BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO FOR REVISION OF ITS RETAIL ELECTRIC RATES PURSUANT TO ADVICE NOTICE NO. 595	)	**Case No. 22-00270-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant	)	

DIRECT TESTIMONY

OF

ADRIEN M. MCKENZIE, CFA

December 5, 2022

NMPRC CASE NO. 22-00270-UT
INDEX TO THE DIRECT TESTIMONY OF ADRIEN M. MCKENZIE, CFA
WITNESS FOR
PUBLIC SERVICE COMPANY OF NEW MEXICO

I. INTRODUCTION 1
A. Overview 1
B. Summary and Conclusions 3

II. FUNDAMENTAL ANALYSES 4
A. Public Service Company of New Mexico 5
B. Determination of the Proxy Group 6
C. Relative Risks of the Utility Group and PNM 8

III. CAPITAL MARKET ESTIMATES AND ANALYSES 14
A. Outlook for Capital Costs 14
B. Economic Standards 26
C. Discounted Cash Flow Analyses 32
D. Capital Asset Pricing Model 41
E. Empirical Capital Asset Pricing Model 46
F. Utility Risk Premium 49
G. Expected Earnings Approach 53

IV. NON-UTILITY BENCHMARK 56

V. RETURN ON EQUITY FOR PNM 60
A. Importance of Financial Strength 61
B. Conclusions and Recommendations 65
C. Capital Structure 67

PNM EXHIBIT AMM-1	Statement of Qualifications
PNM EXHIBIT AMM-2	Alphabetical Listing of Acronyms Used in This Testimony
PNM EXHIBIT AMM-3	Summary of Results
PNM EXHIBIT AMM-4	Regulatory Mechanisms
PNM EXHIBIT AMM-5	DCF Model – Utility Group
PNM EXHIBIT AMM-6	br + sv Growth Rate
PNM EXHIBIT AMM-7	CAPM
PNM EXHIBIT AMM-8	Empirical CAPM
PNM EXHIBIT AMM-9	Risk Premium
PNM EXHIBIT AMM-10	Expected Earnings
PNM EXHIBIT AMM-11	DCF Model – Non-Utility Group
PNM EXHIBIT AMM-12	Capital Structure

DIRECT TESTIMONY OF
ADRIEN M. MCKENZIE, CFA
NMPRC CASE NO. 22-00270-UT

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Adrien M. McKenzie. I am President of FINCAP, Inc., a firm providing financial, economic, and policy consulting services to business and government. My business address is 3907 Red River, Austin, Texas, 78751.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. A description of my background and qualifications, including a resume containing the details of my experience, is attached as PNM Exhibit AMM-1.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. My testimony is on behalf of PNM (a complete list of acronyms in provided in PNM Exhibit AMM-2).

A. Overview

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

A. The purpose of my testimony is to present to the NMPRC my independent evaluation of the fair return on equity or "ROE" for PNM. As reflected in the testimony of PNM witness Monroy, the Company is requesting an ROE of 10.25%. Based on the results of my analyses, it is my conclusion that the Company's requested ROE is both reasonable and conservative.

I also examine the reasonableness of the Company's capital structure, considering both the specific risks faced by the Company and other industry guidelines. Based on this examination, I conclude that the Company's actual and proposed capital structure of 52% equity and 48% debt is reasonable considering industry benchmarks and the importance of maintaining PNM's financial strength.

Q. PLEASE SUMMARIZE THE INFORMATION AND MATERIALS YOU RELY ON TO SUPPORT THE OPINIONS AND CONCLUSIONS CONTAINED IN YOUR TESTIMONY.

A. To prepare my testimony, I use information from a variety of sources that would normally be relied upon by a person in my expert capacity. In connection with the present filing, I consider and rely upon discussions with management, publicly available financial reports, and prior regulatory filings relating to PNM. I also review information relating generally to current capital market conditions and specifically to investor perceptions, requirements, and expectations for PNM's electric utility operations. These sources, coupled with my experience in the fields of finance and utility regulation, have given me a working knowledge of the issues relevant to investors' required return for PNM, and they form the basis of my analyses and conclusions.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. I first briefly review PNM's operations and finances. I then explain the development of the proxy group of electric utilities used as the basis for my quantitative analyses, including the implications of the Company's regulatory mechanisms. Next, I discuss

current conditions in the capital markets and their implications in evaluating a just and reasonable return for the Company. With this as a background, I discuss well-accepted quantitative analyses to estimate the current cost of equity for the proxy group of electric utilities. These include the DCF model, the CAPM, the ECAPM, an equity risk premium approach based on allowed equity returns, and reference to expected earned rates of return for electric utilities, which are all methods that are commonly relied on in regulatory proceedings.

Based on the results of my analyses, I determine a just and reasonable cost of equity for PNM. My evaluation considers the specific risks for the Company's electric operations in New Mexico and PNM's requirements for financial strength. Further, consistent with the fact that utilities must compete for capital with firms outside their own industry, I corroborate my utility quantitative analyses by applying the DCF model to a group of low-risk non-utility firms.

B. Summary and Conclusions

Q. WHAT IS YOUR CONCLUSION REGARDING THE 10.25% ROE REQUESTED BY PNM IN THIS PROCEEDING?

A. I apply the DCF, CAPM, ECAPM, risk premium, and expected earnings analyses to a proxy group of electric utilities, with the results being summarized on PNM Exhibit AMM-3-. As shown there, based on the results of my analysis, I conclude that the cost of equity as falls in the range of 10.0% to 11.3%. As reflected in the testimony of Company witness Monroy, PNM is requesting an ROE of 10.25%, which is below the

10.65% midpoint of my recommended range. Considering capital market expectations and the economic requirements necessary to maintain financial integrity and support additional capital investment, even under adverse circumstances, it is my opinion that 10.25% understates investors' required return for the Company. PNM's requested ROE represents a reasonable compromise between balancing the impact on rates for customers and the need to provide the Company with the opportunity to earn a return that is adequate to compensate investors, while maintaining the Company's financial integrity and ability to attract capital on reasonable terms.

II. FUNDAMENTAL ANALYSES

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. My objective is to evaluate and recommend a just and reasonable ROE for PNM. Much of my work is predicated on a comparison of PNM with the utility industry, and more specifically to a proxy group of publicly traded electric utilities. As a foundation for my opinions and subsequent quantitative analyses, this section briefly reviews the operations and finances of PNM. In addition, I explain the basis for the proxy group I used to estimate the cost of equity and examine alternative objective indicators of investment risk for these firms. I also compare the investment risks of PNM with my reference group and examine specific conditions impacting todays' capital markets. An understanding of the fundamental factors driving the risks and prospects of electric utilities is essential in developing an informed opinion of investors' expectations and requirements, which form the basis of a just and reasonable ROE.

A. Public Service Company of New Mexico

Q. BRIEFLY DESCRIBE PNM AND ITS UTILITY OPERATIONS.

A. PNM is an electric utility that provides electric generation, transmission and distribution service to customers in north-central New Mexico, including the cities of Albuquerque, Rio Rancho and Santa Fe, as well as certain areas of southern New Mexico. I understand that the Company is an active participant in regional wholesale energy markets and is in the process of transitioning away from fossil fuel generation to meet new state renewable resource requirements and its stated goal that its generation portfolio will be carbon-free by 2040. PNM provides retail service to approximately 540,000 customers and provides wholesale transmission services to third parties. During 2021, GWh sales to residential customers accounted for approximately 23% of total, with 24% attributable to commercial customers, 11% to industrial consumers, 37% to sales for resale, and 5% to public authorities and other sources. At December 31, 2021, PNM had total assets of approximately $6.1 billion and 877 employees, with total electric revenues of approximately $1.4 billion during 2021.

Q. WHERE DOES PNM OBTAIN THE CAPITAL USED TO FINANCE ITS INVESTMENT IN UTILITY PLANT?

A. As a wholly-owned subsidiary of PNMR, the Company obtains common equity capital solely from its parent, whose common stock is publicly traded on the New York Stock Exchange. In addition to capital supplied by PNMR, PNM also issues debt securities directly under its own name.

Q. DOES PNM ANTICIPATE THE NEED FOR ADDITIONAL CAPITAL GOING FORWARD?

A. Yes. PNM will require capital investment to provide for necessary replacements of its utility infrastructure, as well as to fund investment in new facilities, including transmission and distribution infrastructure to deliver clean energy to customers. Moody's reported that annual capital expenditures for the Company are expected to range between $423 and $488 million through 2025 and noted that, "Capital investments remain elevated which will require additional debt financing."[1] Similarly, S&P noted that this elevated capital spending is a key risk that would require access to financing in light of negative discretionary cash flow.[2]

B. Determination of the Proxy Group

Q. HOW DO YOU IMPLEMENT QUANTITATIVE METHODS TO ESTIMATE THE COST OF COMMON EQUITY FOR PNM?

A. Application of quantitative methods to estimate the cost of common equity requires observable capital market data, such as stock prices and beta values. Moreover, even for a firm with publicly traded stock, the cost of common equity can only be estimated. As a result, applying quantitative models using observable market data produces an estimate that inherently includes some degree of observation error. Thus, the accepted approach to increase confidence in the results is to apply quantitative methods to a proxy group of publicly traded companies that investors regard as risk comparable. The results

[1] Moody's Investors Service, *Public Service Company of New Mexico*, Credit Opinion (Sep. 30, 2022).
[2] S&P Global Ratings, *Public Service Co. of New Mexico*, Ratings Direct (Jul. 19, 2022).

of the analysis on the sample of companies are relied upon to establish a range of reasonableness for the cost of equity for the specific company at issue.

Q. HOW DO YOU IDENTIFY THE PROXY GROUP OF ELECTRIC UTILITIES RELIED ON FOR YOUR ANALYSES?

A. To reflect the risks and prospects associated with PNM's retail electric operations, I began with the following criteria to identify a proxy group of utilities:

1. Included in the Electric Utility Industry groups compiled by Value Line.
2. Paid common dividends over the last six months and have not announced a dividend cut since that time.
3. No ongoing involvement in a major merger or acquisition that would distort quantitative results.

In addition, my analysis considered credit ratings from Moody's and S&P in evaluating relative risk. Specifically, I excluded any companies with ratings more than one "notch" higher or lower than PNM's corporate credit ratings of Baa2 and BBB assigned by Moody's and S&P, respectively.

Q. IS THERE ANY OTHER PUBLICLY TRADED UTILITY THAT IS RELEVANT IN ESTABLISHING A PROXY GROUP?

A. Yes. Emera Inc.'s electric and gas utility operations are comparable to those of the other utilities in the proxy group.[3] Although Value Line currently includes Emera Inc. in its power industry group, rather than its utility groups, Emera Inc.'s regulated electric and

[3] In addition to Emera, Inc., I also considered Algonquin Power & Utilities Company. While this company would be regarded as a comparable utility investment opportunity by investors, it did not meet my required screening criteria due to a major acquisition, which is ongoing.

gas utility operations are its dominant businesses and account for approximately 95% of consolidated net income.[4] Emera Inc.'s Florida and New Mexico utility operations account for 64% of consolidated net income.[5] Thus, investors would regard Emera Inc. as a comparable investment alternative that is relevant to an evaluation of the required rate of return for PNM.

These criteria result in a proxy group composed of twenty-one companies listed on page 1 of PNM Exhibit AMM-4, which I refer to as the "Utility Group."

C. Relative Risks of the Utility Group and PNM

Q. DO YOU EVALUATE INVESTORS' RISK PERCEPTIONS FOR THE UTILITY GROUP?

A. Yes. My evaluation of relative risk considers four objective, published benchmarks that are widely relied on in the investment community. Credit ratings are assigned by independent rating agencies for the purpose of providing investors with a broad assessment of the creditworthiness of a firm. Ratings generally extend from triple-A (the highest) to D (in default). Other symbols (*e.g.*, "+" or "-") are used to show relative standing within a category. Because the rating agencies' evaluation includes all of the factors normally considered important in assessing a firm's relative credit standing, corporate credit ratings provide a broad, objective measure of overall investment risk

[4] Emera Inc., *Investors Presentation* (September & October 2022). https://s25.q4cdn.com/978989322/files/doc_presentations/2022/09/September-October-2022-Marketing-Deck.pdf (last visited Oct. 25, 2022).

[5] *Id.*

that is readily available to investors. Widely cited in the investment community and referenced by investors, credit ratings are also frequently used as a primary risk indicator in establishing proxy groups to estimate the cost of common equity.

While credit ratings provide the most widely referenced benchmark for investment risks, the quality rankings published by Value Line also provide an important and objective assessment of relative risks that are considered by investors in forming their expectations and measure the risks associated with common stocks. Value Line's primary risk indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest). This overall risk measure is intended to capture the total risk of a stock and incorporates elements of stock price stability and financial strength. Given that Value Line is perhaps the most widely available source of investment advisory information, its Safety Rank provides useful guidance regarding the risk perceptions of investors.

The Financial Strength Rating is designed as a guide to overall financial strength and creditworthiness, with the key inputs including financial leverage, business volatility measures, and company size. Value Line's Financial Strength Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps. These objective, published indicators incorporate consideration of a broad spectrum of risks, including financial and business position, relative size, and exposure to firm-specific factors.

Finally, beta measures a utility's stock price volatility relative to the market as a whole and reflects the tendency of a stock's price to follow changes in the market. A stock that

tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. Beta is the only relevant measure of investment risk under modern capital market theory and is widely cited in academics and in the investment industry as a guide to investors' risk perceptions. Moreover, in my experience Value Line is the most widely referenced source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

> Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. … Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.[6]

Q. HOW DOES THE OVERALL RISK OF YOUR PROXY GROUP COMPARE TO PNM?

A. PNM Table AMM-1 compares the Utility Group to the Company across the four key indicia of investment risk discussed above. Because PNM has no publicly traded common stock, the Value Line risk measures shown reflect those published for its parent, PNMR.

