Sands Corp	LVS	45.84	764	Excl.	Excl.	1.75%	n/a		n/a

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 September 30, 2023

[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		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	4.42%	0.85	14.19%	9.77%	12.72%
New Jersey Resources Corporation	NJR	4.42%	0.95	14.19%	9.77%	13.70%
NiSource Inc.	NI	4.42%	0.90	14.19%	9.77%	13.21%
Northwest Natural Gas Company	NWN	4.42%	0.80	14.19%	9.77%	12.23%
ONE Gas Inc.	OGS	4.42%	0.80	14.19%	9.77%	12.23%
Spire, Inc.	SR	4.42%	0.85	14.19%	9.77%	12.72%
Median			0.85			12.72%
Mean			0.86			12.80%

Notes:

- [1] Source: Bloomberg Professional, 30-day average as of September 30, 2023
[2] Source: Value Line Reports
[3] Source: Exhibit JCN-6, 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 2024 - Q1 2025)		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	4.16%	0.85	14.19%	10.03%	12.68%
New Jersey Resources Corporation	NJR	4.16%	0.95	14.19%	10.03%	13.69%
NiSource Inc.	NI	4.16%	0.90	14.19%	10.03%	13.19%
Northwest Natural Gas Company	NWN	4.16%	0.80	14.19%	10.03%	12.18%
ONE Gas Inc.	OGS	4.16%	0.80	14.19%	10.03%	12.18%
Spire, Inc.	SR	4.16%	0.85	14.19%	10.03%	12.68%
Median			0.85			12.68%
Mean			0.86			12.77%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 10, October 1, 2023, at 2
[2] Source: Value Line Reports
[3] Source: Exhibit JCN-6, 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 (2025 - 2029)		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	3.80%	0.85	14.19%	10.39%	12.63%
New Jersey Resources Corporation	NJR	3.80%	0.95	14.19%	10.39%	13.67%
NiSource Inc.	NI	3.80%	0.90	14.19%	10.39%	13.15%
Northwest Natural Gas Company	NWN	3.80%	0.80	14.19%	10.39%	12.11%
ONE Gas Inc.	OGS	3.80%	0.80	14.19%	10.39%	12.11%
Spire, Inc.	SR	3.80%	0.85	14.19%	10.39%	12.63%
Median			0.85			12.63%
Mean			0.86			12.72%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023, at 14
[2] Source: Value Line Reports
[3] Source: Exhibit JCN-6, 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					
Atmos Energy Corporation	ATO	4.42%	0.75	14.19%	9.77%	11.74%
New Jersey Resources Corporation	NJR	4.42%	0.81	14.19%	9.77%	12.29%
NiSource Inc.	NI	4.42%	0.82	14.19%	9.77%	12.39%
Northwest Natural Gas Company	NWN	4.42%	0.70	14.19%	9.77%	11.25%
ONE Gas Inc.	OGS	4.42%	0.78	14.19%	9.77%	12.06%
Spire, Inc.	SR	4.42%	0.77	14.19%	9.77%	11.94%
Median			0.78			12.00%
Mean			0.77			11.95%

Notes:

[1] Source: Bloomberg Professional, 30-day average as of September 30, 2023

[2] Source: Bloomberg Professional, as of September 30, 2023

[3] Source: Exhibit JCN-6, 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 2024 - Q1 2025)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Atmos Energy Corporation	ATO	4.16%	0.75	14.19%	10.03%	11.68%
New Jersey Resources Corporation	NJR	4.16%	0.81	14.19%	10.03%	12.24%
NiSource Inc.	NI	4.16%	0.82	14.19%	10.03%	12.34%
Northwest Natural Gas Company	NWN	4.16%	0.70	14.19%	10.03%	11.17%
ONE Gas Inc.	OGS	4.16%	0.78	14.19%	10.03%	12.01%
Spire, Inc.	SR	4.16%	0.77	14.19%	10.03%	11.88%
Median			0.78			11.94%
Mean			0.77			11.89%

Notes:

