Dylan W. D'Ascendis

Direct Testimony and Exhibit

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION OF NEW MEXICO GAS COMPANY, INC. FOR APPROVAL OF REVISIONS TO ITS RATES, RULES, AND CHARGES PURSUANT TO ADVICE NOTICE NO. 96	)	
	)	**Case No. 23- 00255UT**
NEW MEXICO GAS COMPANY, INC.	)	
Applicant.	)	

DIRECT TESTIMONY AND EXHIBIT

OF

DYLAN W. D'ASCENDIS

September 14, 2023

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DYLAN W. D'ASCENDIS
NMPRC CASE NO. 23-00255-UT

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I. INTRODUCTION

A. Witness Identification

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dylan W. D'Ascendis. My business address is 3000 Atrium Way, Suite 200, Mount Laurel, NJ 08054.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Partner at ScottMadden, Inc.

B. Background and Qualifications

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I have offered expert testimony on behalf of investor-owned utilities in over 35 state regulatory commissions in the United States, the Federal Energy Regulatory Commission, the Alberta Utility Commission, one American Arbitration Association panel, and the Superior Court of Rhode Island on issues including, but not limited to, common equity cost rate, rate of return, valuation, capital structure, class cost of service, and rate design.

On behalf of the American Gas Association ("AGA"), I calculate the AGA Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured on a monthly basis. The AGA Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the AGA.

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA"). In 2011, I was awarded the professional designation "Certified Rate of Return Analyst" by SURFA, which is based on education, experience, and the successful completion of a comprehensive written examination.

I am also a member of the National Association of Certified Valuation Analysts ("NACVA") and was awarded the professional designation "Certified Valuation Analyst" by the NACVA in 2015.

I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I have also received a Master of Business Administration with high honors and concentrations in Finance and International Business from Rutgers University.

The details of my educational background and expert witness appearances are included in Appendix A.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to present evidence on behalf of New Mexico Gas Company, Inc. ("NMGC" or the "Company") regarding the appropriate rate of return on common equity ("ROE") for the Company's jurisdictional rate base. I also evaluate the reasonableness of the Company's requested capital structure.

Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR RECOMMENDATION?

A. Yes. I have prepared NMGC Exhibit DWD-1, which consists of Schedules DWD-1 through DWD-9.

Q. ARE YOU SPONSORING ANY OF THE INFORMATION REQUIRED UNDER 17.10.630 NMAC?

A. Yes, I am sponsoring the information contained in Schedule G-10 – Summary of Requested Rate of Return.

III. SUMMARY

Q. WHAT ARE YOUR RECOMMENDATIONS?

A. I recommend that the New Mexico Public Regulation Commission ("NMPRC" or the "Commission") authorize NMGC the opportunity to earn a weighted average cost of capital ("WACC") of 7.38% on its jurisdictional rate base. I recommend that the Commission approve the Company's requested capital structure which consists of 47.00% long-term debt and 53.00% common equity, as it is consistent with current and expected capital structures maintained by the Proxy Group of Natural Gas Utility companies comparable in risk to NMGC ("Utility Proxy Group") and their operating subsidiaries. The 3.86% cost of long-term debt for the Company is their 13-month average cost of debt at the end of the future test year in accordance with Commission rules. My recommended ROE for the Company is 10.50%, as will be discussed in detail below. The summary of the Company's requested WACC are shown on page 1 of Schedule DWD-1, and on Table 1, below.

Table 1: Summary of Recommended Weighted Average Cost of Capital for NMGC

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	47.00%	3.86%	1.81%
Common Equity	53.00%	10.50%	5.57%
Total	100.00%		7.38%

Q. PLEASE SUMMARIZE YOUR RECOMMENDED COMMON EQUITY COST RATE.

A. My recommended ROE of 10.50% applicable to NMGC is summarized on page 2 of Schedule DWD-1. I have assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical, risk to the Company. Using companies of relatively comparable risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] decisions. No proxy group can be identical in risk to any single company. Consequently, there must be an evaluation of relative risk between the Company and a proxy group to determine if it is appropriate to adjust the proxy group's indicated rate of return.

My recommendation results from applying several cost of common equity models, specifically the Discounted Cash Flow ("DCF") model, the Risk Premium Model ("RPM"), and the Capital Asset Pricing Model ("CAPM"), to the market data of the Utility Proxy Group whose selection criteria will be discussed below. In addition, I applied the DCF model, RPM, and CAPM to a proxy group of domestic, non-price regulated companies comparable in total risk to the Utility Proxy Group ("Non-Price Regulated Proxy Group"). The results derived from each are as follows:

[1] *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944)*("Hope").*
[2] *Bluefield Water Works Improvement Co. v. Public Serv. Comm'n*, 262 U.S. 679 (1922).

Table 2: Summary of Common Equity Cost Rates

Discounted Cash Flow Model (DCF)	9.65%
Risk Premium Model (RPM)	10.85%
Capital Asset Pricing Model (CAPM)	11.69%
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	12.15%
Indicated Range of Common Equity Cost Rates Before Adjustments	9.65% - 12.15%
Business Risk Adjustment	0.20%
Credit Risk Adjustment	0.23%
Flotation Cost Adjustment	0.09%
Recommended Range	10.17% - 12.67%
Recommended Cost of Equity Cost Rate	10.50%

The indicated ranges of common equity cost rates applicable to the Utility Proxy Group was between 9.65% and 12.15% before any Company-specific adjustments. The indicated range of ROEs applicable to the Utility Proxy Group was then adjusted upward by 0.20%, 0.23%, and 0.09% to reflect the Company's smaller relative size, greater relative credit risk, and flotation costs, respectively. These adjustments resulted in a Company-specific range of ROEs from 10.17% to 12.67%. Given the indicated range of common equity cost rates for the Company, I recommend the Commission to approve a common equity cost rate of 10.50% for NMGC in this proceeding, which is both reasonable and conservative.

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

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

- Section IV – Provides a summary of financial theory and regulatory principles pertinent to the development of the cost of common equity;
- Section V – Explains my selection of the Utility Proxy Group used to develop my cost of common equity analytical results;
- Section VI – Explains the reasonableness of the proposed capital structure;
- Section VII – Describes the analyses on which my cost of common equity recommendation is based;
- Section VIII – Summarizes my common equity cost rate before adjustments to reflect Company-specific factors;
- Section IX – Explains my adjustments to my common equity cost rate to reflect Company-specific factors; and
- Section X – Presents my conclusions.

IV. GENERAL PRINCIPLES

Q. WHAT GENERAL PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. In unregulated industries, marketplace competition is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public, while providing safe and reliable service at all times, requires a level of earnings sufficient to maintain the integrity of presently invested capital. Sufficient earnings also permit the attraction of needed new capital at a reasonable cost, for which the utility must compete with other firms of comparable risk, consistent with the fair rate of return standards established by the U.S. Supreme Court in the previously cited *Hope* and *Bluefield* cases. The U.S. Supreme Court affirmed the fair rate of return standards in *Hope*, when it stated:

> The rate-making process under the Act, *i.e.,* the fixing of 'just and reasonable' rates, involves a balancing of the investor and the consumer interests. Thus we stated in the Natural Gas Pipeline Co. case that 'regulation does not insure that the business shall produce net revenues.' 315 U.S. at page 590, 62 S.Ct. at page 745. But such considerations aside, the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. Cf. Chicago & Grand Trunk R. Co. v. Wellman, 143 U.S. 339, 345, 346 12 S.Ct. 400,402. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[3]

In summary, the U.S. Supreme Court has found a return that is adequate to attract capital at reasonable terms enables the utility to provide service while maintaining its financial integrity. As discussed above, and in keeping with established regulatory standards, that return should be commensurate with the returns expected

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[3] *Hope*, 320 U.S. 591 (1944), at 603.

elsewhere for investments of equivalent risk. Therefore, the Commission's decision in this proceeding should provide the Company with the opportunity to earn a return that is: (1) adequate to attract capital at a reasonable cost and terms; (2) sufficient to ensure their financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks.

Lastly, the required return for a regulated public utility is established on a stand-alone basis, i.e., for the utility operating company at issue in a rate case. Parent entities, like other investors, have capital constraints and must look at the attractiveness of the expected risk-adjusted return of each investment alternative in their capital budgeting process. That is, utility holding companies that own many utility operating companies have choices as to where they will invest their capital within the holding company family. Therefore, the opportunity cost concept applies regardless of the source of the funding, whether it be public funding or corporate funding.

When funding is provided by a parent entity, the return still must be sufficient to provide an incentive to allocate equity capital to the subsidiary or business unit rather than other internal or external investment opportunities. That is, the regulated subsidiary must compete for capital with all the parent company's affiliates, and with other, similarly situated companies. In that regard, investors value corporate entities on a sum-of-the-parts basis and expect each division within the parent company to provide an appropriate risk-adjusted return.

It therefore is important that the authorized ROE reflects the risks and prospects of the utility's operations and supports the utility's financial integrity from a stand-alone perspective, as measured by its combined business and financial risks. Consequently, the ROE authorized in this proceeding should be sufficient to support the operational (i.e., business risk) and financing (i.e., financial risk) of the Company on a stand-alone basis.

Q. WITHIN THAT BROAD FRAMEWORK, HOW IS THE COST OF CAPITAL ESTIMATED IN REGULATORY PROCEEDINGS?

A. Regulated utilities primarily use common stock and long-term debt to finance their permanent property, plant, and equipment (i.e., rate base). The fair rate of return for a regulated utility is based on its weighted average cost of capital, in which, as noted earlier, the costs of the individual sources of capital are weighted by their respective book values with appropriate adjustments.

The cost of capital is the return investors require to make an investment in a firm. Investors will provide funds to a firm only if the return that they *expect* is equal to, or greater than, the return that they *require* to accept the risk of providing funds to the firm.

The cost of capital (that is, the combination of the costs of debt and equity) is based on the economic principle of "opportunity costs." Investing in any asset (whether debt or equity securities) represents a forgone opportunity to invest in alternative assets. For any investment to be sensible, its expected return must be at least equal to the return expected on alternative, comparable risk investment opportunities. Because investments with like risks should offer similar returns, the opportunity cost of an investment should equal the return available on an investment of comparable risk.

Whereas the cost of debt is contractually defined and can be directly observed as the interest rate or yield on debt securities, the cost of common equity must be estimated based on market data and various financial models. Because the cost of common equity is premised on opportunity costs, the models used to determine it are typically applied to a group of "comparable" or "proxy" companies.

In the end, the estimated cost of capital should reflect the return that investors require in light of the subject company's business and financial risks, and the returns available on comparable investments.

Q. IS THE AUTHORIZED RETURN SET IN REGULATORY PROCEEDINGS GUARANTEED?

A. No, it is not. Consistent with the *Hope* and *Bluefield* standards, the ratemaking process should provide the utility a reasonable opportunity to recover its return of, and return on, its reasonably incurred investments, but it does not guarantee that return. While a utility may have control over some factors that affect the ability to earn its authorized return (e.g., management performance, operating and maintenance expenses, etc.), there are several factors beyond a utility's control that affect its ability to earn its authorized return. Those may include factors such as weather, the economy, and the prevalence and magnitude of regulatory lag.

A. <u>Business Risk</u>

Q. PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT FOR DETERMINING A FAIR RATE OF RETURN.

A. The investor-required return on common equity reflects investors' assessment of the total investment risk of the subject firm. Total investment risk is often discussed in the context of business and financial risk.

Business risk reflects the uncertainty associated with owning a company's common stock without the company's use of debt and/or preferred stock financing. One way of considering the distinction between business and financial risk is to view the former as the uncertainty of the expected earned return on common equity, assuming the firm is financed with no debt.

Examples of business risks <u>generally</u> faced by utilities include, but are not limited to, the regulatory environment, mandatory environmental compliance requirements, customer mix and concentration of customers, service territory economic conditions, market demand, risks and uncertainties of supply, operations, capital intensity, size, the degree of operating leverage, emerging technologies including distributed energy resources, and the vagaries of weather.

Although analysts, including rating agencies, may categorize business risks individually, as a practical matter, such risks are interrelated and not wholly distinct from one another. When determining an appropriate return on common equity, the relevant issue is where investors see the subject company in relation to other similarly situated utility companies (i.e., the Utility Proxy Group). To the extent investors view a company as being exposed to higher risk, the required return will increase, and vice versa.

For regulated utilities, business risks are both long-term and near-term in nature. Whereas near-term business risks are reflected in year-to-year variability in earnings and cash flow brought about by economic or regulatory factors, long-term business risks reflect the prospect of an impaired ability of investors to obtain both a fair rate of return on, and return of, their capital. Moreover, because utilities accept the obligation to provide safe, adequate, and reliable service at all times (in exchange for the opportunity to earn a fair return on their investment), they generally do not have the option to delay, defer, or reject capital investments. Because those investments are capital-intensive, utilities generally do not have the option to avoid raising external funds during periods of capital market distress, if necessary.

Because utilities invest in long-lived assets, long-term business risks are of paramount concern to equity investors. That is, the risk of not recovering the return on their investment extends far into the future. The timing and nature of events that may lead to losses, however, also are uncertain and, consequently, those risks and their implications for the required return on equity tend to be difficult to quantify. Regulatory commissions (like investors who commit their capital) must review a variety of quantitative and qualitative data and apply their reasoned judgment to determine how long-term risks weigh in their assessment of the market-required return on common equity.

B. <u>Financial Risk</u>

Q. PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT IN DETERMINING A FAIR RATE OF RETURN.

A. Financial risk is the additional risk created by the introduction of debt and preferred stock into the capital structure. The higher the proportion of debt and preferred stock in the capital structure, the higher the financial risk to common equity owners (i.e., failure to receive dividends due to default or other covenants). Therefore, consistent with the basic financial principle of risk and return, common equity investors demand higher returns as compensation for bearing higher financial risk.

Q. CAN BOND AND CREDIT RATINGS BE A PROXY FOR A FIRM'S COMBINED BUSINESS AND FINANCIAL RISKS TO EQUITY OWNERS (I.E., INVESTMENT RISK)?

A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of, similar combined business and financial risks (i.e., total risk) faced by bond investors. Although specific business or financial risks may differ between companies, the same bond/credit rating indicates that the combined risks are roughly similar from a debtholder perspective. The caveat is that these debtholder risk measures do not translate directly to risks for common equity.

V. <u>NEW MEXICO GAS COMPANY AND THE UTILITY PROXY GROUP</u>

Q. PLEASE SUMMARIZE YOUR KNOWLEDGE OF NMGC.

A. Based in Albuquerque, NMGC functions as a natural gas distribution utility and as a natural gas transmission utility. NMGC maintains 12,000 miles of natural gas pipeline to provide service to more than 545,000 residential, commercial and transportation customers. Strategically situated between two large natural gas production basins, the Company's service area encompasses 60% of the population of New Mexico. The Company has a BBB+ long-term issuer rating from Fitch Ratings and is not rated by Moody's Investor Services ("Moody's") or Standard & Poor's ("S&P"). The Company is not publicly traded as it is an operating subsidiary of Emera, Inc. Emera, Inc. is publicly traded under ticker symbol "EMA.TO".

Q. WHY IS IT NECESSARY TO DEVELOP A PROXY GROUP WHEN ESTIMATING THE ROE FOR THE COMPANY?

A. Because the Company is not publicly traded and does not have publicly traded equity securities, it is necessary to develop groups of publicly traded, comparable companies to serve as "proxies" for the Company. In addition to the analytical necessity of doing so, the use of proxy companies is consistent with the *Hope* and *Bluefield* comparable risk standards, as discussed above. I have selected two proxy groups that, in my view, are fundamentally risk-comparable to the Company: a Utility Proxy Group, and a Non-Price Regulated Proxy Group, that is comparable in total risk to the Utility Proxy Group.[4]

Even when proxy groups are carefully selected, it is common for analytical results to vary from company to company. Despite the care taken to ensure comparability, because no two companies are identical, market expectations regarding future risks and prospects will vary within the proxy group. It therefore is common for analytical results to reflect a seemingly wide range, even for a group of similarly situated companies. At issue is how to estimate the ROE from within that range. That determination will be best informed by employing a variety of sound analyses that necessarily must consider the sort of quantitative and qualitative information discussed throughout my Direct Testimony. Additionally, a relative risk analysis between the Company and the Utility Proxy Group must be made to determine whether or not explicit Company-specific adjustments need to be made to the Utility Proxy Group's indicated results.

My analyses are based on the Utility Proxy Group, which is comprised of North American gas distribution utilities. As discussed earlier, utilities must compete for capital with other companies with commensurate risk (including non-utilities) and, to do so, must be provided the opportunity to earn a fair and reasonable return.

[4] The development of the Non-Price Regulated Proxy Group is explained in more detail in Section VII.

Consequently, it is appropriate to consider the Utility Proxy Group's market data in determining the Company's ROE.

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Q. PLEASE EXPLAIN HOW YOU CHOSE THE COMPANIES IN THE UTILITY PROXY GROUP.

A. The companies selected for the Utility Proxy Group met the following criteria:

(i) They were included in the Natural Gas Utility Group of *Value Line's Standard Edition* ("*Value Line*") (May 26, 2023);

(ii) They have 60% or greater of fiscal year 2022 total operating income derived from, or 60% or greater of fiscal year 2022 total assets attributable to, regulated gas distribution operations;

(iii) At the time of preparation of this testimony, they had not publicly announced that they were involved in any major merger or acquisition activity (i.e., one publicly-traded utility merging with or acquiring another) or any other major development;

(iv) They have not cut or omitted their common dividends during the five years ended 2022 or through the time of preparation of this testimony;

(v) They have *Value Line* and Bloomberg Professional Services ("Bloomberg") adjusted Beta coefficients ("beta");

(vi) They have positive *Value Line* five-year dividends per share ("DPS") growth rate projections; and

(vii) They have *Value Line*, Zacks, or Yahoo! Finance consensus five-year earnings per share ("EPS") growth rate projections.

The following six companies met these criteria:

Table 3: Utility Proxy Group Companies

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

Q. PLEASE DESCRIBE PAGE 1 OF SCHEDULE DWD-2.

A. Page 1 of Schedule DWD-2 contains comparative capitalization and financial statistics for the Utility Proxy Group identified above for the years 2018 to 2022.

VI. <u>CAPITAL STRUCTURE AND LONG-TERM DEBT COST RATE</u>

Q. WHAT IS THE COMPANY'S REQUESTED RATEMAKING CAPITAL STRUCTURE?

A. As discussed in NMGC Witness Erik C. Buchanan's Testimony, the Company requests the use of an imputed capital structure which consists of 47.00% long-term debt and 53.00% common equity.

Q. DOES NMGC HAVE A SEPARATE CAPITAL STRUCTURE THAT IS RECOGNIZED BY INVESTORS?

A. Yes. NMGC is a separate corporate entity that has its own capital structure and issues its own debt.

Q. WHAT ARE THE TYPICAL SOURCES OF CAPITAL COMMONLY CONSIDERED IN ESTABLISHING A UTILITY'S CAPITAL STRUCTURE?

A. Common equity and long-term debt are commonly considered in establishing a utility's capital structure because they are the typical sources of capital financing a utility's rate base.

Q. PLEASE EXPLAIN.

A. Long-lived assets are typically financed with long-lived securities, so that the overall term structure of the utility's long-term liabilities (both debt and equity) closely match the life of the assets being financed. As stated by Brigham and Houston:

> In practice, firms don't finance each specific asset with a type of capital that has a maturity equal to the asset's life. However, academic studies do show that most firms tend to finance short-term assets from short-term sources and long-term assets from long-term sources.[5]

Whereas short-term debt generally has a maturity of one year or less, long-term debt may have maturities of 30 years or longer. Although there are practical financing constraints, such as the need to "stagger" long-term debt maturities, the general objective is to extend the average life of long-term debt. Still, long-term debt has a finite life, which is likely to be less than the life of the assets included in

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[5] Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, Concise 4th Ed., Thomson South-Western, 2004, at 574.

rate base. Common equity, on the other hand, is outstanding into perpetuity. Thus, common equity more accurately matches the life of the going concern of the utility, which is also assumed to operate in perpetuity. Consequently, it is both typical and important for utilities to have significant proportions of common equity in their capital structures.

Q. WHY IS IT IMPORTANT THAT THE COMPANY'S RECOMMENDED CAPITAL STRUCTURE, CONSISTING OF 47.00% LONG-TERM DEBT AND 53.00% COMMON EQUITY, BE AUTHORIZED IN THIS PROCEEDING?

A. As a preliminary matter, the Company's recommended capital structure is comparable to the capital structures maintained by the Utility Proxy Group companies and their operating subsidiaries.[6] The use of an operating subsidiary's capital structure is consistent with the Federal Energy Regulatory Commission ("FERC") precedent, under which they use the applicant's capital structure, where possible.[7] In particular, the FERC will use the utility operating company's capital structure if it meets three criteria: (1) it issues its own debt without guarantees; (2) it has its own bond rating; and (3) it has a capital structure within the range of capital structures approved by the commission.[8] The Company's requested capital structure meets all of these criteria.

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6 *See,* Schedule DWD-2.

7 *See, Transcontinental Gas Pipe Line Corp,* 80 FERC ¶ 61,157, 61,657 (1997) ("Opinion No. 414").

8 148 FERC ¶ 61,049 Docket No. EL14-12-000, at 190.

In order to provide safe, reliable, and affordable service to its customers, NMGC must meet the needs and serve the interests of its various stakeholders, including customers, shareholders, and bondholders. The interests of these stakeholder groups are aligned with maintaining a healthy balance sheet, strong credit ratings, and a supportive regulatory environment, so that the Company has access to capital on reasonable terms in order to make necessary investments.

Safe and reliable service cannot be maintained at a reasonable cost if utilities do not have the financial flexibility and strength to access competitive financing markets on reasonable terms. As NMGC Witness Erik C. Buchanan explains, an appropriate capital structure is important not only to ensure long-term financial integrity, it also is critical to enabling access to capital during constrained markets, or when near-term liquidity is needed to fund extraordinary requirements. In that important respect, the capital structure, and the financial strength it engenders, must support both normal circumstances and periods of market uncertainty. Safe and reliable service for customers cannot be sustained over the long term if the interests of shareholders and bondholders are minimized such that the public interest is not optimized. Consequently, NMGC's requested capital structure should be used to set rates in this proceeding.

Q. HOW DOES NMGC'S REQUESTED COMMON EQUITY RATIO OF 53.00% COMPARE WITH THE COMMON EQUITY RATIOS MAINTAINED BY THE UTILITY PROXY GROUP?

A. The Company's requested ratemaking common equity ratio of 53.00% is reasonable and consistent with the range of common equity ratios maintained by the Utility Proxy Group. As shown on page 2 of Schedule DWD-2, common equity ratios of the Utility Proxy Group companies range from 34.43% to 62.21% for fiscal year 2022.

I also considered *Value Line* projected capital structures for the utilities for 2026-2028. That analysis shows a range of projected common equity ratios between 40.00% and 60.00%.[9]

In addition to comparing the Company's requested common equity ratio with common equity ratios currently and expected to be maintained by the Utility Proxy Group, I also compared the Company's requested common equity ratio with the equity ratios maintained by the operating subsidiaries of the Utility Proxy Group companies. As shown on page 3 of Schedule DWD-2, common equity ratios of the operating utility subsidiaries of the Utility Proxy Group range from 33.79% to 59.89% for fiscal year end 2022.

[9] *See*, pages 3 through 8 of Schedule DWD-3.

Q. IN VIEW OF THE ABOVE, IS NMGC'S RECOMMENDED EQUITY RATIO OF 53.00% APPROPRIATE FOR RATEMAKING PURPOSES?

A. Yes, it is. The Company's recommended equity ratio of 53.00% is appropriate for ratemaking purposes in the current proceeding because it issues its own debt without guarantees, it has its own credit rating, and its capital structure is within the range of the common equity ratios currently maintained and expected to be maintained, by the Utility Proxy Group and their operating subsidiaries.

Q. WHAT IS YOUR RECOMMENDED EMBEDDED LONG-TERM DEBT COST RATE FOR THE COMPANY?

A. I recommend the 13-month average embedded long-term debt cost rate of the Company at the end of the future test year, which is 3.86%.

VII. COMMON EQUITY COST RATE MODELS

Q. IS IT IMPORTANT THAT COST OF COMMON EQUITY MODELS BE MARKET-BASED?

A. Yes. As discussed previously, regulated public utilities like NMGC must compete for equity in capital markets along with all other companies with commensurate risk, including non-utilities. The cost of common equity is thus determined based on equity market expectations for the returns of those companies. If an individual investor is choosing to invest their capital among companies with comparable risk, they will choose the company providing a higher return over a company providing a lower return.

Q. ARE YOUR COST OF COMMON EQUITY MODELS MARKET-BASED?

A. Yes. The DCF model is market-based in that market prices are used in developing the dividend yield component of the model. The RPM and CAPM are also market-based in that the bond/issuer ratings and expected bond yields/risk-free rate used in the application of the RPM and CAPM reflect the market's assessment of bond/credit risk. In addition, the use of beta to determine the equity risk premium also reflects the market's assessment of market/systematic risk, as betas are derived from regression analyses of market prices. Moreover, market prices are used in the development of the monthly returns and equity risk premiums used in the Predictive Risk Premium Model ("PRPM"), one of the specific methods used in the RPM analysis. Selection criteria for the Non-Price Regulated Proxy Group are based on regression analyses of market prices and reflect the market's assessment of total risk.

Q. WHAT ANALYTICAL APPROACHES DID YOU USE TO DETERMINE THE COMPANY'S ROE?

A. As discussed earlier, I have relied on the DCF model, the RPM, and the CAPM, which I applied to the Utility Proxy Group described above. I also applied these same models to a Non-Price Regulated Proxy Group described later in this section.

I rely on these models because reasonable investors use a variety of tools and do not rely exclusively on a single source of information or single model. Moreover, the models on which I rely focus on different aspects of return requirements and provide different insights to investors' views of risk and return. The DCF model, for example, estimates the investor-required return assuming a constant expected dividend yield and growth rate in perpetuity, while risk premium-based methods (i.e., the RPM and CAPM approaches) provide the ability to reflect investors' views of risk, future market returns, and the relationship between interest rates and the cost of common equity. Just as the use of market data for the Utility Proxy Group adds the reliability necessary to inform expert judgment in arriving at a recommended common equity cost rate, the use of multiple generally accepted common equity cost rate models also adds reliability and accuracy when arriving at a recommended common equity cost rate.

The use of multiple models also makes intuitive sense when we consider that market prices are set by the buying and selling behavior of multiple investors, whose circumstances, objectives, and constraints vary over time and across market conditions. We cannot assume a single method is the best measure of the factors motivating those decisions for all investors at all times. Giving undue weight to a single method runs the very real risk of ignoring important information provided by other methods.

In other words, no single model is more reliable than all others under all market conditions. Intuition suggests it is more appropriate to use as many methods as we reasonably can and to reflect the many factors motivating investment decisions as best we can. In this instance, intuition, financial theory,[10] and financial practice reach a common conclusion: we should apply and reasonably consider multiple methods when estimating the ROE.