PNM TABLE AMM-1
COMPARISON OF RISK INDICATORS

	S&P	Moody's	Rank	Strength	Beta
Utility Group	BBB+	Baa2	2	A	0.90
PNM	BBB	Baa2	2	B++	0.90

[6] Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports (2006) at 71.

The average S&P credit rating corresponding to the Utility Group is slightly higher than PNM's ratings, indicating somewhat less risk for the Utility Group compared to PNM. The average Moody's rating, Value Line Safety Rank and beta for the Utility Group are identical to the Company, while the lower Financial Strength measure corresponding to PNM indicates slightly greater risk. Considered together, a comparison of these objective measures, which incorporate a broad spectrum of risks, including financial and business position, regulatory recovery mechanisms, and exposure to company specific factors, indicates that investors would likely conclude that the overall investment risks for the firms in the Utility Group are generally comparable to PNM.

Q. WOULD INVESTORS ALSO CONSIDER THE IMPLICATIONS OF REGULATORY MECHANISMS IN EVALUATING THE COMPANY'S RELATIVE RISKS?

A. Yes. In response to the increasing sensitivity over fluctuations in costs and the importance of advancing other public interest goals such as reliability, energy conservation, and safety, utilities and their regulators have sought to mitigate cost recovery uncertainty and align the interest of utilities and their customers. As a result, adjustment mechanisms, cost trackers, and future test years have become increasingly prevalent, along with alternatives to traditional ratemaking such as formula rates and multi-year rate plans. *RRA Regulatory Focus* concluded in its most recent review of adjustment clauses that:

> More recently and with greater frequency, commissions have approved mechanisms that permit the costs associated with the construction of new generation or delivery infrastructure to be used, effectively including these items in rate base without the need for a full rate case. In some instances, these mechanisms may even provide the utilities a cash return on construction work in progress.
>
> . . . [C]ertain types of adjustment clauses are more prevalent than others. For example, those that address electric fuel and gas commodity charges are in place in all jurisdictions. Also, about two-thirds of all utilities have riders in place to recover costs related to energy efficiency programs, and roughly half of the utilities have some type of decoupling mechanism in place.[7]

As shown on PNM Exhibit AMM-4, and reflective of this trend, the companies in the Utility Group operate under a wide variety of cost adjustment mechanisms, which encompass revenue decoupling and adjustment clauses designed to address rising capital investment outside of a traditional rate case and increasing costs of environmental compliance measures, as well as riders to recover the cost of environmental compliance measures, bad debt expenses, certain taxes and fees, post-retirement employee benefit costs and transmission-related charges.

Q. WHAT REGULATORY MECHANISMS ARE APPLICABLE TO PNM'S ELECTRIC UTILITY OPERATIONS IN NEW MEXICO?

A. In addition to a fuel and purchased power cost recovery mechanism, the Company has a rate adjustment rider to recover certain costs for renewable energy procurement that are not otherwise being collected in base rates. If PNM's earned return on jurisdictional equity in a calendar year exceeds the NMPRC-approved rate by 0.5%, the rider provides

[7] S&P Global Market Intelligence, *Adjustment Clause: A state-by-state overview*, RRA Regulatory Focus (Jul. 18, 2022).

that PNM would refund the excess to customers during the following year. The NMPRC has also approved an adjustment clause that allows PNM to bill and collect costs associated with approved energy efficiency initiatives. Finally, the Company also employs a future test year and has a pending application to implement an investment cost recovery rider associated with its proposed comprehensive grid modernization plan.[8]

Q. WHAT DO THESE CHARACTERISTICS IMPLY WITH RESPECT TO THE COMPANY'S RISKS RELATIVE TO OTHER UTILITIES IN GENERAL?

A. Regulatory adjustment mechanisms have important implications for a utility's financial health and relative risk. Investors recognize that the use of adjustment mechanisms and future test years is widely prevalent in the utility industry and consider the relative impact of these provisions in forming their expectations and risk perceptions for the firms in the Utility Group. While the Company's existing and proposed regulatory clauses would be regarded as supportive, in contrast to many of the specific operating companies associated with the firms in the Utility Group, PNM does not operate under a revenue decoupling mechanism. Thus, PNM's continued exposure to the uncertainties

[8] Case No. 22-00058-UT, *Authorization to Implement Grid Modernization Components That Include Advance Metering Infrastructure and Application to Recover the Associated Costs Through a Rider, Issuance of Related Accounting Orders, and Other Associated Relief.*

of revenue variability and regulatory lag would imply a greater level of risk than is faced by other utilities, including the firms in the Utility Group.[9]

III. CAPITAL MARKET ESTIMATES AND ANALYSES

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. This section presents capital market estimates of the cost of equity. First, I discuss the current outlook for capital costs, including expectations for interest rates. I then address the concept of the cost of common equity, along with the risk-return tradeoff principle fundamental to capital markets. Next, I describe various quantitative analyses conducted to estimate the cost of common equity for the proxy group of comparable risk utilities.

A. Outlook for Capital Costs

Q. PLEASE SUMMARIZE CURRENT ECONOMIC CONDITIONS.

A. U.S. real GDP declined at a rate of -3.4% during 2020, but with the easing of lockdowns accompanying the COVID-19 vaccine rollout, the economic outlook improved significantly in 2021, with GDP growing at a pace of 5.7%. More recently, regional increases in COVID-19 cases, expiration of government assistance payments, and declines in wholesale trade led GDP to fall at an annual rate of -1.6% and -0.6% in the

[9] While I reference corporate credit ratings in evaluating a risk-comparable proxy group, these indicators are focused on the risk of default associated with a utility's outstanding debt securities. While debtholders are also concerned about the stability and sufficiency of a utility's cash flows, the implications of attrition and earnings variability are especially relevant to equity investors, who are only entitled to the residual earnings once all other claimants have been paid.

first two quarters of 2022.[10] Meanwhile, indicators of employment remained stable, with the national unemployment rate easing slightly in September 2022 to 3.5%.[11]

The underlying risk and price pressures associated with the COVID-19 pandemic were overshadowed by Russia's full-scale invasion of Ukraine on February 24, 2022. The dramatic increase in geopolitical risks has also been accompanied by heightened economic uncertainties as inflationary pressures due to COVID-19 supply chain disruptions were further stoked by sharp increases in commodity prices stemming from a wide-ranging sanctions regime targeting the Russian economy. The twin threats posed by inflation and military conflict in Ukraine have led to extreme volatility in the capital markets as investors have been forced to dramatically revise their risk perceptions and return requirements in the face of the severe disruptions to commerce and the world economy.

The onset of war in Ukraine, which prompted substantial disruption in the energy economy and a dramatic rise in inflation, has led to sharp declines in global equity markets as investors come to grips with the related exposures. S&P warned that the conflict "could have profound effects on macroeconomic prospects and credit conditions around the world,"[12] and more recently concluded that:

[10] https://www.bea.gov/data/gdp/gross-domestic-product (last visited Oct. 25, 2022).

[11] https://www.bls.gov/news.release/pdf/empsit.pdf (last visited Oct. 25, 2022).

[12] S&P Global Ratings, *Russia-Ukraine Military Conflict: Key takeaways From Our Articles*, Comments (Mar. 8, 2022).

> The balance of risks is firmly on the downside—with rapid monetary tightening potentially pushing major economies into recession; growing geopolitical tensions exacerbating Europe's energy crisis; lingering high prices pressuring costs and eroding households' purchasing power; and China grappling with structural factors that are undermining its economic growth.[13]

As Federal Reserve Chair Powell concluded, "The financial and economic implications for the global economy and the U.S. Economy are highly uncertain."[14]

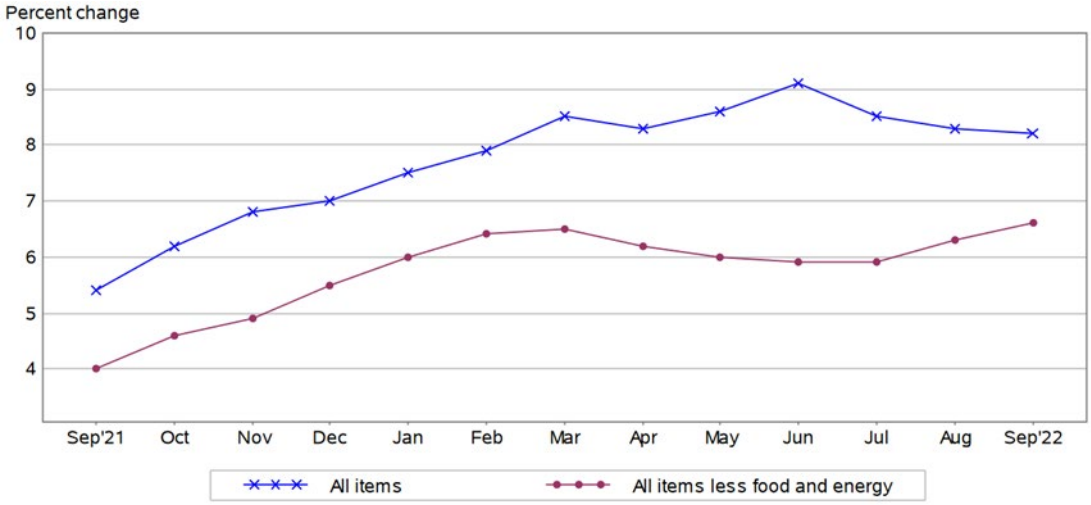
Stimulative monetary and fiscal policies, coupled with economic ramifications stemming from the conflict in Ukraine, have led to increasing concern that inflation may remain significantly above the 2% longer-run benchmark cited by the Federal Reserve. The U.S. inflation rate as measured by the CPI was 8.3% in September 2022, after peaking in June 2022, which was its highest level since November 1981.[15] As illustrated in PNM Figure AMM-1, below, inflation has now exceeded 6% for twelve straight months. The so-called "core" price index, which excludes more volatile energy and food costs, rose at an annual rate of 6.6% in September 2022.

[13] S&P Global Ratings, *Global Credit Conditions Q4 2022: Darkening Horizons*, Comments (Sept. 29, 2022).

[14] Federal Reserve, *Transcript of Chair Powell's Press Conference* (Mar. 16, 2021), https://www.federalreserve.gov/monetarypolicy/fomcpresconf20220316.htm.

[15] https://www.bls.gov/news.release/pdf/cpi.pdf (last visited Oct. 13, 2022).

PNM FIGURE AMM-1
TREND IN CONSUMER PRICE INDEX



Similarly, personal consumption expenditures ("PCE") inflation rose 6.2% in August 2022, or 4.9% after excluding more volatile food and energy cost.[16] As Federal Reserve Chair Powell recently noted:

> Inflation is running well above 2 percent, and high inflation has continued to spread through the economy. While the lower inflation reading for July are welcome, a single month's improvement falls far short of what the Committee will need to see before we are confident that inflation is moving down."[17]

[16] https://www.bea.gov/news/2022/personal-income-and-outlays-august-2022 (last visited Oct. 26, 2022).

[17] Chair Jerome H. Powell, *Monetary Policy and Price Stability*, Speech (Aug. 26, 2022). https://www.federalreserve.gov/newsevents/speech/powell20220826a.htm (last visited Aug. 31, 2022).

Q. WHAT IMPACT DOES RISING INFLATION EXPECTATIONS HAVE ON THE RETURN THAT EQUITY INVESTORS REQUIRE FROM PNM?

A. Implicit in the required rate of return for long-term capital—whether debt or common equity—is compensation for expected inflation. This is highlighted in the textbook, *Financial Management, Theory and Practice*:

> The four most fundamental factors affecting the cost of money are (1) production opportunities, (2) time preferences for consumption, (3) risk, and (4) inflation.[18]

In other words, a part of investor's required return is intended to compensate for the erosion of purchasing power due to rising price levels. This inflation premium is added to the real rate of return (pure risk-free rate plus risk premium) to determine the nominal required return. As a result, higher inflation expectations lead to an increase in the cost of equity capital.

Q. HOW HAVE COMMON EQUITY MARKETS BEEN IMPACTED BY THESE EVENTS?

A. The threats posed by the coronavirus pandemic and military conflict in Ukraine have led to extreme volatility in the capital markets as investors have been forced to dramatically revise their risk perceptions and return requirements in the face of the severe disruptions to commerce and the world economy. Despite the actions of the world's central banks to ease market strains and bolster the economy, global equity

[18] Eugene F. Brigham, Louis C. Gapenski, and Michael C. Ehrhardt, *Financial Management, Theory and Practice*, Ninth Edition (1999) at 126.

markets have experienced precipitous declines as investors come to grips with the related exposures.

The greater uncertainty faced by equity investors is confirmed by reference to the VIX,[19] which has trended sharply higher in 2022. Similarly, the MOVE index, which is a market-based measure of uncertainty about interest rates and is often referred to as the "investor fear gauge," is also elevated. So far during 2022, the average of the MOVE index is over 90% higher than it was during 2021.[20] This ongoing volatility in capital markets is evidence of the greater risks now faced by investors.

Q. HAVE UTILITIES AND THEIR INVESTORS ALSO FACED HEIGHTENED LEVELS OF UNCERTAINTY?

A. Yes. Concerns over weakening credit quality prompted S&P to revise its outlook for the regulated utility industry from "stable" to "negative."[21] As S&P explained:

> Even before the current downturn and COVID-19, a confluence of factors, including the adverse impacts of tax reform, historically high capital spending, and associated increased debt, resulted in little cushion in ratings for unexpected operating challenges.[22]

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[19] The VIX is one of the most widely recognized measures of expectations of near-term volatility and market sentiment referenced by the investment community.

[20] At October 25, 2022, the average value of the MOVE index for year-to-date 2022 is 118.53, whereas the average value for all of 2021 is 61.83.

https://finance.yahoo.com/quote/%5EMOVE/history?period1=1609459200&period2=1666742400&interval=1d&filter=history&frequency=1d&includeAdjustedClose=true (last visited Oct. 26, 2022).

[21] S&P Global Ratings, *COVID-19: The Outlook For North American Regulated Utilities Turns Negative*, RatingsDirect (April 2, 2020).