[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 10, October 1, 2023, at 2

[2] Source: Bloomberg Professional, as of September 30, 2023

[3] Source: Exhibit JCN-6, 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 (2025 - 2029)	Beta (β)	Market Return (R_m)	Market Risk Premium ($R_m - R_f$)	ROE (K)
Company	Ticker					
Atmos Energy Corporation	ATO	3.80%	0.75	14.19%	10.39%	11.59%
New Jersey Resources Corporation	NJR	3.80%	0.81	14.19%	10.39%	12.18%
NiSource Inc.	NI	3.80%	0.82	14.19%	10.39%	12.27%
Northwest Natural Gas Company	NWN	3.80%	0.70	14.19%	10.39%	11.06%
ONE Gas Inc.	OGS	3.80%	0.78	14.19%	10.39%	11.93%
Spire, Inc.	SR	3.80%	0.77	14.19%	10.39%	11.80%
Median			0.78			11.86%
Mean			0.77			11.80%

Notes:

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

[2] Source: Bloomberg Professional, as of September 30, 2023

[3] Source: Exhibit JCN-6, 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		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	4.42%	0.85	11.29%	6.88%	10.26%
New Jersey Resources Corporation	NJR	4.42%	0.95	11.29%	6.88%	10.95%
NiSource Inc.	NI	4.42%	0.90	11.29%	6.88%	10.61%
Northwest Natural Gas Company	NWN	4.42%	0.80	11.29%	6.88%	9.92%
ONE Gas Inc.	OGS	4.42%	0.80	11.29%	6.88%	9.92%
Spire, Inc.	SR	4.42%	0.85	11.29%	6.88%	10.26%
Median			0.85			10.26%
Mean			0.86			10.32%

Notes:

- [1] Source: Bloomberg Professional, 30-day average as of September 30, 2023
[2] Source: Value Line Reports
[3] Source: Exhibit JCN-6, 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 2024 - Q1 2025)		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	4.16%	0.85	11.29%	7.13%	10.22%
New Jersey Resources Corporation	NJR	4.16%	0.95	11.29%	7.13%	10.94%
NiSource Inc.	NI	4.16%	0.90	11.29%	7.13%	10.58%
Northwest Natural Gas Company	NWN	4.16%	0.80	11.29%	7.13%	9.87%
ONE Gas Inc.	OGS	4.16%	0.80	11.29%	7.13%	9.87%
Spire, Inc.	SR	4.16%	0.85	11.29%	7.13%	10.22%
Median			0.85			10.22%
Mean			0.86			10.28%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 10, October 1, 2023, at 2
[2] Source: Value Line Reports
[3] Source: Exhibit JCN-6, 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 (2025 - 2029)		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	3.80%	0.85	11.29%	7.49%	10.17%
New Jersey Resources Corporation	NJR	3.80%	0.95	11.29%	7.49%	10.92%
NiSource Inc.	NI	3.80%	0.90	11.29%	7.49%	10.55%
Northwest Natural Gas Company	NWN	3.80%	0.80	11.29%	7.49%	9.80%
ONE Gas Inc.	OGS	3.80%	0.80	11.29%	7.49%	9.80%
Spire, Inc.	SR	3.80%	0.85	11.29%	7.49%	10.17%
Median			0.85			10.17%
Mean			0.86			10.23%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023, at 14
[2] Source: Value Line Reports
[3] Source: Exhibit JCN-6, 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		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	4.42%	0.75	11.29%	6.88%	9.57%
New Jersey Resources Corporation	NJR	4.42%	0.81	11.29%	6.88%	9.96%
NiSource Inc.	NI	4.42%	0.82	11.29%	6.88%	10.03%
Northwest Natural Gas Company	NWN	4.42%	0.70	11.29%	6.88%	9.22%
ONE Gas Inc.	OGS	4.42%	0.78	11.29%	6.88%	9.80%
Spire, Inc.	SR	4.42%	0.77	11.29%	6.88%	9.71%
Median			0.78			9.76%
Mean			0.77			9.72%

Notes:

[1] Source: Bloomberg Professional, 30-day average as of September 30, 2023

[2] Source: Bloomberg Professional, as of September 30, 2023

[3] Source: Exhibit JCN-6, 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 2024 - Q1 2025)		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	4.16%	0.75	11.29%	7.13%	9.51%
New Jersey Resources Corporation	NJR	4.16%	0.81	11.29%	7.13%	9.91%
NiSource Inc.	NI	4.16%	0.82	11.29%	7.13%	9.98%
Northwest Natural Gas Company	NWN	4.16%	0.70	11.29%	7.13%	9.15%
ONE Gas Inc.	OGS	4.16%	0.78	11.29%	7.13%	9.74%
Spire, Inc.	SR	4.16%	0.77	11.29%	7.13%	9.65%
Median			0.78			9.70%
Mean			0.77			9.66%

Notes:

[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 10, October 1, 2023, at 2

[2] Source: Bloomberg Professional, as of September 30, 2023

[3] Source: Exhibit JCN-6, 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 (2025 - 2029)		Market Return (Rm)	Market Risk Premium (Rm - Rf)	ROE (K)
Company	Ticker		Beta (β)			
Atmos Energy Corporation	ATO	3.80%	0.75	11.29%	7.49%	9.42%
New Jersey Resources Corporation	NJR	3.80%	0.81	11.29%	7.49%	9.84%
NiSource Inc.	NI	3.80%	0.82	11.29%	7.49%	9.91%
Northwest Natural Gas Company	NWN	3.80%	0.70	11.29%	7.49%	9.04%
ONE Gas Inc.	OGS	3.80%	0.78	11.29%	7.49%	9.67%
Spire, Inc.	SR	3.80%	0.77	11.29%	7.49%	9.57%
Median			0.78			9.62%
Mean			0.77			9.57%

Notes:

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

[2] Source: Bloomberg Professional, as of September 30, 2023

[3] Source: Exhibit JCN-6, page 8

[4] Equals [3] - [1]

[5] Equals [1] + [2] x [4]

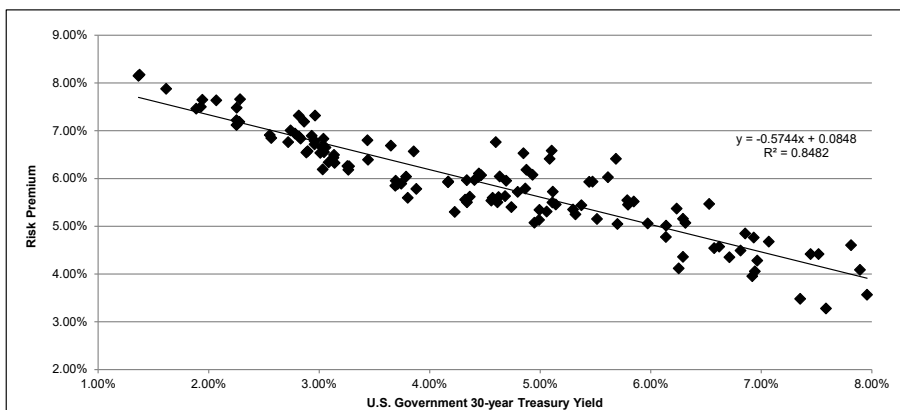
BOND YIELD PLUS RISK PREMIUM ANALYSIS
Risk Premium -- Natural Gas Utilities (US)