Q. HAS NEW MEXICO NOTED THE IMPORTANCE OF REVIEWING MULTIPLE METHODS IN PRIOR UTILITY PROCEEDINGS?

A. Yes. Although I am not an attorney, I understand that in prior cases, the Supreme Court of New Mexico (the "Court") found that the Commission is not bound to a single method. As the Court noted in *Hobbs Gas*:[11]

> Neither New Mexico case law nor the Public Utility Act imposes any one particular method of valuation upon the Commission in ascertaining the rate base of a utility. *Mountain States Tel. v. New Mexico State Corp.*, 90 N.M. 325, 563 P.2d 588 (1977). Nor does the spirit of the statute tie the Commission down to the consideration of a single factor in establishing rates.[12]

Citing to its decision in *Mountain States Telephone*, the Court further noted that:

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[10] As Brigham explains: "Whereas debt and preferred stocks are contractual obligations which have easily determined costs, it is not at all easy to estimate [the ROE]. However, three methods can be used: (1) the Capital Asset Pricing Model (CAPM), (2) the discounted cash flow (DCF) model, and (3) the bond-yield-plus-risk-premium approach. These methods should not be regarded as mutually exclusive – no one dominates the others, and all are subject to error when used in practice. Therefore, when faced with the task of estimating a company's cost of equity, we generally use all three methods and then choose among them on the basis of our confidence in the data used for each in the specific case at hand." Eugene F. Brigham, Louis C. Gapenski, Financial Management, Theory and Practice, 7th ed., The Dryden Press, 1994, at 341.

[11] *Hobbs Gas Co. v. New Mexico Public Service Commission, 94 N.M. 731* (1980).

[12] *Hobbs Gas Co. v. New Mexico Public Service Commission, 94 N.M. 731* (1980), at 4.

> The Commission was not bound to the use of any single formula or combination of formulae in determining rates. The rate-making function involves the making of pragmatic adjustments. It is the result reached, not the method employed, which is controlling. (Citations omitted.)[13]

In *PNM Gas Services*, the Court likewise found that because of the complexity and number of variables at issue in rate proceedings, the Commission is not bound to a single formula. Again, the Court found that "…the rate-making function…involves the making of pragmatic adjustments" and that in the end, "[i]t is the result reached, not the method employed, which is controlling."[14]

Lastly, I understand that in *Zia Natural Gas*, the Court again cited back to *Mountain States Telephone*, noting the importance of the "immediate economic situation":

> [t]his Court can see no reason why it should adopt as the law of this state any single formula which has been evolved out of this history of litigation.... [T]he regulatory authorities seek a formula which will adjust rates to the *immediate economic situation*" (emphasis added).[15]

My plain reading of those decisions suggests that although the Commission historically has put emphasis on the constant growth DCF approach, it is not bound to do so. Equally important, the Court found that the immediate economic situation may call for "pragmatic adjustments" to the method used to establish the ROE, and

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13 *Hobbs Gas Co. v. New Mexico Public Service Commission, 94 N.M. 731* (1980), at 4.
14 *In re Petition of PNM Gas Services, 129 N.M. 1* (2000), at 10.
15 *In re Zia Natural Gas Co., 128 N.M. 728* (2000), at 8.

that it is the reasonableness of the ROE itself, rather than the methodology used in its determination, that controls.

A. Discounted Cash Flow Model

Q. WHAT IS THE THEORETICAL BASIS OF THE DCF MODEL?

A. The theory underlying the DCF model is that the present value of an expected future stream of net cash flows during the investment holding period can be determined by discounting those cash flows at the cost of capital, or the investors' capitalization rate. DCF theory indicates that an investor buys a stock for an expected total return rate, which is derived from the cash flows received from dividends and market price appreciation. Mathematically, the dividend yield on market price plus a growth rate equals the capitalization rate; i.e., the total common equity return rate expected by investors.

Q. WHICH VERSION OF THE DCF MODEL DID YOU USE?

A. I used the single-stage constant growth DCF model in my analyses.

Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN APPLYING THE CONSTANT GROWTH DCF MODEL.

A. The unadjusted dividend yields are based on the proxy companies' dividends as of July 14, 2023, divided by the average closing market price for the 60 trading days ended July 14, 2023.[16]

[16] *See*, Column 1, page 1 of Schedule DWD-3.

Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO THE DIVIDEND YIELD.

A. Because dividends are paid periodically (e.g. quarterly), as opposed to continuously (daily), an adjustment must be made to the dividend yield. This is often referred to as the discrete, or the "Gordon Periodic," version of the DCF model.

DCF theory calls for using the full growth rate, or D_1, in calculating the model's dividend yield component. Because the companies in the Utility Proxy Group increase their quarterly dividends at various times during the year, a reasonable assumption is to reflect one-half the annual dividend growth rate in the dividend yield component, or $D_{1/2}$. Because the dividend should be representative of the next 12-month period, this adjustment is a conservative approach that does not overstate the dividend yield. Therefore, the actual average dividend yields in Column 1, page 1 of Schedule DWD-3 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 5.

Q. PLEASE EXPLAIN THE BASIS FOR THE GROWTH RATES YOU APPLIED TO THE UTILITY PROXY GROUP IN YOUR CONSTANT GROWTH DCF MODEL.

A. Investors with more limited resources than institutional investors are likely to rely on widely available financial information services, such as *Value Line*, Zacks, and Yahoo! Finance. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as companies' abilities to effectively manage the effects of changing laws and regulations, and ever-changing economic and market conditions. For these reasons, I used analysts' five-year forecasts of EPS growth in my DCF analysis.

Over the long run, there can be no growth in DPS without growth in EPS. Security analysts' earnings expectations have a more significant influence on market prices than dividend expectations. Thus, using earnings growth rates in a DCF analysis provides a better match between investors' market price appreciation expectations and the growth rate component of the DCF.

Q. PLEASE SUMMARIZE THE CONSTANT GROWTH DCF MODEL RESULTS.

A. As shown on page 1 of Schedule DWD-3, for the Utility Proxy Group, the mean result of applying the single-stage DCF model is 9.79%, the median result is 9.50%, and the average of the two is 9.65%. In arriving at a conclusion for the constant growth DCF-indicated common equity cost rate for the Utility Proxy Group, I relied on an average of the mean and the median results of the DCF, or 9.65%. This approach considers all the proxy utilities' results, while mitigating the high and low outliers of those individual results.

Q. DID YOU CONSIDER ANY OTHER CONSTANT GROWTH DCF MODEL RESULTS?

A. Yes, I did. I recognize that in prior orders, the Commission has relied exclusively on a specific form of the constant growth DCF approach ("NM DCF").

Specifically, that form has recently included a 30-day stock price averaging period, a full dividend yield growth rate adjustment, and determined the ROE at the midpoint of the proxy group mean and mean high DCF results. Consistent with the Commission's prior precedent, I have included a NM DCF analysis incorporating the Commission's preferred inputs, as shown on page 2 of Schedule DWD-3.

Q. PLEASE EXPLAIN HOW YOU DETERMINED THE MEAN HIGH DCF RESULTS FOR THE UTILITY PROXY GROUP.

A. For each proxy company, I calculated the high DCF result by applying the highest of the three growth rates to the expected dividend yield. The mean high DCF result for the Utility Proxy Group is the average of the individual company indicated DCF result.

Q. PLEASE SUMMARIZE THE RESULTS OF THE NM DCF.

A. As shown on page 2 of Schedule DWD-3, the NM DCF as applied to the Utility Proxy Group indicated an ROE of 10.33%. While the model is presented in Schedule DWD-3, I do not directly consider the NM DCF results in the calculation of my recommended range of ROEs in this proceeding.

B. <u>The Risk Premium Model</u>

Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.

A. The RPM is based on the fundamental financial principle of risk and return; namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are behind debt holders in any claim on a company's assets and earnings. As a result, investors require higher returns from common stocks than from bonds to compensate them for bearing the additional risk.

While it is possible to directly observe bond returns and yields, investors' required common equity returns cannot be directly determined or observed. According to RPM theory, one can estimate a common equity risk premium over bonds (either historically or prospectively) and use that premium to derive a cost rate of common equity. The cost of common equity equals the expected cost rate for long-term debt capital, plus a risk premium over that cost rate, to compensate common shareholders for the added risk of being unsecured and last-in-line for any claim on the corporation's assets and earnings upon liquidation.

Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF COMMON EQUITY BASED ON THE RPM.

A. To derive my indicated cost of common equity under the RPM, I used two risk premium methods. The first method was the PRPM and the second method was a RPM using a total market approach. The PRPM estimates the risk-return relationship directly, while the total market approach indirectly derives a risk premium by using known metrics as a proxy for risk.

Q. PLEASE EXPLAIN THE PRPM.

A. The PRPM, published in the *Journal of Regulatory Economics,*[17] was developed from the work of Robert F. Engle, who shared the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series with time-varying volatility ("ARCH")".[18] Engle found that volatility changes over time and is related from one period to the next, especially in financial markets. Engle discovered that volatility of prices and returns clusters over time and is therefore highly predictable and can be used to predict future levels of risk and risk premiums.

The PRPM estimates the risk-return relationship directly, as the predicted equity risk premium is generated by predicting volatility or risk. The PRPM is not based on an <u>estimate</u> of investor behavior, but rather on an evaluation of the results of that behavior (i.e., the variance of historical equity risk premiums).

The inputs to the model are the historical returns on the common shares of each Utility Proxy Group company minus the historical monthly yield on long-term U.S. Treasury securities through June 2023. Using a generalized form of ARCH, known as GARCH, I calculated each Utility Proxy Group company's projected equity risk premium using Eviews© statistical software. When the GARCH model is applied to the historical return data, it produces a predicted GARCH variance series[19] and a

[17] Autoregressive conditional heteroscedasticity. See "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. The Journal of Regulatory Economics (December 2011), 40:261-278.

[18] <u>www.nobelprize.org</u>.

[19] Illustrated on Columns 1 and 2, page 2 of Schedule DWD-4.

GARCH coefficient[20]. Multiplying the predicted monthly variance by the GARCH coefficient and then annualizing it[21] produces the predicted annual equity risk premium. I then added the forecasted 30-year U.S. Treasury bond yield of 3.85%[22] to each company's PRPM-derived equity risk premium to arrive at an indicated cost of common equity. The 30-year U.S. Treasury bond yield is a consensus forecast derived from *Blue Chip Financial Forecasts ("Blue Chip")*[23].

Q. WHAT ARE THE INDICATED RESULTS OF THE PRPM AS APPLIED TO YOUR UTILITY PROXY GROUP?

A. The mean PRPM indicated common equity cost rate for the Utility Proxy Group is 11.20%, the median is 10.28%, and the average of the two is 10.74%. Consistent with my reliance on the average of the median and mean results of the DCF models, I relied on the average of the mean and median results of the Utility Proxy Group PRPM to calculate a cost of common equity rate of 10.74%.

Q. PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.

A. The total market approach RPM adds a prospective public utility bond yield to an average of: (1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, (2) an equity risk premium based on the S&P Utilities

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20 Illustrated on Column 4, page 2 of Schedule DWD-4.
21 Annualized Return = (1 + Monthly Return) ^12 – 1.
22 *See,* Column 6, page 2 of Schedule DWD-4.
23 *Blue Chip Financial Forecasts*, June 1, 2023 at page 14 and June 30, 2023 at page 2.

Index, and (3) an equity risk premium based on authorized ROEs for natural gas distribution utilities.

Q. PLEASE EXPLAIN THE BASIS OF THE EXPECTED BOND YIELD OF 5.44% APPLICABLE TO THE UTILITY PROXY GROUP.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. I relied on a consensus forecast of about 50 economists of the expected yield on Aaa rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter of 2024, and *Blue Chip's* long-term projections for 2025 to 2029 and 2030 to 2034. As shown on line 1, page 3 of Schedule DWD-4, the average expected yield on Moody's Aaa rated corporate bonds is 4.75%. To derive an expected yield on Moody's A2 rated public utility bonds, I made an upward adjustment of 0.69%, which represents a recent spread between Aaa rated corporate bonds and A2 rated public utility bonds, in order to adjust the expected Aaa rated corporate bond yield to an equivalent A2 rated public utility bond yield.[24] Adding that recent 0.69% spread to the expected Aaa rated corporate bond yield of 4.75% results in an expected A2 rated public utility bond yield of 5.44%.

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[24] As shown on line 2 and explained in note 2, page 3 of Schedule DWD-4.

I then reviewed the average credit rating for the Utility Proxy Group from Moody's to determine if an adjustment to the estimated A2 rated public utility bond was necessary. Since the Utility Proxy Group's average Moody's long-term issuer rating is A2, no other adjustment is needed to make the A2 prospective bond yield applicable to the A2 rated public utility bond. The results are a 5.44% expected bond yield applicable to the Utility Proxy Group.

Table 4: Summary of the Calculation of the Utility Proxy Group Projected Bond Yield[25]

Prospective Yield on Moody's Aaa Rated Corporate Bonds (*Blue Chip*)	4.75%
Adjustment to Reflect Yield Spread Between Moody's Aaa Rated Corporate Bonds and Moody's A2 Rated Utility Bonds	0.69%
Prospective Bond Yield Applicable to the Utility Proxy Group	5.44%

Q. PLEASE EXPLAIN HOW THE BETA-DERIVED EQUITY RISK PREMIUM IS DETERMINED.

A. The components of the beta-derived risk premium model are: (1) an expected market equity risk premium over corporate bonds, and (2) the beta. The derivation of the beta-derived equity risk premium that I applied to the Utility Proxy Group is shown on lines 1 through 9, page 8 of Schedule DWD-4. The total beta-derived equity risk premium I applied is based on an average of three historical market data-

[25] As shown on page 3 of Schedule DWD-4.

based equity risk premiums, two *Value Line*-based equity risk premiums, and one Bloomberg-based equity risk premium. Each of these is described below.

Q. HOW DID YOU DERIVE A MARKET EQUITY RISK PREMIUM BASED ON LONG-TERM HISTORICAL DATA?

A. To derive a historical market equity risk premium, I used the most recent holding period returns for the large company common stocks from the Stocks, Bonds, Bills, and Inflation ("SBBI") Yearbook 2023 ("SBBI - 2023")[26] less the average historical yield on Moody's Aaa/Aa rated corporate bonds for the period 1928 to 2022. Using holding period returns over a very long time is appropriate because it is consistent with the long-term investment horizon presumed by investing in a going concern, i.e., a company expected to operate in perpetuity.

SBBI's long-term arithmetic mean monthly total return rate on large company common stocks was 11.78% and the long-term arithmetic mean monthly yield on Moody's Aaa/Aa rated corporate bonds was 5.96%.[27] As shown on line 1, page 8 of Schedule DWD-4, subtracting the mean monthly bond yield from the total return on large company stocks results in a long-term historical equity risk premium of 5.82%.

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26 SBBI Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2022.

27 As explained in note 1, page 9 of Schedule DWD-4.

I used the arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa rated corporate bonds, because they are appropriate for the purpose of estimating the cost of capital as noted in SBBI - 2023.[28] Using the arithmetic mean return rates and yields is appropriate because historical total returns and equity risk premiums provide insight into the variance and standard deviation of returns needed by investors in estimating future risk when making a current investment. If investors relied on the geometric mean of historical equity risk premiums, they would have no insight into the potential variance of future returns, because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, which is critical to risk analysis.

Q. PLEASE EXPLAIN THE DERIVATION OF THE REGRESSION-BASED MARKET EQUITY RISK PREMIUM.

A. To derive the regression-based market equity risk premium of 7.46% shown on line 2, page 8 of Schedule DWD-4, I used the same monthly annualized total returns on large company common stocks relative to the monthly annualized yields on Moody's Aaa/Aa rated corporate bonds as mentioned above. I modeled the relationship between interest rates and the market equity risk premium using the observed monthly market equity risk premium as the dependent variable, and the monthly yield on Moody's Aaa/Aa rated corporate bonds as the independent variable. I then used a linear Ordinary Least Squares ("OLS") regression, in which

[28] SBBI - 2023, at page 194.

the market equity risk premium is expressed as a function of the Moody's Aaa/Aa rated corporate bonds yield:

$$RP = \alpha + \beta (R_{Aaa/Aa})$$

Q. PLEASE EXPLAIN THE DERIVATION OF THE PRPM EQUITY RISK PREMIUM.

A. I used the same PRPM approach described above to the PRPM equity risk premium. The inputs to the model are the historical monthly returns on large company common stocks minus the monthly yields on Moody's Aaa/Aa rated corporate bonds during the period from January 1928 through June 2023.[29] Using the previously discussed generalized form of ARCH, known as GARCH, the projected equity risk premium is determined using Eviews© statistical software. The resulting PRPM predicted a market equity risk premium of 8.70%.[30]

Q. PLEASE EXPLAIN THE DERIVATION OF A PROJECTED EQUITY RISK PREMIUM BASED ON *VALUE LINE* DATA FOR YOUR RPM ANALYSIS.

A. As noted above, because both ratemaking and the cost of capital are prospective, a prospective market equity risk premium is needed. The derivation of the forecasted or prospective market equity risk premium can be found in note 4, page 8 of Schedule DWD-4. Consistent with my calculation of the dividend yield component

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29 Data from January 1926 to December 2022 is from <u>SBBI - 2023</u>. Data from January 2023 to June 2023 is from Bloomberg.

30 Shown on line 3, page 8 of Schedule DWD-4.

in my DCF analysis, this prospective market equity risk premium is derived from an average of the three- to five-year median market price appreciation potential by *Value Line* for the 13 weeks ended July 14, 2023, plus an average of the median estimated dividend yield for the common stocks of the 1,700 firms covered in *Value Line*'s Standard Edition.[31]

The average median expected price appreciation is 63%, which translates to a 12.99% annual appreciation, and when added to the average of *Value Line's* median expected dividend yields of 2.32%, equates to a forecasted annual total return rate on the market of 15.31%. The forecasted Moody's Aaa rated corporate bond yield of 4.75% is deducted from the total market return of 15.31%, resulting in an equity risk premium of 10.56%, as shown on line 4, page 8 of Schedule DWD-4.

Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED ON THE S&P 500 COMPANIES.

A. Using data from *Value Line*, I calculated an expected total return on the S&P 500 companies using expected dividend yields and long-term growth estimates as a proxy for capital appreciation. The expected total return for the S&P 500 is 14.14%. Subtracting the prospective yield on Moody's Aaa rated corporate bonds of 4.75% results in a 9.39% projected equity risk premium.

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[31] As explained in detail in note 1, page 2 of Schedule DWD-5.

Q. PLEASE EXPLAIN THE DERIVATION OF AN EQUITY RISK PREMIUM BASED ON BLOOMBERG DATA.

A. Using data from Bloomberg, I calculated an expected total return on the S&P 500 using expected dividend yields and long-term growth estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 16.04%. Subtracting the prospective yield on Moody's Aaa rated corporate bonds of 4.75% results in an 11.29% projected equity risk premium.

Q. WHAT WAS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM FOR USE IN YOUR RPM ANALYSIS?

A. I gave equal weight to all six equity risk premiums based on each source - historical, *Value Line*, and Bloomberg - in arriving at an 8.87% equity risk premium.

Table 5: Summary of the Calculation of the Equity Risk Premium Using Total Market Returns[32]

Historical Spread Between Total Returns of Large Stocks and Aaa and Aa2 Rated Corporate Bond Yields (1928 – 2022)	5.82%
Regression Analysis on Historical Data	7.46%
PRPM Analysis on Historical Data	8.70%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected Aaa Corporate Bond Yields	10.56%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected Aaa Corporate Bond Yields	9.39%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected Aaa Corporate Bond Yields	11.29%
Average	8.87%

After calculating the average market equity risk premium of 8.87%, I adjusted it by the beta to account for the risk of the Utility Proxy Group. As discussed below, the beta is a meaningful measure of prospective relative risk to the market as a whole, and is a logical way to allocate a company's, or proxy group's, share of the market's total equity risk premium relative to corporate bond yields. As shown on page 1 of Schedule DWD-5, the average of the mean and median beta for the Utility Proxy Group is 0.77. Multiplying the 0.77 average beta by the market equity risk premium of 8.87% results in a beta-adjusted equity risk premium for the Utility Proxy Group of 6.83%.

[32] As shown on page 8 of Schedule DWD-4.

Q. HOW DID YOU DERIVE THE EQUITY RISK PREMIUM BASED ON THE S&P UTILITY INDEX AND MOODY'S A2 RATED PUBLIC UTILITY BONDS?

A. I estimated three equity risk premiums based on S&P Utility Index holding returns, and two equity risk premiums based on the expected returns of the S&P Utilities Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P Utility Index holding period returns, I derived a long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.63% and monthly Moody's A2 rated public utility bond yields of 6.44% from 1928 to 2022, to arrive at an equity risk premium of 4.20%.[33] I then used the same historical data to derive an equity risk premium of 5.16% based on a regression of the monthly equity risk premiums. The final S&P Utility Index holding period equity risk premium involved applying the PRPM using the historical monthly equity risk premiums from January 1928 to June 2023 to arrive at a PRPM-derived equity risk premium of 5.24% for the S&P Utility Index.

I then derived expected total return on the S&P Utilities Index of 10.00% using data from *Value Line* and Bloomberg, respectively, and subtracted the prospective Moody's A2 rated public utility bond yield of 5.44%[34], which resulted in an equity risk premium of 4.56%. As with the market equity risk premiums, I averaged each

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[33] As shown on line 1, page 12 of Schedule DWD-4.
[34] Derived on line 3, page 3 of Schedule DWD-4.

risk premium based on each source (i.e., historical and *Value Line*) to arrive at my utility-specific equity risk premium of 4.79%.

Table 6: Summary of the Calculation of the Equity Risk Premium Using S&P Utility Index Holding Returns[35]

Historical Spread Between Total Returns of the S&P Utilities Index and A2 Rated Utility Bond Yields (1928 – 2022)	4.20%
Regression Analysis on Historical Data	5.16%
PRPM Analysis on Historical Data	5.24%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P Utilities Index less Projected A2 Utility Bond Yields	4.56%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P Utilities Index less Projected A2 Utility Bond Yields	NMF[36]
Average	4.79%

Q. HOW DID YOU DERIVE AN EQUITY RISK PREMIUM OF 4.92% BASED ON AUTHORIZED ROES FOR GAS DISTRIBUTION UTILITIES?

A. The equity risk premium of 4.92% shown on line 3, page 7 of Schedule DWD-4 is the result of a regression analysis based on regulatory awarded gas distribution ROEs related to the yields on Moody's A rated public utility bonds. That analysis is shown on page 13 of Schedule DWD-4. Page 13 of Schedule DWD-4 contains

35 As shown on page 12 of Schedule DWD-4.

36 "NMF" = Not Meaningful Figure. Using data from Bloomberg Professional Services for the S&P Utilities Index, an expected return of 4.25% was derived based on expected dividend yields as a proxy for income returns and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 5.44%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of -1.19%. (4.25% - 5.44% = -1.19%). Because a negative risk premium is inconsistent with financial theory, it is not included in the final average.

the graphical results of a regression analysis of 821 rate cases for gas distribution utilities which were fully litigated during the period from January 1, 1980 through July 14, 2023. It shows the implicit equity risk premium relative to the yields on A2 rated public utility bonds immediately prior to the issuance of each regulatory decision. It is readily discernible that there is an inverse relationship between the yield on A2 rated public utility bonds and equity risk premiums. In other words, as interest rates decline, the equity risk premium rises and vice versa, a result consistent with financial literature on the subject.[37] I used the regression results to estimate the equity risk premium applicable to the projected yield on Moody's A2 rated public utility bonds. Given the expected A2 rated utility bond yield of 5.44%, it can be calculated that the indicated equity risk premium applicable to that bond yield is 4.92%, which is shown on line 3, page 7 of Schedule DWD-4.

Q. WHAT IS YOUR CONCLUSION OF AN EQUITY RISK PREMIUM FOR USE IN YOUR TOTAL MARKET APPROACH RPM ANALYSIS?

A. The equity risk premiums I applied to the Utility Proxy Group is 5.51%, which is the average of the beta-adjusted equity risk premium for the Utility Proxy Group, the S&P Utilities Index, and the authorized return utility equity risk premiums of 6.83%, 4.79%, and 4.92%, respectively.[38]

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37 *See*, *e.g.*, Robert S. Harris and Felicia C. Marston, *The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts*, Journal of Applied Finance, Vol. 11, No. 1, 2001, at 11-12; Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, Financial Management, Spring 1985, at pp. 33-45.

38 As shown on page 7 of Schedule DWD-4.

Q. WHAT IS THE INDICATED RPM COMMON EQUITY COST RATE BASED ON THE TOTAL MARKET APPROACH?

A. As shown on line 5, page 3 of Schedule DWD-4, and shown on Table 7, below, I calculated a common equity cost rate of 10.95% for the Utility Proxy Group based on the total market approach RPM.

Table 7: Summary of the Total Market Return Risk Premium Model[39]

Prospective Moody's A2 Rated Utility Bond Applicable to the Utility Proxy Group	5.44%
Prospective Equity Risk Premium	5.51%
Indicated Cost of Common Equity	10.95%

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE PRPM AND THE TOTAL MARKET APPROACH RPM?

A. As shown on page 1 of Schedule DWD-4, the indicated RPM-derived common equity cost rate is 10.85%, which gives equal weight to the PRPM (10.74%) and the adjusted-market approach results (10.95%).

C. The Capital Asset Pricing Model

Q. PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.

A. CAPM theory defines risk as the co-variability of a security's returns with the market's returns as measured by the beta (β). A beta less than 1.0 indicates lower

39 As shown on page 3 of Schedule DWD-4.

variability than the market as a whole, while a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all non-market or unsystematic risk can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors only require compensation for systematic risk, which is the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by beta. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta\,(R_m - R_f)$$

Where:

R_s = Return rate on the common stock

R_f = Risk-free rate of return

R_m = Return rate on the market as a whole

β = Adjusted beta (volatility of the security relative to the market as a whole)

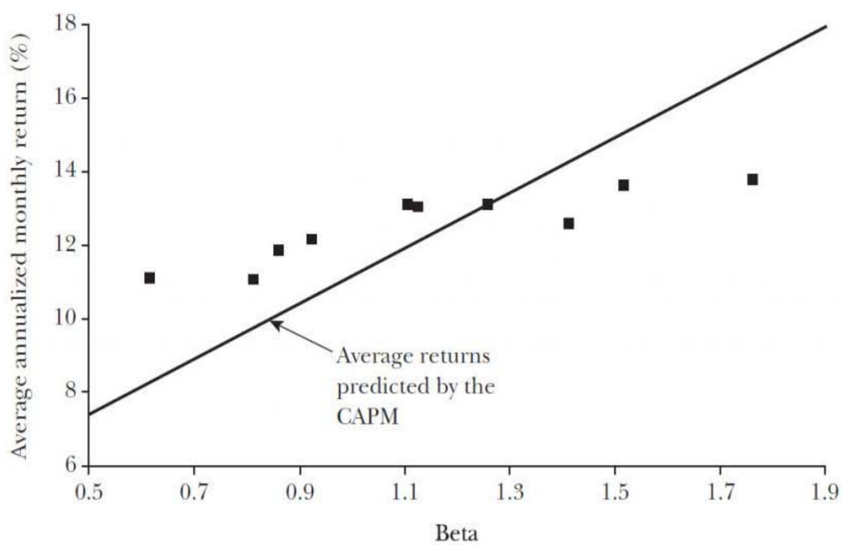
Numerous tests of the CAPM have measured the extent to which security returns and beta are related as predicted by the CAPM, confirming its validity. The empirical CAPM ("ECAPM") reflects the reality that while the results of these tests support the notion that the beta is related to security returns, the empirical Security

Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicted SML.[40]

The ECAPM reflects this empirical reality. Fama and French clearly state regarding their Figure 2, below, that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low."[41]

Figure 2 http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430

Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003



Morin also states that:

> With few exceptions, the empirical studies agree that … low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.[42]

* * *

40 Roger A. Morin, Modern Regulatory Finance, at page 223 ("Morin").

41 Eugene F. Fama and Kenneth R. French, *The Capital Asset Pricing Model: Theory and Evidence*, Journal of Economic Perspectives, Vol. 18, No. 3, Summer 2004 at p. 33 ("Fama & French").