[22] S&P Global Ratings, *North American Regulated Utilities Face Tough Financial Policy Tradeoffs To Avoid Ratings Pressure Amid The COVID-19 Pandemic*, RatingsDirect (May 11, 2020).

Meanwhile, rising inflation expectations also pose a challenge for utilities, with S&P recently noting that "the threat of inflation comes at a time when credit metrics are already under pressure relative to downside ratings thresholds."[23] S&P noted that "risk will continue to pressure the credit quality of the industry in 2022."[24] As S&P elaborated:

> Recently, several new credit risks have emerged, including inflation, higher interest rates, and rising commodity prices. Persistent pressure from any of these risks would likely lead to a further weakening of the industry's credit quality in 2022.[25]

In affirming its negative outlook on the industry, S&P more recently cited weak financial measures, rising prices and capital spending, and increased environmental risks as key challenges.[26]

Q. DO CHANGES IN UTILITY COMPANY BETA VALUES SINCE THE PANDEMIC BEGAN CORROBORATE AN INCREASE IN INDUSTRY RISK?

A. Yes. As I explain later, beta is used by the investment community as an important guide to investors' risk perceptions. As shown in PNM Table AMM-1 previously, the average beta for the Utility Group is 0.90.[27] Prior to the pandemic, the average beta for the same group of companies was 0.56.[28]

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[23] S&P Global Ratings, *Will Rising Inflation Threaten North American Investor-Owned Regulated Utilities' Credit Quality?* (Jul. 20, 2021).

[24] S&P Global Ratings, *For The First Time Ever, The Median Investor-Owned Utility Ratings Falls To The 'BBB' Category*, RatingsDirect (Jan. 20, 2022).

[25] *Id*.

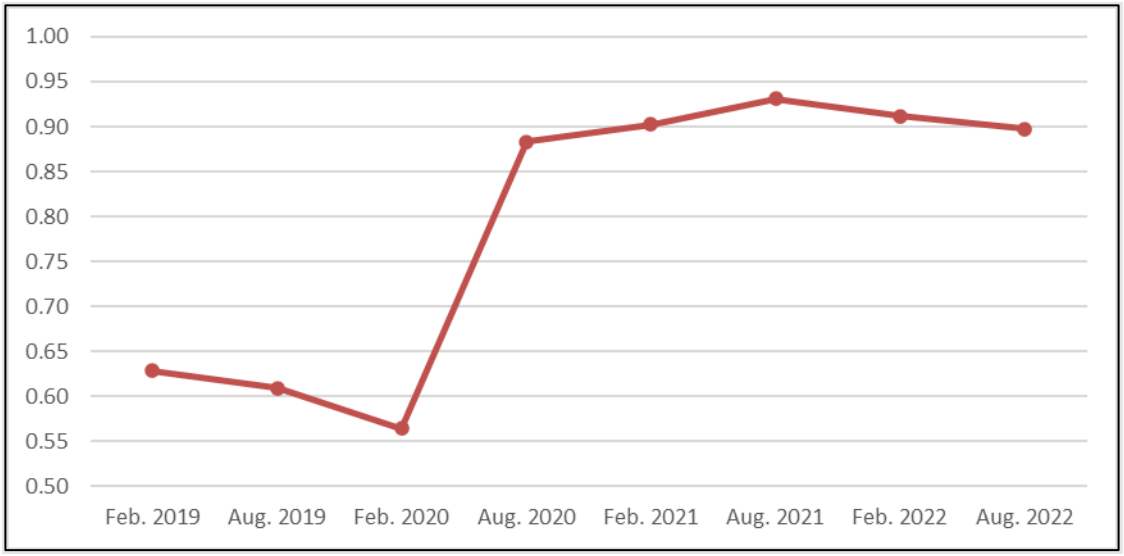
[26] S&P Global Ratings, *Industry Top Trends Update, Regulated Utilities, Credit qualify has weakened and credit risks are rising*, North American Corporate Credit Mid-Year Outlook 2022 (Jul. 14, 2022).

[27] As indicated on PNM Exhibit AMM-7, this is based on data as of September 9, 2022.

[28] The Value Line Investment Survey, *Summary & Index* (Feb. 14, 2020).

The significant shift in pre- and post-pandemic beta values for the Utility Group is further exemplified in PNM Figure AMM-2 below. As illustrated there, the Utility Group's average beta value increased significantly with the beginning of the pandemic in March 2020, continued to increase during 2021, and has remained elevated in 2022. This dramatic increase in a primary gauge of investors' risk perceptions is further proof of the rise in the risk of utility common stocks.

PNM FIGURE AMM-2
UTILITY GROUP BETA VALUES



Q. HAVE INCREASED RISKS AND HIGHER INFLATION RESULTED IN HIGHER CAPITAL COSTS?

A. Yes. While the cost of equity is unobservable, the yields on long-term bonds provide a widely referenced benchmark for the direction of capital costs, including required returns on common stocks. PNM Table AMM-2 below compares the average yields on

Treasury securities and Baa-rated public utility bonds during 2021 with those required in September 2022.

PNM TABLE AMM-2
BOND YIELD TRENDS

Series	September 2022	2021	Change (bps)
10-Year Treasury Bonds	3.52%	1.44%	208
30-Year Treasury Bonds	3.56%	2.05%	151
Baa Utility Bonds	5.61%	3.35%	226

Source: https://fred.stlouisfed.org/series/GS30; Moody's Credit Trends.

As shown above, trends in bond yields since 2021 document a substantial increase in the returns on long-term capital demanded by investors. With respect to utility bond yields—which are the most relevant indicator in gauging the implications for the Company's common equity investors—average yields are now over 220 basis points above 2021 levels.

Q. ARE EXPECTATIONS OF HIGHER BOND YIELDS AND EXPOSURE TO INFLATION CONSISTENT WITH RECENT FEDERAL RESERVE ACTIONS AND THE VIEWS OF THE FOMC?[29]

A. Yes. As of its policy meeting in September, the FOMC has responded to concerns over accelerating inflation by raising the benchmark range for the federal funds rate by a total of 3.00% in 2022. Chair Powell noted that:

[29] The FOMC is a committee composed of twelve members that serves as the monetary policymaking body of the Federal Reserve System.

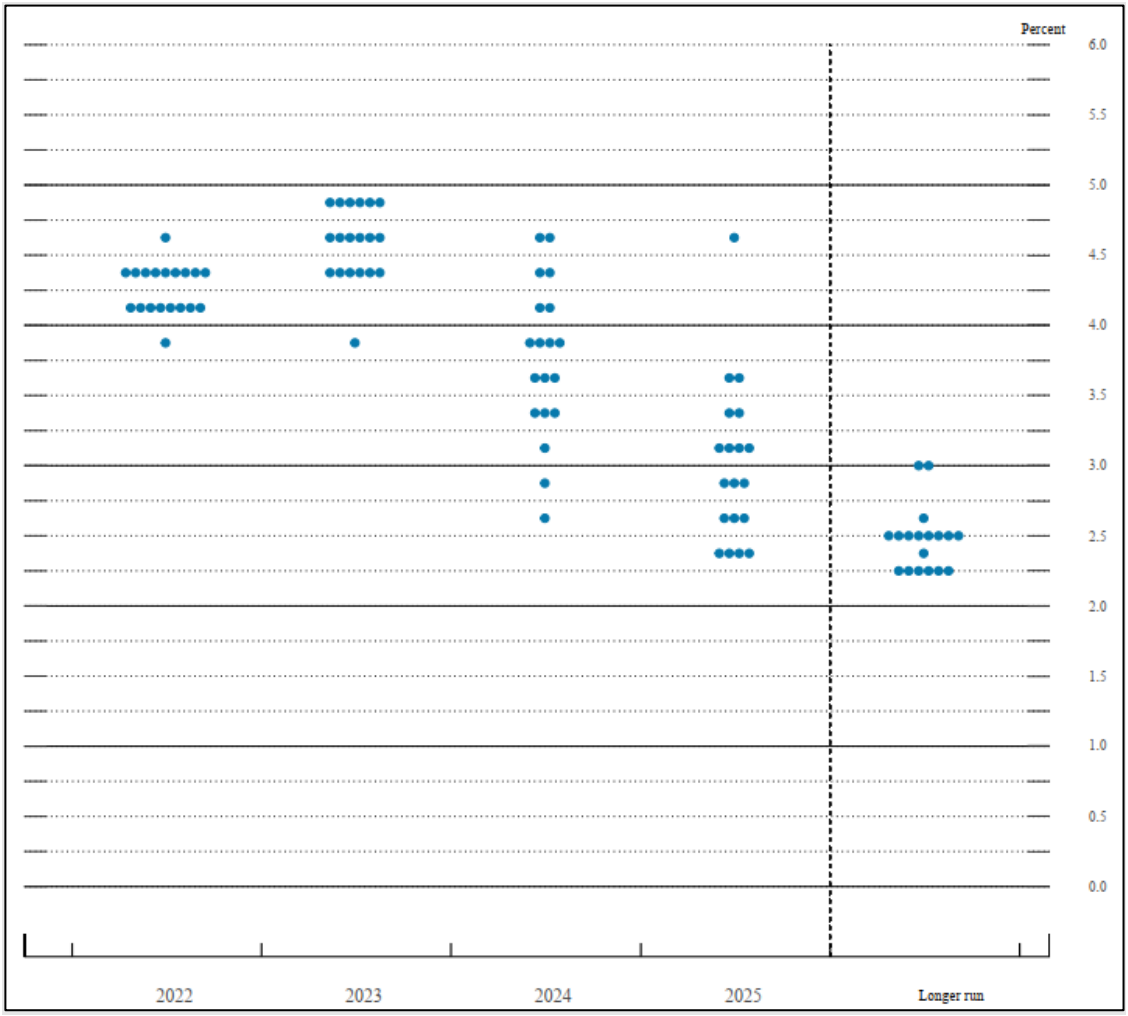
> At today's meeting the Committee raised the target range for the federal funds rate by ¾ percentage point, bringing the target range to 3 to 3-1/4 percent. And we are continuing the process of significantly reducing the size of our balance sheet, which plays an important role in firming the stance of monetary policy. . . . Restoring price stability will likely require maintaining a restrictive policy stance for some time. The historical record strongly cautions against prematurely loosening policy.[30]

In conjunction with the September 20-21, 2022 policy meeting, the FOMC submitted updated projections about where short-term interest rates are headed. The results are the dot plot—a visual representation of where members think interest rates will trend over the short, medium, and longer run. As shown in PNM Figure AMM-3 below, the most recent dot plot indicates that all of the FOMC participants expect its benchmark interest rate to be dramatically higher than current levels by the end of 2022,[31] with the median of the federal funds target range continuing to rise from 3.125% currently to 4.375%.

[30] https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20220921.pdf.

[31] Summary of Economic Projections (Sept. 21, 2022), https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20220921.pdf.

PNM FIGURE AMM-3
FEDERAL RESERVE DOT PLOT



In addition to these increases, Federal Reserve Chair Powell has surmised that the significant draw-down of its balance sheet holdings that began in June 2022 could be the equivalent of another one quarter percent rate hike over the course of a year.[32]

[32] Federal Reserve, *Transcript of Chair Powell's Press Conference* (May 4, 2022), https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20220504.pdf.

Q. WHAT ARE THE IMPLICATIONS OF THIS DISCUSSION IN EVALUATING A FAIR ROE FOR PNM?

A. Expectations that recent increases in interest rates will be sustained suggest that the cost of equity has increased significantly from previous levels and may continue to rise over the intermediate term. As a result, cost of equity estimates based on current data are likely to understate the return that will be required by investors over the period when the rates established in this proceeding will be in effect.

Q. WOULD IT BE REASONABLE TO DISREGARD THE IMPLICATIONS OF CURRENT CAPITAL MARKET CONDITIONS IN ESTABLISHING A FAIR ROE FOR PNM?

A. No. They reflect the reality of the situation in which PNM must attract and retain capital. The standards underlying a fair rate of return require an authorized ROE for the Company that is competitive with other investments of comparable risk and sufficient to preserve its ability to maintain access to capital on reasonable terms. These standards can only be met by considering the requirements of investors over the time period when the rates established in this proceeding will be in effect. If the upward shift in investors' risk perceptions and required rates of return for long-term capital is not incorporated in the allowed ROE, the results will fail to meet the comparable earnings standard that is fundamental in determining the cost of capital. From a more practical perspective, failing to provide investors with the opportunity to earn a rate of return commensurate with PNM's risks will weaken its financial integrity, while hampering the Company's ability to attract necessary capital.

B. Economic Standards

Q. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE COST OF EQUITY CONCEPT?

A. The fundamental economic principle underlying the cost of equity concept is the notion that investors are risk averse. In capital markets where relatively risk-free assets are available (e.g., U.S. Treasury securities), investors can be induced to hold riskier assets only if they are offered a premium, or additional return, above the rate of return on a risk-free asset. Because all assets compete for investor funds, riskier assets must yield a higher expected rate of return than safer assets to induce investors to invest and hold them.

Given this risk-return tradeoff, the required rate of return (k) from an asset (i) can generally be expressed as:

$$k_i = R_f + RP_i$$

where: R_f = Risk-free rate of return, and
RP_i = Risk premium required to hold riskier asset i.

Thus, the required rate of return for a particular asset at any time is a function of: (1) the yield on risk-free assets, and (2) the asset's relative risk, with investors demanding correspondingly larger risk premiums for bearing greater risk.

Q. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF PRINCIPLE OPERATES IN THE CAPITAL MARKETS?

A. Yes. The risk-return tradeoff can be readily documented in segments of the capital markets where required rates of return can be directly inferred from market data and where generally accepted measures of risk exist. Bond yields, for example, reflect investors' expected rates of return, and bond ratings measure the risk of individual bond issues. Comparing the observed yields on government securities, which are considered free of default risk, to the yields on bonds of various rating categories demonstrates that the risk-return tradeoff does, in fact, exist.