	[1] Average Authorized Gas ROE	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1992.1	12.42%	7.81%	4.61%
1992.2	11.98%	7.89%	4.09%
1992.3	11.87%	7.45%	4.42%
1992.4	11.94%	7.52%	4.42%
1993.1	11.75%	7.07%	4.68%
1993.2	11.71%	6.86%	4.85%
1993.3	11.39%	6.31%	5.07%
1993.4	11.16%	6.14%	5.02%
1994.1	11.12%	6.57%	4.55%
1994.2	10.84%	7.35%	3.48%
1994.3	10.87%	7.58%	3.28%
1994.4	11.53%	7.96%	3.57%
1995.2	11.00%	6.94%	4.06%
1995.3	11.07%	6.71%	4.35%
1995.4	11.61%	6.23%	5.37%
1996.1	11.45%	6.29%	5.16%
1996.2	10.88%	6.92%	3.96%
1996.3	11.25%	6.96%	4.29%
1996.4	11.19%	6.62%	4.58%
1997.1	11.31%	6.81%	4.49%
1997.2	11.70%	6.93%	4.77%
1997.3	12.00%	6.53%	5.47%
1997.4	10.92%	6.14%	4.78%
1998.2	11.37%	5.85%	5.52%
1998.3	11.41%	5.47%	5.94%
1998.4	11.69%	5.10%	6.59%
1999.1	10.82%	5.37%	5.44%
1999.2	11.25%	5.79%	5.46%
1999.4	10.38%	6.25%	4.12%
2000.1	10.66%	6.29%	4.36%
2000.2	11.03%	5.97%	5.06%
2000.3	11.33%	5.79%	5.55%
2000.4	12.10%	5.69%	6.41%
2001.1	11.38%	5.44%	5.93%
2001.2	10.75%	5.70%	5.05%
2001.4	10.65%	5.30%	5.35%
2002.1	10.67%	5.51%	5.15%
2002.2	11.64%	5.61%	6.03%
2002.3	11.50%	5.08%	6.42%
2002.4	11.01%	4.93%	6.08%
2003.1	11.38%	4.85%	6.53%
2003.2	11.36%	4.60%	6.76%
2003.3	10.61%	5.11%	5.50%
2003.4	10.84%	5.11%	5.73%
2004.1	11.06%	4.88%	6.18%
2004.2	10.57%	5.32%	5.25%
2004.3	10.37%	5.06%	5.31%
2004.4	10.66%	4.86%	5.79%
2005.1	10.65%	4.69%	5.96%
2005.2	10.54%	4.47%	6.07%
2005.3	10.47%	4.44%	6.03%
2005.4	10.32%	4.68%	5.63%
2006.1	10.68%	4.63%	6.05%
2006.2	10.60%	5.14%	5.46%
2006.3	10.34%	4.99%	5.34%
2006.4	10.14%	4.74%	5.40%
2007.1	10.52%	4.80%	5.72%
2007.2	10.13%	4.99%	5.14%
2007.3	10.03%	4.95%	5.08%
2007.4	10.12%	4.61%	5.50%
2008.1	10.38%	4.41%	5.97%
2008.2	10.17%	4.57%	5.60%
2008.3	10.55%	4.44%	6.11%
2008.4	10.34%	3.65%	6.69%
2009.1	10.24%	3.44%	6.81%
2009.2	10.11%	4.17%	5.94%
2009.3	9.88%	4.32%	5.56%
2009.4	10.31%	4.34%	5.97%
2010.1	10.24%	4.62%	5.61%
2010.2	9.99%	4.36%	5.62%
2010.3	10.43%	3.86%	6.57%
2010.4	10.09%	4.17%	5.93%
2011.1	10.10%	4.56%	5.54%
2011.2	9.85%	4.34%	5.51%
2011.3	9.65%	3.69%	5.96%
2011.4	9.88%	3.04%	6.84%
2012.1	9.63%	3.14%	6.50%
2012.2	9.83%	2.93%	6.90%
2012.3	9.75%	2.74%	7.01%
2012.4	10.06%	2.86%	7.19%
2013.1	9.57%	3.13%	6.44%
2013.2	9.47%	3.14%	6.33%
2013.3	9.60%	3.71%	5.89%
2013.4	9.83%	3.79%	6.04%
2014.1	9.54%	3.69%	5.85%
2014.2	9.84%	3.44%	6.39%

BOND YIELD PLUS RISK PREMIUM ANALYSIS
Risk Premium -- Natural Gas Utilities (US)