42 Morin, at p. 207.

> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:
>
> $$K = R_F + x\,(R_M - R_F) + (1\text{-}x)\ \beta(R_M - R_F)$$
>
> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:
>
> $$K = R_F + 0.25(R_M - R_F) + 0.75\ \beta(R_M - R_F)$$[43]

Fama and French provide similar support for the ECAPM when they state:

> The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too "flat."… The regressions consistently find that the intercept is greater than the average risk-free rate… and the coefficient on beta is less than the average excess market return… This is true in the early tests… as well as in more recent cross-section regression tests, like Fama and French (1992).[44]

Finally, Fama and French further note:

> Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Lintner CAPM predicts. The returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return is 11.1 percent. The predicted return on the portfolio with the highest beta is 16.8 percent per year; the actual is 13.7 percent.[45]

Clearly, the justification from Morin, and Fama and French, along with their reviews of other academic research on the CAPM, validate the use of the ECAPM.

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43 Morin, at p. 221.
44 Fama & French, at 32.
45 Fama & French, at 33.

In view of theory and practical research, I have applied both the traditional CAPM and the ECAPM to the companies in the Utility Proxy Group and averaged the results.

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

A. For the beta in my CAPM analysis, I considered two sources: *Value Line* and Bloomberg. While both of those services adjust their calculated (or "raw") betas to reflect the tendency of beta to regress to the market mean of 1.00, *Value Line* calculates beta over a five-year period, while Bloomberg calculates it over a two-year period.

Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF RETURN.

A. As shown in Column 5, page 1 of Schedule DWD-5, the risk-free rate adopted for both applications of the CAPM is 3.85%. This risk-free rate is based on the average of the *Blue Chip* consensus forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters ending with the fourth calendar quarter of 2024, and long-term projections for the years 2025 to 2029 and 2030 to 2034.

Q. WHY IS THE YIELD ON LONG-TERM U.S. TREASURY BONDS APPROPRIATE FOR USE AS THE RISK-FREE RATE?

A. The yield on long-term U.S. Treasury bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on Moody's A rated public utility bonds; the long-term investment horizon inherent in utilities' common stocks; and the long-term life of the jurisdictional rate base to which the allowed fair rate of return (i.e., cost of capital) will be applied. In contrast, short-term U.S. Treasury yields are more volatile and largely a function of Federal Reserve monetary policy.

Q. PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED RISK PREMIUM FOR THE MARKET USED IN YOUR CAPM ANALYSES.

A. The basis of the market risk premium is explained in detail in note 1 on Schedule DWD-5. As discussed above, the market risk premium is derived from an average of three historical data-based market risk premiums, two *Value Line* data-based market risk premiums, and one Bloomberg data-based market risk premium.

The long-term income return on U.S. Government securities of 5.00% was deducted from the SBBI - 2023 monthly historical total market return of 12.03%, which results in an historical market equity risk premium of 7.03%.[46] I applied a linear OLS regression to the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government securities from SBBI - 2023. That regression analysis yielded a market equity risk premium of 8.59%. The PRPM market equity risk premium is 9.69% and is derived using the PRPM relative to the yields on long-term U.S. Treasury securities from January 1926 through June 2023.

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46 SBBI - 2023, at Appendix A-1 (1) through A-1 (3) and Appendix A-7 (19) through A-7 (21).

The *Value Line*-derived forecasted total market equity risk premium is derived by deducting the forecasted risk-free rate of 3.85%, discussed above, from the *Value Line* projected total annual market return of 15.31%, resulting in a forecasted total market equity risk premium of 11.46%. The S&P 500 projected market equity risk premium using *Value Line* data is derived by subtracting the projected risk-free rate of 3.85% from the projected total return of the S&P 500 of 14.14%. The resulting market equity risk premium is 10.29%.

The S&P 500 projected market equity risk premium using Bloomberg data is derived by subtracting the projected risk-free rate of 3.85% from the projected total return of the S&P 500 of 16.04%. The resulting market equity risk premium is 12.19%.

These six measures, when averaged, result in an average total market equity risk premium of 9.87%.

Table 8: Summary of the Calculation of the Market Risk Premium for Use in the CAPM[47]

Historical Spread Between Total Returns of Large Stocks and Long-Term Government Bond Yields (1926 – 2022)	7.03%
Regression Analysis on Historical Data	8.59%
PRPM Analysis on Historical Data	9.69%
Prospective Equity Risk Premium using Total Market Returns from *Value Line* Summary & Index less Projected 30-Year Treasury Bond Yields	11.46%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from *Value Line* for the S&P 500 less Projected 30-Year Treasury Bond Yields	10.29%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected 30-Year Treasury Bond Yields	12.19%
Average	9.87%

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL AND EMPIRICAL CAPM TO THE UTILITY PROXY GROUP?

A. As shown on page 1 of Schedule DWD-5, the mean result of my CAPM/ECAPM analyses for the Utility Proxy Group is 11.68%, the median is 11.70%, and the average of the two is 11.69%. Consistent with my reliance on the average of mean and median DCF results discussed above, the indicated common equity cost rate using the CAPM/ECAPM is 11.69%.

47 As shown on page 2 of Schedule DWD-5.

D. Common Equity Cost Rates for a Proxy Group of Domestic, Non-Price Regulated Companies Based on the DCF, RPM, and CAPM

Q. WHY DID YOU ALSO CONSIDER A PROXY GROUP OF DOMESTIC, NON-PRICE REGULATED COMPANIES?

A. In the *Hope* and *Bluefield* cases, the U.S. Supreme Court did not specify that comparable risk companies had to be utilities. Because the purpose of rate regulation is to be a substitute for marketplace competition, non-price regulated firms operating in the competitive marketplace make an excellent proxy if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of such domestic, non-price regulated competitive firms theoretically and empirically results in a proxy group that is comparable in total risk to the Utility Proxy Group, because all of these companies compete for capital in the exact same markets.

Q. HOW DID YOU SELECT NON-PRICE REGULATED COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

A. In order to select a proxy group of domestic, non-price regulated companies similar in total risk to the Utility Proxy Group, I relied on beta and related statistics derived from *Value Line* regression analyses of weekly market prices over the most recent 260 weeks (i.e., five years). These selection criteria resulted in a proxy group of 46 domestic, non-price regulated firms comparable in total risk to the Utility Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable company-specific risks. The criteria used in selecting the domestic, non-price regulated firms was:

(i) They must be covered by *Value Line Investment Survey* (Standard Edition);

(ii) They must be domestic, non-price regulated companies, i.e., not utilities;

(iii) Their unadjusted betas must lie within plus or minus two standard deviations of the average unadjusted beta of the Utility Proxy Group; and

(iv) The residual standard errors of the *Value Line* regressions which gave rise to the unadjusted betas must lie within plus or minus two standard deviations of the average residual standard error of the Utility Proxy Group.

Betas measure market, or systematic, risk, which is not diversifiable. The residual standard errors of the regressions measure each firm's company-specific, diversifiable risk. Companies that have similar betas <u>and</u> similar residual standard errors resulting from the same regression analyses have similar total investment risk.

Q. HAVE YOU PREPARED A SCHEDULE WHICH SHOWS THE DATA FROM WHICH YOU SELECTED THE 46 DOMESTIC, NON-PRICE REGULATED COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

A. Yes, the basis of my selection and both proxy groups' regression statistics are shown in Schedule DWD-6.

Q. DID YOU CALCULATE COMMON EQUITY COST RATES USING THE DCF MODEL, RPM, AND CAPM FOR THE NON-PRICE REGULATED PROXY GROUP?

A. Yes. Because the DCF model, RPM, and CAPM have been applied in an identical manner as described above, I will not repeat the details of the rationale and application of each model. One exception is in the application of the RPM, where I did not use public utility-specific equity risk premiums, nor did I apply the PRPM to the individual non-price regulated companies.

Page 2 of Schedule DWD-7 derives the constant growth DCF model common equity cost rate. As shown, the indicated common equity cost rate using the constant growth DCF for the Non-Price Regulated Proxy Group comparable in total risk to the Utility Proxy Group is 10.60%.

Pages 3 through 5 of Schedule DWD-7 contain the data and calculations that support the 13.10% RPM common equity cost rate. As shown on line 1, page 4 of Schedule DWD-7, the consensus prospective yield on Moody's Baa2 rated corporate bonds for the six quarters ending in the fourth quarter of 2024, and for the years 2025 to 2029 and 2030 to 2034, is 5.73%.[48] Since the Non-Price Regulated Proxy Group has an average Moody's long-term issuer rating of Baa1, a downward adjustment of 0.17% to the projected Baa2 corporate bond yield is

48 *Blue Chip Financial Forecasts*, June 1, 2023, at page 14 and June 30, 2023, at page 2.

necessary to reflect the difference in ratings,[49] which results in a projected Baa1 corporate bond yield of 5.56%.

When the beta-adjusted risk premium of 7.54%[50] relative to the Non-Price Regulated Proxy Group is added to the prospective Baa1 rated corporate bond yield of 5.56%, the indicated RPM common equity cost rate is 13.10%. Page 7 of Schedule DWD-7 contains the inputs and calculations that support my indicated CAPM/ECAPM common equity cost rate of 12.30%.

Q. WHAT IS THE COST RATE OF COMMON EQUITY BASED ON THE NON-PRICE REGULATED PROXY GROUP COMPARABLE IN TOTAL RISK TO THE UTILITY PROXY GROUP?

A. As shown on page 1 of Schedule DWD-7, the results of the common equity models applied to the Non-Price Regulated Proxy Group that are comparable in total risk to the Utility Proxy Group are as follows:

[49] As demonstrated in line 2 and described in note 2, page 3 of Schedule DWD-7.
[50] Derived on page 5 of Schedule DWD-7.

Table 9: Summary of Common Equity Cost Rates for the Non-Price Regulated Proxy Group[51]

Discounted Cash Flow Model	10.60%
Risk Premium Model	13.10%
Capital Asset Pricing Model	12.30%
Mean	12.00%
Median	12.30%
Average of Mean and Median	12.15%

The average of the mean and median of these models is 12.15%, which I used as the indicated common equity cost rates for the Non-Price Regulated Proxy Group.

VIII. CONCLUSION OF COMMON EQUITY COST RATES BEFORE ADJUSTMENTS

Q. WHAT ARE THE INDICATED COMMON EQUITY COST RATES FOR THE UTILITY PROXY GROUP BEFORE ADJUSTMENTS?

A. By applying multiple cost of common equity models to the Utility Proxy Group and the Non-Price Regulated Proxy Group, the range of indicated cost of common equity before any relative risk adjustments is from 9.65% to 12.15%.

I used multiple cost of common equity models as primary tools in arriving at my recommended range of common equity cost rates, because no single model is so inherently precise that it can be relied on to the exclusion of other theoretically sound models. Using multiple models adds reliability to the estimated common

[51] As shown on page 1 of Schedule DWD-7.

equity cost rate, with the prudence of using multiple cost of common equity models supported in both the financial literature and regulatory precedent.

As will be discussed below, the Company has greater risk than the Utility Proxy Group. Because of this, the indicated range of model results based on the Utility Proxy Group must be adjusted to reflect the Company's greater relative risk.

IX. <u>ADJUSTMENTS TO THE COMMON EQUITY COST RATES</u>

A. <u>Size Adjustment</u>

Q. DOES THE COMPANY'S SMALLER SIZE RELATIVE TO THE UTILITY PROXY GROUP INCREASE ITS BUSINESS RISK?

A. Yes. The Company's smaller size relative to the Utility Proxy Group indicates greater relative business risk for the Company because, all else being equal, size has a material bearing on risk.

Size affects business risk because smaller companies generally are less able to cope with significant events that affect sales, revenues, and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a smaller company than on a bigger company with a larger, more diverse, customer base.

As further evidence that smaller firms are riskier, investors generally demand greater returns from smaller firms to compensate for less marketability and liquidity of their securities. Kroll's Cost of Capital Navigator: U.S. Cost of Capital Module ("Kroll") discusses the nature of the small-size phenomenon, providing an indication of the magnitude of the size premium based on several measures of size. In discussing "Size as a Predictor of Equity Premiums," Kroll states:

> The size effect is based on the empirical observation that companies of smaller size are associated with greater risk and, therefore, have greater cost of capital [sic]. The "size" of a company is one of the most important risk elements to consider when developing cost of equity capital estimates for use in valuing a business simply because size has been shown to be a *predictor* of equity returns. In other words, there is a significant (negative) relationship between size and historical equity returns - as size *decreases*, returns tend to *increase*, and vice versa. (footnote omitted) (emphasis in original)[52]

Furthermore, in "The Capital Asset Pricing Model: Theory and Evidence," Fama and French note size is indeed a risk factor which must be reflected when estimating the cost of common equity. On page 14, they note:

> . . . the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariances) in returns that are not captured by the market return and are priced separately from market betas.[53]

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52 Kroll, Cost of Capital Navigator: U.S. Cost of Capital Module, Size as a Predictor of Equity Returns, at 1.

53 Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence," *Journal of Economic Perspectives*, Volume 18, Number 3, Summer 2004, at 25-43.

Based on this evidence, Fama and French proposed their three-factor model which includes a size variable in recognition of the effect size has on the cost of common equity.

Also, it is a basic financial principle that the use of funds invested, and not the source of funds, is what gives rise to the risk of any investment.[54] Eugene Brigham, a well-known authority, states:

> A number of researchers have observed that portfolios of small-firm stocks have earned consistently higher average returns than those of large-firm stocks; this is called the "small-firm effect." On the surface, it would seem to be advantageous to the small firm to provide average returns in the stock market that are higher than those of large firms. In reality, it is bad news for the small firm; **what the small-firm effect means is that the capital market demands higher returns on stocks of small firms than on otherwise similar stocks of large firms**. (emphasis added)[55]

Consistent with the financial principle of risk and return discussed above, increased relative risk due to small size must be considered in the allowed rate of return on common equity. Therefore, the Commission's authorization of a cost rate of common equity in this proceeding must appropriately reflect the Company's unique risks, including their small size, which is justified and supported above by evidence in the financial literature.

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[54] Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance (McGraw-Hill Book Company, 1996), at 204-205, 229.

[55] Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989), at 623.

Q. IS THERE A WAY TO QUANTIFY A RELATIVE RISK ADJUSTMENT DUE TO THE COMPANY'S SMALL SIZE RELATIVE TO THE UTILITY PROXY GROUP?

A. Yes. The Company has greater relative risk than the average utility in the Utility Proxy Group because of its smaller size compared with the utilities in the proxy group, as measured by an estimated market capitalization of common equity for the jurisdictional operations of each company.

Table 10: Size as Measured by Market Capitalization for NMGC and the Utility Proxy Group[56]

	Market Capitalization* ($ Millions)	Times Greater than The Company
NMGC	$881.450	
Utility Proxy Group	$4,331.038	4.9x

NMGC's estimated market capitalization was $881.450 million as of July 14, 2023, compared with the median market capitalization of the Utility Proxy Group of $4.331 billion as of July 14, 2023. The Utility Proxy Group's market capitalization is 4.9 times the size of NMGC's estimated market capitalization.

[56] From page 1 of Schedule DWD-8.

As a result, it is necessary to upwardly adjust the indicated common equity cost rate attributable to the Utility Proxy Group to reflect the Company's greater risk due to its smaller relative size. The determination is based on the size premiums for portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ listed companies ranked by deciles for the 1926 to 2022 period. The average size premium for the Utility Proxy Group with market capitalizations of $4.331 billion falls in the 4th decile, while NMGC's estimated market capitalization of $881.450 million places it in the 7th decile. The size premium spread between the 4th decile and the 7th decile is 0.79%. Even though a size premium of 0.79% is indicated, I only applied a premium of 0.20% in order to be conservative.

Q. SINCE THE COMPANY IS PART OF A LARGER COMPANY, WHY IS THE SIZE OF EMERA, INC. NOT MORE APPROPRIATE TO USE WHEN DETERMINING THE SIZE ADJUSTMENT?

A. The return derived in this proceeding will not apply to Emera, Inc.'s operations as a whole, but only to NMGC. Emera, Inc. is the sum of its constituent parts, including those constituent parts' ROEs. Potential investors in Emera, Inc. are aware that it is a combination of operations in each state, and that each state's operations experience the operating risks specific to their jurisdiction. The market's expectation of Emera, Inc.'s return is commensurate with the realities of the company's composite operations in each of the states in which it operates.

Q. DOES THE FACT THAT THE COMPANY HAS SIGNIFICANT GAS TRANSMISSION OPERATIONS AFFECT ITS RISK RELATIVE TO THE UTILITY PROXY GROUP?

A. Yes, it does. As mentioned above, the Company has significant gas transmission operations and more transmission operations than the average of my Utility Proxy Group.[57] Therefore, NMGC would be considered riskier than the Utility Proxy Group as gas transmission operations are inherently riskier than gas distribution operations.

B. <u>Credit Risk Adjustment</u>

Q. PLEASE DISCUSS YOUR PROPOSED CREDIT RISK ADJUSTMENT.

A. As discussed above, NMGC's long-term issuer rating is BBB+ as rated by Fitch Ratings, which is riskier than the A2 average long-term issuer ratings for the Utility Proxy Group.[58] Hence, an upward credit risk adjustment is necessary to reflect the lower credit rating, i.e., BBB+ (equivalent Moody's rating of Baa1), of NMGC relative to the A2 average Moody's bond rating of the Utility Proxy Group.[59]

An indication of the magnitude of the necessary upward adjustment to reflect the greater credit risk inherent in a Baa1 bond rating is two-thirds of a recent three-

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57 Based on the Proxy Group Companies' 2022 Forms 10-K, only 2 companies had transmission assets in 2022: Atmos Energy Corporation (less than 18.29% of total assets) and Spire Inc.(less than 25.01% of total assets). Whereas NMGC's transmission assets account for 35.17% of the Company's total assets.

58 Source of Information: S&P Global Market Intelligence.

59 As shown on page 5 of Schedule DWD-4.

month average spread between Moody's A2 and Baa2 rated public utility bond yields of 0.35%, shown on page 4 of Schedule DWD-4, or 0.23%.[60]

C. Flotation Costs

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are those costs associated with the sale of new issuances of common stock. They include market pressure and the mandatory unavoidable costs of issuance (e.g., underwriting fees and out-of-pocket costs for printing, legal, registration, etc.). For every dollar raised through debt or equity offerings, the Company receives less than one full dollar in financing.

Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED COMMON EQUITY COST RATE?

A. It is important because there is no other mechanism in the ratemaking paradigm through which such costs can be recognized and recovered. Because these costs are real, necessary, and legitimate, recovery of these costs should be permitted. As noted by Morin:

> The costs of issuing these securities are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit the recovery of these costs…
>
> The simple fact of the matter is that common equity capital is not free….[Flotation costs] must be recovered through a rate of return adjustment.[61]

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60 0.23% = 0.35% * (2/3).
61 Morin, at 329.

Q. DO THE COMMON EQUITY COST RATE MODELS YOU HAVE USED ALREADY REFLECT INVESTORS' ANTICIPATION OF FLOTATION COSTS?

A. No. All of these models assume no transaction costs. The literature is quite clear that these costs are not reflected in the market prices paid for common stocks. For example, Brigham and Daves confirm this and provide the methodology utilized to calculate the flotation adjustment.[62] In addition, Morin confirms the need for such an adjustment even when no new equity issuance is imminent.[63] Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

Q. HOW DID YOU CALCULATE THE FLOTATION COST ALLOWANCE?

A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs in accordance with the method cited in literature by Brigham and Daves, as well as by Morin. The flotation cost adjustment recognizes the actual costs of issuing equity that were incurred by Emera, Inc. since its acquisition of NMGC in 2016. Based on the issuance costs shown on page 1 of Schedule DWD-9, an adjustment of 0.09% is required to reflect the flotation costs applicable to the Utility Proxy Group.

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62 Eugene F. Brigham and Phillip R. Daves, Intermediate Financial Management, 9th Edition, Thomson/Southwestern, at 342.

63 Morin, at 337-339.

Q. WHAT IS THE INDICATED COST OF COMMON EQUITY AFTER YOUR COMPANY-SPECIFIC ADJUSTMENTS?

A. Applying a 0.20% size adjustment, a 0.23% credit risk adjustment, and a 0.09% flotation cost adjustment to the indicated range of ROEs between 9.65% and 12.15% results in a Company-specific range of common equity rates between 10.17% and 12.67%.

X. CONCLUSION

Q. WHAT IS YOUR RECOMMENDED ROE FOR THE COMPANY?

A. Given the discussion above and the results from the analyses, I recommend that an ROE of 10.50% is appropriate for the Company at this time.

Q. IN YOUR OPINION, IS YOUR PROPOSED ROE OF 10.50% FAIR AND REASONABLE TO NMGC AND ITS CUSTOMERS?

A. Yes, it is.

Q. IN YOUR OPINION, IS NMGC'S PROPOSED CAPITAL STRUCTURE FAIR AND REASONABLE?

A. Yes, it is.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

NMGC Exhibit DWD-1

Supporting Exhibits Accompanying the Direct Testimony of
Dylan W. D'Ascendis, CRRA, CVA
Schedule Nos. DWD-1 through DWD-9

New Mexico Gas Company
Table of Contents
Supporting Exhibits Accompanying the Direct Testimony
of Dylan W. D'Ascendis, CRRA, CVA

New Mexico Gas Company
Recommended Capital Structure and Cost Rates
for Ratemaking Purposes

Type Of Capital	Ratios (1)	Cost Rate		Weighted Cost Rate
Long-Term Debt	47.00%	3.857%	(1)	1.813%
Common Equity	53.00%	10.500%	(2)	5.565%
Total	100.00%			7.378%

Notes:
(1) Company-provided.
(2) From page 2 of this Schedule.

New Mexico Gas Company
Brief Summary of Common Equity Cost Rate

Line No.	Principal Methods	Proxy Group of Six Natural Gas Distribution Companies
1.	Discounted Cash Flow Model (DCF) (1)	9.65%
2.	Risk Premium Model (RPM) (2)	10.85%
3.	Capital Asset Pricing Model (CAPM) (3)	11.69%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	12.15%
5.	Indicated Range of Common Equity Cost Rates before Adjustment for Company-Specific Risk	9.65% - 12.15%
6.	Business Risk Adjustment (5)	0.20%
7.	Credit Risk Adjustment (6)	0.23%
8.	Flotation Cost Adjustment (7)	0.09%
9.	Recommended Range of Common Equity Cost Rates after Adjustment for Company-Specific Risk	10.17% - 12.67%
10.	Recommended Cost of Common Equity Cost Rate	10.50%

Notes:
(1) From page 1 of Schedule DWD-3.
(2) From page 1 of Schedule DWD-4.
(3) From page 1 of Schedule DWD-5.
(4) From page 1 of Schedule DWD-7.
(5) Adjustment to reflect the Company's greater business risk relative to the Utility Proxy Group as detailed in Mr. D'Ascendis' Direct Testimony.
(6) Company-specific risk adjustment to reflect New Mexico Gas Company's greater risk due to a lower long-term issuer rating relative to the proxy group as detailed in Mr. D'Ascendis' direct testimony.
(7) From page 1 of Schedule DWD-9.

Proxy Group of Six Natural Gas Distribution Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2018 - 2022, Inclusive

	2022	2021	2020	2019	2018	5 YEAR AVERAGE
			(MILLIONS OF DOLLARS)			
Capitalization Statistics						
Amount of Capital Employed						
Total Permanent Capital	$8,225.462	$7,455.217	$6,855.835	$6,012.401	$5,411.345	
Short-Term Debt	$703.086	$415.467	$333.183	$612.061	$629.275	
Total Capital Employed	$8,928.548	$7,870.684	$7,189.018	$6,624.462	$6,040.620	
Indicated Average Capital Cost Rates (2)						
Total Debt	3.10 %	2.95 %	3.29 %	3.63 %	3.57 %	
Preferred Stock	4.84 %	5.33 %	6.19 %	4.60 %	2.64 %	
Capital Structure Ratios						
Based on Total Permanent Capital:						
Long-Term Debt	49.01 %	50.18 %	50.04 %	46.42 %	46.02 %	48.33 %
Preferred Stock	2.16	2.31	1.78	1.92	1.14	1.86
Common Equity	48.83	47.51	48.18	51.66	52.84	49.81
Total	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Based on Total Capital:						
Total Debt, Including Short-Term Debt	53.55 %	54.26 %	53.51 %	51.06 %	51.14 %	52.70 %
Preferred Stock	1.93	2.18	1.66	1.68	0.99	1.69
Common Equity	44.52	43.56	44.83	47.26	47.87	45.61
Total	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Financial Statistics						
Financial Ratios - Market Based						
Earnings / Price Ratio	5.55 %	5.25 %	3.45 %	3.84 %	4.32 %	4.48 %
Market / Average Book Ratio	184.08	176.32	191.60	224.79	213.85	198.13
Dividend Yield	3.31	3.42	3.09	2.60	2.77	3.04
Dividend Payout Ratio	58.56	60.27	83.22	69.25	54.00	65.06
Rate of Return on Average Book Common Equity	10.54 %	9.85 %	6.75 %	8.68 %	9.55 %	9.08 %
Total Debt / EBITDA (3)	5.05 x	5.10 x	6.03 x	4.96 x	5.01 x	5.23 x
Funds from Operations / Total Debt (4)	14.42 %	11.70 %	12.46 %	14.99 %	24.21 %	15.55 %
Total Debt / Total Capital	53.56 %	54.26 %	53.51 %	51.06 %	51.14 %	52.71 %

Notes:
(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.
(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.
(3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).
(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: Company Annual Forms 10-K

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Six Natural Gas Distribution Companies
2018 - 2022, Inclusive

	2022	2021	2020	2019	2018	5 YEAR AVERAGE
Atmos Energy Corporation						
Long-Term Debt	37.96 %	39.35 %	40.02 %	38.03 %	39.15 %	38.90 %
Preferred Stock	-	-	-	-	-	-
Common Equity	62.04	60.65	59.98	61.97	60.85	61.10
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
New Jersey Resources Corporation						
Long-Term Debt	57.77 %	57.81 %	55.35 %	50.11 %	47.89 %	53.79 %
Preferred Stock	-	-	-	-	-	-
Common Equity	42.23	42.19	44.65	49.89	52.11	46.21
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
NiSource Inc.						
Long-Term Debt	56.43 %	57.09 %	61.64 %	56.79 %	55.44 %	57.48 %
Preferred Stock	9.14	9.55	5.87	6.35	6.82	7.54
Common Equity	34.43	33.36	32.49	36.86	37.74	34.98
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Northwest Natural Holding						
Long-Term Debt	52.70 %	52.12 %	51.81 %	50.43 %	49.12 %	51.24 %
Preferred Stock	-	-	-	-	-	-
Common Equity	47.30	47.88	48.19	49.57	50.88	48.76
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
ONE Gas, Inc.						
Long-Term Debt	37.79 %	41.74 %	41.76 %	37.65 %	38.62 %	39.51 %
Preferred Stock	-	-	-	-	-	-
Common Equity	62.21	58.26	58.24	62.35	61.38	60.49
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Spire Inc.						
Long-Term Debt	51.42 %	52.98 %	49.62 %	45.49 %	45.95 %	49.09 %
Preferred Stock	3.84	4.28	4.83	5.19	-	3.63
Common Equity	44.74	42.74	45.55	49.32	54.05	47.28
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Six Natural Gas Distribution Companies						
Long-Term Debt	49.01 %	50.18 %	50.04 %	46.42 %	46.02 %	48.33 %
Preferred Stock	2.16	2.31	1.78	1.92	1.14	1.86
Common Equity	48.83	47.51	48.18	51.66	52.84	49.81
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Source of Information
Annual Forms 10-K

New Mexico Gas Company
Operating Subsidiary Capital Structures of the
Proxy Group of Six Natural Gas Distribution Companies

Company Name	Parent Company Ticker	Fiscal Year 2022 Long-Term Debt	Preferred Equity	Common Equity	Total Permanent Capital
Atmos Energy Corporation	ATO	40.11%	0.00%	59.89%	20.05%
New Jersey Natural Gas Company	NJR	44.96%	0.00%	55.04%	22.48%
NiSource Inc.	NI	55.96%	10.25%	33.79%	33.11%
Northwest Natural Gas Company	NWN	51.70%	0.00%	48.30%	25.85%
ONE Gas, Inc.	OGS	41.79%	0.00%	58.21%	20.90%
Spire Alabama Inc.	SR	45.29%	0.00%	54.71%	22.64%
Spire Missouri Inc.	SR	48.47%	0.00%	51.53%	24.23%

Source: S&P Global Market Intelligence; S&P Capital IQ; Company Filings

New Mexico Gas Company
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Six Natural Gas Distribution Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
Atmos Energy Corporation	2.54 %	7.00 %	7.50 %	7.80 %	7.43 %	2.63 %	10.06 %
New Jersey Resources Corporation	3.18	5.00	6.00	6.00	5.67	3.27	8.94
NiSource Inc.	3.62	9.50	7.00	6.70	7.73	3.76	11.49
Northwest Natural Holding Company	4.38	6.50	3.70	2.80	4.33	4.47	8.80
ONE Gas, Inc.	3.28	6.50	5.00	5.00	5.50	3.37	8.87
Spire Inc.	4.36	8.00	4.20	NA	6.10	4.49	10.59
						Average	9.79 %
						Median	9.50 %
						Average of Mean and Median	9.65 %

NA = Not Available

Notes:
(1) Indicated dividend at 07/14/2023 divided by the average closing price of the last 60 trading days ending 07/14/2023 for each company.
(2) From pages 3 through 8 of this Schedule.
(3) Average of columns 2 through 4.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Atmos Energy Corporation, 2.54% x (1+(1/2 x 7.43%)) = 2.63%.
(5) Column 5 + column 6.