Q. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER ASSETS?

A. It is widely accepted that the risk-return tradeoff evidenced with long-term debt extends to all assets. Documenting the risk-return tradeoff for assets other than fixed income securities, however, is complicated by two factors. First, there is no standard measure of risk applicable to all assets. Second, for most assets – including common stock – required rates of return cannot be observed. Yet there is every reason to believe that investors demonstrate risk aversion in deciding whether to hold common stocks and other assets, just as when choosing among fixed-income securities.

Q. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES BETWEEN FIRMS?

A. No. The risk-return tradeoff principle applies not only to investments in different firms, but also to different securities issued by the same firm. The securities issued by a utility vary considerably in risk because they have different characteristics and priorities. As noted earlier, long-term debt is senior among all capital in its claim on a utility's net revenues and is, therefore, the least risky. The last investors in line are common shareholders: they receive only the net revenues, if any, remaining after all other claimants have been paid. As a result, the rate of return that investors require from a utility's common stock, the most junior and riskiest of its securities, must be considerably higher than the yield offered by the utility's senior, long-term debt.

Q. WHAT ARE THE CHALLENGES IN DETERMINING A JUST AND REASONABLE ROE FOR A REGULATED ENTERPRISE?

A. The actual return investors require is unobservable. Different methodologies have been developed to estimate investors' expected and required return on capital, but all such methodologies are merely theoretical tools and generally produce a range of estimates, based on different assumptions and inputs. The DCF method, which is frequently referenced and relied on by regulators, is only one theoretical approach to gain insight into the return investors require; there are numerous other methodologies for estimating the cost of capital and the ranges produced by the different approaches can vary widely.

Q. IS IT CUSTOMARY TO CONSIDER THE RESULTS OF MULTIPLE APPROACHES WHEN EVALUATING A JUST AND REASONABLE ROE?

A. Yes. In my experience, financial analysts and regulators routinely consider the results of alternative approaches in determining allowed ROEs. It is widely recognized that no single method can be regarded as failsafe; with all approaches having advantages and shortcomings. As FERC has noted, "[t]he determination of rate of return on equity starts from the premise that there is no single approach or methodology for determining the correct rate of return."[33] More recently, FERC recognized the potential for any application of the DCF model to produce unreliable results.[34] Similarly, a publication of the Society of Utility and Regulatory Financial Analysts concluded that:

> Each model requires the exercise of judgment as to the reasonableness of the underlying assumptions of the methodology and on the reasonableness of the proxies used to validate the theory. Each model has its own way of examining investor behavior, its own premises, and its own set of simplifications of reality. Each method proceeds from different fundamental premises, most of which cannot be validated empirically. Investors clearly do not subscribe to any singular method, nor does the stock price reflect the application of any one single method by investors.[35]

As this treatise succinctly observed, "no single model is so inherently precise that it can be relied on solely to the exclusion of other theoretically sound models."[36] Similarly, *New Regulatory Finance* concluded that:

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[33] *Northwest Pipeline Co.*, Opinion No. 396-C, 81 FERC ¶ 61,036 at 4 (1997).

[34] *Coakley v. Bangor Hydro-Elec. Co.*, Opinion No. 531, 147 FERC ¶ 61,234 at P 41 (2014).

[35] David C. Parcell, *The Cost of Capital – A Practitioner's Guide*, Society of Utility and Regulatory Financial Analysts (2010) at 84.

[36] *Id*.

> There is no single model that conclusively determines or estimates the expected return for an individual firm. Each methodology possesses its own way of examining investor behavior, its own premises, and its own set of simplifications of reality. Each method proceeds from different fundamental premises that cannot be validated empirically. Investors do not necessarily subscribe to any one method, nor does the stock price reflect the application of any one single method by the price-setting investor. There is no monopoly as to which method is used by investors. In the absence of any hard evidence as to which method outdoes the other, all relevant evidence should be used and weighted equally, in order to minimize judgmental error, measurement error, and conceptual infirmities.[37]

Thus, while the DCF model is a recognized approach to estimating the ROE, it is not without shortcomings and does not otherwise eliminate the need to ensure that the "end result" is fair. The Indiana Utility Regulatory Commission has recognized this principle:

> There are three principal reasons for our unwillingness to place a great deal of weight on the results of any DCF analysis. One is. . . the failure of the DCF model to conform to reality. The second is the undeniable fact that rarely if ever do two expert witnesses agree on the terms of a DCF equation for the same utility – for example, as we shall see in more detail below, projections of future dividend cash flow and anticipated price appreciation of the stock can vary widely. And, the third reason is that the unadjusted DCF result is almost always well below what any informed financial analysis would regard as defensible, and therefore require an upward adjustment based largely on the expert witness's judgment. In these circumstances, we find it difficult to regard the results of a DCF computation as any more than suggestive.[38]

As this discussion indicates, consideration of the results of alternative approaches reduces the potential for error associated with any single quantitative method. Just as

[37] Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 429.

[38] *Ind. Michigan Power Co.*, Cause No. 38728, 116 PUR4th, 1, 17-18 (IURC 8/24/1990).

investors inform their decisions using a variety of methodologies, my evaluation of a fair ROE for the Company considered the results of multiple financial models.

Q. DOES THE FACT THAT PNM IS A SUBSIDIARY OF PNMR IN ANY WAY ALTER THESE FUNDAMENTAL STANDARDS UNDERLYING A JUST AND REASONABLE ROE?

A. No. While the Company has no publicly traded common stock and PNMR is PNM's only shareholder, this does not change the standards governing the determination of a just and reasonable ROE for the Company. Ultimately, the common equity that is required to support the utility operations of PNM must be raised in the capital markets, where investors consider the Company's ability to offer a rate of return that is competitive with other risk-comparable alternatives. PNM must compete with other investment opportunities and unless there is a reasonable expectation that investors will have the opportunity to earn returns commensurate with the underlying risks, capital will be allocated elsewhere, the Company's financial integrity will be weakened, and investors will demand an even higher rate of return. PNM's ability to offer a reasonable return on investment is a necessary ingredient in ensuring that customers continue to enjoy economical rates and reliable service.

Q. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO ESTIMATING THE COST OF EQUITY FOR A UTILITY?

A. Although the cost of equity is unobservable, it is a function of the returns available from other investment alternatives and the risks to which the equity capital is exposed.

Because it is not readily observable, the cost of equity for a particular utility must be estimated by analyzing information about capital market conditions generally, assessing the relative risks of the company specifically, and employing various quantitative methods that focus on investors' required rates of return. These various quantitative methods typically attempt to infer investors' required rates of return from stock prices, interest rates, or other capital market data. This market-based cost of equity capital is the fundamental consideration underpinning the ROE established by regulatory agencies, including the Commission.

C. Discounted Cash Flow Analyses

Q. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF COMMON EQUITY?

A. DCF models assume that the price of a share of common stock is equal to the present value of the expected cash flows (i.e., future dividends and stock price) that will be received while holding the stock, discounted at investors' required rate of return. Rather than developing annual estimates of cash flows into perpetuity, the DCF model can be simplified to a "constant growth" form:[39]

[39] The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all the above extend to infinity. Nevertheless, the DCF method provides a workable and practical approach to estimate investors' required return that is widely referenced in utility ratemaking.

$$P_0 = \frac{D_1}{k_e - g}$$

where: P_0 = Current price per share;
D_1 = Expected dividend per share in the coming year;
k_e = Cost of equity; and,
g = Investors' long-term growth expectations.

The cost of common equity (k_e) can be isolated by rearranging terms within the equation:

$$k_e = \frac{D_1}{P_0} + g$$

This constant growth form of the DCF model recognizes that the rate of return to stockholders consists of two parts: 1) dividend yield (D_1/P_0); and 2) growth (g). In other words, investors expect to receive a portion of their total return in the form of current dividends and the remainder through price appreciation.

Q. WHAT STEPS ARE REQUIRED TO APPLY THE CONSTANT GROWTH DCF MODEL?

A. The first step in implementing the constant growth DCF model is to determine the expected dividend yield (D_1/P_0) for the firm in question. This is usually calculated based on an estimate of dividends to be paid in the coming year divided by the current price of the stock. The second, and more controversial, step is to estimate investors' long-term growth expectations (g) for the firm. The final step is to add the firm's dividend yield and estimated growth rate to arrive at an estimate of its cost of common equity.

Q. HOW DO YOU DETERMINE THE DIVIDEND YIELDS FOR THE UTILITY GROUP?

A. Estimates of dividends to be paid by each of these utilities over the next twelve months, obtained from Value Line, served as D_1. This annual dividend was then divided by a 30-day average stock price for each utility to arrive at the expected dividend yield. The expected dividends, stock prices, and resulting dividend yields for the firms in the Utility Group are presented on PNM Exhibit AMM-5. As shown on the first page of this exhibit, dividend yields for the firms in the Utility Group ranged from 2.1% to 4.6% and averaged 3.4%.

Q. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. The next step is to evaluate long-term growth expectations, or "*g*", for the firm in question. In constant growth DCF theory, earnings, dividends, book value, and market price are all assumed to grow in lockstep, and the growth horizon of the DCF model is infinite. But implementation of the DCF model is more than just a theoretical exercise; it is an attempt to replicate the mechanism investors used to arrive at observable stock prices. A wide variety of techniques can be used to derive growth rates, but the only "*g*" that matters in applying the DCF model is the value that investors expect.

Q. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?

A. Implementation of the DCF model is solely concerned with replicating the forward-looking evaluation of real-world investors. In the case of utilities, dividend growth rates are not likely to provide a meaningful guide to investors' current growth expectations. Utility dividend policies reflect the need to accommodate business risks and investment requirements in the industry, as well as potential uncertainties in the capital markets. As a result, dividend growth in the utility industry has lagged growth in earnings as utilities conserve financial resources.

A measure that plays a pivotal role in determining investors' long-term growth expectations is future trends in EPS, which provide the source for future dividends and ultimately support share prices. The importance of earnings in evaluating investors' expectations and requirements is well accepted in the investment community, and surveys of analytical techniques relied on by professional analysts indicate that growth in earnings is far more influential than trends in DPS.

The availability of projected EPS growth rates also is key to investors relying on this measure as compared to future trends in DPS. Apart from Value Line, investment advisory services do not generally publish comprehensive DPS growth projections, and this scarcity of dividend growth rates relative to the abundance of earnings forecasts attests to their relative influence. The fact that securities analysts focus on EPS growth, and that DPS growth rates are not routinely published, indicates that projected EPS

growth rates are likely to provide a superior indicator of the future long-term growth expected by investors.

Q. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN THE WAY OF GROWTH FOR THE FIRMS IN THE PROXY GROUP?

A. The earnings growth projections for each of the firms in the Utility Group reported by Value Line, IBES,[40] and Zacks are displayed on page 2 of PNM Exhibit AMM-5.

Q. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING THE CONSTANT GROWTH DCF MODEL?

A. In constant growth theory, growth in book equity will be equal to the product of the earnings retention ratio (one minus the dividend payout ratio) and the earned rate of return on book equity. Furthermore, if the earned rate of return and the payout ratio are constant over time, growth in earnings and dividends will be equal to growth in book value. Even though these conditions are never met in practice, this "sustainable growth" approach may provide a rough guide for evaluating a firm's growth prospects and is frequently proposed in regulatory proceedings.

The sustainable growth rate is calculated by the formula, $g = br+sv$, where "b" is the expected retention ratio, "r" is the expected earned return on equity, "s" is the percent

[40] Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Refinitiv.

of common equity expected to be issued annually as new common stock, and "v" is the equity accretion rate. Under DCF theory, the "sv" factor is a component of the growth rate designed to capture the impact of issuing new common stock at a price above, or below, book value. The sustainable, "br+sv" growth rates for each firm in the proxy group are summarized on page 2 of PNM Exhibit AMM-5, with the underlying details being presented on PNM Exhibit AMM-6.

The sustainable growth rate analysis shown in PNM Exhibit AMM-6 incorporates an "adjustment factor" because Value Line's reported returns are based on year-end book values. Since earnings is a flow over the year while book value is determined at a given point in time, the measurement of earnings and book value are distinct concepts. It is this fundamental difference between a flow (earnings) and point estimate (book value) that makes it necessary to adjust to mid-year in calculating the ROE. Given that book value will increase or decrease over the year, using year-end book value (as Value Line does) understates or overstates the average investment that corresponds to the flow of earnings. To address this concern, earnings must be matched with a corresponding representative measure of book value, or the resulting ROE will be distorted. The adjustment factor determined in PNM Exhibit AMM-6, is solely a means of converting Value Line's end-of-period values to an average return over the year, and the formula for this adjustment is supported in recognized textbooks and has been adopted by other regulators.[41]

[41] *See*, Roger A. Morin, *New Regulatory Finance*, Pub. Utils. Reports, Inc. (2006) at 305-306; *Bangor Hydro-Electric Co. et al.*, 122 FERC ¶ 61,265 at n.12 (2008).

Q. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH THE "BR+SV" GROWTH RATE?

A. Yes. First, in order to calculate the sustainable growth rate, it is necessary to develop estimates of investors' expectations for four separate variables; namely, "b", "r", "s", and "v." Given the inherent difficulty in forecasting each parameter and the difficulty of estimating the expectations of investors, the potential for measurement error is significantly increased when using four variables, as opposed to referencing a direct projection for EPS growth. Second, empirical research in the finance literature indicates that sustainable growth rates are not as significantly correlated to measures of value, such as share prices, as are analysts' EPS growth forecasts.[42] The "sustainable growth" approach is included for completeness, but evidence indicates that analysts' forecasts provide a superior and more direct guide to investors' growth expectations. Accordingly, I give less weight to cost of equity estimates based on br+sv growth rates in evaluating the results of the DCF model.

Q. WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED FOR THE UTILITY GROUP USING THE DCF MODEL?

A. After combining the dividend yields and respective growth projections for each utility, the resulting cost of common equity estimates are shown on page 3 of PNM Exhibit AMM--5.