	[1]	[2]	[3]
	Average Authorized Gas ROE	U.S. Govt. 30-year Treasury	Risk Premium
2014.3	9.45%	3.26%	6.19%
2014.4	10.28%	2.96%	7.32%
2015.1	9.47%	2.55%	6.91%
2015.2	9.43%	2.88%	6.55%
2015.3	9.75%	2.96%	6.79%
2015.4	9.68%	2.96%	6.72%
2016.1	9.48%	2.72%	6.76%
2016.2	9.42%	2.57%	6.85%
2016.3	9.47%	2.28%	7.19%
2016.4	9.67%	2.83%	6.84%
2017.1	9.60%	3.04%	6.56%
2017.2	9.47%	2.90%	6.58%
2017.3	10.14%	2.82%	7.32%
2017.4	9.70%	2.82%	6.88%
2018.1	9.68%	3.02%	6.66%
2018.2	9.43%	3.09%	6.34%
2018.3	9.71%	3.06%	6.65%
2018.4	9.53%	3.27%	6.26%
2019.1	9.55%	3.01%	6.54%
2019.2	9.73%	2.78%	6.94%
2019.3	9.95%	2.29%	7.66%
2019.4	9.74%	2.25%	7.48%
2020.1	9.35%	1.89%	7.46%
2020.2	9.55%	1.38%	8.17%
2020.3	9.52%	1.37%	8.15%
2020.4	9.50%	1.62%	7.88%
2021.1	9.71%	2.07%	7.64%
2021.2	9.48%	2.25%	7.22%
2021.3	9.43%	1.93%	7.50%
2021.4	9.59%	1.94%	7.65%
2022.1	9.38%	2.25%	7.12%
2022.2	9.23%	3.03%	6.19%
2022.3	9.52%	3.26%	6.26%
2022.4	9.66%	3.88%	5.78%
2023.1	9.64%	3.74%	5.89%
2023.2	9.40%	3.80%	5.60%
2023.3	9.53%	4.23%	5.30%
AVERAGE	10.39%	4.48%	5.91%
MEDIAN	10.28%	4.47%	5.94%

BOND YIELD PLUS RISK PREMIUM ANALYSIS
Risk Premium -- Natural Gas Utilities (US)



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.920971302
R Square	0.848188139
Adjusted R Square	0.846933495
Standard Error	0.003978405
Observations	123

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.010700147	0.010700147	676.0391718	2.31084E-51
Residual	121	0.001915152	1.58277E-05		
Total	122	0.012615299			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.084833619	0.001053034	80.56117334	5.566E-107	0.082748862	0.08691838	0.082748862	0.086918377
X Variable 1	-0.574438925	0.022093165	-26.00075329	2.31084E-51	-0.618178171	-0.5306997	-0.61817817	-0.530699678

	[7] U.S. Govt. 30-year Treasury	[8] Risk Premium	[9] ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	4.42%	5.95%	10.36%
Blue Chip Near-Term Projected Forecast (Q1 2024 - Q1 2025) [5]	4.16%	6.09%	10.25%
Blue Chip Long-Term Projected Forecast (2025-2029) [6]	3.80%	6.30%	10.10%
AVERAGE			10.24%

Notes:

- [1] Source: Regulatory Research Associates, rate cases through September 30, 2023
[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, 2023
[5] Source: Blue Chip Financial Forecasts, Vol. 42, No. 10, October 1, 2023 at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 42, No. 6, June 1, 2023 at 14
[7] See notes [4], [5] & [6]
[8] Equals $0.084834 + (-0.574439 \times \text{Column [7]})$
[9] Equals Column [7] + Column [8]

EXPECTED EARNINGS ANALYSIS

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
		Value Line ROE 2026-2028	Value Line Total Capital 2022	Value Line Common Equity Ratio 2022	Total Equity 2022	Value Line Total Capital 2026-2028	Value Line Common Equity Ratio 2026-2028	Total Equity 2026-2028	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
Atmos Energy Corporation	ATO	10.00%	15,180.00	62.10%	9,427	22,500.00	60.00%	13,500.00	7.45%	1.036	10.36%
New Jersey Resources Corporation	NJR	11.50%	4,302.60	42.20%	1,816	6,250.00	45.00%	2,812.50	9.15%	1.044	12.00%
NiSource Inc.	NI	10.00%	17,099.00	31.60%	5,403	22,500.00	40.00%	9,000.00	10.74%	1.051	10.51%
Northwest Natural Gas Company	NWN	9.00%	2,421.60	48.50%	1,174	2,750.00	50.00%	1,375.00	3.20%	1.016	9.14%
ONE Gas Inc.	OGS	8.50%	5,246.20	49.30%	2,586	7,500.00	49.00%	3,675.00	7.28%	1.035	8.80%
Spire, Inc.	SR	8.00%	5,777.00	44.60%	2,577	8,200.00	45.00%	3,690.00	7.45%	1.036	8.29%
Median											9.75%
Mean											9.85%