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 07/14/2023
www.yahoo.com Downloaded on 07/14/2023

New Mexico Gas Company
Indicated Common Equity Cost Rate Using the NMPRC's Discounted Cash Flow Model for the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Six Natural Gas Distribution Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Mean Common Equity Cost Rate (5)	High Common Equity Cost Rate (6)
Atmos Energy Corporation	2.55 %	7.00 %	7.50 %	7.80 %	7.43 %	2.74 %	10.17 %	10.55 %
New Jersey Resources Corporation	3.08	5.00	6.00	6.00	5.67	3.25	8.92	9.26
NiSource Inc.	3.57	9.50	7.00	6.70	7.73	3.85	11.58	13.41
Northwest Natural Holding Company	4.23	6.50	3.70	2.80	4.33	4.41	8.74	11.00
ONE Gas, Inc.	3.25	6.50	5.00	5.00	5.50	3.43	8.93	9.96
Spire Inc.	4.24	8.00	4.20	NA	6.10	4.50	10.60	12.58
						Average	9.82 %	11.13 %
						Median	9.55 %	10.78 %
						Average of Mean and Median	9.69 %	10.96 %
						Indicated DCF Result	10.33%	

NA = Not Available

Notes:
(1) Indicated dividend at 7/14/2023 divided by the average closing price of the last 30 trading days ending 7/14/2023 for each company.
(2) From pages 3 through 8 of this Schedule.
(3) Average of columns 2 through 4.
(4) [1] * (1+[5])
(5) Column 5 + column 6.
(6) [1]*(1+(MAX([2],[3],[4])/100)+(MAX([2],[3],[4]))

Source of Information:
Value Line Investment Survey
www.zacks.com Downloaded on 07/14/2023
www.yahoo.com Downloaded on 07/14/2023

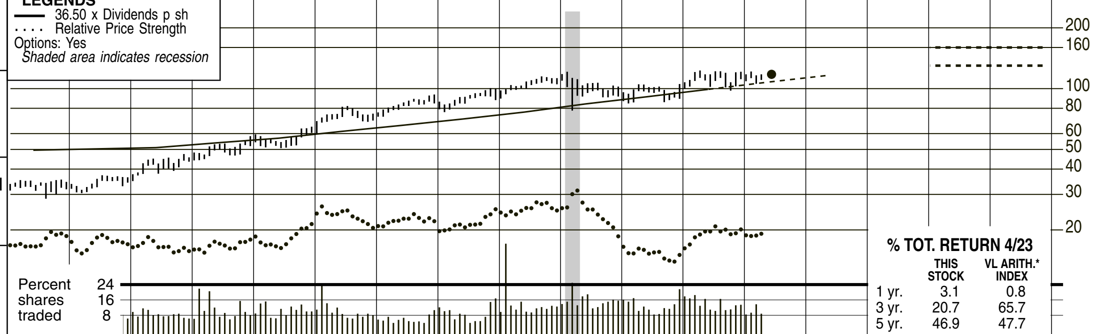
ATMOS ENERGY CORP. NYSE-ATO

RECENT PRICE **117.59** | P/E RATIO **18.9** (Trailing: 20.2; Median: 20.0) | RELATIVE P/E RATIO **1.15** | DIV'D YLD **2.7%** | **VALUE LINE**

TIMELINESS 3 Lowered 2/10/23
SAFETY 1 Raised 6/6/14
TECHNICAL 2 Raised 5/26/23
BETA .85 (1.00 = Market)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
High:	37.3	47.4	58.2	64.8	82.0	93.6	100.8	115.2	121.1	105.3	123.0	121.4
Low:	30.4	34.9	44.2	50.8	60.0	72.5	76.5	89.2	77.9	84.6	97.7	105.8

LEGENDS
— 36.50 x Dividends p sh
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



Target Price Range 2026 | 2027 | 2028

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
\$96-\$159	\$128 (10%)

2026-28 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	160	(+35%)	10%
Low	130	(+10%)	5%

Institutional Decisions

	2Q2022	3Q2022	4Q2022
to Buy	333	331	345
to Sell	231	251	266
Hld's(000)	126964	128317	132007

Percent shares traded 24 16 8

% TOT. RETURN 4/23

	THIS STOCK	VL ARITH.* INDEX
1 yr.	3.1	0.8
3 yr.	20.7	65.7
5 yr.	46.9	47.7

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
66.03	79.52	53.69	53.12	48.15	38.10	42.88	49.22	40.82	32.23	26.01	28.00	24.32	22.41	25.73	29.82	*32.65*	*36.85*	Revenues per sh A	*50.00*
4.14	4.19	4.29	4.64	4.72	4.76	5.14	5.42	5.81	6.19	6.62	7.24	7.57	8.03	8.64	9.30	*10.00*	*10.60*	"Cash Flow" per sh	*12.60*
1.94	2.00	1.97	2.16	2.26	2.10	2.50	2.96	3.09	3.38	3.60	4.00	4.35	4.72	5.12	5.60	*6.00*	*6.40*	Earnings per sh AB	*7.85*
1.28	1.30	1.32	1.34	1.36	1.38	1.40	1.48	1.56	1.68	1.80	1.94	2.10	2.30	2.50	2.72	*2.96*	*3.20*	Div'ds Decl'd per sh C■	*3.90*
4.39	5.20	5.51	6.02	6.90	8.12	9.32	8.32	9.61	10.46	10.72	13.19	14.19	15.38	14.87	17.35	*18.35*	*18.55*	Cap'l Spending per sh	*18.30*
22.01	22.60	23.52	24.16	24.98	26.14	28.47	30.74	31.48	33.32	36.74	42.87	48.18	53.95	59.71	66.85	*70.20*	*73.05*	Book Value per sh	*79.40*
89.33	90.81	92.55	90.16	90.30	90.24	90.64	100.39	101.48	103.93	106.10	111.27	119.34	125.88	132.42	140.90	*147.00*	*152.00*	Common Shs Outst'g D	*170.00*
15.9	13.6	12.5	13.2	14.4	15.9	15.9	16.1	17.5	20.8	22.0	21.7	23.2	22.3	18.8	19.3	*Bold figures are*		Avg Ann'l P/E Ratio	*18.5*
.84	.82	.83	.84	.90	1.01	.89	.85	.88	1.09	1.11	1.17	1.24	1.15	1.02	1.12	*Value Line*		Relative P/E Ratio	*1.05*
4.2%	4.8%	5.3%	4.7%	4.2%	4.1%	3.5%	3.1%	2.9%	2.4%	2.3%	2.2%	2.1%	2.2%	2.6%	2.5%	*estimates*		Avg Ann'l Div'd Yield	*2.7%*

CAPITAL STRUCTURE as of 3/31/23
Total Debt \$6554.6 mill. **Due in 5 Yrs** \$2900.0 mill.
LT Debt \$6553.1 mill. **LT Interest** \$105.0 mill.
(LT interest earned: 9.3x; total interest coverage: 9.3x)
Leases, Uncapitalized Annual rentals \$43.1 mill.

Pfd Stock None

Pension Assets-9/22 \$479.0 mill. **Oblig.** \$449.5 mill.
Common Stock 144,487,306 shs. **as of 4/28/23**

MARKET CAP: \$17.0 billion (Large Cap)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		26-28
3886.3	4940.9	4142.1	3349.9	2759.7	3115.5	2901.8	2821.1	3407.5	4201.7	*4800*	*5600*	Revenues (\$mill) A	*8500*
230.7	289.8	315.1	350.1	382.7	444.3	511.4	580.5	665.6	774.4	*875*	*965*	Net Profit (\$mill)	*1325*
38.2%	39.2%	38.3%	36.4%	36.6%	27.0%	21.4%	19.5%	18.8%	9.1%	*11.5%*	*13.0%*	Income Tax Rate	*25.0%*
5.9%	5.9%	7.6%	10.5%	13.9%	14.3%	17.6%	20.6%	19.5%	18.4%	*18.2%*	*17.2%*	Net Profit Margin	*15.6%*
48.8%	44.3%	43.5%	38.7%	44.0%	34.3%	38.0%	40.0%	38.4%	37.9%	*40.0%*	*40.0%*	Long-Term Debt Ratio	*40.0%*
51.2%	55.7%	56.5%	61.3%	56.0%	65.7%	62.0%	60.0%	61.6%	62.1%	*60.0%*	*60.0%*	Common Equity Ratio	*60.0%*
5036.1	5542.2	5650.2	5651.8	6965.7	7263.6	9279.7	11323	12837	15180	*17200*	*18500*	Total Capital (\$mill)	*22500*
6030.7	6725.9	7430.6	8280.5	9259.2	10371	11788	13355	15064	17240	*19300*	*20400*	Net Plant (\$mill)	*25000*
5.9%	6.4%	6.6%	7.2%	6.4%	6.9%	6.1%	5.5%	5.5%	5.4%	*6.5%*	*6.5%*	Return on Total Cap'l	*7.0%*
8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.2%	*8.5%*	*8.5%*	Return on Shr. Equity	*10.0%*
8.9%	9.4%	9.9%	10.1%	9.8%	9.3%	8.9%	8.5%	8.4%	8.2%	*8.5%*	*8.5%*	Return on Com Equity	*10.0%*
4.0%	4.7%	4.9%	5.1%	4.9%	4.8%	4.6%	4.4%	4.3%	4.2%	*4.5%*	*4.5%*	Retained to Com Eq	*5.0%*
56%	50%	51%	50%	50%	48%	48%	49%	49%	49%	*50%*	*50%*	All Div'ds to Net Prof	*50%*

CURRENT POSITION (\$MILL.)	2021	2022	3/31/23
Cash Assets	116.7	51.6	95.2
Other	2722.0	2996.1	977.9
Current Assets	2838.7	3047.7	1073.1
Accts Payable	423.2	496.0	365.0
Debt Due	2400.5	2386.4	1.5
Other	686.7	720.2	746.5
Current Liab.	3510.4	3602.6	1113.0
Fix. Chg. Cov.	1457%	1238%	1245%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28
Revenues	-5.5%	-4.5%	*11.5%*
"Cash Flow"	6.5%	7.0%	*6.5%*
Earnings	9.0%	9.0%	*7.0%*
Dividends	6.5%	8.5%	*7.5%*
Book Value	9.0%	12.0%	*5.0%*

Fiscal Year Ends	QUARTERLY REVENUES (\$ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2020	875.6	977.6	493.0	474.9	2821.1
2021	914.5	1319.1	605.6	568.3	3407.5
2022	1012.8	1649.8	816.4	722.7	4201.7
2023	1484.0	1541.0	*930*	*845*	*4800*
2024	*1675*	*1860*	*1065*	*1000*	*5600*

Fiscal Year Ends	EARNINGS PER SHARE A B E Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2020	1.47	1.95	.79	.53	4.72
2021	1.71	2.30	.78	.37	5.12
2022	1.86	2.37	.92	.51	5.60
2023	1.91	2.48	*1.03*	*.58*	*6.00*
2024	*2.12*	*2.53*	*1.11*	*.64*	*6.40*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.525	.525	.525	.575	2.15
2020	.575	.575	.575	.625	2.35
2021	.625	.625	.625	.68	2.56
2022	.68	.68	.68	.74	2.78
2023	.74	.74			

BUSINESS: Atmos Energy Corporation is engaged primarily in the distribution and sale of natural gas to over three million customers through six regulated natural gas utility operations: Louisiana Division, West Texas Division, Mid-Tex Division, Mississippi Division, Colorado-Kansas Division, and Kentucky/Mid-States Division. Gas sales breakdown for fiscal 2022: 63.7%, residential; 28.8%, commercial; 5.8%, industrial; and 1.7% other. The company sold Atmos Energy Marketing, 1/17. Officers and directors own approximately .5% of common stock (12/22 Proxy). President and Chief Executive Officer: Kevin Akers. Incorporated: Texas. Address: Three Lincoln Centre, Suite 1800, 5430 LBJ Freeway, Dallas, Texas 75240. Telephone: 972-934-9227. Internet: www.atmosenergy.com.

Earnings for Atmos Energy showed some improvement through the first half of fiscal 2023 (ended March 31st). Share net of \$4.39 was nearly 4% higher than last year's \$4.23 tally. This was brought about partly by the distribution unit, helped largely by higher rates, especially in the Mid-Tex division. Furthermore, the performance of the pipeline and storage business benefited nicely from a rise in revenue from a Gas Reliability Infrastructure Program filing approved in fiscal 2022. Operating expenses did increase significantly during the period, but that's to be expected as the company expands. So, it seems that full-year profits will advance around 7%, to \$6.00 a share, versus fiscal 2022's \$5.60 total. Concerning next year, share net may grow at a similar percentage rate, to \$6.40, assuming that operating margins widen further.

Corporate finances are in strong condition. When the second quarter concluded, cash and equivalents resided at \$95.2 million. Moreover, long-term debt was quite manageable (almost 40% of total capital) and short-term borrowings were just \$1.5 million. Too, \$4 billion in common stock and/or debt securities remained available for issuance (out of \$5 billion) under a shelf registration statement expiring in March, 2026. Lastly, Atmos can access four revolving credit facilities aggregating \$2.5 billion plus a \$1.5 billion commercial paper program. All told, there's sufficient liquidity to satisfy various obligations for quite a while.

We believe good things are in store for the company over the 2026-2028 span. It ranks as one of the nation's biggest natural gas-only distributors, with more than three million customers across several states, including Texas, Louisiana, and Mississippi. Also, the pipeline and storage segment appears to have promising overall expansion opportunities, given that it operates in one of the most-active drilling regions in the world. The sound balance sheet is another plus.

The high-quality stock holds unspectacular long-term total return potential. Capital gains possibilities are unenticing. Also, the dividend yield is below the average of *Value Line's* Natural Gas Utility Industry group.

Frederick L. Harris, III *May 26, 2023*

(A) Fiscal year ends Sept. 30th. (B) Diluted shrs. Excl. nonrec. gains (loss): '10, 5¢; '11, (1¢); '18, \$1.43; '20, 17¢. Excludes discontinued operations: '11, 10¢; '12, 27¢; '13, 14¢; '17, 13¢. Next earnings report due early Aug. (C) Dividends historically paid in early March, June, Sept., and Dec. ■ Div. reinvestment plan. Direct stock purchase plan avail. (D) In millions. (E) Qtrs may not add due to change in shrs outstanding.

Company's Financial Strength	A+
Stock's Price Stability	95
Price Growth Persistence	65
Earnings Predictability	100

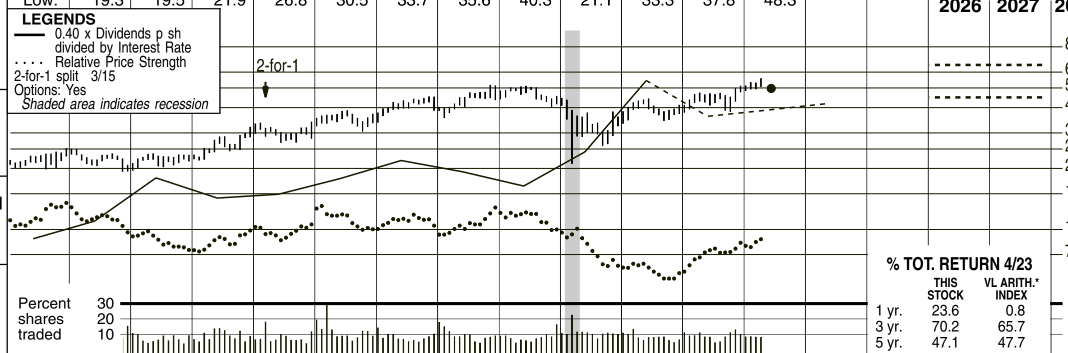
NEW JERSEY RES. NYSE-NJR

RECENT PRICE 49.72 | P/E RATIO 19.4 (Trailing: 18.0 Median: 17.0) | RELATIVE P/E RATIO 1.18 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 2 Raised 5/12/23
SAFETY 2 Lowered 4/17/20
TECHNICAL 1 Raised 5/26/23
BETA .95 (1.00 = Market)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
High:	25.1	23.8	32.1	34.1	38.9	45.4	51.8	51.2	44.7	44.4	51.4	55.8
Low:	19.3	19.5	21.9	26.8	30.5	33.7	35.6	40.3	21.1	33.3	37.8	48.3

Target Price Range
2026 | 2027 | 2028



18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$33-$62	$48 (-5%)

2026-28 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+30%)	10%
Low	45	(-10%)	1%

Institutional Decisions

	2Q2022	3Q2022	4Q2022
to Buy	126	139	166
to Sell	133	112	115
Hld's(000)	71193	72178	73958

% TOT. RETURN 4/23

	THIS STOCK	VL ARITH.* INDEX
1 yr.	23.6	0.8
3 yr.	70.2	65.7
5 yr.	47.1	47.7

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
36.31	45.37	31.17	32.05	36.30	27.08	38.38	44.40	32.09	21.90	26.28	33.24	29.01	20.39	22.71	30.38	*26.80*	*29.10*	Revenues per sh A	*32.50*
1.22	1.81	1.58	1.63	1.70	1.86	1.93	2.73	2.52	2.46	2.68	3.72	2.99	3.30	3.36	3.86	*4.20*	*4.35*	"Cash Flow" per sh	*4.25*
.78	1.35	1.20	1.23	1.29	1.36	1.37	2.08	1.78	1.61	1.73	2.72	1.96	2.07	2.16	2.50	*2.70*	*2.80*	Earnings per sh B	*3.25*
.51	.56	.62	.68	.72	.77	.81	.86	.93	.98	1.04	1.11	1.19	1.27	1.36	1.45	*1.56*	*1.68*	Div'ds Decl'd per sh C■	*1.95*
.73	.86	.90	1.05	1.13	1.26	1.33	1.52	3.76	4.15	3.80	4.39	5.83	4.65	5.42	6.50	*6.20*	*6.65*	Cap'l Spending per sh	*7.50*
7.75	8.64	8.29	8.81	9.36	9.80	10.65	11.48	12.99	13.58	14.33	16.18	17.37	19.26	17.18	19.00	*22.15*	*24.70*	Book Value per sh D	*27.90*
83.22	84.12	83.17	82.35	82.89	83.05	83.32	84.20	85.19	85.88	86.32	87.69	89.34	95.80	94.95	95.64	*97.00*	*98.00*	Common Shs Outst'g E	*100.00*
21.6	12.3	14.9	15.0	16.8	16.8	16.0	11.7	16.6	21.3	22.4	15.6	24.3	17.7	17.5	17.0	*Bold figures are*		Avg Ann'l P/E Ratio	*17.0*
1.15	.74	.99	.95	1.05	1.07	.90	.62	.84	1.12	1.13	.84	1.29	.91	.94	.98	*Value Line*		Relative P/E Ratio	*.95*
3.0%	3.3%	3.5%	3.7%	3.3%	3.4%	3.7%	3.5%	3.1%	2.9%	2.7%	2.6%	2.5%	3.5%	3.6%	3.4%	*estimates*		Avg Ann'l Div'd Yield	*4.0%*

CAPITAL STRUCTURE as of 3/31/23
Total Debt $2982.0 mill. **Due in 5 Yrs** $1049 mill.
LT Debt $2642.2 mill. **LT Interest** $85 mill.
Incl. $7.0 mill. capitalized leases.
(LT interest earned: 5.0x; total interest coverage: 5.0x)
Pension Assets-9/22 $484.1 mill. **Oblig.** $464.0 mill.
Pfd Stock None

Common Stock 96,964,456 shs.
as of 5/1/23
MARKET CAP: $4.8 billion (Mid Cap)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		26-28
3198.1	3738.1	2734.0	1880.9	2268.6	2915.1	2592.0	1953.7	2156.6	2906.0	*2600*	*2850*	Revenues ($mill) A	*3250*
113.7	176.9	153.7	138.1	149.4	240.5	175.0	196.2	207.7	240.3	*260*	*275*	Net Profit ($mill)	*325*
25.4%	30.2%	26.3%	15.5%	17.2%	- -	- -	NMF	10.3%	21.4%	*22.0%*	*22.0%*	Income Tax Rate	*22.0%*
3.6%	4.7%	5.6%	7.3%	6.6%	8.2%	6.7%	10.0%	9.6%	8.3%	*10.0%*	*9.6%*	Net Profit Margin	*10.0%*
36.6%	38.2%	43.2%	47.7%	44.6%	45.4%	49.8%	55.1%	57.0%	57.8%	*57.0%*	*56.0%*	Long-Term Debt Ratio	*55.0%*
63.4%	61.8%	56.8%	52.3%	55.4%	54.6%	50.2%	44.9%	43.0%	42.2%	*43.0%*	*44.0%*	Common Equity Ratio	*45.0%*
1400.3	1564.4	1950.6	2230.1	2233.7	2599.6	3088.9	4104.2	3793.0	4302.6	*5000*	*5500*	Total Capital ($mill)	*6200*
1643.1	1884.1	2128.3	2407.7	2609.7	2651.0	3041.2	3983.0	4213.5	4649.9	*5000*	*5200*	Net Plant ($mill)	*5500*
9.0%	12.1%	8.6%	6.9%	7.7%	10.1%	6.4%	5.6%	6.5%	5.6%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.0%*
12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	10.6%	12.7%	13.2%	*12.0%*	*11.5%*	Return on Shr. Equity	*11.5%*
12.8%	18.3%	13.9%	11.8%	12.1%	16.9%	11.3%	10.6%	12.7%	13.2%	*12.0%*	*11.5%*	Return on Com Equity	*11.5%*
5.2%	11.0%	7.0%	4.8%	5.0%	10.2%	4.6%	4.3%	5.6%	6.2%	*5.0%*	*4.5%*	Retained to Com Eq	*4.5%*
59%	40%	50%	60%	59%	40%	59%	60%	56%	53%	*58%*	*60%*	All Div'ds to Net Prof	*60%*

CURRENT POSITION ($MILL.)	2021	2022	3/31/23
Cash Assets	4.7	1.1	27.1
Other	629.6	755.0	588.9
Current Assets	634.3	756.1	616.0
Accts Payable	429.6	156.6	121.8
Debt Due	450.1	499.1	339.8
Other	171.7	448.5	249.9
Current Liab.	1051.4	1104.2	711.5
Fix. Chg. Cov.	545%	545%	650%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28
Revenues	-3.0%	-6.0%	*2.5%*
"Cash Flow"	7.0%	4.5%	*5.0%*
Earnings	5.0%	2.5%	*5.0%*
Dividends	6.5%	6.5%	*5.0%*
Book Value	7.5%	7.0%	*4.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.) A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2020	615.0	639.6	299.0	400.1	1953.7
2021	454.3	802.2	367.6	532.5	2156.6
2022	675.8	912.3	552.3	765.5	2906.0
2023	723.6	644.0	*550*	*682.4*	*2600*
2024	*725*	*875*	*550*	*700*	*2850*

Fiscal Year Ends	EARNINGS PER SHARE A B Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2020	.44	1.12	d.06	.57	2.07
2021	.46	1.77	d.15	.07	2.16
2022	.69	1.36	d.04	.50	2.50
2023	1.14	1.16	*d.05*	*.45*	*2.70*
2024	*1.00*	*1.25*	*.05*	*.50*	*2.80*

Cal-endar	QUARTERLY DIVIDENDS PAID C■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.2925	.2925	.2925	.3125	1.19
2020	.3125	.3125	.3125	.3325	1.27
2021	.3325	.3325	.3325	.3625	1.36
2022	.3625	.3625	.3625	.3625	1.45
2023	.39	.39			

BUSINESS: New Jersey Resources Corp. is a holding company providing retail/wholesale energy svcs. to customers in NJ, and in states from the Gulf Coast to New England, and Canada. New Jersey Natural Gas had 569,300 cust. at 9/30/22. Fiscal 2022 volume: 144 bill. cu. ft. (23% interruptible, 47% residential, commercial & firm transportation, 30% other). N.J. Natural Energy subsidiary provides unregulated retail/wholesale natural gas and related energy svcs. 2021 dep. rate: 2.7%. Has 1,288 empls. Off./dir. own less than 1% of common; BlackRock, 14.0%; Vanguard, 11.0% (12/22 Proxy). CEO, President & Director: Steven D. Westhoven. Incorporated: New Jersey. Address: 1415 Wyckoff Road, Wall, NJ 07719. Telephone: 732-938-1480. Web: www.njresources.com.

New Jersey Resources reported slight weakness in its fiscal second quarter. Historically warm weather conditions in the company's operating region during the March period, along with a significant reduction in the price of natural gas, resulted in a sharp decline in revenues. Despite the top line falling 40% below our estimate for the quarter, the company's net financial earnings per share (NFEPS) held its ground reasonably well. The quarter's profits per share of $1.16 ended just four cents lower than our estimate, signaling a strong showing in terms of margin resiliency, thanks in large part to the cost pass-through mechanism of the regulated utilities business. However, March-period earnings have declined for the second consecutive year running. In the quarter, each operating segment declined from the year-ago period, but on a fiscal year-to-date basis, the comparable profit figure is much more positive, showing double-digit growth, owing to a strong December period result.

We look for the company's earnings growth to slow in the years ahead. After a very strong first quarter, the rest of fiscal 2023 should be in for challenging comparisons. We expect NFEPS to fall below the prior-year levels in each of the remaining two quarters. Still, full-year earnings should manage to eke out an improvement of about 8% to reach $2.70, driven by strong customer growth trends and a diversified operating segmentation strategy that differentiates NJR from other highly-regulated pure-play utilities. In turn, we have left our fiscal 2024 earnings call unchanged at $2.80.