[42] Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at 307.

Q. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF MODEL, IS IT APPROPRIATE TO ELIMINATE ILLOGICAL ESTIMATES?

A. Yes. When applying quantitative methods to estimate the cost of equity, it is essential that the resulting values pass fundamental tests of reasonableness and economic logic. Accordingly, DCF estimates that are implausibly low or high should be eliminated when evaluating the results of this method.

Q. HOW DO YOU EVALUATE DCF ESTIMATES AT THE LOW END OF THE RANGE?

A. My evaluation of DCF estimates at the low end of the range is based on the fundamental risk-return tradeoff, which holds that investors will only take on more risk if they expect to earn a higher rate of return to compensate them for the greater uncertainly. Because common stocks lack the protections associated with an investment in long-term bonds, a utility's common stock imposes far greater risks on investors. As a result, the rate of return that investors require from a utility's common stock is considerably higher than the yield offered by senior, long-term debt. Consistent with this principle, DCF results that are not sufficiently higher than the yield available on less risky utility bonds must be eliminated.

Q. HAVE OTHER REGULATORS EMPLOYED SUCH TESTS?

A. Yes. FERC has noted that adjustments are justified where applications of the DCF approach and other methods produce illogical results. FERC evaluates low-end DCF results against observable yields on long-term public utility debt and has recognized that

it is appropriate to eliminate estimates that do not sufficiently exceed this threshold,[43] and also excludes estimates that are "irrationally or anomalously high."[44]

Q. DO YOU EXCLUDE ANY ESTIMATES AT THE LOW OR HIGH END OF THE RANGE OF DCF RESULTS?

A. Yes. As highlighted on page 3 of PNM Exhibit AMM-5, I remove DCF cost of equity estimates ranging from 1.9% to 6.9%. Based on my professional experience and the risk-return tradeoff principle that is fundamental to finance, it is inconceivable that investors are not requiring a substantially higher rate of return for holding common stock. As a result, these values provide little guidance as to the returns investors require from utility common stocks and should be excluded.

Also highlighted on page 3 of PNM Exhibit AMM-5, I eliminate a high-end DCF estimate of 20.0%. The upper end of the remaining DCF results for the Utility Group is set by a cost of equity estimate of 12.9%. While a 12.9% cost of equity estimate may exceed the majority of the remaining values, low-end DCF estimates in the 7% range are assuredly far below investors' required rate of return. Taken together and considered along with the balance of the results, the remaining values provide a reasonable basis on which to frame the range of plausible DCF estimates and evaluate investors' required rate of return.

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[43] See, e.g., *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010).

[44] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, 171 FERC ¶ 61,154 at P 152 (2020).

Q. WHAT ROE ESTIMATES ARE IMPLIED BY YOUR DCF RESULTS FOR THE UTILITY GROUP?

A. As shown on page 3 of PNM Exhibit AMM-5 and summarized in PNM Table AMM-3, application of the constant growth DCF model results in the following ROE estimates:

PNM TABLE AMM-3
DCF RESULTS – UTILITY GROUP

Growth Rate	Average	Midpoint
Value Line	8.8%	9.0%
IBES	10.2%	10.3%
Zacks	9.1%	9.7%
br + sv	8.5%	8.5%

D. Capital Asset Pricing Model

Q. PLEASE DESCRIBE THE CAPM.

A. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (e.g., common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.0, while stocks that tend to move more than the market have betas greater than 1.0. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where:
Rj = required rate of return for stock j;
R_f = risk-free rate;
R_m = expected return on the market portfolio; and,
β_j = beta, or systematic risk, for stock j.

Under the CAPM formula above, a stock's required return is a function of the risk-free rate (R_f), plus a risk premium that is scaled to reflect the relative volatility of a firm's stock price, as measured by beta (β). Like the DCF model, the CAPM is an *ex-ante*, or forward-looking model based on expectations of the future. As a result, to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

Q. WHY IS THE CAPM APPROACH A RELEVANT COMPONENT WHEN EVALUATING THE COST OF EQUITY FOR PNM?

A. The CAPM approach (which also forms the foundation of the ECAPM) generally is considered the most widely referenced method for estimating the cost of equity among academicians and professional practitioners, with the pioneering researchers of this method receiving the Nobel Prize in 1990. Because this is the dominant model for estimating the cost of equity outside the regulatory sphere, the CAPM (and ECAPM) provides important insight into investors' required rate of return for utility stocks, including the Company.

Q. HOW DO YOU APPLY THE CAPM TO ESTIMATE THE ROE?

A. Application of the CAPM to the proxy group is based on a forward-looking estimate for investors' required rate of return from common stocks presented in PNM Exhibit AMM-7. To capture the expectations of today's investors in current capital markets, the

expected market rate of return was estimated by conducting a DCF analysis on the dividend paying firms in the S&P 500.

The dividend yield for each firm is obtained from Value Line, and the growth rate is equal to the average of the earnings growth projections from IBES, Value Line, and Zacks for each firm, with each firm's dividend yield and growth rate being weighted by its proportionate share of total market value. After removing companies with growth rates that were negative or greater than 20%, the weighted average of the projections for the individual firms implies an average growth rate over the next five years of 10.2%. Combining this average growth rate with a year-ahead dividend yield of 2.0% results in a current cost of common equity estimate for the market as a whole (R_m) of 12.2%. Subtracting a 3.6% risk-free rate based on the average yield on 30year Treasury bonds for September 2022 produced a market equity risk premium of 8.6%.

Q. IN PREVIOUS TESTIMONY YOU HAVE CUSTOMARILY RELIED ON A SIX-MONTH AVERAGE YIELD ON TREASURY BONDS AS THE RISK-FREE RATE. WHY ARE YOU NOW REFERENCING THE SEPTEMBER 2022 AVERAGE?

A. Coupled with the Federal Reserve's recent decision to adopt tighter monetary policies, increased concerns over rising inflation and geopolitical risks has led to a significant upward shift in bond yields. As a result, six-month average data does not reflect investors' current expectations and requirements. Accordingly, I relied on September

2022 yield averages to better reflect present economic realities. This is particularly important in light of even higher interest rates projected over the intermediate term.

Q. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO APPLY THE CAPM?

A. As indicated earlier in my discussion of risk measures for the proxy group, I relied on the beta values reported by Value Line, which in my experience is the most widely referenced source for beta in regulatory proceedings.

Q. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE CAPM?

A. Financial research indicates that the CAPM does not fully account for observed differences in rates of return attributable to firm size. Accordingly, a modification is required to account for this size effect. As explained by Morningstar:

> One of the most remarkable discoveries of modern finance is the finding of a relationship between firm size and return. On average, small companies have higher returns than large ones. . . . The relationship between firm size and return cuts across the entire size spectrum; it is not restricted to the smallest stocks.[45]

According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security. The degree of systematic risk is represented by the beta coefficient. The need for the size adjustment arises because differences in investors' required rates of return that are related to firm size are not fully captured by beta. To account for this, researchers have

[45] Morningstar, *2015 Ibbotson SBBI Classic Yearbook*, at 99.

developed size premiums that need to be added to account for the level of a firm's market capitalization in determining the CAPM cost of equity.[46] Accordingly, my CAPM analyses also incorporated an adjustment to recognize the impact of size distinctions, as measured by the market capitalization for the firms in the Utility Group.

Q. IS THIS SIZE ADJUSTMENT RELATED TO THE RELATIVE SIZE OF PNM AS COMPARED WITH THE PROXY GROUP?

A. No. I am not proposing to apply a general size risk premium in evaluating a just and reasonable ROE for the Company and my recommendation does not include any adjustment related to the relative size of PNM. Rather, this size adjustment is specific to the CAPM and merely corrects for an observed inability of the beta measure to fully reflect the risks perceived by investors for the firms in the proxy group. As FERC has recognized, "[t]his type of size adjustment is a generally accepted approach to CAPM analyses."[47]

Q. WHAT IS THE IMPLIED ROE FOR THE UTILITY GROUP USING THE CAPM APPROACH?

A. As shown on page 1 of PNM Exhibit AMM-7, after adjusting for the impact of firm size, the CAPM approach implies an average ROE for the Utility Group of 11.8%.

[46] Originally compiled by Ibbotson Associates and published in their annual yearbook entitled, *Stocks, Bonds, Bills and Inflation*, these size premia are now developed by Kroll and presented in its *Cost of Capital Navigator*.
[47] *Coakley v. Bangor Hydro-Elec. Co.*, Opinion No. 531-B, 150 FERC ¶ 61,165 at P 117 (2015).

Q. DO YOU ALSO APPLY THE CAPM USING FORECASTED BOND YIELDS?

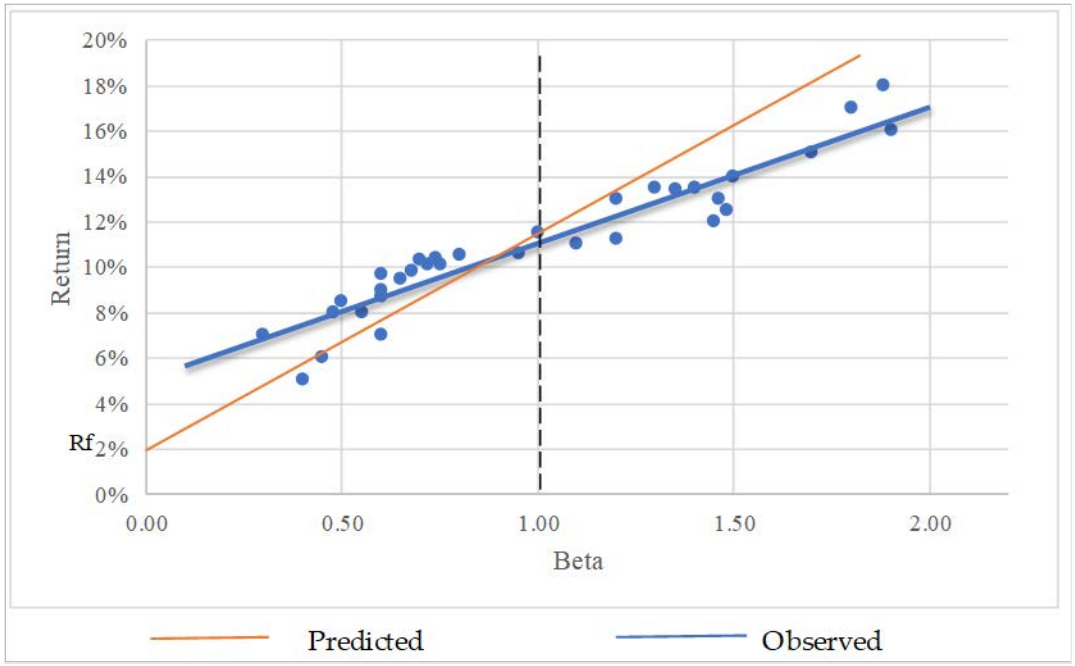
A. Yes. As discussed earlier, there is general consensus that interest rates will increase over the intermediate term. Accordingly, in addition to the use of current bond yields, I apply the CAPM based on the forecasted long-term Treasury bond yields developed based on projections published by Blue Chip for the years 2023 to 2027. As shown on page 2 of PNM Exhibit AMM-7, incorporating a forecasted Treasury bond yield implies an average cost of equity estimate of 11.9% for the Utility Group.

E. Empirical Capital Asset Pricing Model (ECAPM)

Q. HOW DOES THE ECAPM APPROACH DIFFER FROM TRADITIONAL APPLICATIONS OF THE CAPM?

A. Empirical tests of the CAPM have shown that low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted. In other words, the CAPM tends to overstate the actual sensitivity of the cost of capital to beta, with low-beta stocks tending to have higher returns and high-beta stocks tending to have lower risk returns than predicted by the CAPM. This is illustrated graphically in PNM Figure AMM-4:

PNM FIGURE AMM-4
CAPM – PREDICTED VS. OBSERVED RETURNS



Because the betas of utility stocks, including those in the proxy group, are generally less than 1.0, this implies that cost of equity estimates based on the traditional CAPM would understate the cost of equity. This empirical finding is widely reported in the finance literature, as summarized in *New Regulatory Finance*:

> As discussed in the previous section, several finance scholars have developed refined and expanded versions of the standard CAPM by relaxing the constraints imposed on the CAPM, such as dividend yield, size, and skewness effects. These enhanced CAPMs typically produce a risk-return relationship that is flatter than the CAPM prediction in keeping with the actual observed risk-return relationship. The ECAPM makes use of these empirical relationships.[48]

[48] Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports (2006) at 189.

As discussed in *New Regulatory Finance*, based on a review of the empirical evidence, the expected return on a security is related to its risk by the ECAPM, which is represented by the following formula:

$$R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

Like the CAPM formula presented earlier, the ECAPM represents a stock's required return as a function of the risk-free rate (R_f), plus a risk premium. In the formula above, this risk premium is composed of two parts: (1) the market risk premium (R_m - R_f) weighted by a factor of 25%, and (2) a company-specific risk premium based on the stock's relative volatility [$\beta_j(R_m - R_f)$] weighted by 75%. This ECAPM equation, and its associated weighting factors, recognizes the observed relationship between standard CAPM estimates and the cost of capital documented in the financial research, and corrects for the understated returns that would otherwise be produced for low beta stocks.

Q. WHAT COST OF EQUITY IS INDICATED BY THE ECAPM?

A. My application of the ECAPM is based on the same forward-looking market rate of return, risk-free rates, and beta values discussed earlier in connections with the CAPM. As shown on page 1 of PNM Exhibit AMM-8, applying the forward-looking ECAPM approach to the firms in the Utility Group results in an average cost of equity estimate of 12.1%. As shown on page 2 of PNM Exhibit AMM-8, incorporating a forecasted Treasury bond yield for years 2023 to 2027 also implies an average cost of equity for the Utility Group of 12.1%.

F. Utility Risk Premium

Q. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.