Notes:

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

FLOTATION COST ADJUSTMENT

Flotation Costs from Inception to Date

										Gross Equity		
Date	Issuing Company	Shares Issued	Market Price	Offering Price	Underwriting Discount	Offering Expense	Net Proceeds	Total Flotation Costs	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	\$20,571	\$33,407,927	\$482,885,000	\$449,477,073	6.918%	
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	\$0.000	\$68,364	\$525,286	\$61,798,311	\$61,273,025	0.850%	
Total Public Issuances								\$133,735,822	\$4,603,318,319	\$4,469,582,497	2.905%	
Total Non-Public Issuances (Employee Benefit Plans)								\$0	\$1,797,989,000	\$1,797,989,000	0.000%	
Weighted Average Flotation Costs								Total	\$133,735,822	\$6,401,307,319	\$6,267,571,497	2.089%

The flotation adjustment is derived by dividing the dividend yield by 1-F (where F = flotation costs expressed in percentage terms), or by 0.9791, 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 - GAS PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
		Annualized	Stock	Dividend	Expected	Expected	Value Line	Yahoo! Finance	Zacks Earnings	Average Growth	DCF k(e)	Flotation
		Dividend	Price	Yield	Dividend	Dividend	Earnings	Earnings Growth	Growth	Estimate		Adjusted
					Yield	Yield	Growth					DCF k(e)
Atmos Energy Corporation	ATO	\$ 2.96	\$ 113.74	2.60%	2.70%	2.75%	7.00%	7.50%	7.30%	7.27%	9.96%	10.02%
New Jersey Resources Corporation	NJR	\$ 1.68	\$ 42.32	3.97%	4.08%	4.17%	5.00%	6.00%	6.00%	5.67%	9.75%	9.84%
NiSource Inc.	NI	\$ 1.00	\$ 26.62	3.76%	3.90%	3.98%	9.50%	6.70%	7.00%	7.73%	11.63%	11.72%
Northwest Natural Gas Company	NWN	\$ 1.94	\$ 39.64	4.89%	5.00%	5.11%	6.50%	2.80%	3.70%	4.33%	9.33%	9.44%
ONE Gas Inc.	OGS	\$ 2.60	\$ 73.50	3.54%	3.63%	3.71%	6.50%	5.00%	5.00%	5.50%	9.13%	9.21%
Spire, Inc.	SR	\$ 2.88	\$ 58.75	4.90%	5.05%	5.16%	8.00%	n/a	4.20%	6.10%	11.15%	11.26%
PROXY GROUP MEAN				3.94%	4.06%	4.15%	7.08%	5.60%	5.53%	6.10%	10.16%	10.25%
MEAN												10.25%
UNADJUSTED CONSTANT GROWTH DCF MEAN												10.16%
DIFFERENCE (FLOTATION COST ADJUSTMENT)												[12] 0.09%

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 30-day average as of September 30, 2023

[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 NSPM AND PROXY GROUP COMPANIES
RISK ASSESSMENT

		[1]		[2]		[3]		[4]
Company	Jurisdiction/Service	Test Year	Rate Base	Revenue Decoupling	Capital Cost Recovery Mechanism			
Atmos Energy Corporation	Kansas - Gas	Historical	Year End	Partial	Yes			
	Kentucky - Gas	Fully Forecast	Average	Partial	Yes			
	Louisiana - Gas	Partially Forecast	Average	Partial	No			
	Mississippi - Gas	Fully Forecast	Year End	Partial	Yes			
	Tennessee - Gas	Historical	Average	Partial	No			
	Texas - Gas	Historical	Year End	Partial	Yes			
New Jersey Resources Corporation	New Jersey - Gas	Partially Forecast	Year End	Full	Yes			
NiSource Inc.	Indiana - Gas	Fully Forecast	Year End	No	Yes			
	Kentucky - Gas	Fully Forecast	Average	Partial	Yes			
	Maryland - Gas	Historical	Average	Partial	Yes			
	Ohio - Gas	Partially Forecast	Year End	No	Yes			
	Pennsylvania - Gas	Fully Forecast	Year End	Partial	Yes			
	Virginia - Gas	Fully Forecast	Average	Partial	Yes			
Northwest Natural Gas Company	Oregon - Gas	Fully Forecast	Average	Partial	Yes			
	Washington - Gas	Historical	Average	No	No			
ONE Gas, Inc.	Kansas - Gas	Historical	Year End	Partial	Yes			
	Oklahoma - Gas	Historical	Year End	Partial	No			
	Texas - Gas	Historical	Year End	Partial	Yes			
Spire, Inc.	Spire Alabama Inc.	Historical	Average	Partial	No			
	Spire Gulf Inc.	Historical	Year End	Partial	No			
	Spire Missouri Inc.	Historical	Year End	Partial	Yes			
Proxy Group Operating Company Count	Fully Forecast	7	Year End	12	Full	1	Yes	15
	Partially Forecast	3	Average	9	Partial	17	No	6
	Historical	11	Date Certain	0	No	3		
	Forecast	47.62%	Year End	57.14%	RDM	85.71%	CCRM	71.43%
Northern States Power - MN (Gas)	Minnesota	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 9/30/2023