Long-term earnings growth potential is a bit uncertain at this juncture. We expect the growth of the Clean Energy Ventures (CEV) segment to be a harbinger of the company's future earnings potential. New Jersey Resources has the opportunity through exclusive rights agreements to triple its clean energy portfolio. However, this notion is being challenged in Washington where debt-limit negotiations put at risk the clean energy incentives introduced in the Inflation Reduction Act.

To wit, long-term total capital appreciation potential appears limited, regardless of CEV's political risk.

Earl B. Humes *May 26, 2023*

(A) Fiscal year ends Sept. 30th.
(B) Diluted earnings. Qtly. revenues and egs. may not sum to total due to rounding and change in shares outstanding. Next earnings report due early August.
(C) Dividends historically paid in early Jan., April, July, and October. ■ Dividend reinvestment plan available.
(D) Includes regulatory assets in 2022: $500 million, $5.23/share.
(E) In millions, adjusted for splits.

Company's Financial Strength	A+
Stock's Price Stability	85
Price Growth Persistence	55
Earnings Predictability	60

NISOURCE INC. NYSE-NI

RECENT PRICE 28.04 | P/E RATIO 18.1 (Trailing: 18.8 Median: 21.0) | RELATIVE P/E RATIO 1.10 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS 3 Raised 4/14/23
SAFETY 3 Lowered 3/19/21
TECHNICAL 3 Raised 5/19/23
BETA .85 (1.00 = Market)

18-Month Target Price Range
Low-High: $23-$40 — Midpoint (% to Mid): $32 (10%)

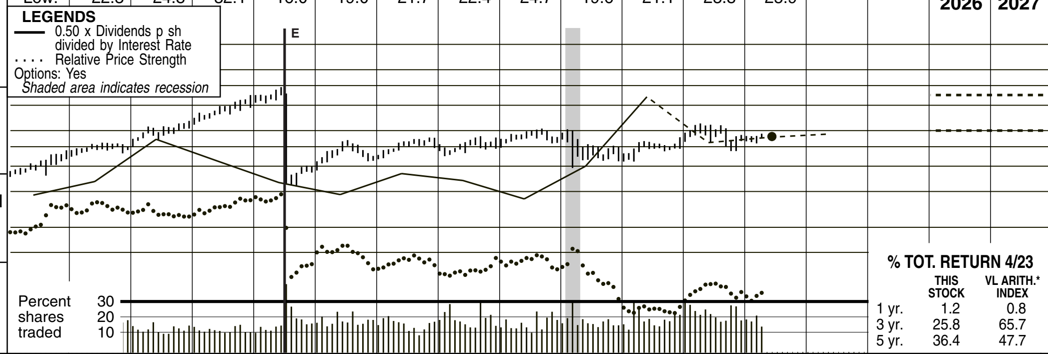
2026-28 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+60%)	*15%*
Low	30	(+5%)	*5%*

Institutional Decisions

	2Q2022	3Q2022	4Q2022
to Buy	270	255	315
to Sell	208	226	214
Hld's(000)	389752	379081	387502

High:	26.2	33.5	44.9	49.2	26.9	27.8	28.1	30.7	30.5	27.8	32.6	29.0
Low:	22.3	24.8	32.1	16.0	19.0	21.7	22.4	24.7	19.6	21.1	23.8	25.9



% TOT. RETURN 4/23

	THIS STOCK	VL ARITH.* INDEX
1 yr.	1.2	0.8
3 yr.	25.8	65.7
5 yr.	36.4	47.7

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
28.96	32.36	24.02	22.99	21.33	16.31	18.04	20.47	14.58	13.90	14.46	13.74	13.63	11.95	12.09	14.23	***14.00***	***14.10***	Revenues per sh	***15.75***
3.20	3.32	2.96	3.19	2.98	3.13	3.41	3.60	2.27	2.71	2.07	2.86	3.17	3.15	3.26	3.47	***3.55***	***3.80***	"Cash Flow" per sh	***4.15***
1.14	1.34	.84	1.06	1.05	1.37	1.57	1.67	.63	1.00	.39	1.30	1.31	1.32	1.37	1.47	***1.55***	***1.70***	Earnings per sh A	***2.00***
.92	.92	.92	.92	.92	.94	.98	1.02	.83	.64	.70	.78	.80	.84	.88	.94	***1.00***	***1.04***	Div'ds Decl'd per sh B ■	***1.12***
2.88	3.54	2.81	2.88	3.99	4.83	5.99	6.42	4.26	4.57	5.03	4.88	4.72	4.49	4.53	6.32	***8.20***	***6.45***	Cap'l Spending per sh	***6.75***
18.52	17.24	17.54	17.63	17.71	17.90	18.77	19.54	12.04	12.60	12.82	13.08	13.36	12.44	13.33	13.14	***14.10***	***17.00***	Book Value per sh C	***18.00***
274.18	274.26	276.79	279.30	282.18	310.28	313.68	316.04	319.11	323.16	337.02	372.36	382.14	391.76	404.30	411.10	***420.00***	***425.00***	Common Shs Outst'g D	***445.00***
18.8	12.1	14.3	15.3	19.4	17.9	18.9	22.7	37.3	23.2	64.4	19.3	21.3	18.7	18.0	19.6	*Bold figures are*		Avg Ann'l P/E Ratio	***19.0***
1.00	.73	.95	.97	1.22	1.14	1.06	1.19	1.88	1.22	3.24	1.04	1.13	.96	.99	11.8	*Value Line*		Relative P/E Ratio	***1.05***
4.3%	5.7%	7.6%	5.7%	4.5%	3.8%	3.3%	2.7%	3.5%	2.8%	2.8%	3.1%	2.9%	3.4%	3.6%	3.3%	*estimates*		Avg Ann'l Div'd Yield	***2.5%***
						5657.3	6470.6	4651.8	4492.5	4874.6	5114.5	5208.9	4681.7	4899.6	5850.6	***5875***	***6000***	Revenues ($mill)	***7000***
						490.9	530.7	198.6	328.1	128.6	478.3	549.8	562.6	626.3	648.2	***650***	***725***	Net Profit ($mill)	***890***
						34.8%	36.9%	41.6%	35.7%	71.0%	19.7%	17.0%	18.3%	15.7%	17.2%	***19.0%***	***19.0%***	Income Tax Rate	***19.0%***
						--	--	--	--	--	--	--	--	2.0%	2.3%	***2.5%***	***2.5%***	AFUDC % to Net Profit	***2.5%***
						56.3%	56.9%	60.7%	59.8%	63.5%	55.3%	56.8%	61.6%	56.9%	55.7%	***55.5%***	***55.0%***	Long-Term Debt Ratio	***55.0%***
						43.7%	43.1%	39.3%	40.2%	36.5%	37.9%	36.9%	32.5%	33.5%	31.6%	***32.5%***	***37.5%***	Common Equity Ratio	***40.0%***
						13480	14331	9792.0	10129	11832	12856	13843	14972	16131	17099	***18250***	***19000***	Total Capital ($mill)	***20000***
						14365	16017	12112	13068	14360	15543	16912	16620	17882	19843	***22500***	***25000***	Net Plant ($mill)	***27500***
						5.2%	5.3%	4.0%	5.0%	2.6%	5.1%	5.3%	5.0%	4.9%	3.8%	***3.5%***	***4.0%***	Return on Total Cap'l	***4.5%***
						8.3%	8.6%	5.2%	8.1%	3.0%	8.3%	9.2%	9.8%	9.0%	9.3%	***8.5%***	***8.5%***	Return on Shr. Equity	***9.5%***
						8.3%	8.6%	5.2%	8.1%	3.0%	9.6%	9.7%	10.4%	10.6%	12.0%	***11.0%***	***10.0%***	Return on Com Equity	***11.0%***
						3.1%	3.4%	NMF	3.0%	NMF	4.0%	3.8%	3.8%	4.2%	4.0%	***4.0%***	***4.0%***	Retained to Com Eq	***5.0%***
						62%	61%	NMF	63%	NMF	60%	64%	67%	64%	64%	***65%***	***61%***	All Div'ds to Net Prof	***56%***

CAPITAL STRUCTURE as of 3/31/23
Total Debt $11576.6 mill. **Due in 5 Yrs** $2355 mill.
LT Debt $10264.7 mill. **LT Interest** $368 mill.
(Interest cov. earned: 5.8x) (57% of Cap'l)

Leases, Uncapitalized Annual rentals $8.0 mill.
Pension Assets-12/22 $1.4 bill. **Oblig.** $1.4 bill.

Pfd Stock $1547 mill. **Pfd Div'd** $55.1 mill.

Common Stock 413,063,219 shs.
as of 4/25/23
MARKET CAP: $11.6 billion (Large Cap)

CURRENT POSITION ($MILL.)	2021	2022	3/31/23
Cash Assets	85.2	40.8	106.4
Other	1835.6	2543.5	2230.1
Current Assets	1920.8	2584.3	2336.5
Accts Payable	697.8	899.5	642.2
Debt Due	618.1	1791.9	1311.9
Other	1430.3	1969.1	1952.8
Current Liab.	2746.2	4660.5	3906.9
Fix. Chg. Cov.	250%	255%	260%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '26-'28
Revenues	-5.0%	-3.5%	*5.5%*
"Cash Flow"	0.5%	6.5%	*5.5%*
Earnings	1.5%	15.0%	*9.5%*
Dividends	-0.5%	3.5%	*4.5%*
Book Value	-3.0%	0.5%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	1605.5	962.7	902.5	1211.0	4681.7
2021	1545.6	986.0	959.4	1408.6	4899.6
2022	1873.3	1183.2	1089.5	1704.6	5850.6
2023	1966.0	***1170***	***1120***	***1619***	***5875***
2024	***2100***	***1200***	***1150***	***1550***	***6000***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.76	.13	.09	.34	1.32
2021	.77	.13	.11	.39	1.37
2022	.75	.12	.10	.50	1.47
2023	.77	***.15***	***.12***	***.51***	***1.55***
2024	***.82***	***.18***	***.15***	***.55***	***1.70***

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.200	.200	.200	.200	.80
2020	.21	.21	.21	.21	.84
2021	.22	.22	.22	.22	.88
2022	.235	.235	.235	.235	.94
2023	.25	.25			

BUSINESS: NiSource Inc. is a holding company for Northern Indiana Public Service Company (NIPSCO), which supplies electricity and gas to the northern third of Indiana. Customers: 479,185 electric in Indiana, 3,200,000 gas in Indiana, Ohio, Pennsylvania, Kentucky, Virginia, Maryland, through its Columbia subsidiaries. Revenue breakdown, 2022: electrical, 31%; gas, 69%; other, less than 1%. Generating sources, coal, 69.4%; purchased & other, 30.6%. 2022 reported depreciation rates: 3.1% electric, 2.3% gas. Has 7,304 employees. Chairman: Richard L. Thompson. President & Chief Executive Officer: Lloyd Yates. Incorporated: Indiana. Address: 801 East 86th Avenue, Merrillville, Indiana 46410. Telephone: 877-647-5990. Internet: www.nisource.com.

NiSource stock gained in the three months since our February review. The shares are up a modest 3.3%, compared to a slight decline in the S&P 500 Utility Sector index. In that time, the company reported its financial results for both 2022 full year and fourth quarter, and it's 2023 first quarter. In the fourth quarter revenues exceeded our forecast by a significant margin, and the full-year top-line result landed $951 million above the year prior. Earnings per share, however, stayed on target, and in strong form advanced just over 7% in 2022. In the first quarter, our top-line target was reached, while earnings per share of $0.77 fell a bit below our expectation, but still increased 2.7% from the year prior.

Our full-year 2023 and 2024 outlook provides for decent earnings growth. We look for an 8% - 10% rate base average annual growth rate over the next five years to drive performance on the bottom line. Earnings growth should be at a slightly lower level at about 5.5% in 2023, following the earnings miss in the first quarter and a likely economic slowdown ahead due to broad inflation and increased interest rates. Following that, 2024 earnings will likely return to a high growth rate of nearly 10% on anticipated rate-base increases. Over the three- to five-year horizon, returns on planned clean energy projects and investments in sustainable infrastructure, along with continued regulatory support, should allow for expected annual earnings growth of around 8.5% thereafter.

The equity's upside is not without risk. Chief among them, climate change has the potential to cause significant disruption to the company's operations. While there is a potential advantage in volatile temperatures leading to increased energy demand, the risk to established equipment and plant assets is also heightened here. Intensified flooding, windstorms and heatwaves all pose threats to NiSource's infrastructure investments.

These shares do not stand out to us at this juncture. Taking into account the equity's risk premium, with the context of heightened yields on bonds, conservative accounts can likely find a better long-term investment opportunity elsewhere.

Earl B. Humes *May 26, 2023*

(A) Dil. EPS. Excl. gains (losses) on disc. ops.: '07, 3¢; '08, ($1.14); '15, (30¢); '18, ($1.48). Next egs. report due early August. Qtl'y egs. may not sum to total due to rounding.
(B) Div'ds historically paid in mid-Feb., May, Aug., Nov. ■ Div'd reinv. avail.
(C) Incl. intang in '22: $1485.9 million, $3.61/sh.
(D) In mill.
(E) Spun off Columbia Pipeline Group (7/15)

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	25
Earnings Predictability	55

N.W. NATURAL NYSE-NWN

RECENT PRICE 45.00 | P/E RATIO 16.7 (Trailing: 15.7 Median: 24.0) | RELATIVE P/E RATIO 1.01 | DIV'D YLD 4.3% | VALUE LINE

TIMELINESS 3 Lowered 1/13/23
SAFETY 3 Lowered 3/19/21
TECHNICAL 2 Raised 5/26/23
BETA .80 (1.00 = Market)

High:	50.8	46.6	52.6	52.3	66.2	69.5	71.8	74.1	77.3	56.8	57.6	52.4
Low:	41.0	40.0	40.1	42.0	48.9	56.5	51.5	57.2	42.3	41.7	42.4	44.7

18-Month Target Price Range

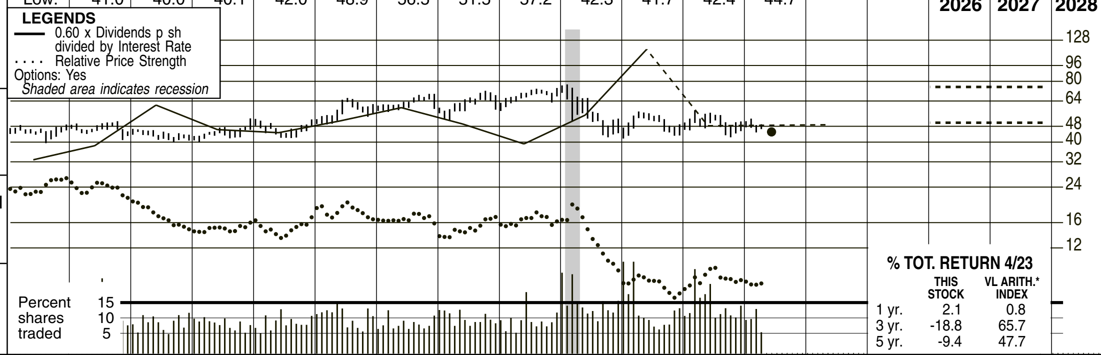
Low-High	Midpoint (% to Mid)
$39-$65	$52 (15%)

2026-28 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+65%)	17%
Low	50	(+10%)	7%

Institutional Decisions

	2Q2022	3Q2022	4Q2022
to Buy	139	115	124
to Sell	107	99	90
Hld's(000)	26050	26471	27135



% TOT. RETURN 4/23

	THIS STOCK	VL ARITH.* INDEX
1 yr.	2.1	0.8
3 yr.	-18.8	65.7
5 yr.	-9.4	47.7

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
39.13	39.16	38.17	30.56	31.72	27.14	28.02	27.64	26.39	23.61	26.52	24.45	24.49	25.29	27.64	29.20	*28.90*	*29.35*	Revenues per sh	*31.25*
5.41	5.31	5.20	5.18	5.00	4.94	5.04	5.05	4.91	4.93	1.04	5.28	5.15	5.69	6.17	5.71	*6.15*	*6.40*	"Cash Flow" per sh	*6.25*
2.76	2.57	2.83	2.73	2.39	2.22	2.24	2.16	1.96	2.12	d1.94	2.33	2.19	2.30	2.56	2.54	*2.70*	*2.80*	Earnings per sh A	*3.15*
1.44	1.52	1.60	1.68	1.75	1.79	1.83	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93	*1.95*	*1.97*	Div'ds Decl'd per sh B■	*2.00*
4.48	3.92	5.09	9.35	3.76	4.91	5.13	4.40	4.37	4.87	7.43	7.43	7.95	9.18	9.49	9.53	*9.05*	*7.75*	Cap'l Spending per sh	*7.50*
22.52	23.71	24.88	26.08	26.70	27.23	27.77	28.12	28.47	29.71	25.85	26.41	28.42	29.05	30.04	33.08	*34.95*	*34.65*	Book Value per sh D	*34.40*
26.41	26.50	26.53	26.58	26.76	26.92	27.08	27.28	27.43	28.63	28.74	28.88	30.47	30.59	31.13	35.53	*36.50*	*37.50*	Common Shs Outst'g C	*40.00*
16.7	18.1	15.2	17.0	19.0	21.1	19.4	20.7	23.7	26.9	- -	26.6	30.9	25.0	19.5	19.6	*Bold figures are*		Avg Ann'l P/E Ratio	*20.0*
.89	1.09	1.01	1.08	1.19	1.34	1.09	1.09	1.19	1.41	- -	1.44	1.65	1.28	1.06	1.13	*Value Line*		Relative P/E Ratio	*1.10*
3.1%	3.3%	3.7%	3.6%	3.9%	3.8%	4.2%	4.1%	4.0%	3.3%	3.0%	3.0%	2.8%	3.3%	3.8%	3.9%	*estimates*		Avg Ann'l Div'd Yield	*2.6%*

CAPITAL STRUCTURE as of 3/31/23
Total Debt $1608 mill. **Due in 5 Yrs** $713 mill.
LT Debt $1294.6 mill. **LT Interest** $50 mill.

(Total interest coverage: 3.4x)

Pension Assets-12/22 $300.0 mill.
Oblig. $413.4 mill.

Pfd Stock None

Common Stock 35,965,613 shares
as of 4/27/23

MARKET CAP $1.6 billion (Small Cap)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024		26-28
758.5	754.0	723.8	676.0	762.2	706.1	746.4	773.7	860.4	1037.4	*1055*	*1100*	Revenues ($mill)	*1250*
60.5	58.7	53.7	58.9	d55.6	67.3	65.3	70.3	78.7	86.3	*100*	*105*	Net Profit ($mill)	*125*
40.8%	41.5%	40.0%	40.9%	- -	26.4%	16.2%	23.1%	25.8%	25.2%	*25.0%*	*25.0%*	Income Tax Rate	*25.0%*
8.0%	7.8%	7.4%	8.7%	NMF	9.5%	8.8%	9.1%	9.1%	8.3%	*9.5%*	*9.5%*	Net Profit Margin	*10.0%*
47.6%	44.8%	42.5%	44.4%	47.9%	48.1%	48.2%	49.2%	52.8%	51.5%	*50.0%*	*50.0%*	Long-Term Debt Ratio	*50.0%*
52.4%	55.2%	57.5%	55.6%	52.1%	51.9%	51.8%	50.8%	47.2%	48.5%	*50.0%*	*50.0%*	Common Equity Ratio	*50.0%*
1433.6	1389.0	1357.7	1529.8	1426.0	1468.9	1672.0	1748.8	1979.7	2421.6	*2550*	*2600*	Total Capital ($mill)	*2750*
2062.9	2121.6	2182.7	2260.9	2255.0	2421.4	2438.9	2654.8	2871.4	3114.4	*3250*	*3400*	Net Plant ($mill)	*3750*
5.8%	5.8%	5.5%	5.1%	NMF	5.8%	5.2%	5.2%	5.1%	3.6%	*4.0%*	*4.0%*	Return on Total Cap'l	*4.5%*
8.1%	7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	8.4%	7.3%	*8.0%*	*8.0%*	Return on Shr. Equity	*9.0%*
8.1%	7.6%	6.9%	6.9%	NMF	8.8%	7.5%	7.9%	8.4%	7.3%	*8.0%*	*8.0%*	Return on Com Equity	*9.0%*
1.5%	1.1%	.6%	.9%	NMF	2.1%	1.4%	1.7%	2.4%	2.1%	*2.5%*	*3.0%*	Retained to Com Eq	*3.5%*
81%	85%	92%	87%	NMF	76%	82%	79%	71%	79%	*71%*	*70%*	All Div'ds to Net Prof	*64%*

CURRENT POSITION ($MILL.)	2021	2022	3/31/23
Cash Assets	18.6	29.3	140.8
Other	418.7	714.9	435.4
Current Assets	437.3	744.2	576.2
Accts Payable	133.5	180.7	111.2
Debt Due	389.8	348.9	313.2
Other	201.5	369.1	219.7
Current Liab.	724.8	898.7	644.1
Fix. Chg. Cov.	335%	320%	325%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28
Revenues	-2.5%	- -	4.5%
"Cash Flow"	1.0%	2.5%	5.0%
Earnings	-1.0%	2.5%	6.5%
Dividends	1.5%	0.5%	.5%
Book Value	1.0%	0.5%	4.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	285.2	135.0	93.3	260.2	773.7
2021	315.9	148.9	101.5	294.1	860.4
2022	350.3	195.0	116.8	375.3	1037.4
2023	462.4	*222.6*	*125*	*245*	*1055*
2024	*445*	*225*	*130*	*300*	*1100*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	1.58	d.17	d.61	1.50	2.30
2021	1.94	d.02	d.67	1.31	2.56
2022	1.80	.05	d.56	1.36	2.54
2023	2.01	*.09*	*d.65*	*1.25*	*2.70*
2024	*2.10*	*.15*	*d.70*	*1.25*	*2.80*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.475	.475	.475	.4775	1.90
2020	.4775	.4775	.4775	.48	1.91
2021	.48	.48	.48	.483	1.92
2022	.483	.483	.483	.485	1.93
2023	.485	.485			

BUSINESS: Northwest Natural Holding Co. distributes natural gas to 1,000 communities, 795,000 customers, in Oregon (88% of customers) and in southwest Washington state. Principal cities served: Portland and Eugene, OR; Vancouver, WA. Service area population: 3.7 mill. (77% in OR). Company buys gas supply from Canadian and U.S. producers; has transportation rights on Northwest Pipeline system. Owns local underground storage. Rev. breakdown: residential, 37%; commercial, 22%; industrial, gas transportation, 41%. Employs 1,258. BlackRock Inc. owns 17.3% of shares; Vanguard, 12.2%; Off./Dir., .95% (4/23 proxy). CEO: David H. Anderson. Inc.: Oregon. Address: 220 NW 2nd Ave., Portland, OR 97209. Tel.: 503-226-4211. Internet: www.nwnatural.com.

Northwest Natural's stock price dropped 8% since our February review, despite strong recent operating performance. The company beat our expectations in both quarters that were reported on in the three months since our last review. Northwest posted fourth-quarter revenues 26% above our estimate and roughly 28% above the year prior period, while share-earnings of $1.36 were 4% above both our target and the year prior. This capped off a year that saw solid top-line growth but tighter profit margins, thanks to the heightened price of natural gas. While net profit grew nearly 10%, share-earnings declined due to dilution.

The utility started 2023 in great form. The top line once again beat our expectation, advancing more than 32% year-over-year, which translated to a 28% increase in net income. At $71.7 million, Northwest generated more profit in one quarter than it had in most full years prior to 2020. Recent regulatory approval of higher base-rates in Oregon and Washington are largely responsible, although weather in the March period (5% colder than average) certainly helped comparisons to the year prior (8% warmer).

The natural gas utility's earnings growth should be steady. Main drivers here include population growth, consolidation through acquisition, and investments in sustainability, all three of which have been very active at Northwest this year. We look for earnings per share to increase by 6% and 4% in each of the next two years, respectively, and by 5.5% on average over the next three to five years.

The extra cash will help diversification efforts for sustainable growth. Northwest aims to expand in its renewables, water, gas storage, and now operations & maintenance businesses. These ventures could help to smooth out the earnings cycle, specifically with September period losses, while expanding the scope of its primary gas utility. A recent string of acquisitions has bolstered growth in the water management business, a segment that interests us for its long-term strategic value potential.

The shares are starting to look attractive as an income generating holding, at the recent quotation.

Earl B. Humes *May 26, 2023*

(A) Diluted earnings per share. Excludes non-recurring items: '06, ($0.06); '08, ($0.03); '09, $0.06; May not sum due to rounding. Next earnings report due in early August.
(B) Dividends historically paid in mid-February, May, August, and November.
■ Dividend reinvestment plan available.
(C) In millions.
(D) Includes intangibles. In 2021: $149 million, $4.20/share.