A. The risk premium method extends the risk-return tradeoff observed with bonds to estimate investors' required rate of return on common stocks. The cost of equity is estimated by first determining the additional return investors require to forgo the relative safety of bonds and to bear the greater risks associated with common stock, and by then adding this equity risk premium to the current yield on bonds. Like the DCF model, the risk premium method is capital market oriented. However, unlike DCF models, which indirectly impute the cost of equity, risk premium methods directly estimate investors' required rate of return by adding an equity risk premium to observable bond yields.

Q. IS THE RISK PREMIUM APPROACH A WIDELY ACCEPTED METHOD FOR ESTIMATING THE COST OF EQUITY?

A. Yes. The risk premium approach is based on the fundamental risk-return principle that is central to finance, which holds that investors will require a premium in the form of a higher return to assume additional risk. This method is routinely referenced by the investment community and in academia and regulatory proceedings and provides an important tool in estimating a just and reasonable ROE for PNM.

Q. HOW DO YOU IMPLEMENT THE RISK PREMIUM METHOD?

A. Estimates of equity risk premiums for utilities are based on surveys of previously authorized ROEs. Authorized ROEs presumably reflect regulatory commissions' best estimates of the cost of equity, however determined, at the time they issued their final

order. Such ROEs should represent a balanced and impartial outcome that considers the need to maintain a utility's financial integrity and ability to attract capital. Moreover, allowed returns are an important consideration for investors and have the potential to influence other observable investment parameters, including credit ratings and borrowing costs. Thus, when considered in the context of a complete and rigorous analysis, this data provides a logical and frequently referenced basis for estimating equity risk premiums for regulated utilities.

Q. HOW DO YOU CALCULATE EQUITY RISK PREMIUMS BASED ON ALLOWED RETURNS?

A. The ROEs authorized for electric utilities by regulatory commissions across the U.S. are compiled by S&P Global Market Intelligence and published in its *RRA Regulatory Focus* report. On page 3 of PNM Exhibit AMM-9, the average yield on public utility bonds is subtracted from the average allowed ROE for electric utilities to calculate equity risk premiums for each year between 1974 and 2021.[49] As shown there, over this period these equity risk premiums for electric utilities average 3.87%, and the yields on public utility bonds average 7.89%.

[49] My analysis encompasses the entire period for which published data is available.

Q. IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM METHOD?

A. Yes. The magnitude of equity risk premiums is not constant and equity risk premiums tend to move inversely with interest rates. In other words, when interest rate levels are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity risk premiums widen. The implication of this inverse relationship is that the cost of equity does not move as much as, or in lockstep with, interest rates. Accordingly, for a 1% increase or decrease in interest rates, the cost of equity may only rise or fall some fraction of 1%. Therefore, when implementing the risk premium method, adjustments may be required to incorporate this inverse relationship if current interest rate levels have diverged from the average interest rate level represented in the data set.

Current bond yields are lower than those prevailing over the risk premium study periods. Given that equity risk premiums move inversely with interest rates, these lower bond yields also imply an increase in the equity risk premium that investors require to accept the higher uncertainties associated with an investment in utility common stocks versus bonds. In other words, higher required equity risk premiums offset the impact of declining interest rates on the ROE.

Q. HAS THIS INVERSE RELATIONSHIP BEEN DOCUMENTED IN THE FINANCIAL RESEARCH?

A. Yes. There is considerable empirical evidence that when interest rates are relatively high, equity risk premiums narrow, and when interest rates are relatively low, equity

risk premiums are greater. This inverse relationship between equity risk premiums and interest rates has been widely reported in the financial literature. As summarized by *New Regulatory Finance*:

> Published studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin (2005), and McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates – rising when rates fell and declining when rates rose.[50]

Other regulators have also recognized that, while the cost of equity trends in the same direction as interest rates, these variables do not move in lockstep.[51] This relationship is illustrated in the figure on page 4 of PNM Exhibit AMM-9.

Q. WHAT ROE IS IMPLIED BY THE RISK PREMIUM METHOD USING SURVEYS OF ALLOWED RETURNS?

A. Based on the regression output between the interest rates and equity risk premiums displayed on page 4 of PNM Exhibit AMM-9, the equity risk premium for electric utilities increases by approximately 43 basis points for each percentage point drop in the yield on average public utility bonds. As illustrated on page 1 of PNM Exhibit AMM-9 with an average yield on public utility bonds for September 2022 of 5.32%, this implies a current equity risk premium of 4.97% for electric utilities. Adding this

[50] Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports (2006) at 128.

[51] *See, e.g.*, California Public Utilities Commission, Decision 08-05-035 (May 29, 2008); Entergy Mississippi Formula Rate Plan FRP-7, https://cdn.entergy-mississippi.com/userfiles/content/price/tariffs/eml_frp.pdf (last visited Oct. 15, 2022); *Martha Coakley et al.*, 147 FERC ¶ 61,234 at P 147 (2014).

equity risk premium to the average yield on Baa utility bonds of 5.61% implies a current ROE of 10.58%.

Q. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE IS PRODUCED AFTER INCORPORATING PROJECTED BOND YIELDS?

A. As shown on page 2 of PNM Exhibit AMM-9, incorporating a projected yield for 2023 to 2017 and adjusting for changes in interest rates since the study period implies an equity risk premium of 4.88% for electric utilities, which is less than the current equity risk premium. This lower equity risk premium is consistent with the inverse relationship I described above. Adding this equity risk premium to the implied average yield on Baa utility bonds for 2023 to 2027 of 5.85% results in an implied cost of equity of 10.73%.

G. Expected Earnings Approach

Q. WHAT OTHER ANALYSES DO YOU CONDUCT TO ESTIMATE THE ROE?

A. I also evaluate the ROE using the expected earnings method. Reference to rates of return available from alternative investments of comparable risk can provide an important benchmark in assessing the return necessary to assure confidence in the financial integrity of a firm and its ability to attract capital. This expected earnings approach is consistent with the economic underpinnings for a just and reasonable rate of return established by the U.S. Supreme Court in *Bluefield* and *Hope*.[52] Moreover, it

[52] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923) ("*Bluefield*"); *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*").

avoids the complexities and limitations of capital market methods and instead focuses on the returns earned on book equity, which are readily available to investors.

Q. WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED EARNINGS APPROACH?

A. The simple, but powerful concept underlying the expected earnings approach is that investors compare each investment alternative with the next best opportunity. If the utility is unable to offer a return similar to that available from other opportunities of comparable risk, investors will become unwilling to supply the capital on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their opportunity cost of capital. Such an outcome would violate the *Hope* and *Bluefield* standards and undermine the utility's access to capital on reasonable terms.

Q. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY IMPLEMENTED?

A. The traditional comparable earnings test identifies a group of companies that are believed to be comparable in risk to the utility. The actual earnings of those companies on the book value of their investment are then compared to the allowed return of the utility. While the traditional comparable earnings test is implemented using historical data taken from the accounting records, it is also common to use projections of returns on book investment, such as those published by recognized investment advisory publications (*e.g.*, Value Line). Because these returns on book value equity are

analogous to the allowed return on a utility's rate base, this measure of opportunity costs results in a direct, "apples to apples" comparison.

Moreover, regulators do not set the returns that investors earn in the capital markets, which are a function of dividend payments and fluctuations in common stock prices - both of which are outside their control. Regulators can only establish the allowed ROE, which is applied to the book value of a utility's investment in rate base, as determined from its accounting records. This is analogous to the expected earnings approach, which measures the return that investors expect the utility to earn on book value. As a result, the expected earnings approach provides a meaningful guide to ensure that the allowed ROE is similar to what other utilities of comparable risk will earn on invested capital. This expected earnings test does not require theoretical models to indirectly infer investors' perceptions from stock prices or other market data. As long as the proxy companies are similar in risk, their expected earned returns on invested capital provide a direct benchmark for investors' opportunity costs that is independent of fluctuating stock prices, market-to-book ratios, debates over DCF growth rates, or the limitations inherent in any theoretical model of investor behavior.

Q. WHAT ROES ARE INDICATED FOR PNM BASED ON THE EXPECTED EARNINGS APPROACH?

A. For the firms in the proxy group, the year-end returns on common equity projected by Value Line over its forecast horizon are shown on PNM Exhibit AMM--10. As I explained earlier in my discussion of the br+sv growth rates used in applying the DCF

model, Value Line's returns on common equity are calculated using year-end equity balances, which understates the average return earned over the year.[53] Accordingly, these year--end values were converted to average returns using the same adjustment factor discussed earlier and developed on PNM Exhibit AMM-6. As shown on PNM Exhibit AMM-10, Value Line's projections suggest an average ROE of 11.1% for the Utility Group.

IV. NON-UTILITY BENCHMARK

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. This section presents the results of my DCF analysis applied to a group of low-risk firms in the competitive sector, which I refer to as the "Non-Utility Group." This analysis was not relied on to arrive at my recommended ROE range of reasonableness; however, it is my opinion that this is a relevant consideration in evaluating a just and reasonable ROE for the Company's electric utility operations.

Q. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS FOR CAPITAL?

A. Yes. The cost of capital is an opportunity cost based on the returns that investors could realize by putting their money in other alternatives. Clearly, the total capital invested in utility stocks is only the tip of the iceberg of total common stock investment, and there

[53] For example, to compute the annual return on a passbook savings account with a beginning balance of $1,000 and an ending balance of $5,000, the interest income would be divided by the average balance of $3,000. Using the $5,000 balance at the end of the year would understate the actual return.

is a plethora of other enterprises available to investors beyond those in the utility industry. Utilities must compete for capital, not just against firms in their own industry, but with other investment opportunities of comparable risk. Indeed, modern portfolio theory is built on the assumption that rational investors will hold a diverse portfolio of stocks, not just companies in a single industry.

Q. IS IT CONSISTENT WITH THE *BLUEFIELD* AND *HOPE* CASES TO CONSIDER INVESTORS' REQUIRED ROE FOR NON-UTILITY COMPANIES?

A. Yes. The cost of equity capital in the competitive sector of the economy forms the very underpinning for utility ROEs because regulation purports to serve as a substitute for the actions of competitive markets. The Supreme Court has recognized that it is the degree of risk, not the nature of the business, which is relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to "business undertakings attended with comparable risks and uncertainties." It does not restrict consideration to other utilities. Similarly, the *Hope* case states:

> By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks.[54]

As in the *Bluefield* decision, there is nothing to restrict "other enterprises" solely to the utility industry.

[54] *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 391 (1944).

Q. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY GROUP IMPROVE THE RELIABILITY OF DCF RESULTS?

A. Yes. The estimates of growth from the DCF model depend on analysts' forecasts. It is possible for utility growth rates to be distorted by short-term trends in the industry, or by the industry falling into favor or disfavor by analysts. Such distortions could result in biased DCF estimates for utilities. Because the Non-Utility Group includes low risk companies from more than one industry, it helps to insulate against any possible distortion that may be present in results for a particular sector.

Q. WHAT CRITERIA DO YOU APPLY TO DEVELOP THE NON-UTILITY GROUP?

A. My comparable risk proxy group was composed of those United States companies followed by Value Line that:

1) pay common dividends;
2) have a Safety Rank of "1";
3) have a Financial Strength Rating of "A" or greater;
4) have a beta of less than 1.00; and,
5) have investment grade credit ratings from S&P and Moody's.

Q. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP COMPARE WITH THE UTILITY GROUP?

A. PNM Table AMM-4 compares the Non-Utility Group with the Utility Group and PNM across the measures of investment risk discussed earlier:

PNM TABLE AMM-4
COMPARISON OF RISK INDICATORS

			Value Line		
	S&P	Moody's	Safety Rank	Financial Strength	Beta
Non-Utility Group	A	A2	1	A+	0.79
Utility Group	BBB+	Baa2	2	A	0.90
PNM	BBB	Baa2	2	B++	0.90

Note: PNM's Value Line ratings are for its parent company, PNM Resources.

As shown above, considered together the risk indicators for the Non-Utility Group generally suggest less risk than for the Utility Group and PNM.

The companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include household names such as Coca-Cola, Kellogg, Procter & Gamble, and Walmart, have long corporate histories, well-established track records, and conservative risk profiles. Many of these companies pay dividends on a par with utilities, with the average dividend yield for the group at 2.2%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

Q. WHAT ARE THE RESULTS OF YOUR DCF ANALYSIS FOR THE NON-UTILITY GROUP?

A. I apply the DCF model to the Non-Utility Group using the same analysts' EPS growth projections described earlier for the Utility Group. The results of my DCF analysis for

the Non-Utility Group are presented in PNM Exhibit AMM-11. As summarized in PNM Table AMM-5, after eliminating illogical values, application of the constant growth DCF model results in the following cost of equity estimates:

PNM TABLE AMM-5
DCF RESULTS – NON-UTILITY GROUP

Growth Rate	Average	Midpoint
Value Line	10.5%	10.9%
IBES	10.5%	11.2%
Zacks	10.2%	10.6%

As discussed earlier, reference to the Non-Utility Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of nonutility firms of comparable risk operating under the constraints of free competition. Because the actual cost of equity is unobservable, and DCF results inherently incorporate a degree of error, cost of equity estimates for the Non-Utility Group provide an important benchmark in evaluating a just and reasonable ROE for PNM.

V. RETURN ON EQUITY FOR PNM

Q. WHAT IS THE PURPOSE OF THIS SECTION?

A. This section presents an overview of the relationship between ROE and preservation of a utility's financial integrity and the ability to attract capital under reasonable terms and presents my conclusions regarding the just and reasonable ROE applicable to PNM's utility operations. Finally, I discuss the reasonableness of the Company's capital structure request in this case.