[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.

COMMON EQUITY RATIO [1]

Proxy Group Company	Ticker	2022	2021	2020	2020-2022 Average
Atmos Energy Corporation	ATO	52.91%	51.03%	58.31%	54.09%
New Jersey Resources Corporation	NJR	52.09%	51.75%	55.13%	52.99%
NiSource Inc.	NI	54.17%	54.85%	54.43%	54.48%
Northwest Natural Gas Company	NWN	47.72%	44.08%	41.92%	44.57%
One Gas Inc.	OGS	58.24%	61.09%	60.04%	59.79%
Spire Inc.	SR	47.30%	49.16%	54.34%	50.27%
Proxy Group					
MEAN		52.07%	52.00%	54.03%	52.70%
LOW		47.30%	44.08%	41.92%	44.43%
HIGH		58.24%	61.09%	60.04%	59.79%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2022	2021	2020	2020-2022 Average
Atmos Energy Corporation	ATO	52.91%	51.03%	58.31%	54.09%
New Jersey Natural Gas Company	NJR	52.09%	51.75%	55.13%	52.99%
Northwest Natural Gas Company	NWN	47.72%	44.08%	41.92%	44.57%
Columbia Gas of Kentucky, Incorporated	NI	54.91%	53.87%	54.68%	54.49%
Columbia Gas of Maryland, Incorporated	NI	51.96%	55.26%	54.95%	54.06%
Columbia Gas of Ohio, Inc.	NI	50.67%	50.79%	50.45%	50.64%
Columbia Gas of Pennsylvania, Inc.	NI	56.64%	56.05%	55.68%	56.12%
Columbia Gas of Virginia, Incorporated	NI	44.25%	44.52%	43.69%	44.15%
Northern Indiana Public Service Company	NI	56.92%	58.59%	58.01%	57.84%
Kansas Gas Service Company, Inc.	OGS	58.37%	61.37%	60.33%	60.02%
Oklahoma Natural Gas Company	OGS	58.26%	60.99%	59.85%	59.70%
Texas Gas Service Company, Inc.	OGS	58.13%	60.98%	59.99%	59.70%
Spire Alabama Inc.	SR	52.01%	56.67%	64.20%	57.63%
Spire Gulf Inc.	SR	41.35%	41.14%	39.49%	40.66%
Spire Mississippi Inc.	SR	NA	NA	NA	NA
Spire Missouri Inc.	SR	45.49%	46.20%	50.65%	47.45%

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 2020-2022 were removed from the analysis.

[3] Spire Mississippi was removed from the analysis because it is financed with 100% equity.