Company's Financial Strength	A
Stock's Price Stability	85
Price Growth Persistence	35
Earnings Predictability	10

ONE GAS, INC. NYSE-OGS

RECENT PRICE **80.57** | P/E RATIO **19.2** (Trailing: 19.7 / Median: NMF) | RELATIVE P/E RATIO **1.16** | DIV'D YLD **3.3%** | VALUE LINE

TIMELINESS 3 Raised 5/13/22
SAFETY 2 New 6/2/17
TECHNICAL 2 Raised 5/26/23
BETA .80 (1.00 = Market)

18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$61-$110	$86 (5%)

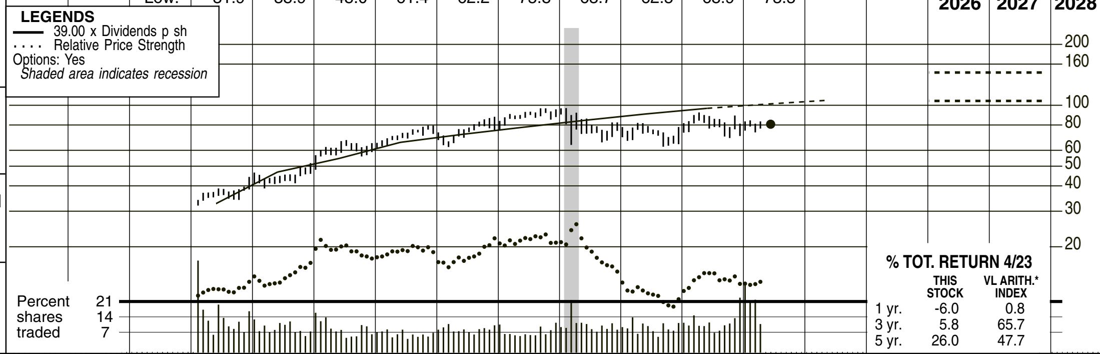
2026-28 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	145	(+80%)	*18%*
Low	105	(+30%)	*10%*

Institutional Decisions

	2Q2022	3Q2022	4Q2022
to Buy	171	136	176
to Sell	112	143	132
Hld's(000)	45263	45390	48298

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
High:	44.3	51.8	67.4	79.5	87.8	96.7	97.0	81.9	92.3	84.3
Low:	31.9	38.9	48.0	61.4	62.2	75.8	63.7	62.5	68.9	73.5



% TOT. RETURN 4/23

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-6.0	0.8
3 yr.	5.8	65.7
5 yr.	26.0	47.7

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
--	34.92	29.62	27.30	29.43	31.08	31.32	28.78	33.72	46.58	*48.45*	*51.35*	Revenues per sh	*70.15*
--	4.52	4.82	5.43	5.96	6.32	6.96	7.36	7.71	8.13	*9.35*	*9.95*	"Cash Flow" per sh	*12.20*
--	2.07	2.24	2.65	3.02	3.25	3.51	3.68	3.85	4.08	*4.20*	*4.40*	Earnings per sh A	*5.60*
--	.84	1.20	1.40	1.68	1.84	2.00	2.16	2.32	2.48	*2.60*	*2.72*	Div'ds Decl'd per sh B■	*3.15*
--	5.70	5.63	5.91	6.81	7.50	7.91	8.87	9.23	11.01	*11.25*	*11.55*	Cap'l Spending per sh	*12.30*
--	34.45	35.24	36.12	37.47	38.86	40.35	42.01	43.81	46.69	*52.70*	*50.90*	Book Value per sh	*64.45*
--	52.08	52.26	52.28	52.31	52.57	52.77	53.17	53.63	55.35	*55.50*	*55.50*	Common Shs Outst'g C	*57.00*
--	17.8	19.8	22.7	23.5	23.1	25.3	21.7	18.9	19.9	*Bold figures are*		Avg Ann'l P/E Ratio	*22.5*
--	.94	1.00	1.19	1.18	1.25	1.35	1.11	1.03	1.16	*Value Line*		Relative P/E Ratio	*1.25*
--	2.3%	2.7%	2.3%	2.4%	2.5%	2.3%	2.7%	3.2%	3.1%	*estimates*		Avg Ann'l Div'd Yield	*2.5%*
--	1818.9	1547.7	1427.2	1539.6	1633.7	1652.7	1530.3	1808.6	2578.0	*2690*	*2850*	Revenues ($mill)	*4000*
--	109.8	119.0	140.1	159.9	172.2	186.7	196.4	206.4	221.7	*235*	*245*	Net Profit ($mill)	*320*
--	38.4%	38.0%	37.8%	36.4%	23.7%	18.7%	17.5%	16.3%	17.3%	*16.5%*	*17.0%*	Income Tax Rate	*22.0%*
--	6.0%	7.7%	9.8%	10.4%	10.5%	11.3%	12.8%	11.4%	8.6%	*8.7%*	*8.6%*	Net Profit Margin	*8.0%*
--	40.1%	39.5%	38.7%	37.8%	38.6%	37.7%	41.5%	61.1%	50.7%	*45.0%*	*49.0%*	Long-Term Debt Ratio	*51.0%*
--	59.9%	60.5%	61.3%	62.2%	61.4%	62.3%	58.5%	39.0%	49.3%	*55.0%*	*51.0%*	Common Equity Ratio	*49.0%*
--	2995.3	3042.9	3080.7	3153.5	3328.1	3415.5	3815.7	6032.9	5246.2	*5320*	*5540*	Total Capital ($mill)	*7500*
--	3293.7	3511.9	3731.6	4007.6	4283.7	4565.2	4867.1	5190.8	5628.8	*6000*	*6375*	Net Plant ($mill)	*7400*
--	4.4%	4.7%	5.2%	5.8%	5.9%	6.4%	6.0%	3.9%	5.0%	*5.5%*	*6.0%*	Return on Total Cap'l	*6.0%*
--	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	8.8%	8.6%	*8.0%*	*8.5%*	Return on Shr. Equity	*8.5%*
--	6.1%	6.5%	7.4%	8.2%	8.4%	8.8%	8.8%	8.8%	8.6%	*8.0%*	*8.5%*	Return on Com Equity	*8.5%*
--	3.7%	3.1%	3.5%	3.7%	3.7%	3.8%	3.7%	3.5%	3.4%	*3.0%*	*3.5%*	Retained to Com Eq	*4.0%*
--	40%	53%	52%	55%	56%	56%	58%	60%	60%	*61%*	*62%*	All Div'ds to Net Prof	*56%*

The shares of ONE Gas, Inc. began trading "regular-way" on the New York Stock Exchange on February 3, 2014. That happened as a result of the separation of ONEOK's natural gas distribution operation. Regarding the details of the spinoff, on January 31, 2014, ONEOK distributed one share of OGS common stock for every four shares of ONEOK common stock held by ONEOK shareholders of record as of the close of business on January 21. It should be mentioned that ONEOK did not retain any ownership interest in the new company.

CAPITAL STRUCTURE as of 3/31/23
Total Debt $2962.8 mill. **Due in 5 Yrs** $1250.0 mill.
LT Debt $1875.6 mill. **LT Interest** $115.0 mill.
(LT interest earned: 4.5x; total interest coverage: 4.5x)
Leases, Uncapitalized Annual rentals $6.5 mill.
Pfd Stock None
Pension Assets-12/22 $950.8 mill. **Oblig.** $953.0 mill.
Common Stock 55,389,050 shs.

MARKET CAP: $4.5 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2021	2022	3/31/23
Cash Assets	8.9	9.7	7.8
Other	2215.7	1207.9	780.7
Current Assets	2224.6	1217.6	788.5
Accts Payable	258.6	360.5	197.6
Debt Due	494.0	572.7	1087.2
Other	227.9	256.2	257.5
Current Liab.	980.5	1189.4	1542.3
Fix. Chg. Cov.	625%	540%	550%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28
Revenues	--	5.0%	*11.5%*
"Cash Flow"	--	7.5%	*8.0%*
Earnings	--	8.0%	*6.5%*
Dividends	--	10.0%	*5.5%*
Book Value	--	4.0%	*6.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	528.2	273.3	244.6	484.2	1530.3
2021	625.3	315.6	273.9	593.8	1808.6
2022	971.5	428.9	359.4	818.2	2578.0
2023	1032.1	*470*	*376*	*811.9*	*2690*
2024	*1075*	*515*	*420*	*840*	*2850*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	1.72	.48	.39	1.09	3.68
2021	1.79	.56	.38	1.12	3.85
2022	1.83	.59	.44	1.23	4.08
2023	1.84	*.64*	*.50*	*1.22*	*4.20*
2024	*1.89*	*.68*	*.57*	*1.26*	*4.40*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.50	.50	.50	.50	2.00
2020	.54	.54	.54	.54	2.16
2021	.58	.58	.58	.58	2.32
2022	.62	.62	.62	.62	2.48
2023	.65	.65			

BUSINESS: ONE Gas, Inc. provides natural gas distribution services to more than two million customers. There are three divisions: Oklahoma Natural Gas, Kansas Gas Service, and Texas Gas Service. The company purchased 165 Bcf of natural gas supply in 2022, compared to 164 Bcf in 2021. Total volumes delivered by customer (fiscal 2022): transportation, 57.3%; residential, 31.2%; commercial & industrial, 10.8%; other, .7%. ONE Gas has around 3,600 employees. BlackRock owns 12.6% of common stock; The Vanguard Group, 11.5%; State Street Corporation, 11.5%; officers and directors, 1.5% (4/23 Proxy). CEO: Robert S. McAnnally. Incorporated: Oklahoma. Address: 15 East Fifth Street, Tulsa, Oklahoma 74103. Telephone: 918-947-7000. Internet: www.onegas.com.

ONE Gas, Inc. got off to an unspectacular start in 2023. First-quarter earnings per share of $1.84 were just a penny above last year's $1.83 figure. That's attributable partly to higher depreciation expense, reflecting additional assets being placed into service. Employee-related costs and bad debt expense rose, as well. But the company was aided, to some degree, by benefits from new rates. A lower effective income tax rate plus a decrease in COVID-19-related costs also helped. So, at this juncture, it appears that full-year profits will grow at a 3% rate, to $4.20 a share, relative to 2022's $4.08 tally. Regarding 2024, we expect share net to advance at a somewhat stronger 5% rate, to $4.40, assuming further widening of operating margins.

The Financial Strength rating is solid, at B++. When the March period concluded, cash and equivalents were $7.8 million and cash flows were decent. Moreover, ONE Gas had $720 million available (out of $1 billion) under a commercial paper program. The company also possesses a $1 billion revolving credit facility maturing in March, 2028. Lastly, at the end of the first quarter, long-term debt was a manageable 41% of total capital. All told, the energy firm should continue to be able to meet its working capital requirements, capital expenditures, and other commitments with little trouble.

It's important to mention that operations are concentrated in only three states. Moreover, it seems that leadership is content with maintaining the status quo, given that some businesses are in metropolitan areas, such as Austin, Texas; Wichita, Kansas; and Tulsa, Oklahoma. Nonetheless, this lack of geographic diversification leaves the company somewhat more vulnerable to regional economic downturns and regulations.

What about the stock? It offers worthwhile capital appreciation potential over the 2026-2028 horizon. Consider, too, the 2 (Above Average) Safety rank and high Price Stability score of 90 out of 100. But the dividend yield does not stand out from the average yield in our Natural Gas Utility group. Meanwhile, OGS shares are pegged to just approximate the year-ahead market (Timeliness rank 3: Average).

Frederick L. Harris, III *May 26, 2023*

(A) Diluted EPS. Excludes nonrecurring gain: 2017, $0.06. Next earnings report due early Aug. Quarterly EPS figures for 2022 don't equal total due to rounding.
(B) Dividends historically paid in early March, June, Sept., and Dec. ■ Dividend reinvestment plan. Direct stock purchase plan.
(C) In millions.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	60
Earnings Predictability	100

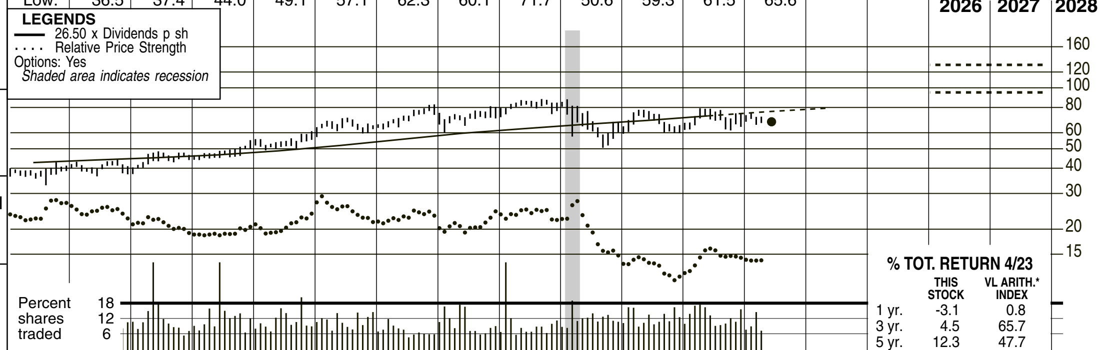
SPIRE INC. NYSE-SR

RECENT PRICE **68.03** | P/E RATIO **15.9** (Trailing: 14.5; Median: 19.0) | RELATIVE P/E RATIO **0.96** | DIV'D YLD **4.3%** | VALUE LINE

TIMELINESS 3 Lowered 5/19/23
SAFETY 2 Raised 6/20/03
TECHNICAL 2 Raised 5/5/23
BETA .80 (1.00 = Market)

High:	44.0	48.5	55.2	61.0	71.2	82.9	81.1	88.0	88.0	77.9	79.2	75.8
Low:	36.5	37.4	44.0	49.1	57.1	62.3	60.1	71.7	50.6	59.3	61.5	65.6

Target Price Range 2026 | 2027 | 2028



18-Month Target Price Range

Low-High	Midpoint (% to Mid)
$56-$94	$75 (10%)

2026-28 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	130	(+90%)	20%
Low	95	(+40%)	12%

Institutional Decisions

	2Q2022	3Q2022	4Q2022
to Buy	145	128	146
to Sell	121	126	122
Hld's(000)	44899	45113	45462

% TOT. RETURN 4/23

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-3.1	0.8
3 yr.	4.5	65.7
5 yr.	12.3	47.7

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
93.40	100.44	85.49	77.83	71.48	49.90	31.10	37.68	45.59	33.68	36.07	38.78	38.30	35.96	43.24	41.88	*51.30*	*47.15*	Revenues per sh A	*63.65*
3.87	4.22	4.56	4.11	4.62	4.58	3.12	3.87	6.15	6.16	6.54	7.55	7.12	5.25	9.09	8.44	*9.35*	*9.45*	"Cash Flow" per sh	*11.10*
2.31	2.64	2.92	2.43	2.86	2.79	2.02	2.35	3.16	3.24	3.43	4.33	3.52	1.44	4.96	3.95	*4.65*	*4.40*	Earnings per sh A B	*5.50*
1.45	1.49	1.53	1.57	1.61	1.66	1.70	1.76	1.84	1.96	2.10	2.25	2.37	2.49	2.60	2.74	*2.88*	*3.00*	Div'ds Decl'd per sh C■	*3.45*
2.72	2.57	2.36	2.56	3.02	4.83	4.00	3.96	6.68	6.42	9.08	9.86	16.15	12.37	12.09	10.52	*13.20*	*13.60*	Cap'l Spending per sh	*12.00*
19.79	22.12	23.32	24.02	25.56	26.67	32.00	34.93	36.30	38.73	41.26	44.51	45.14	44.19	46.74	49.08	*53.40*	*59.75*	Book Value per sh D	*67.10*
21.65	21.99	22.17	22.29	22.43	22.55	32.70	43.18	43.36	45.65	48.26	50.67	50.97	51.60	51.70	52.50	*53.00*	*53.00*	Common Shs Outst'g E	*55.00*
14.2	14.3	13.4	13.7	13.0	14.5	21.3	19.8	16.5	19.6	19.8	16.7	22.8	51.1	13.6	17.5	*Bold figures are*		Avg Ann'l P/E Ratio	*20.5*
.75	.86	.89	.87	.82	.92	1.20	1.04	.83	1.03	1.00	.90	1.21	2.62	.73	1.01	*Value Line*		Relative P/E Ratio	*1.15*
4.4%	3.9%	3.9%	4.7%	4.3%	4.1%	4.0%	3.8%	3.5%	3.1%	3.1%	3.1%	3.0%	3.4%	3.8%	4.0%	*estimates*		Avg Ann'l Div'd Yield	*3.1%*

CAPITAL STRUCTURE as of 3/31/23
Total Debt $4520.1 mill. **Due in 5 Yrs** $2775.0 mill.
LT Debt $3702.5 mill. **LT Interest** $200.0 mill.
(Total interest coverage: 3.3x)

Leases, Uncapitalized Annual rentals $9.0 mill.
Pension Assets-9/22 $625.9 mill. **Oblig.** $882.8 mill.
Pfd Stock $242.0 mill. **Pfd Div'd** $14.8 mill.
Common Stock 52,597,027 shs. as of 4/30/23

MARKET CAP: $3.6 billion (Mid Cap)

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
1017.0	1627.2	1976.4	1537.3	1740.7	1965.0	1952.4	1855.4	2235.5	2198.5	*2720*	*2500*	Revenues ($mill) A	*3500*
52.8	84.6	136.9	144.2	161.6	214.2	184.6	88.6	271.7	220.8	*245*	*235*	Net Profit ($mill)	*300*
25.0%	27.6%	31.2%	32.5%	32.4%	NMF	15.7%	12.3%	20.1%	21.1%	*20.0%*	*20.5%*	Income Tax Rate	*25.0%*
5.2%	5.2%	6.9%	9.4%	9.3%	10.9%	9.5%	4.8%	12.2%	10.0%	*9.0%*	*9.4%*	Net Profit Margin	*8.6%*
46.6%	55.1%	53.0%	50.9%	50.0%	45.7%	45.0%	49.0%	52.5%	51.2%	*55.0%*	*52.0%*	Long-Term Debt Ratio	*51.0%*
53.4%	44.9%	47.0%	49.1%	50.0%	54.3%	49.7%	46.1%	43.2%	44.6%	*41.0%*	*44.0%*	Common Equity Ratio	*45.0%*
1959.0	3359.4	3345.1	3601.9	3986.3	4155.5	4625.6	4946.0	5597.3	5777.0	*6900*	*7200*	Total Capital ($mill)	*8200*
1776.6	2759.7	2941.2	3300.9	3665.2	3970.5	4352.0	4680.1	5055.7	5370.4	*5700*	*6000*	Net Plant ($mill)	*7100*
3.3%	3.1%	5.1%	4.9%	5.0%	6.3%	5.1%	2.9%	5.8%	4.9%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.0%*
5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.3%	3.5%	10.2%	7.8%	*8.5%*	*7.5%*	Return on Shr. Equity	*8.0%*
5.0%	5.6%	8.7%	8.2%	8.1%	9.5%	7.9%	3.2%	10.6%	8.0%	*8.5%*	*7.5%*	Return on Com Equity	*8.0%*
1.0%	1.5%	3.7%	3.3%	3.3%	4.7%	2.7%	NMF	5.1%	2.5%	*2.5%*	*2.0%*	Retained to Com Eq	*2.5%*
81%	73%	58%	59%	60%	51%	66%	NMF	54%	71%	*68%*	*74%*	All Div'ds to Net Prof	*68%*

CURRENT POSITION ($MILL.)

	2021	2022	3/31/23
Cash Assets	4.3	6.5	6.9
Other	1312.2	1585.5	1104.7
Current Assets	1316.5	1592.0	1111.6
Accts Payable	409.9	617.4	232.3
Debt Due	727.8	1318.7	817.6
Other	470.6	417.5	357.0
Current Liab.	1608.3	2353.6	1406.9
Fix. Chg. Cov.	448%	393%	405%

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28
Revenues	-5.0%	1.0%	*8.0%*
"Cash Flow"	5.5%	4.0%	*6.5%*
Earnings	2.5%	1.0%	*8.0%*
Dividends	5.0%	6.0%	*5.0%*
Book Value	6.5%	4.0%	*6.5%*

Fiscal Year Ends	QUARTERLY REVENUES ($ mill.)A Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2020	566.9	715.5	321.1	251.9	1855.4
2021	512.6	1104.9	327.8	290.2	2235.5
2022	555.4	880.9	448.0	314.2	2198.5
2023	814.0	1123.4	*447.6*	*335*	*2720*
2024	*660*	*1070*	*430*	*340*	*2500*

Fiscal Year Ends	EARNINGS PER SHARE A B F Dec.31	Mar.31	Jun.30	Sep.30	Full Fiscal Year
2020	1.24	2.54	d1.87	d.45	1.44
2021	1.65	3.55	.03	d.26	4.96
2022	1.01	3.27	d.10	d.20	3.95
2023	1.66	3.33	*d.12*	*d.22*	*4.65*
2024	*1.30*	*3.45*	*d.11*	*d.24*	*4.40*

Cal-endar	QUARTERLY DIVIDENDS PAID C ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.5925	.5925	.5925	.5925	2.37
2020	.6225	.6225	.6225	.6225	2.49
2021	.65	.65	.65	.65	2.60
2022	.685	.685	.685	.685	2.74
2023	.72	.72			

BUSINESS: Spire Inc., formerly known as the Laclede Group, Inc., is a holding company for natural gas utilities, which distributes natural gas across Missouri, including the cities of St. Louis and Kansas City, Alabama, and Mississippi. Has roughly 1.7 million customers. Acquired Missouri Gas 9/13, Alabama Gas Co 9/14. Utility therms sold and transported in fiscal 2022: 3.2 bill. Revenue mix for regulated operations: residential, 73%; commercial and industrial, 17%; transportation, 6%; other, 4%. Officers and directors own 2.9% of common shares; American Century Companies, 14.9% (12/22 proxy). Chairman: Edward Glotzbach; CEO: Suzanne Sitherwood. Inc.: Missouri. Address: 700 Market Street, St. Louis, Missouri 63101. Tel.: 314-342-0500. Internet: www.spireenergy.com.

Spire Inc. continues to perform nicely in fiscal 2023 (which concludes on September 30th). Through the first half, profits of $4.99 per share were 16.6% higher than the previous year's $4.28 total. This was made possible, in part, by the Gas Marketing division, as very favorable market conditions enabled it to optimize storage and transportation positions. Furthermore, results of the Gas Utility unit benefited from higher gas cost recoveries at the Spire Missouri and Spire Alabama utilities (supported by increased average gas costs being passed through to customers). Spire Missouri also enjoyed the effects of implementing 2022 and 2021 rate orders. Lastly, the Midstream segment was aided, to a big degree, by an improved showing from the Spire Storage business. Right now, it appears that full-year earnings per share will recover roughly 18%, to $4.65, compared to the fiscal 2022 figure of $3.95. Concerning next year, the bottom line might fall back around 5%, to $4.40 a share. This is based partially on our assumption that results for the Gas Marketing arm won't be as strong as in the current year.

Corporate finances are sound. When the March period ended, cash and equivalents stood at nearly $7 million. Moreover, there was $1.3 billion available via a revolving credit facility expiring in July, 2027. Too, long-term debt was a manageable 55% of total capital, and short-term obligations were not a major problem. All told, Spire ought to be able to satisfy its commitments for a while.

Prospects out to 2026-2028 seem decent. The gas utilities boast 1.7 million customers in Mississippi, Alabama, and Missouri. Too, the other businesses, particularly pipelines, hold promise. Additional expansionary projects and technological enhancements in customer service and elsewhere should help Spire, as well. Finally, acquisitions are plausible, given the adequate balance sheet.

These good-quality shares offer decent long-term total return potential. The dividend yield compares nicely to those of other equities in *Value Line's* Natural Gas Utility Industry. Moreover, 3- to 5-year capital appreciation possibilities look worthwhile.

Frederick L. Harris, III *May 26, 2023*

(A) Fiscal year ends Sept. 30th. (B) Based on diluted shares outstanding. Excludes gain from discontinued operations: '08, 94¢. Next earnings report due late July. (C) Dividends paid in early January, April, July, and October. ■ Dividend reinvestment plan available. (D) Incl. deferred charges. In '22: $1,171.6 mill., $22.32/sh. (E) In millions. (F) Qtly. egs. may not sum due to rounding or change in shares outstanding.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	45
Earnings Predictability	45

New Mexico Gas Company
Summary of Risk Premium Models for the
Proxy Group of Six Natural Gas Distribution Companies

	Proxy Group of Six Natural Gas Distribution Companies	
Predictive Risk Premium Model (PRPM) (1)	10.74	%
Risk Premium Using an Adjusted Total Market Approach (2)	10.95	%
Average	10.85	%

Notes:
(1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.

New Mexico Gas Company
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

Proxy Group of Six Natural Gas Distribution Companies	[1] LT Average Predicted Variance	[2] Spot Predicted Variance	[3] Recommended Variance (2)	[4] GARCH Coefficient	[5] Predicted Risk Premium (3)	[6] Risk-Free Rate (4)	[7] Indicated ROE (5)
Atmos Energy Corporation	0.34%	0.34%	0.34%	2.2707	9.61%	3.85%	13.46%
New Jersey Resources Corporation	0.39%	0.38%	0.39%	2.1385	10.37%	3.85%	14.22%
NiSource Inc.	0.48%	0.33%	0.40%	0.8238	4.08%	3.85%	7.93%
Northwest Natural Holding Company	0.33%	0.40%	0.36%	1.4263	6.43%	3.85%	10.28%
ONE Gas, Inc.	0.37%	0.48%	0.42%	3.0780	16.85%	3.85%	NMF
Spire Inc.	0.70%	0.38%	0.54%	0.9416	6.26%	3.85%	10.11%
						Average	11.20%
						Median	10.28%
						Average of Mean and Median	10.74%

NMF = Not Meaningful Figure

Notes:
(1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Services.
(2) Average of Column [1] and Column [2].
(3) (1+(Column [3] * Column [4])^12) - 1.
(4) From note 2 on page 2 of Schedule DWD-5.
(5) Column [5] + Column [6].

New Mexico Gas Company
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Six Natural Gas Distribution Companies
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	4.75 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds (2)	0.69
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	5.44 %
4.	Equity Risk Premium (3)	5.51
5.	Risk Premium Derived Common Equity Cost Rate	10.95 %

Notes: (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 10 and 11 of this Schedule).
(2) The average yield spread of A2 rated public utility bonds over Aaa rated corporate bonds of 0.69% from page 4 of this Schedule.
(3) From page 7 of this Schedule.

New Mexico Gas Company
Interest Rates and Bond Spreads for
Moody's Corporate and Public Utility Bonds

Selected Bond Yields - Moody's

	[1]	[2]	[3]
	Aaa Rated Corporate Bond	A2 Rated Public Utility Bond	Baa2 Rated Public Utility Bond
Jun-2023	4.65 %	5.38 %	5.73 %
May-2023	4.67	5.36	5.71
Apr-2023	4.47	5.13	5.47
Average	4.60 %	5.29 %	5.64 %

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds: 0.69 % (1)

Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds: 0.35 % (2)

Notes:
(1) Column [2] - Column [1].
(2) Column [3] - Column [2].

Source of Information:
Bloomberg Professional Services

New Mexico Gas Company
Comparison of Long-Term Issuer Ratings for
Proxy Group of Six Natural Gas Distribution Companies

	Moody's Long-Term Issuer Rating July 2023		Standard & Poor's Long-Term Issuer Rating July 2023	
Proxy Group of Six Natural Gas Distribution Companies	Long-Term Issuer Rating (1)	Numerical Weighting (2)	Long-Term Issuer Rating (1)	Numerical Weighting (2)
Atmos Energy Corporation	A1	5.0	A-	7.0
New Jersey Resources Corporation	A1	5.0	NR	- -
NiSource Inc.	Baa1	8.0	BBB+	8.0
Northwest Natural Holding Company	Baa1	8.0	A+	5.0
ONE Gas, Inc.	A3	7.0	A-	7.0
Spire Inc.	A1/A2	5.5	A-	7.0
Average	A2	6.4	A-	6.8

Notes:
(1) Ratings are that of the average of each company's utility operating subsidiaries.
(2) From page 6 of this Schedule.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Numerical Assignment for
Moody's and Standard & Poor's Bond Ratings

Moody's Bond Rating	Numerical Bond Weighting	Standard & Poor's Bond Rating
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-
B1	14	B+
B2	15	B
B3	16	B-

New Mexico Gas Company
Judgment of Equity Risk Premium for
Proxy Group of Six Natural Gas Distribution Companies

Line No.		Proxy Group of Six Natural Gas Distribution Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	6.83 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	4.79
3.	Predicted Equity Risk Premium Based on Regression Analysis of 821 Fully-Litigated Natural Gas Utility Rate Cases (3)	4.92
4.	Average equity risk premium	5.51 %

Notes: (1) From page 8 of this Schedule.
(2) From page 12 of this Schedule.
(3) From page 13 of this Schedule.

New Mexico Gas Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Six Natural Gas Distribution Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Six Natural Gas Distribution Companies
1.	Kroll Equity Risk Premium (1)	5.82 %
2.	Regression on Kroll Risk Premium Data (2)	7.46
3.	Kroll Equity Risk Premium based on PRPM (3)	8.70
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	10.56
5.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	9.39
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	11.29
7.	Conclusion of Equity Risk Premium	8.87 %
8.	Adjusted Beta (7)	0.77
9.	Forecasted Equity Risk Premium	6.83 %

Notes provided on page 9 of this Schedule.

New Mexico Gas Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Six Natural Gas Distribution Companies

Notes:

(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Kroll 2023 SBBI® Yearbook minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1928-2022.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa2 rated corporate bond yields from 1928-2022 referenced in Note 1 above. Using the equation generated from the regression, an expected equity risk premium is calculated using the average consensus forecast of Aaa corporate bonds of 4.75% (from page 3 of this Schedule).

(3) The SBBI equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Kroll large company common stock monthly returns and average Aaa and Aa corporate monthly bond yields, from January 1928 through June 2023.

(4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 4.75% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 15.31% (described fully in note 1 on page 2 of Schedule DWD-5).

(5) Using data from Value Line for the S&P 500, an expected total return of 14.14%% was derived based upon expected dividend yields as a proxy for income returns and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.75% results in an expected equity risk premium of 9.39%.

(6) Using data from the Bloomberg Professional Services for the S&P 500, an expected total return of 16.04% was derived based upon expected dividend yields as a proxy for income returns and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.75% results in an expected equity risk premium of 11.29%.

(7) Average of mean and median beta from Schedule DWD-5.