A. Importance of Financial Strength

Q. WHAT IS THE ROLE OF THE ROE IN SETTING A UTILITY'S RATES?

A. The ROE is the cost of attracting and retaining common equity investment in the utility's physical plant and assets. This investment is necessary to finance the asset base needed to provide utility service. Investors commit capital only if they expect to earn a return on their investment commensurate with returns available from alternative investments with comparable risks. Moreover, a just and reasonable ROE is integral in meeting sound regulatory economics and the standards set forth by the U.S. Supreme Court. The *Bluefield* case set the standard against which just and reasonable rates are measured:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties. . . . The return should be reasonable, sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise money necessary for the proper discharge of its public duties.[55]

The *Hope* case expanded on the guidelines as to a reasonable ROE, reemphasizing its findings in *Bluefield* and establishing that the rate-setting process must produce an end-result that allows the utility a reasonable opportunity to cover its capital costs. The Court stated:

[55] *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).

> 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. . . . 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 credit and attract capital.[56]

In summary, the Supreme Court's findings in *Hope* and *Bluefield* established that a just and reasonable ROE must be sufficient to 1) fairly compensate the utility's investors, 2) enable the utility to offer a return adequate to attract new capital on reasonable terms, and 3) maintain the utility's financial integrity. These standards should allow the utility to fulfill its obligation to provide reliable service while meeting the needs of customers through necessary system replacement and expansion, but the Supreme Court's requirements can only be met if the utility has a reasonable opportunity to actually earn its allowed ROE.

While the *Hope* and *Bluefield* decisions did not establish a particular method to be followed in fixing rates (or in determining the allowed ROE),[57] these and subsequent cases enshrined the importance of an end-result that meets the opportunity cost standard of finance. Under this doctrine, the required return is established by investors in the capital markets based on expected returns available from comparable risk investments. Coupled with modern financial theory, which has led to the development of formal risk-return models (e.g., DCF and CAPM), practical application of the *Bluefield* and *Hope*

[56] *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

[57] *Id.* at 602 (finding, "the Commission was not bound to the use of any single formula or combination of formulae in determining rates." and, "[I]t is not theory but the impact of the rate order which counts.")

standards involves the independent, case-by-case consideration of capital market data in order to evaluate an ROE that will produce a balanced and fair end result for investors and customers.

Q. THROUGHOUT YOUR TESTIMONY YOU REFER REPEATEDLY TO THE CONCEPTS OF "FINANCIAL STRENGTH," "FINANCIAL INTEGRITY," AND "FINANCIAL FLEXIBILITY." WOULD YOU BRIEFLY DESCRIBE WHAT YOU MEAN BY THESE TERMS?

A. These terms are generally synonymous and refer to the utility's ability to attract and retain the capital that is necessary to provide service at reasonable cost, consistent with the Supreme Court standards. PNM's plans call for a continuation of capital investments to preserve and enhance service reliability for its customers. The Company must generate adequate cash flow from operations to fund these requirements and for repayment of maturing debt, together with access to capital from external sources under reasonable terms, on a sustainable basis.

Rating agencies and potential debt investors tend to place significant emphasis on maintaining strong financial metrics and credit ratings that support access to debt capital markets under reasonable terms. This emphasis on financial metrics and credit ratings is shared by equity investors who also focus on cash flows, capital structure and liquidity, much like debt investors. Investors understand the important role that a supportive regulatory environment plays in establishing a sound financial profile that

will permit the utility access to debt and equity capital markets on reasonable terms in both favorable financial markets and during times of potential disruption and crisis.

Q. WHAT PART DOES REGULATION PLAY IN ENSURING THAT PNM HAS ACCESS TO CAPITAL UNDER REASONABLE TERMS AND ON A SUSTAINABLE BASIS?

A. Regulatory signals are a major driver of investors' risk assessment for utilities. Investors recognize that constructive regulation is a key ingredient in supporting utility credit ratings and financial integrity. Security analysts study commission orders and regulatory policy statements to advise investors about where to put their money. Moody's noted that, "An overarching consideration for regulated utilities is the regulatory environment in which they operate," and concluded that "the regulatory environment and how the utility adapts to that environment are the most important credit considerations."[58] Similarly, S&P observed that, "Regulatory advantage is the most heavily weighted factor when S&P Global Ratings analyzes a regulated utility's business risk profile."[59] Value Line summarizes these sentiments:

> As we often point out, the most important factor in any utility's success, whether it provides electricity, gas, or water, is the regulatory climate in which it operates. Harsh regulatory conditions can make it nearly impossible for the best run utilities to earn a reasonable return on their investment.[60]

[58] Moody's Investors Service, *Regulated Electric and Gas Utilities*, Rating Methodology (Jun. 23, 2017).

[59] S&P Global Ratings, *Assessing U.S. Investors-Owned Utility Regulatory Environments*, RatingsExpress (Aug. 10, 2016).

[60] Value Line Investment Survey, *Water Utility Industry* (Jan. 13, 2017) at p. 1780.

In addition, the ROE set by regulators impacts investor confidence in not only the jurisdictional utility, but also in the ultimate parent company that is the entity that actually issues common stock.

Q. DO CUSTOMERS BENEFIT BY ENHANCING THE UTILITY'S FINANCIAL FLEXIBILITY?

A. Yes. Providing an ROE that is sufficient to maintain the Company's ability to attract capital under reasonable terms, even in times of financial and market stress, is consistent with the economic requirements embodied in the U.S. Supreme Court's *Hope* and *Bluefield* decisions, as well as customers' best interests. Customers enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure safe and reliable service.

B. Conclusions and Recommendations

Q. WHAT ARE YOUR FINDINGS REGARDING THE JUST AND REASONABLE ROE FOR PNM?

A. The cost of common equity estimates produced by the DCF, CAPM, ECAPM, and expected earnings analyses are summarized on PNM Exhibit AMM--3. As shown there, based on the case-specific evidence presented in my testimony, I recommend an ROE range for PNM's electric utility operations of 10.0% to 11.3%, with a midpoint of 10.65%. Considering capital market expectations, it is my conclusion that the 10.25% ROE requested by PNM understates investors' required rate of return. The bases for my conclusion are summarized below:

- In order to reflect the risks and prospects associated with PNM's utility business, I predicate my analysis on a proxy group of twenty-one electric utilities of comparable risk.
- Because investors' required return on equity is unobservable and no single method should be viewed in isolation, I apply the DCF, CAPM, ECAPM, and risk premium methods to estimate a just and reasonable ROE for PNM, as well as referencing the expected earnings approach.
- Based on the results of these analyses and giving less weight to extremes at the high and low ends of the range, I conclude that the cost of equity for a regulated electric utility is in the 10.0% to 11.3% range, with a midpoint of 10.65%.[61]
- Because the Company's requested ROE of 10.25% falls below the 10.65% midpoint of my recommended ROE range, I conclude that it is conservative and understates the cost of equity for PNM's electric operations.
- The reasonableness of this conclusion is supported by continuing expectations for higher long-term capital costs.

Q. WHAT DO THE DCF RESULTS FOR YOUR SELECT GROUP OF NON-UTILITY FIRMS INDICATE WITH RESPECT TO YOUR EVALUATION?

A. As shown on page 3 of PNM Exhibit AMM-11, average DCF estimates for a low-risk group of firms in the competitive sector of the economy range from 10.2% to 10.5%. While I do not base my recommendations on these results, they confirm that the Company's requested 10.25% ROE is just and reasonable.

[61] While I did not make an explicit adjustment to the results of my quantitative methods to include an adjustment for flotation costs associated with issuing common stock, this is another legitimate consideration that supports the reasonableness of my evaluation of a just and reasonable ROE for PNM in this case.

C. Capital Structure

Q. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?

A. Yes. Other things equal, a higher debt ratio and lower common equity ratio, translates into increased financial risk for all investors. A greater amount of debt means more investors have a senior claim on available cash flow, thereby reducing the certainty that each will receive their contractual payments. This increases the risks to which lenders are exposed, and they require correspondingly higher rates of interest. From common shareholders' standpoint, a higher debt ratio means that there are proportionately more investors ahead of them, thereby increasing the uncertainty as to the amount of cash flow that will remain.

Q. WHAT COMMON EQUITY RATIO IS IMPLICIT IN PNM'S CAPITAL STRUCTURE?

A. PNM's capital structure is presented in the Direct Testimony of PNM witness Greinel. As summarized in her testimony, the common equity ratio applicable to the Company in the Base Period and the Test Period is 52%.

Q. WHAT ARE THERELEVANT INDUSTRY BENCHMARKS TO CONSIDER IN EVALUATING PNM'S CAPITAL STRUCTURE?

A. Because this proceeding focuses on the ROE for the regulated utility operations of PNM, the capital structures of the proxy companies' regulated utility operating companies provide a consistent basis of comparison. Pages 1 and 2 of PNM Exhibit AMM-12

display capital structure data for the most recent fiscal year-end for the group of electric utility operating companies owned by the firms in the Utility Group used to estimate the cost of equity. As shown there, common equity ratios for these utilities ranged from 39.7% to 60.5% and averaged 51.0%. Sixteen of these thirty-eight operating companies maintained common equity ratios that exceed the 52% requested by PNM.

Q. DO ONGOING ECONOMIC AND CAPITAL MARKET UNCERTAINTIES ALSO INFLUENCE THE APPROPRIATE CAPITAL STRUCTURE FOR PNM?

A. Yes. Financial flexibility plays a crucial role in ensuring the wherewithal of a utility to meet funding needs, and utilities with higher financial leverage may be foreclosed or have limited access to additional borrowing, especially during times of financial market stress. As Moody's observed:

> Utilities are among the largest debt issuers in the corporate universe and typically require consistent access to capital markets to assure adequate sources of funding and to maintain financial flexibility. During times of distress and when capital markets are exceedingly volatile and tight, liquidity becomes critically important because access to capital markets may be difficult.[62]

More recently, S&P concluded that "[c]onsistent access to the capital markets could become more challenging" for electric utilities,[63] noting that, "[r]ising interest rates, decreasing equity prices, and inflation could obstruct access [to] the capital markets, potentially pressuring credit quality."[64] As a result, the Company's capital structure

[62] Moody's Investors Service, *FAQ on credit implications of the coronavirus outbreak*, Sector Comment (Mar. 26, 2020).

[63] S&P Global Ratings, *Industry Top Trends Update, Regulated Utilities, Credit quality has weakened and credit risks are rising*, North American Corporate Credit Mid-Year Outlook 2022 (Jul 14, 2022).

[64] *Id.*

must maintain adequate equity to preserve the flexibility necessary to maintain continuous access to capital even during times of unfavorable energy or financial market conditions.

Q. DOES PNM'S CAPITAL STRUCTURE FALL WITHIN THE RANGE OF AVERAGE EQUITY RATIOS MAINTAINED BY THECOMPANIES IN THE UTILITY GROUP?

A. Yes. Page 3 of PNM Exhibit AMM-12 presents the sources of long-term capital (long-term debt and common equity) used by the publicly traded firms in the Utility Group. As shown on this page, for the most recently available annual period, common equity ratios for the Utility Group ranged between 31.0% and 59.8% and averaged 44.5%. Thus, while PNM's common equity ratio exceeds the average, it falls well within the range of capital structures maintained by the proxy group companies.

Q. HOW DO THESE HISTORICAL CAPITALIZATION RATIOS COMPARE WITH INVESTORS' FORWARD-LOOKING EXPECTATIONS FOR THE UTILITY GROUP?

A. Also shown on page 3 of PNM Exhibit AMM-12, Value Line expects common equity ratios for the Utility Group to range between 33.5% and 59.5% over its three-to-five year forecast horizon.

Q. WHAT OTHER FACTORS DO INVESTORS CONSIDER IN THEIR ASSESSMENT OF A COMPANY'S CAPITAL STRUCTURE?

A. Utilities, including PNM, are facing significant capital investment plans. Coupled with the potential for turmoil in capital markets, this warrants a stronger balance sheet to deal with an uncertain environment. As S&P recently noted:

> Under our base case, we expect that by 2024 the industry's capital spending will exceed $180 billion. Because of the industry's continued robust capital spending, we expect that industry will continue to generate negative discretionary cash flow. This requires that the industry has consistent access to the capital markets to finance capital spending and dividends requirements.[65]

Moody's has recognized that PNM's significant capital expenditures, coupled with the impact of debt issuances and regulatory lag, place downward pressure on the Company's credit metrics.[66] A conservative financial profile, in the form of a reasonable common equity ratio, is consistent with the need to accommodate these uncertainties and maintain the continuous access to capital under reasonable terms that is required to fund operations and necessary system investment, even during times of adverse capital market conditions.

[65] S&P Global Ratings, *For The First Time Ever, The Median Investor-Owned Utility Ratings Falls To The 'BBB' Category*, Ratings Direct (Jan. 20, 2022).

[66] Moody's Investors Service, *Public Service Company of New Mexico*, Credit Opinion (Sep. 30, 2022).

Q. WHAT DOES THIS EVIDENCE SUGGEST WITH RESPECT TO PNM'S CURRENT CAPITAL STRUCTURE?

A. PNM's ratemaking capital reflects the need to address the funding of ongoing capital expenditures and support PNM's financial integrity and access to capital on reasonable terms. This mix of external financing falls within the range maintained by other operating electric utilities and is reasonable considering the importance of maintaining the Company's financial strength and credit standing. Based on this evidence, I conclude that the Company's capital structure represents a reasonable mix of capital sources from which to calculate the PNM's overall rate of return.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

GCG#530066

Statement of Qualifications

PNM Exhibit AMM-1

Is contained in the following 5 pages.

PNM EXHIBIT AMM-1

QUALIFICATIONS OF ADRIEN M. MCKENZIE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Adrien M. McKenzie. My business address is 3907 Red River Street, Austin, Texas 78751.