LONG-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2022	2021	2020	2020-2022 Average
Atmos Energy Corporation	ATO	47.09%	48.97%	41.69%	45.91%
New Jersey Resources Corporation	NJR	44.41%	42.01%	44.29%	43.57%
NiSource Inc.	NI	45.83%	45.15%	45.57%	45.52%
Northwest Natural Gas Company	NWN	45.46%	44.85%	46.45%	45.59%
One Gas Inc.	OGS	41.76%	38.91%	39.96%	40.21%
Spire Inc.	SR	39.78%	39.75%	38.60%	39.38%
Proxy Group					
MEAN		44.05%	43.27%	42.76%	43.36%
LOW		39.78%	38.91%	38.60%	39.10%
HIGH		47.09%	48.97%	46.45%	47.50%

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2022	2021	2020	2020-2022 Average
Atmos Energy Corporation	ATO	47.09%	48.97%	41.69%	45.91%
New Jersey Natural Gas Company	NJR	44.41%	42.01%	44.29%	43.57%
Northwest Natural Gas Company	NWN	45.46%	44.85%	46.45%	45.59%
Columbia Gas of Kentucky, Incorporated	NI	45.09%	46.13%	45.32%	45.51%
Columbia Gas of Maryland, Incorporated	NI	48.04%	44.74%	45.05%	45.94%
Columbia Gas of Ohio, Inc.	NI	49.33%	49.21%	49.55%	49.36%
Columbia Gas of Pennsylvania, Inc.	NI	43.36%	43.95%	44.32%	43.88%
Columbia Gas of Virginia, Incorporated	NI	55.75%	55.48%	56.31%	55.85%
Northern Indiana Public Service Company	NI	43.08%	41.41%	41.99%	42.16%
Kansas Gas Service Company, Inc.	OGS	41.63%	38.63%	39.67%	39.98%
Oklahoma Natural Gas Company	OGS	41.74%	39.01%	40.15%	40.30%
Texas Gas Service Company, Inc.	OGS	41.87%	39.02%	40.01%	40.30%
Spire Alabama Inc.	SR	33.01%	40.18%	35.80%	36.33%
Spire Gulf Inc.	SR	38.77%	42.00%	57.90%	46.22%
Spire Mississippi Inc.	SR	NA	NA	NA	NA
Spire Missouri Inc.	SR	42.91%	39.42%	38.72%	40.35%

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 2020-2022 were removed from the analysis.

[3] Spire Mississippi was removed from the analysis because it is financed with 100% equity.

SHORT-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2022	2021	2020	2020-2022 Average
Atmos Energy Corporation	ATO	0.00%	0.00%	0.00%	0.00%
New Jersey Resources Corporation	NJR	3.50%	6.25%	0.58%	3.44%
NiSource Inc.	NI	0.00%	0.00%	0.00%	0.00%
Northwest Natural Gas Company	NWN	6.82%	11.07%	11.63%	9.84%
One Gas Inc.	OGS	0.00%	0.00%	0.00%	0.00%
Spire Inc.	SR	12.92%	11.09%	7.05%	10.35%
Proxy Group					
MEAN		3.87%	4.73%	3.21%	3.94%
LOW		0.00%	0.00%	0.00%	0.00%
HIGH		12.92%	11.09%	11.63%	11.88%

SHORT-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2022	2021	2020	2020-2022 Average
Atmos Energy Corporation	ATO	0.00%	0.00%	0.00%	0.00%
New Jersey Natural Gas Company	NJR	3.50%	6.25%	0.58%	3.44%
Northwest Natural Gas Company	NWN	6.82%	11.07%	11.63%	9.84%
Columbia Gas of Kentucky, Incorporated	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Maryland, Incorporated	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Ohio, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Pennsylvania, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Virginia, Incorporated	NI	0.00%	0.00%	0.00%	0.00%
Northern Indiana Public Service Company	NI	0.00%	0.00%	0.00%	0.00%
Kansas Gas Service Company, Inc.	OGS	0.00%	0.00%	0.00%	0.00%
Oklahoma Natural Gas Company	OGS	0.00%	0.00%	0.00%	0.00%
Texas Gas Service Company, Inc.	OGS	0.00%	0.00%	0.00%	0.00%
Spire Alabama Inc.	SR	14.98%	3.15%	0.00%	6.04%
Spire Gulf Inc.	SR	19.88%	16.86%	2.61%	13.12%
Spire Mississippi Inc.	SR	NA	NA	NA	NA
Spire Missouri Inc.	SR	11.60%	14.38%	10.63%	12.20%

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 2020-2022 were removed from the analysis.

[3] Spire Mississippi was removed from the analysis because it is financed with 100% equity.