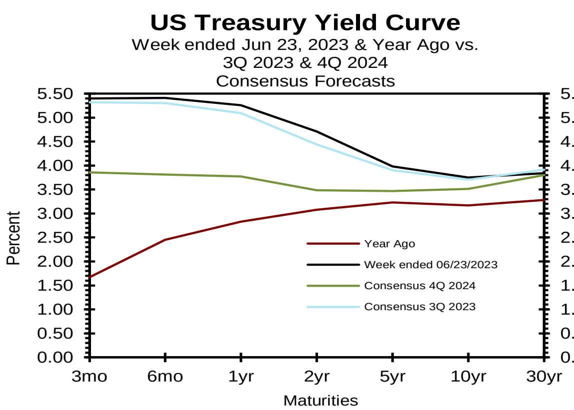
Sources of Information:

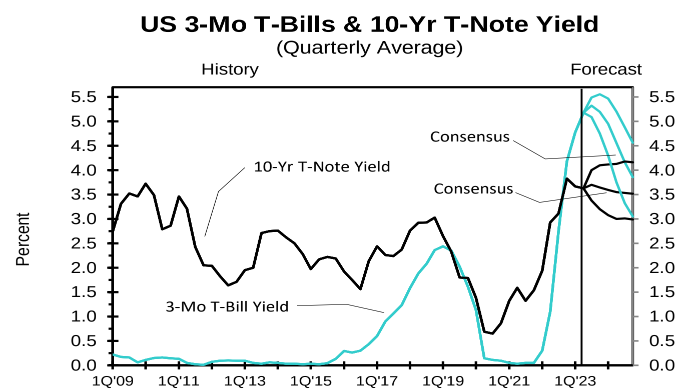
Stocks, Bonds, Bills, and Inflation - 2023 SBBI Yearbook, Kroll
Value Line Summary and Index
Blue Chip Financial Forecasts, June 1, 2023 and June 30, 2023
Bloomberg Professional Services

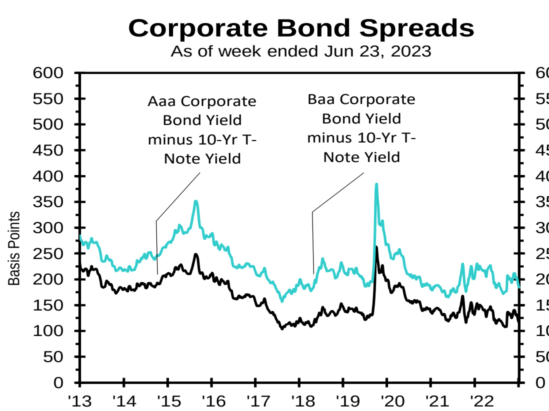
Consensus Forecasts of U.S. Interest Rates and Key Assumptions

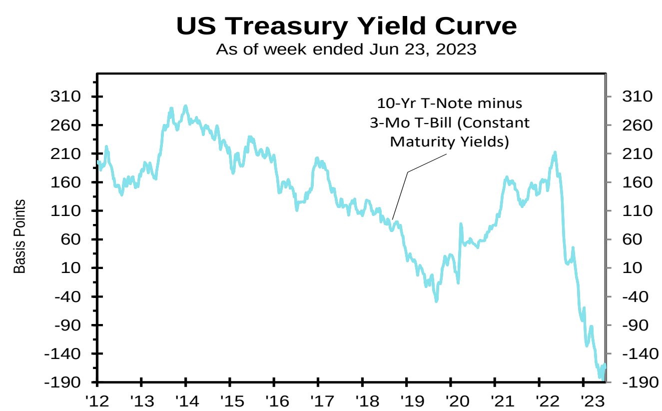
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			Latest Qtr	3Q	4Q	1Q	2Q	3Q	4Q
Interest Rates	Jun 23	Jun 16	Jun 9	Jun 2	May	Apr	Mar	2Q 2023*	2023	2023	2024	2024	2024	2024
Federal Funds Rate	5.08	5.08	5.08	5.08	5.06	4.83	4.65	4.98	**5.3**	**5.2**	**5.0**	**4.6**	**4.3**	**3.9**
Prime Rate	8.25	8.25	8.25	8.25	8.23	8.00	7.82	8.15	**8.4**	**8.4**	**8.1**	**7.7**	**7.3**	**7.0**
SOFR	5.05	5.05	5.05	5.07	5.02	4.81	4.64	4.96	**5.2**	**5.2**	**5.0**	**4.7**	**4.3**	**3.9**
Commercial Paper, 1-mo.	5.09	5.09	5.12	5.08	5.06	4.82	4.74	4.98	**5.2**	**5.2**	**5.0**	**4.6**	**4.2**	**3.9**
Treasury bill, 3-mo.	5.40	5.36	5.41	5.52	5.31	5.07	4.86	5.26	**5.3**	**5.2**	**5.0**	**4.6**	**4.2**	**3.9**
Treasury bill, 6-mo.	5.41	5.36	5.42	5.48	5.27	4.99	4.99	5.21	**5.3**	**5.1**	**4.9**	**4.5**	**4.1**	**3.8**
Treasury bill, 1 yr.	5.26	5.23	5.16	5.18	4.91	4.68	4.68	4.92	**5.1**	**4.9**	**4.6**	**4.3**	**4.0**	**3.8**
Treasury note, 2 yr.	4.71	4.66	4.53	4.42	4.13	4.02	4.30	4.23	**4.4**	**4.3**	**4.0**	**3.8**	**3.6**	**3.5**
Treasury note, 5 yr.	3.98	3.97	3.88	3.77	3.59	3.54	3.82	3.67	**3.9**	**3.8**	**3.7**	**3.6**	**3.5**	**3.5**
Treasury note, 10 yr.	3.75	3.78	3.73	3.66	3.57	3.46	3.66	3.58	**3.7**	**3.6**	**3.6**	**3.5**	**3.5**	**3.5**
Treasury note, 30 yr.	3.84	3.88	3.90	3.87	3.86	3.68	3.77	3.80	**3.9**	**3.9**	**3.9**	**3.8**	**3.8**	**3.8**
Corporate Aaa bond	4.91	4.97	4.99	4.99	4.95	4.76	4.92	4.89	**4.8**	**4.9**	**4.7**	**4.6**	**4.6**	**4.6**
Corporate Baa bond	5.59	5.66	5.70	5.69	5.66	5.44	5.61	5.59	**5.9**	**5.9**	**5.7**	**5.6**	**5.6**	**5.5**
State & Local bonds	4.21	4.24	4.25	4.30	4.21	4.07	4.23	4.18	**4.2**	**4.2**	**4.1**	**4.0**	**4.0**	**4.0**
Home mortgage rate	6.67	6.69	6.71	6.79	6.43	6.34	6.54	6.49	**6.6**	**6.4**	**6.3**	**6.1**	**6.0**	**5.9**
	History								Consensus Forecasts-Quarterly					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Key Assumptions	2021	2021	2022	2022	2022	2022	2023	2023**	2023	2023	2024	2024	2024	2024
Fed's AFE $ Index	104.9	106.9	108.3	113.5	118.8	119.8	115.5	114.6	**114.7**	**115.1**	**114.9**	**114.7**	**114.7**	**114.1**
Real GDP	2.7	7.0	-1.6	-0.6	3.2	2.6	2.0	0.8	**0.0**	**-0.2**	**0.6**	**1.1**	**1.7**	**2.0**
GDP Price Index	6.2	6.8	8.3	9.0	4.4	3.9	4.1	3.3	**2.9**	**2.8**	**2.5**	**2.4**	**2.2**	**2.2**
Consumer Price Index	6.6	8.8	9.2	9.7	5.5	4.2	3.8	3.3	**3.0**	**2.8**	**2.5**	**2.3**	**2.4**	**2.4**
PCE Price Index	5.6	6.2	7.5	7.3	4.3	3.7	4.1	3.0	**2.9**	**2.7**	**2.5**	**2.2**	**2.2**	**2.2**

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed.*Interest rate data for 2Q 2023 based on historical data through the week ended June 23. **Data for 2Q 2023 for the Fed's AFE $ Index based on data through the week ended June 23. Figures for 2Q 2023 Real GDP, GDP Chained Price Index, Consumer Price Index, and PCE Price Index are consensus forecasts from the June 2023 survey.









Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2024 through 2029 and averages for the five-year periods 2025-2029 and 2030-2034. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year						Five-Year Averages	
		2024	2025	2026	2027	2028	2029	2025-2029	2030-2034
1. Federal Funds Rate	CONSENSUS	3.9	3.0	2.7	2.7	2.7	2.7	2.7	2.7
	Top 10 Average	4.6	3.5	3.2	3.2	3.2	3.1	3.2	3.1
	Bottom 10 Average	3.1	2.4	2.3	2.2	2.2	2.3	2.3	2.3
2. Prime Rate	CONSENSUS	7.0	6.0	5.8	5.8	5.7	5.8	5.8	5.8
	Top 10 Average	7.7	6.6	6.2	6.3	6.2	6.1	6.3	6.2
	Bottom 10 Average	6.3	5.5	5.4	5.3	5.3	5.4	5.4	5.4
3. SOFR	CONSENSUS	3.8	2.9	2.6	2.7	2.6	2.6	2.7	2.6
	Top 10 Average	4.5	3.4	3.0	3.1	3.0	2.9	3.1	3.0
	Bottom 10 Average	3.2	2.4	2.3	2.2	2.2	2.3	2.3	2.3
4. Commercial Paper, 1-Mo	CONSENSUS	3.7	2.9	2.7	2.8	2.8	2.8	2.8	2.8
	Top 10 Average	4.3	3.3	3.0	3.1	3.0	3.0	3.1	3.0
	Bottom 10 Average	3.3	2.6	2.4	2.4	2.4	2.6	2.5	2.5
5. Treasury Bill Yield, 3-Mo	CONSENSUS	3.8	2.9	2.7	2.7	2.7	2.7	2.7	2.7
	Top 10 Average	4.4	3.4	3.1	3.2	3.2	3.0	3.2	3.1
	Bottom 10 Average	3.1	2.3	2.3	2.3	2.3	2.3	2.3	2.3
6. Treasury Bill Yield, 6-Mo	CONSENSUS	3.8	3.0	2.8	2.8	2.8	2.8	2.8	2.8
	Top 10 Average	4.4	3.5	3.2	3.3	3.2	3.1	3.2	3.1
	Bottom 10 Average	3.1	2.5	2.4	2.4	2.4	2.5	2.4	2.5
7. Treasury Bill Yield, 1-Yr	CONSENSUS	3.6	3.0	2.9	2.9	2.9	2.9	2.9	2.9
	Top 10 Average	4.3	3.5	3.3	3.4	3.3	3.2	3.3	3.3
	Bottom 10 Average	3.0	2.5	2.5	2.5	2.5	2.6	2.5	2.6
8. Treasury Note Yield, 2-Yr	CONSENSUS	3.4	3.0	3.0	3.1	3.0	3.0	3.0	3.1
	Top 10 Average	4.0	3.5	3.5	3.5	3.5	3.4	3.5	3.5
	Bottom 10 Average	2.8	2.6	2.6	2.6	2.5	2.7	2.6	2.7
9. Treasury Note Yield, 5-Yr	CONSENSUS	3.4	3.1	3.2	3.2	3.3	3.2	3.2	3.3
	Top 10 Average	4.0	3.6	3.7	3.8	3.8	3.6	3.7	3.8
	Bottom 10 Average	2.8	2.7	2.7	2.7	2.8	2.8	2.7	2.8
10. Treasury Note Yield, 10-Yr	CONSENSUS	3.4	3.3	3.4	3.5	3.5	3.5	3.4	3.6
	Top 10 Average	3.9	3.7	4.0	4.1	4.1	4.0	4.0	4.2
	Bottom 10 Average	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.1
11. Treasury Bond Yield, 30-Yr	CONSENSUS	3.8	3.6	3.7	3.8	3.9	3.8	3.8	3.9
	Top 10 Average	4.2	4.0	4.2	4.3	4.3	4.2	4.2	4.5
	Bottom 10 Average	3.4	3.3	3.3	3.3	3.4	3.4	3.3	3.4
12. Corporate Aaa Bond Yield	CONSENSUS	4.7	4.6	4.7	4.8	4.9	4.8	4.8	5.0
	Top 10 Average	5.1	4.9	5.2	5.4	5.4	5.3	5.2	5.6
	Bottom 10 Average	4.3	4.3	4.2	4.3	4.3	4.3	4.3	4.3
13. Corporate Baa Bond Yield	CONSENSUS	5.8	5.6	5.7	5.8	5.8	5.8	5.7	5.9
	Top 10 Average	6.1	5.9	6.1	6.3	6.3	6.2	6.1	6.5
	Bottom 10 Average	5.3	5.3	5.3	5.3	5.4	5.3	5.3	5.4
14. State & Local Bonds Yield	CONSENSUS	4.0	3.8	4.0	4.1	4.1	4.1	4.0	4.2
	Top 10 Average	4.3	4.1	4.3	4.4	4.5	4.3	4.3	4.5
	Bottom 10 Average	3.6	3.6	3.6	3.7	3.7	3.7	3.7	3.8
15. Home Mortgage Rate	CONSENSUS	5.7	5.4	5.4	5.4	5.5	5.4	5.4	5.5
	Top 10 Average	6.4	5.9	6.0	6.1	6.1	5.9	6.0	6.1
	Bottom 10 Average	5.1	4.9	4.7	4.8	4.8	4.9	4.8	4.9
A. Fed's AFE Nominal $ Index	CONSENSUS	113.5	111.8	111.8	110.9	110.1	110.1	111.0	110.0
	Top 10 Average	115.5	114.2	115.1	114.7	114.3	115.2	114.7	115.3
	Bottom 10 Average	111.5	109.5	108.4	107.5	106.3	105.8	107.5	105.3

		Year-Over-Year, % Change						Five-Year Averages	
		2024	2025	2026	2027	2028	2029	2025-2029	2030-2034
B. Real GDP	CONSENSUS	1.1	2.1	2.2	2.1	2.0	1.9	2.1	2.0
	Top 10 Average	2.0	2.5	2.7	2.5	2.3	2.1	2.4	2.3
	Bottom 10 Average	0.4	1.7	1.8	1.8	1.7	1.7	1.7	1.7
C. GDP Chained Price Index	CONSENSUS	2.5	2.3	2.2	2.2	2.1	2.1	2.2	2.2
	Top 10 Average	3.0	2.7	2.5	2.5	2.3	2.3	2.5	2.4
	Bottom 10 Average	2.1	1.9	1.9	1.9	2.0	2.0	1.9	1.9
D. Consumer Price Index	CONSENSUS	2.6	2.3	2.2	2.2	2.2	2.1	2.2	2.2
	Top 10 Average	3.0	2.7	2.5	2.5	2.3	2.3	2.5	2.4
	Bottom 10 Average	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0
E. PCE Price Index	CONSENSUS	2.4	2.2	2.1	2.1	2.1	2.1	2.1	2.1
	Top 10 Average	2.9	2.5	2.4	2.3	2.2	2.2	2.3	2.3
	Bottom 10 Average	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9

New Mexico Gas Company
Derivation of Mean Equity Risk Premium Based Studies
Using Holding Period Returns and
Projected Market Appreciation of the S&P Utility Index

Line No.	Equity Risk Premium based on S&P Utility Index Holding Period Returns (1):	Implied Equity Risk Premium
1.	Historical Equity Risk Premium	4.20 %
2.	Regression of Historical Equity Risk Premium (2)	5.16
3.	Forecasted Equity Risk Premium Based on PRPM (3)	5.24
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	4.56
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	NMF
6.	Average Equity Risk Premium (6)	4.79 %

Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2022. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A2 rated public utility bond yields from 1928 - 2022 referenced in note 1 above.

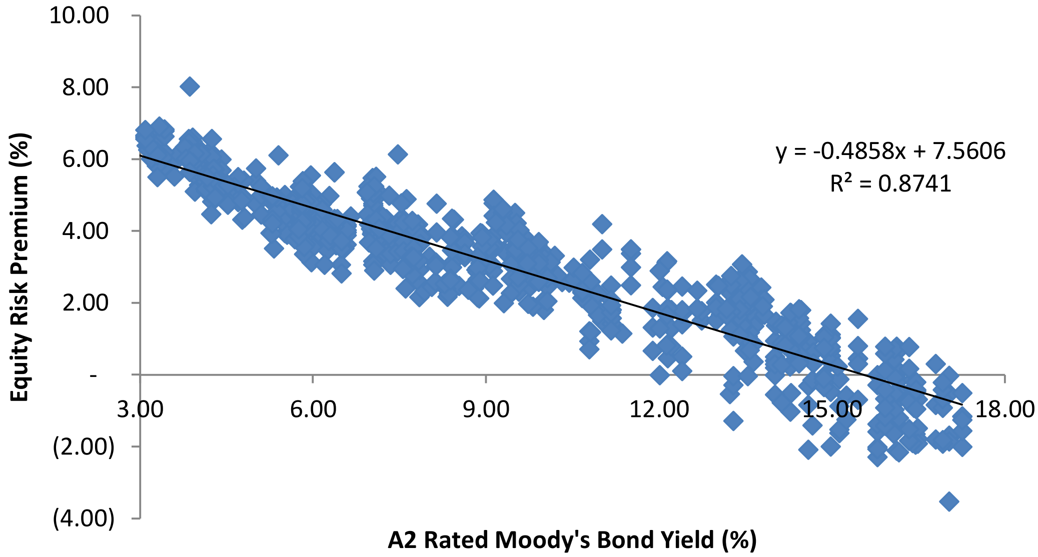
(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A2 rated public utility bonds from January 1928 - June 2023.

(4) Using data from Value Line for the S&P Utilities Index, an expected return of 10.00% was derived based on expected dividend yields as a proxy for income returns and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 5.44%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 4.56%. (10.00% - 5.44% = 4.56%)

(5) Using data from Bloomberg Professional Services for the S&P Utilities Index, an expected return of 4.25% was derived based on expected dividend yields as a proxy for income returns and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 5.44%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of -1.19%. (4.25% - 5.44% = -1.19%). Because a negative risk premium is inconsistent with financial theory, it is not included in the final average.

(6) Average of lines 1 through 5.

New Mexico Gas Company
Prediction of Equity Risk Premiums Relative to
Moody's A2 Rated Utility Bond Yields - Gas Utilities



Constant	Slope	Prospective A2 Rated Utility Bond (1)	Prospective Equity Risk Premium
7.5606 %	-0.4858	5.44 %	4.92 %

Notes:
(1) From line 3 of page 3 of this Schedule.

Source of Information: Regulatory Research Associates

New Mexico Gas Company
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

Proxy Group of Six Natural Gas Distribution Companies	[1] Value Line Adjusted Beta	[2] Bloomberg Adjusted Beta	[3] Average Beta	[4] Market Risk Premium (1)	[5] Risk-Free Rate (2)	[6] Traditional CAPM Cost Rate	[7] ECAPM Cost Rate	[8] Indicated Common Equity Cost
Atmos Energy Corporation	0.85	0.73	0.79	9.87 %	3.85 %	11.65 %	12.17 %	11.91 %
New Jersey Resources Corporation	0.95	0.73	0.84	9.87	3.85	12.14	12.54	12.34
NiSource Inc.	0.85	0.75	0.80	9.87	3.85	11.75	12.24	12.00
Northwest Natural Holding Company	0.80	0.60	0.70	9.87	3.85	10.76	11.50	11.13
ONE Gas, Inc.	0.80	0.63	0.71	9.87	3.85	10.86	11.58	11.22
Spire Inc.	0.80	0.67	0.74	9.87	3.85	11.16	11.80	11.48
Mean			0.76			11.39 %	11.97 %	11.68 %
Median			0.77			11.40 %	11.98 %	11.70 %
Average of Mean and Median			0.77			11.40 %	11.98 %	11.69 %

Notes on page 2 of this Schedule.

New Mexico Gas Company
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

(1) The market risk premium (MRP) is derived by using six different measures from three sources: Kroll, Value Line, and Bloomberg as illustrated below:

Historical Data MRP Estimates:

Measure 1: Kroll Arithmetic Mean MRP (1926-2022)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2022:	12.03	%
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.00	
MRP based on Kroll Historical Data:	7.03	%

Measure 2: Application of a Regression Analysis to Kroll Historical Data (1926-2022) — 8.59 %

Measure 3: Application of the PRPM to Kroll Historical Data: (January 1926 - June 2023) — 9.69 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending July 14, 2023)

Total projected return on the market 3-5 years hence*:	15.31	%
Projected Risk-Free Rate (see note 2):	3.85	
MRP based on Value Line Summary & Index:	11.46	%

*Forcasted 3-5 year capital appreciation plus expected dividend yield

Measure 5: Value Line Projected Return on the Market based on the S&P 500

Total return on the Market based on the S&P 500:	14.14	%
Projected Risk-Free Rate (see note 2):	3.85	
MRP based on Value Line data	10.29	%

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	16.04	%
Projected Risk-Free Rate (see note 2):	3.85	
MRP based on Bloomberg data	12.19	%

Average of Value Line, Kroll, and Bloomberg MRP: 9.87 %

(2) For reasons explained in the direct testimony, the appropriate risk-free rate for cost of capital purposes is the average forecast of 30 year Treasury Bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts. (See pages 10 and 11 of Schedule DWD-4.) The projection of the risk-free rate is illustrated below:

Third Quarter 2023	3.90	%
Fourth Quarter 2023	3.90	
First Quarter 2024	3.90	
Second Quarter 2024	3.80	
Third Quarter 2024	3.80	
Fourth Quarter 2024	3.80	
2025-2029	3.80	
2030-2034	3.90	
	3.85	%

(3) Average of Column 6 and Column 7.

Sources of Information:
Value Line Summary and Index
Blue Chip Financial Forecasts, June 1, 2023 and June 30, 2023
Stocks, Bonds, Bills, and Inflation - 2023 SBBI Yearbook, Kroll
Bloomberg Professional Services

New Mexico Gas Company
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the proxy group of forty-six non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group were then selected based on the unadjusted beta range of 0.58 – 0.86 and residual standard error of the regression range of 2.8160 – 3.3584 of the Utility Proxy Group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the Utility Proxy Group's residual standard error of the regression is 0.1356. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1356 = \frac{3.0872}{\sqrt{518}} = \frac{3.0872}{22.7596}$$

Source of Information: Value Line, Inc., June 2023
Value Line Investment Survey (Standard Edition)

New Mexico Gas Company
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

Proxy Group of Six Natural Gas Distribution Companies	[1] Value Line Adjusted Beta	[2] Unadjusted Beta	[3] Residual Standard Error of the Regression	[4] Standard Deviation of Beta
Atmos Energy Corporation	0.85	0.70	2.9159	0.0641
New Jersey Resources Corporation	0.95	0.87	3.1807	0.0699
NiSource Inc.	0.85	0.76	2.6599	0.0585
Northwest Natural Holding Company	0.80	0.66	3.4174	0.0751
ONE Gas, Inc.	0.80	0.66	3.1969	0.0703
Spire Inc.	0.80	0.69	3.1526	0.0693
Average	0.84	0.72	3.0872	0.0679
Beta Range (+/- 2 std. Devs. of Beta)	0.58	0.86		
2 std. Devs. of Beta	0.14			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.8160	3.3584		
Std. dev. of the Res. Std. Err.	0.1356			
2 std. devs. of the Res. Std. Err.	0.2712	0.8700		

Source of Information: Valueline Proprietary Database, June 2023

New Mexico Gas Company
Proxy Group of Forty-Six Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]
Proxy Group of Forty-Six Non-Price Regulated Companies	Value Line Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
Agilent Technologies	0.95	0.86	2.8174	0.0620
AbbVie Inc.	0.85	0.73	3.2239	0.0709
AmerisourceBergen	0.80	0.69	3.0890	0.0679
Abbott Labs.	0.90	0.81	2.9376	0.0646
Assurant Inc.	0.90	0.81	3.0042	0.0661
Smith (A.O.)	0.90	0.79	3.1089	0.0684
Air Products & Chem.	0.90	0.83	2.9876	0.0657
AutoZone Inc.	0.95	0.85	3.3239	0.0731
Booz Allen Hamilton	0.85	0.73	3.2262	0.0709
Becton, Dickinson	0.75	0.60	2.9735	0.0654
Broadridge Fin'l	0.90	0.80	2.9041	0.0639
CACI Int'l	0.90	0.79	3.0776	0.0677
Casey's Gen'l Stores	0.90	0.79	3.0735	0.0676
Chemed Corp.	0.80	0.62	2.8651	0.0630
Check Point Software	0.75	0.61	2.9399	0.0646
CSG Systems Int'l	0.75	0.60	3.0717	0.0675
CSW Industrials	0.90	0.78	3.2678	0.0719
Quest Diagnostics	0.80	0.63	3.3323	0.0733
Exponent, Inc.	0.95	0.85	3.2135	0.0707
Fastenal Co.	0.90	0.83	3.0532	0.0671
Franklin Electric	0.90	0.83	3.0031	0.0660
Alphabet Inc.	0.90	0.81	3.0446	0.0669
Henry (Jack) & Assoc	0.85	0.72	3.1768	0.0699
L3Harris Technologie	0.90	0.81	3.2934	0.0761
Lockheed Martin	0.90	0.81	2.9531	0.0649
Landstar System	0.80	0.64	2.9536	0.0649
McKesson Corp.	0.85	0.76	3.1802	0.0699
McCormick & Co.	0.80	0.63	3.1425	0.0691
Monster Beverage	0.85	0.72	2.8765	0.0633
Altria Group	0.85	0.76	3.0113	0.0662
MSC Industrial Direc	0.95	0.85	2.9590	0.0651
NewMarket Corp.	0.75	0.60	2.9107	0.0640
Oracle Corp.	0.85	0.72	2.8385	0.0624
O'Reilly Automotive	0.90	0.84	3.0143	0.0663
OSI Systems	0.90	0.80	2.9498	0.0649
Pfizer, Inc.	0.80	0.67	3.0166	0.0663
Progressive Corp.	0.75	0.59	3.1020	0.0682
Service Corp. Int'l	0.90	0.84	3.1595	0.0695
Stepan Company	0.80	0.64	3.2411	0.0713
Selective Ins. Group	0.85	0.76	3.0646	0.0674
Sirius XM Holdings	0.95	0.85	3.2201	0.0708
UniFirst Corp.	0.90	0.82	2.9485	0.0648
VeriSign Inc.	0.95	0.86	2.9893	0.0657
Waters Corp.	0.95	0.85	3.0725	0.0676
Watsco, Inc.	0.90	0.77	3.1149	0.0685
Western Union	0.85	0.72	3.1544	0.0694
Average	0.87	0.75	3.0626	0.0674
Proxy Group of Six Natural Gas Distribution Companies	0.84	0.72	3.0872	0.0679

Source of Information: Valueline Proprietary Database, June 2023

New Mexico Gas Company
Summary of Cost of Equity Models Applied to
Proxy Groups of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Six Natural Gas Distribution Companies

Principal Methods	Proxy Group of Forty-Six Non-Price Regulated Companies
Discounted Cash Flow Model (DCF) (1)	10.60 %
Risk Premium Model (RPM) (2)	13.10
Capital Asset Pricing Model (CAPM) (3)	12.30
Mean	12.00 %
Median	12.30 %
Average of Mean and Median	12.15 %

Notes:
(1) From page 2 of this Schedule.
(2) From page 4 of this Schedule.
(3) From page 7 of this Schedule.

New Mexico Gas Company
DCF Results for the Proxy Groups of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Forty-Six Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
Agilent Technologies	0.73 %	13.50 %	11.00 %	11.66 %	12.05 %	0.77 %	12.82 %
AbbVie Inc.	4.16	2.00	5.00	(4.25)	3.50	4.23	7.73
AmerisourceBergen	1.10	8.50	8.90	7.95	8.45	1.15	9.60
Abbott Labs.	1.90	4.50	5.10	(2.70)	4.80	1.95	6.75
Assurant Inc.	2.22	10.50	11.40	11.40	11.10	2.34	13.44
Smith (A.O.)	1.73	9.50	9.00	8.00	8.83	1.81	10.64
Air Products & Chem.	2.45	10.50	9.50	9.38	9.79	2.57	12.36
AutoZone Inc.	-	13.00	12.50	9.95	11.82	-	NA
Booz Allen Hamilton	1.85	8.00	10.20	9.75	9.32	1.94	11.26
Becton, Dickinson	1.43	5.00	10.10	9.85	8.32	1.49	9.81
Broadridge Fin'l	1.87	8.50	NA	11.80	10.15	1.96	12.11
CACI Int'l	-	7.00	8.00	6.70	7.23	-	NA
Casey's Gen'l Stores	0.75	8.50	NA	11.04	9.77	0.79	10.56
Chemed Corp.	0.28	6.50	8.80	8.80	8.03	0.29	8.32
Check Point Software	-	9.50	7.30	6.39	7.73	-	NA
CSG Systems Int'l	2.21	15.50	NA	6.30	10.90	2.33	13.23
CSW Industrials	0.51	11.50	NA	12.00	11.75	0.54	12.29
Quest Diagnostics	2.07	4.00	NA	(0.47)	4.00	2.11	6.11
Exponent, Inc.	1.12	12.00	NA	15.00	13.50	1.20	14.70
Fastenal Co.	2.52	6.50	9.00	6.33	7.28	2.61	9.89
Franklin Electric	0.94	10.50	12.00	13.40	11.97	1.00	12.97
Alphabet Inc.	-	10.50	14.50	17.59	14.20	-	NA
Henry (Jack) & Assoc	1.32	7.00	7.30	7.30	7.20	1.37	8.57
L3Harris Technologie	2.39	19.50	2.60	1.14	7.75	2.48	10.23
Lockheed Martin	2.61	7.00	6.20	10.89	8.03	2.71	10.74
Landstar System	0.65	2.50	12.00	12.00	8.83	0.68	9.51
McKesson Corp.	0.55	9.00	10.80	11.22	10.34	0.58	10.92
McCormick & Co.	1.76	4.50	7.50	8.10	6.70	1.82	8.52
Monster Beverage	-	11.00	22.90	25.54	19.81	-	NA
Altria Group	8.28	6.00	4.00	4.47	4.82	8.48	13.30
MSC Industrial Direc	3.38	5.00	NA	9.12	7.06	3.50	10.56
NewMarket Corp.	2.25	(0.50)	NA	7.70	7.70	2.34	10.04
Oracle Corp.	1.50	10.00	8.00	11.46	9.82	1.57	11.39
O'Reilly Automotive	-	12.00	13.20	11.20	12.13	-	NA
OSI Systems	-	10.50	11.00	8.00	9.83	-	NA
Pfizer, Inc.	4.31	2.00	9.00	(15.49)	5.50	4.43	9.93
Progressive Corp.	0.30	12.00	25.10	26.80	21.30	0.33	NMF
Service Corp. Int'l	1.64	5.00	8.20	12.00	8.40	1.71	10.11
Stepan Company	1.56	7.50	NA	4.40	5.95	1.61	7.56
Selective Ins. Group	1.22	15.00	19.30	13.40	15.90	1.32	NMF
Sirius XM Holdings	2.50	28.50	7.10	6.36	13.99	2.67	16.66
UniFirst Corp.	0.75	9.00	NA	10.00	9.50	0.79	10.29
VeriSign Inc.	-	13.00	NA	8.00	10.50	-	NA
Waters Corp.	-	10.00	7.50	7.66	8.39	-	NA
Watsco, Inc.	2.81	12.00	NA	4.42	8.21	2.93	11.14
Western Union	8.08	(0.50)	NA	0.31	0.31	8.09	8.40
						Mean	10.64 %
						Median	10.56 %
						Average of Mean and Median	10.60 %

NA= Not Available
NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the Utility Proxy Group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of July 14, 2023. The dividend yield is then adjusted by 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey
www.zacks.com Downloaded on 07/14/2023
www.yahoo.com Downloaded on 07/14/2023

New Mexico Gas Company
DCF Results for the Proxy Groups of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Forty-Six Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Mean Common Equity Cost Rate (1)	High Common Equity Cost Rate (1)
Agilent Technologies	0.69 %	13.50 %	11.00 %	11.66 %	12.05 %	0.77 %	12.82 %	14.28 %
AbbVie Inc.	3.98	2.00	5.00	(4.25)	3.50	4.12	7.62	9.18
AmerisourceBergen	1.15	8.50	8.90	7.95	8.45	1.25	9.70	10.15
Abbott Labs.	1.87	4.50	5.10	(2.70)	4.80	1.96	6.76	7.07
Assurant Inc.	2.23	10.50	11.40	11.40	11.10	2.48	13.58	13.88
Smith (A.O.)	1.76	9.50	9.00	8.00	8.83	1.92	10.75	11.43
Air Products & Chem.	2.47	10.50	9.50	9.38	9.79	2.71	12.50	13.23
AutoZone Inc.	-	13.00	12.50	9.95	11.82	-	NA	NA
Booz Allen Hamilton	1.99	8.00	10.20	9.75	9.32	2.18	11.50	12.39
Becton, Dickinson	1.44	5.00	10.10	9.85	8.32	1.56	9.88	11.69
Broadridge Fin'l	1.94	8.50	NA	11.80	10.15	2.14	12.29	13.97
CACI Int'l	-	7.00	8.00	6.70	7.23	-	NA	NA
Casey's Gen'l Stores	0.75	8.50	NA	11.04	9.77	0.82	10.59	11.87
Chemed Corp.	0.28	6.50	8.80	8.80	8.03	0.30	8.33	9.10
Check Point Software	-	9.50	7.30	6.39	7.73	-	NA	NA
CSG Systems Int'l	2.23	15.50	NA	6.30	10.90	2.47	13.37	18.08
CSW Industrials	0.56	11.50	NA	12.00	11.75	0.63	12.38	12.63
Quest Diagnostics	2.09	4.00	NA	(0.47)	4.00	2.17	6.17	6.17
Exponent, Inc.	1.14	12.00	NA	15.00	13.50	1.29	14.79	16.31
Fastenal Co.	2.58	6.50	9.00	6.33	7.28	2.77	10.05	11.81
Franklin Electric	0.98	10.50	12.00	13.40	11.97	1.10	13.07	14.51
Alphabet Inc.	-	10.50	14.50	17.59	14.20	-	NA	NA
Henry (Jack) & Assoc	1.35	7.00	7.30	7.30	7.20	1.45	8.65	8.75
L3Harris Technologie	2.41	19.50	2.60	1.14	7.75	2.60	10.35	22.38
Lockheed Martin	2.61	7.00	6.20	10.89	8.03	2.82	10.85	13.78
Landstar System	0.68	2.50	12.00	12.00	8.83	0.74	9.57	12.76
McKesson Corp.	0.57	9.00	10.80	11.22	10.34	0.63	10.97	11.85
McCormick & Co.	1.78	4.50	7.50	8.10	6.70	1.90	8.60	10.02
Monster Beverage	-	11.00	22.90	25.54	19.81	-	NA	NA
Altria Group	8.19	6.00	4.00	4.47	4.82	8.58	13.40	14.68
MSC Industrial Direc	3.47	5.00	NA	9.12	7.06	3.71	10.77	12.91
NewMarket Corp.	2.31	(0.50)	NA	7.70	7.70	2.49	10.19	10.19
Oracle Corp.	1.63	10.00	8.00	11.46	9.82	1.79	11.61	13.28
O'Reilly Automotive	-	12.00	13.20	11.20	12.13	-	NA	NA
OSI Systems	-	10.50	11.00	8.00	9.83	-	NA	NA
Pfizer, Inc.	4.27	2.00	9.00	(15.49)	5.50	4.50	10.00	13.65
Progressive Corp.	0.30	12.00	25.10	26.80	21.30	0.36	NMF	NMF
Service Corp. Int'l	1.62	5.00	8.20	12.00	8.40	1.76	10.16	13.81
Stepan Company	1.58	7.50	NA	4.40	5.95	1.67	7.62	9.20
Selective Ins. Group	1.20	15.00	19.30	13.40	15.90	1.39	NMF	20.73
Sirius XM Holdings	2.66	28.50	7.10	6.36	13.99	3.03	17.02	NMF
UniFirst Corp.	0.75	9.00	NA	10.00	9.50	0.82	10.32	10.83
VeriSign Inc.	-	13.00	NA	8.00	10.50	-	NA	NA
Waters Corp.	-	10.00	7.50	7.66	8.39	-	NA	NA
Watsco, Inc.	2.92	12.00	NA	4.42	8.21	3.16	11.37	15.27
Western Union	8.11	(0.50)	NA	0.31	0.31	8.14	8.45	8.45
						Mean	10.74 %	12.58 %
						Median	10.59 %	12.63 %
						Average of Mean and Median	10.67 %	12.61 %
						Indicated DCF Result	11.64%	

NA= Not Available
NMF= Not Meaningful Figure

(1) The applications of the NM DCF model to the domestic, non-price regulated comparable risk companies is identical to the applications of the NM DCF to the Utility Proxy Group.

Source of Information: Value Line Investment Survey
www.zacks.com Downloaded on 07/14/2023
www.yahoo.com Downloaded on 07/14/2023

New Mexico Gas Company
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Forty-Six Non-Price Regulated Companies
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	5.73 %
2.	Adjustment to Reflect Bond rating Difference of Non-Price Regulated Companies (2)	(0.17)
3.	Adjusted Bond Yield Applicable to the Non-Price Regulated Proxy Group	5.56 %
4.	Equity Risk Premium (3)	7.54
5.	Risk Premium Derived Common Equity Cost Rate	13.10 %

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2023 and June 30, 2023 (see pages 10 and 11 of Schedule DWD-4. The estimates are detailed below.

Third Quarter 2023	5.90 %
Fourth Quarter 2023	5.90
First Quarter 2024	5.70
Second Quarter 2024	5.60
Third Quarter 2024	5.60
Fourth Quarter 2024	5.50
2025-2029	5.70
2030-2034	5.90
Average	5.73 %

(2) The average yield spread of Baa rated corporate bonds over A corporate bonds for the three months ending June 2023 . To reflect the Baa1 average rating of the non-utility proxy group, the prosepctive yield on Baa corporate bonds must be adjusted by 1/3 of the spread between A and Baa corporate bond yields as shown below:

	A Corp. Bond Yield	Baa Corp. Bond Yield	Spread
Jun-23	5.24 %	5.75 %	0.51 %
May-23	5.24	5.77	0.53
Apr-23	5.02	5.53	0.51
		Average yield spread	0.52 %
		1/3 of spread	0.17 %

(3) From page 6 of this Schedule.

New Mexico Gas Company
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Forty-Six Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Six Natural Gas Distribution Companies

	Moody's Long-Term Issuer Rating July 2023		Standard & Poor's Long-Term Issuer Rating July 2023	
Proxy Group of Forty-Six Non-Price Regulated Companies	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
Agilent Technologies	Baa1	8.0	BBB+	8.0
AbbVie Inc.	Baa1	8.0	BBB+	8.0
AmerisourceBergen	Baa2	9.0	BBB+	8.0
Abbott Labs.	Aa3	4.0	AA-	4.0
Assurant Inc.	Baa2	9.0	BBB	9.0
Smith (A.O.)	NA	--	NA	--
Air Products & Chem.	A2	6.0	A	6.0
AutoZone Inc.	Baa1	8.0	BBB	9.0
Booz Allen Hamilton	NA	--	NA	--
Becton, Dickinson	Baa2	9.0	BBB	9.0
Broadridge Fin'l	Baa2	9.0	BBB	9.0
CACI Int'l	NA	--	BB+	11.0
Casey's Gen'l Stores	NA	--	NA	--
Chemed Corp.	WR	--	NR	--
Check Point Software	NA	--	NA	--
CSG Systems Int'l	NA	--	BB+	11.0
CSW Industrials	NA	--	NA	--
Quest Diagnostics	Baa2	9.0	BBB+	8.0
Exponent, Inc.	NA	--	NA	--
Fastenal Co.	NA	--	NA	--
Franklin Electric	NA	--	NA	--
Alphabet Inc.	Aa2	3.0	AA+	2.0
Henry (Jack) & Assoc	NA	--	NA	--
L3Harris Technologie	Baa2	9.0	BBB	9.0
Lockheed Martin	A3	7.0	A-	7.0
Landstar System	NA	--	NA	--
McKesson Corp.	Baa1	8.0	BBB+	8.0
McCormick & Co.	Baa2	9.0	BBB	9.0
Monster Beverage	NA	--	NA	--
Altria Group	A3	7.0	BBB	9.0
MSC Industrial Direc	NA	--	NA	--
NewMarket Corp.	Baa2	9.0	BBB+	8.0
Oracle Corp.	Baa2	9.0	BBB	9.0
O'Reilly Automotive	Baa1	8.0	BBB	9.0
OSI Systems	NA	--	NA	--
Pfizer, Inc.	A1	5.0	A+	5.0
Progressive Corp.	A2	6.0	A	6.0
Service Corp. Int'l	Ba3	13.0	BB+	11.0
Stepan Company	NA	--	NA	--
Selective Ins. Group	Baa2	9.0	BBB	9.0
Sirius XM Holdings	NA	--	NA	--
UniFirst Corp.	NA	--	NA	--
VeriSign Inc.	Baa3	10.0	BBB	9.0
Waters Corp.	NA	--	NA	--
Watsco, Inc.	NA	--	NA	--
Western Union	Baa2	9.0	BBB	9.0
Average	Baa1	8.0	BBB+	8.1

Notes:
(1) From page 6 of Schedule DWD-4.

Source of Information:
Bloomberg Professional Services

New Mexico Gas Company
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Forty-Six Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Six Natural Gas Distribution Companies

Line No.	Equity Risk Premium Measure	Proxy Group of Forty-Six Non-Price Regulated Companies
1.	Kroll Equity Risk Premium (1)	5.82 %
2.	Regression on Kroll Risk Premium Data (2)	7.46
3.	Kroll Equity Risk Premium based on PRPM (3)	8.70
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	10.56
5	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	9.39
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	11.29
7.	Conclusion of Equity Risk Premium	8.87 %
8.	Adjusted Beta (7)	0.85
9.	Forecasted Equity Risk Premium	7.54 %

Notes:
(1) From note 1 of page 9 of Schedule DWD-4.
(2) From note 2 of page 9 of Schedule DWD-4.
(3) From note 3 of page 9 of Schedule DWD-4.
(4) From note 4 of page 9 of Schedule DWD-4.
(5) From note 5 of page 9 of Schedule DWD-4.
(6) From note 6 of page 9 of Schedule DWD-4.
(7) Average of mean and median beta from page 7 of this Schedule.

Sources of Information:
Stocks, Bonds, Bills, and Inflation - 2023 SBBI Yearbook, Kroll
Value Line Summary and Index
Blue Chip Financial Forecasts, June 1, 2023 and June 30, 2023
Bloomberg Professional Services

New Mexico Gas Company
Traditional CAPM and ECAPM Results for the Proxy Groups of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Six Natural Gas Distribution Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Forty-Six Non-Price Regulated Companies	Value Line Adjusted Beta	Bloomberg Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
Agilent Technologies	0.95	1.06	1.01	9.87 %	3.85 %	13.82 %	13.80 %	13.81 %
AbbVie Inc.	0.85	0.63	0.74	9.87	3.85	11.16	11.80	11.48
AmerisourceBergen	0.80	0.74	0.77	9.87	3.85	11.45	12.02	11.74
Abbott Labs.	0.90	0.84	0.87	9.87	3.85	12.44	12.76	12.60
Assurant Inc.	0.90	0.77	0.83	9.87	3.85	12.05	12.47	12.26
Smith (A.O.)	0.90	1.04	0.97	9.87	3.85	13.43	13.50	13.47
Air Products & Chem.	0.90	0.86	0.88	9.87	3.85	12.54	12.84	12.69
AutoZone Inc.	0.95	0.85	0.90	9.87	3.85	12.74	12.98	12.86
Booz Allen Hamilton	0.85	0.78	0.82	9.87	3.85	11.95	12.39	12.17
Becton, Dickinson	0.75	0.74	0.74	9.87	3.85	11.16	11.80	11.48
Broadridge Fin'l	0.90	1.01	0.96	9.87	3.85	13.33	13.43	13.38
CACI Int'l	0.90	0.75	0.83	9.87	3.85	12.05	12.47	12.26
Casey's Gen'l Stores	0.90	0.79	0.84	9.87	3.85	12.14	12.54	12.34
Chemed Corp.	0.80	0.67	0.73	9.87	3.85	11.06	11.73	11.39
Check Point Software	0.75	0.75	0.75	9.87	3.85	11.26	11.87	11.56
CSG Systems Int'l	0.75	0.84	0.79	9.87	3.85	11.65	12.17	11.91
CSW Industrials	0.90	0.78	0.84	9.87	3.85	12.14	12.54	12.34
Quest Diagnostics	0.80	0.72	0.76	9.87	3.85	11.35	11.95	11.65
Exponent, Inc.	0.95	0.99	0.97	9.87	3.85	13.43	13.50	13.47
Fastenal Co.	0.90	0.99	0.94	9.87	3.85	13.13	13.28	13.21
Franklin Electric	0.90	0.96	0.93	9.87	3.85	13.03	13.21	13.12
Alphabet Inc.	0.95	1.13	1.04	9.87	3.85	14.12	14.02	NMF
Henry (Jack) & Assoc	0.85	0.78	0.81	9.87	3.85	11.85	12.32	12.08
L3Harris Technologie	0.90	0.82	0.86	9.87	3.85	12.34	12.69	12.52
Lockheed Martin	0.90	0.66	0.78	9.87	3.85	11.55	12.10	11.82
Landstar System	0.80	0.82	0.81	9.87	3.85	11.85	12.32	12.08
McKesson Corp.	0.85	0.69	0.77	9.87	3.85	11.45	12.02	11.74
McCormick & Co.	0.80	0.73	0.76	9.87	3.85	11.35	11.95	11.65
Monster Beverage	0.85	0.73	0.79	9.87	3.85	11.65	12.17	11.91
Altria Group	0.85	0.59	0.72	9.87	3.85	10.96	11.65	11.31
MSC Industrial Direc	0.95	0.86	0.90	9.87	3.85	12.74	12.98	12.86
NewMarket Corp.	0.75	0.63	0.69	9.87	3.85	10.66	11.43	11.05
Oracle Corp.	0.85	1.05	0.95	9.87	3.85	13.23	13.35	13.29
O'Reilly Automotive	0.90	0.83	0.86	9.87	3.85	12.34	12.69	12.52
OSI Systems	0.90	0.86	0.88	9.87	3.85	12.54	12.84	12.69
Pfizer, Inc.	0.80	0.71	0.76	9.87	3.85	11.35	11.95	11.65
Progressive Corp.	0.75	0.72	0.74	9.87	3.85	11.16	11.80	11.48
Service Corp. Int'l	0.90	0.76	0.83	9.87	3.85	12.05	12.47	12.26
Stepan Company	0.80	0.89	0.85	9.87	3.85	12.24	12.61	12.43
Selective Ins. Group	0.85	0.69	0.77	9.87	3.85	11.45	12.02	11.74
Sirius XM Holdings	0.90	0.84	0.87	9.87	3.85	12.44	12.76	12.60
UniFirst Corp.	0.90	0.79	0.84	9.87	3.85	12.14	12.54	12.34
VeriSign Inc.	0.95	1.11	1.03	9.87	3.85	14.02	13.95	NMF
Waters Corp.	0.95	0.98	0.96	9.87	3.85	13.33	13.43	13.38
Watsco, Inc.	0.90	1.08	0.99	9.87	3.85	13.63	13.65	13.64
Western Union	0.80	0.83	0.82	9.87	3.85	11.95	12.39	12.17
		Mean	0.85			12.21 %	12.59 %	12.33 %
		Median	0.84			12.10 %	12.50 %	12.26 %
		Average of Mean and Median	0.85			12.16 %	12.55 %	12.30 %

NMF= Not Meaningful Figure

Notes:
(1) From note 1 of page 2 of Schedule DWD-5.
(2) From note 2 of page 2 of Schedule DWD-5.
(3) Average of CAPM and ECAPM cost rates.

New Mexico Gas Company
Derivation of Investment Risk Adjustment Based upon
Kroll Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.		[1] Market Capitalization on July 14, 2023 (1) (millions)	(times larger)	[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	New Mexico Gas Company Based upon Proxy Group of Six Natural Gas Distribution Companies	$ 881.450		7	1.37%	
2.	Proxy Group of Six Natural Gas Distribution Companies	$ 4,331.038	4.9 x	4	0.58%	0.79%

	[A] Decile	[B] Market Capitalization of Smallest Company (millions)	[C] Market Capitalization of Largest Company (millions)	[D] Size Premium (Return in Excess of CAPM)*
Largest	1	$ 31,549.077	$ 2,203,381.286	-0.26%
	2	12,372.885	31,316.513	0.45%
	3	5,918.981	12,323.854	0.57%
	4	3,770.176	5,916.017	0.58%
	5	2,365.425	3,769.877	0.93%
	6	1,389.851	2,365.076	1.16%
	7	789.019	1,389.118	1.37%
	8	377.076	782.383	1.18%
	9	218.389	373.879	2.15%
Smallest	10	2.015	218.227	4.83%

*From 2023 Kroll Cost of Capital Navigator

Notes:

(1) From page 2 of this Schedule.
(2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].
(3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.
(4) Line No. 1 Column [3] – Line No. 2 Column [3]. For example, the 0.79% in Column [4], Line No. 2 (a) is derived as follows 0.79% = 1.37% - 0.58%.

New Mexico Gas Company
Market Capitalization of New Mexico Gas Company and the
Proxy Group of Six Natural Gas Distribution Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2022 (millions)	[2] Book Value per Share at Fiscal Year End 2022 (1)	[3] Total Common Equity at Fiscal Year End 2022 (millions)	[4] Closing Stock Market Price on July 14, 2023	[5] Market-to-Book Ratio on July 14, 2023 (2)	[6] Market Capitalization on July 14, 2023 (3) (millions)
New Mexico Gas Company		NA	NA	515.468 (4)	NA		
Based upon Proxy Group of Six Natural Gas Distribution Companies						171.0 (5)	$ 881.450 (6)
Proxy Group of Six Natural Gas Distribution Companies							
Atmos Energy Corporation	NYSE	140.897	$ 66.851	$ 9,419.091	$ 119.440	178.7 %	$ 16,828.690
New Jersey Resources Corporation	NYSE	96.250	18.880	1,817.210	46.170	244.5	4,443.856
NiSource Inc.	NYSE	412.143	14.143	5,828.800	27.940	197.6	11,515.264
Northwest Natural Holding Company	NYSE	35.525	33.088	1,175.441	43.300	130.9	1,538.233
ONE Gas, Inc.	NYSE	55.350	46.692	2,584.426	76.210	163.2	4,218.220
Spire Inc.	NYSE	52.495	53.691	2,818.500	63.030	117.4	3,308.731
Median		75.800	$ 39.890	$ 2,701.463	$ 54.600	171.0 %	$ 4,331.038

NA= Not Available

Notes: (1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 1 * Column 4.
(4) Requested rate base multiplied by the requested common equity ratio.
(5) The market-to-book ratio of New Mexico Gas Company on July 14, 2023 is assumed to be equal to the market-to-book ratio of Proxy Group of Six Natural Gas Distribution Companies on July 14, 2023 as appropriate.
(6) Column [3] multiplied by Column [5].

Source of Information: 2022 Annual Forms 10K
yahoo.finance.com
Bloomberg Professional Services

New Mexico Gas Company
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

Equity Issuances (Company Provided)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Date	Issuing Company	Shares Issued (1)	Market Price per Share (1)	Average Offering Price per Share (1)	Underwriting Discount (1)	Total Offering Expense per Share (1)	Net Proceeds per Share (2)	Total Flotation Costs (3)	Gross Equity Issue before Costs (4)	Net Proceeds (5)	Flotation Cost Percentage (6)
At-The-Market 2022	Emera Incorporated	4,072,469	NA	61.310	NA	$ 0.491	$ 60.90	$ 2,000,000	$ 250,000,000	$ 248,000,000	0.80%
At-The-Market 2021	Emera Incorporated	4,987,123	NA	57.630	NA	$ 0.602	$ 56.95	$ 3,000,000	$ 287,000,000	$ 284,000,000	1.05%
At-The-Market 2020	Emera Incorporated	4,544,025	NA	56.040	NA	$ 0.880	$ 55.24	$ 4,000,000	$ 255,000,000	$ 251,000,000	1.57%
At-The-Market 2019	Emera Incorporated	1,768,120	NA	56.56	NA	$ 0.735	$ 55.82	$ 1,300,000	$ 100,000,000	$ 98,700,000	1.30%
12/18/2017	Emera Incorporated	14,614,000	47.980	47.900	1.916	$ 0.031	$ 45.95	$ 29,619,544	$ 701,179,720	$ 671,560,176	4.22%
12/8/2016	Emera Incorporated	7,624,500	44.260	45.250	1.810	$ 0.059	$ 43.38	$ 6,702,090	$ 337,460,370	$ 330,758,280	1.99%
	Total Public Issuances							$ 46,621,634	$ 1,930,640,090	$ 1,884,018,456	2.41%

Flotation Cost Adjustment

	[11]	[12]	[13]	[14]	[15]	[16]
	Average Dividend Yield (7)	Average Projected EPS Growth Rate (7)	Adjusted Dividend Yield (8)	Average DCF Cost Rate Unadjusted for Flotation (9)	DCF Cost Rate Adjusted for Flotation (10)	Flotation Cost Adjustment (11)
Proxy Group of Six Natural Gas Companies	3.56 %	6.13 %	3.67 %	9.80 %	9.89 %	0.09 %

Notes:
(1) From Company prospectuses or annual filings.
(2) Column [3] - Column [4] - Column [5].
(3) (Column [2] - Column [6]) x Column [1].
(4) Column [1] x Column [2].
(5) Column [1] x Column [6].
(6) Column [7] / Column [8].
(7) From Schedule DWD-3.
(8) Column [11] x (1 + 0.5 x Column [12]).
(9) Column [12] + Column [13].
(10) (Column [13] / (1 - Column [10])) + Column [12].
(11) Column [15] - Column [14].

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION	**)**	
OF NEW MEXICO GAS COMPANY, INC.	**)**	
FOR APPROVAL OF REVISIONS TO ITS	**)**	
RATES, RULES, AND CHARGES PURSUANT	**)**	**Case No. 23-00255-UT**
TO ADVICE NOTICE NO. 96	**)**	
	)	
NEW MEXICO GAS COMPANY,INC.	**)**	
	)	
Applicant.	**)**	

ELECTRONICALLY SUBMITTED AFFIRMATION OF DYLAN W. D'ASCENDIS

STATE OF NEW MEXICO)
)ss.
COUNTY OF BERNALILLO)

In accordance with 1.2.2.10(E) NMAC, Dylan W. D'Ascendis, Consultant for New Mexico Gas Company, Inc., upon being duly sworn according to law, under oath, deposes and states under penalty of perjury under the laws of the State of New Mexico: I have read the foregoing Direct Testimony and Exhibits, and they are true and accurate based on my personal knowledge and belief.

SIGNED this 14th day of September 2023.

/s/ Dylan W. D'Ascendis
Dylan W. D'Ascendis
Consultant for New Mexico
Gas Company, Inc.