Q. PLEASE STATE YOUR OCCUPATION.

A. I am a principal in FINCAP, Inc., a firm engaged primarily in financial, economic, and policy consulting in the field of public utility regulation.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I received B.A. and M.B.A. degrees with a major in finance from The University of Texas at Austin and hold the Chartered Financial Analyst (CFA®) designation. Since joining FINCAP in 1984, I have participated in consulting assignments involving a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation. I have extensive experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. I have personally sponsored direct and rebuttal testimony in over 150 proceedings filed with the Federal Energy Regulatory Commission ("FERC") and regulatory agencies in Alaska, Arkansas, Colorado, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Montana, Nebraska, New Mexico, Ohio, Oklahoma, Oregon, South Dakota, Texas, Virginia, Washington, West Virginia, and Wyoming. My testimony addressed the establishment of risk-comparable proxy groups, the application of alternative quantitative methods, and the consideration of regulatory standards and

policy objectives in establishing a fair rate of return on equity for regulated electric, gas, and water utility operations. In connection with these assignments, my responsibilities have included critically evaluating the positions of other parties and preparation of rebuttal testimony, representing clients in settlement negotiations and hearings, and assisting in the preparation of legal briefs.

FINCAP was formed in 1979 as an economic and financial consulting firm serving clients in both the regulated and competitive sectors. FINCAP conducts assignments ranging from broad qualitative analyses and policy consulting to technical analyses and research. The firm's experience is in the areas of public utilities, valuation of closely-held businesses, and economic evaluations (e.g., damage and cost/benefit analyses). Prior to joining FINCAP, I was employed by an oil and gas firm and was responsible for operations and accounting. I am a member of the CFA Institute. A resume containing the details of my qualifications and experience is attached below.

ADRIEN M. McKENZIE

FINCAP, INC.
Financial Concepts and Applications
Economic and Financial Counsel

3907 Red River Street
Austin, Texas 78751
(512) 923-2790
FAX (512) 458–4768
amm.fincap@outlook.com

Summary of Qualifications

Adrien McKenzie has an MBA in finance from the University of Texas at Austin and holds the Chartered Financial Analyst (CFA®) designation. He has over 30 years of experience in economic and financial analysis for regulated industries, and in preparing and supporting expert witness testimony before courts, regulatory agencies, and legislative committees throughout the U.S. and Canada. Assignments have included a broad range of economic and financial issues, including cost of capital, cost of service, rate design, economic damages, and business valuation.

Employment

President
FINCAP, Inc.
(June 1984 to June 1987)
(April 1988 to present)

Economic consulting firm specializing in regulated industries and valuation of closely-held businesses. Assignments have involved electric, gas, telecommunication, and water/sewer utilities, with clients including utilities, consumer groups, municipalities, regulatory agencies, and cogenerators. Areas of participation have included rate of return, revenue requirements, rate design, tariff analysis, avoided cost, forecasting, and negotiations. Develop cost of capital analyses using alternative market models for electric, gas, and telephone utilities. Prepare pre-filed direct and rebuttal testimony, participate in settlement negotiations, respond to interrogatories, evaluate opposition testimony, and assist in the areas of cross-examination and the preparations of legal briefs. Other assignments have involved preparation of technical reports, valuations, estimation of damages, industry studies, and various economic analyses in support of litigation.

Manager,
McKenzie Energy Company
(Jan. 1981 to May. 1984)

Responsible for operations and accounting for firm engaged in the management of working interests in oil and gas properties.

Education

M.B.A., Finance, University of Texas at Austin (Sep. 1982 to May. 1984)	Program included coursework in corporate finance, accounting, financial modeling, and statistics. Received Dean's Award for Academic Excellence and Good Neighbor Scholarship. Professional Report: *The Impact of Construction Expenditures on Investor-Owned Electric Utilities*
B.B.A., Finance, University of Texas at Austin (Jan. 1981 to May 1982)	Electives included capital market theory, portfolio management, and international economics and finance. Elected to Beta Gamma Sigma business honor society. Dean's List 1981-1982.
Simon Fraser University, Vancouver, Canada and University of Hawaii at Manoa, Honolulu, Hawaii (Jan. 1979 to Dec 1980)	Coursework in accounting, finance, economics, and liberal arts.

Professional Associations

Received Chartered Financial Analyst (CFA®) designation in 1990.

Member – CFA Institute.

Bibliography

"A Profile of State Regulatory Commissions," A Special Report by the Electricity Consumers Resource Council (ELCON), Summer 1991.

"The Impact of Regulatory Climate on Utility Capital Costs: An Alternative Test," with Bruce H. Fairchild, *Public Utilities Fortnightly* (May 25, 1989).

Presentations

"ROE at FERC: Issues and Methods," *Expert Briefing on Parallels in ROE Issues between AER, ERA, and FERC*, Jones Day (Sydney, Melbourne, and Perth, Australia) (April 15, 2014).

Cost of Capital Working Group eforum, Edison Electric Institute (April 24, 2012).

"Cost-of-Service Studies and Rate Design," General Management of Electric Utilities (A Training Program for Electric Utility Managers from Developing Countries), Austin, Texas (October 1989 and November 1990 and 1991).

Representative Assignments

Mr. McKenzie has prepared and sponsored prefiled testimony submitted in over 150 regulatory proceedings. In addition to filings before regulatory agencies in Alaska, Arkansas, Colorado, Hawaii, Idaho, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Montana, Nebraska, New Mexico, Ohio, Oklahoma, Oregon, South Dakota, Texas, Virginia, Washington, West Virginia, and Wyoming, Mr. McKenzie has considerable expertise in preparing expert analyses and testimony before the Federal Energy Regulatory Commission ("FERC") on the issue of rate of return on equity ("ROE"), and has broad experience in applying and evaluating the results of quantitative methods to estimate a fair ROE. Other representative assignments have included developing cost of service and cost allocation studies, the application of econometric models to analyze the impact of anti-competitive behavior and estimate lost profits; development of explanatory models for nuclear plant capital costs in connection with prudency reviews; and the analysis of avoided cost pricing for cogenerated power.

Alphabetical Listing of Acronyms Used in This Testimony

PNM Exhibit AMM-2

Is contained in the following 1 page.

PNM EXHIBIT AMM-2

ACRONYMS

CAPM	Capital Asset Pricing Model
CPI	Consumer Price Index
DCF	Discounted Cash Flow
DJUA	Dow Jones Utility Average
DPS	Dividends Per Share
ECAPM	Empirical Capital Asset Pricing Model
EPS	Earnings Per Share
FERC	Federal Energy Regulatory Commission
FINCAP, Inc.	Financial Concepts and Applications, Inc.
Fitch	Fitch Ratings, Inc.
FOMC	Federal Open Market Committee
Moody's	Moody's Investors Service
MOVE	Merrill Lynch Option Volatility Estimate
MW	Megawatts
NMPRC	New Mexico Public Regulation Commission
PCE	Personal Consumption Expenditures
PNM	Public Service Company of New Mexico
PNMR	PNM Resources, Inc.
ROE	Return On Equity
S&P	S&P Global Ratings
SPP	Southwest Power Pool
The Company	Public Service Company of New Mexico
Value Line	The Value Line Investment Survey
VIX	Chicago Board Options Exchange's CBOE Volatility Index
Zacks	Zacks Investment Research

Summary of Results

PNM Exhibit AMM-3

Is contained in the following 1 page.

SUMMARY OF RESULTS

Method	Result
DCF	
Value Line	8.8%
IBES	10.2%
Zacks	9.1%
Internal br + sv	8.5%
CAPM	
Current Bond Yield	11.8%
Projected Bond Yield	11.9%
ECAPM	
Current Bond Yield	12.1%
Projected Bond Yield	12.1%
Utility Risk Premium	
Current Bond Yield	10.6%
Projected Bond Yield	10.7%
Expected Earnings	11.1%

Recommendation			
Cost of Equity Range	10.0%	--	11.3%

Regulatory Mechanisms

PNM Exhibit AMM-4

Is contained in the following 3 pages.

REGULATORY MECHANISMS

UTILITY GROUP

		Type of Adjustment Clause								
						New Capital				
	Company	Fuel/PPA	Conserv. Program Expense	Decoupling Full	Decoupling Partial	Trad. Generation	Renewables/ Non-Trad.	Delivery Infra.	Environ. Compliance	Trans. Costs
1	ALLETE	✓	✓	--	--	--	✓	--	--	✓
2	Ameren Corp.	✓	✓	--	✓	--	✓	✓	✓	✓
3	Avista Corp.	✓	✓	✓	--	--	--	--	--	--
4	Black Hills Corp.	✓	✓	--	✓	✓	✓	--	✓	✓
5	CenterPoint Energy	✓	✓	--	✓	--	--	✓	✓	✓
6	CMS Energy Corp.	✓	✓	--	--	--	✓	--	--	✓
7	Dominion Energy	✓	✓	--	--	✓	✓	✓	✓	✓
8	DTE Energy Co.	✓	✓	--	--	--	✓	--	--	✓
9	Duke Energy Corp.	✓	✓	--	✓	✓	✓	✓	✓	✓
10	Edison International	✓	--	✓	--	--	--	--	--	--
11	Emera Inc.	✓	✓	--	--	✓	✓	--	✓	--
12	Entergy Corp.	✓	✓	--	✓	✓	✓	✓	✓	✓
13	Hawaiian Elec.	✓	✓	--	--	--	✓	--	--	--
14	IDACORP, Inc.	✓	✓	✓	--	--	--	--	--	--
15	NorthWestern Corp.	✓	✓	--	--	--	--	--	--	--
16	OGE Energy Corp.	✓	✓	--	✓	✓	✓	✓	✓	✓
17	Otter Tail Corp.	✓	✓	--	--	✓	✓	✓	✓	✓
18	Pinnacle West Capital	✓	✓	--	✓	--	✓	--	✓	✓
19	Pub Sv Enterprise Grp.	--	✓	--	✓	--	--	✓	✓	--
20	Sempra Energy	✓	✓	✓	--	--	--	✓	--	✓
21	Southern Company	✓	--	--	✓	✓	✓	--	✓	--

Sources:

PNM Exhibit AMM-4, pages 2-4, contain operating company data that are aggregated into the parent company data on this page.

UTILITY GROUP OPERATING COS.

			Type of Adjustment Clause (a)																	
					Conserv. Program Expense		Decoupling				New Capital									
	Company	State	Fuel/PPA				Full		Partial		Trad. Generation		Renewables/ Non-Trad.		Delivery Infra.		Environ. Compliance		Trans. Costs	
1	**ALLETE**																			
	Minnesota Power Enterprises Inc.	MN	✓		✓		--		--		--		✓		--		--		✓	
2	**AMEREN CORP.**																			
	Ameren Illinois Co.	IL	--	*	✓		--		✓	*	--		✓		--		✓	*	✓	
	Union Electric Co.	MO	✓		✓	*	--		✓	*	--		✓	*	✓	*	--	*	✓	*
3	**AVISTA CORP.**																			
	Alaska Electric Light & Power Co.	AK	✓		--		--		--		--		--		--		--		--	
	Avista Corp.	ID	✓	*	✓		✓	*	--		--		--		--		--		--	
	Avista Corp.	WA	✓	*	✓		✓		--	*	--		--		--		--		--	
4	**BLACK HILLS CORP.**																			
	Black Hills Colorado Electric Inc.	CO	✓		✓		--		--		✓	*	✓		--		--		✓	
	Black Hills Power Inc.	SD	✓		--		--		--		--		--		--		✓	*	✓	*
	Cheyenne Light Fuel & Power Co.	WY	✓		✓		--		✓	*	--		--		--		--		--	
5	**CENTERPOINT ENERGY**																			
	CenterPoint Energy Houston Electric LLC	TX	--	*	✓		--		--		--		--		✓		--		✓	
	Southern Indiana Gas & Electric Co.	IN	✓		✓		--		✓	*	--		--		✓	*	✓	*	✓	
6	**CMS ENERGY**																			
	Consumers Energy Co.	MI	✓		✓		--	*	--		--		✓		--		--		✓	*
7	**DOMINION ENERGY**																			
	Virginia Electric & Power Co.	NC	✓		✓	*	--		--	*	--		✓	*	--		✓		--	
	Virginia Electric & Power Co.	VA	✓		✓		--		--		✓		✓		✓		✓		✓	
	Dominion Energy South Carolina	SC	✓		✓		--		--		✓	*	--		--		✓		--	
8	**DTE ENERGY CO.**																			
	DTE Electric Co.	MI	✓		✓		--	*	--		--		✓		--		--		✓	*
9	**DUKE ENERGY**																			
	Duke Energy Florida LLC	FL	✓		✓		--		--		✓	*	✓	*	--	*	✓		--	
	Duke Energy Indiana LLC	IN	✓		✓		--		✓	*	--		✓		✓	*	✓	*	✓	
	Duke Energy Kentucky Inc.	KY	✓		✓		--		✓	*	--		--		--		✓		--	
	Duke Energy Carolinas LLC	NC	✓		✓	*	--		--	*	--		✓	*	--		✓		--	
	Duke Energy Progress LLC	NC	✓		✓	*	--		--	*	--		✓	*	--		✓		--	
	Duke Energy Ohio Inc.	OH	--	*	✓	*	--		✓	*	--		✓		✓	*	--		✓	
	Duke Energy Progress LLC	SC	✓		✓		--		--		--	*	--		--		✓		--	
	Duke Energy Carolinas LLC	SC	✓		✓		--		--		--	*	--		--		✓		--	
10	**EDISON INTERNATIONAL**																			
	Southern California Edison Co.	CA	✓		--		✓		--		--		--		--		--		--	
11	**EMERA INC.**																			
	Tampa Electric Co.	FL	✓		✓		--		--		✓	*	✓	*	--	*	✓		--	

UTILITY GROUP OPERATING COS.

			Type of Adjustment Clause (a)																	
					Conserv. Program Expense		Decoupling				New Capital									
	Company	State	Fuel/PPA				Full		Partial		Trad. Generation		Renewables/ Non-Trad.		Delivery Infra.		Environ. Compliance		Trans. Costs	
12	**ENTERGY CORP.**																			
	Entergy Arkansas LLC	AR	✓		✓		--		✓	*	✓	*	✓	*	✓	*	--		✓	
	Entergy New Orleans LLC	LA	✓		✓		--		--		--		✓		--		✓	*	✓	*
	Entergy Louisiana LLC	LA	✓		✓	*	--		✓	*	--		--		--		✓		--	
	Entergy Mississippi LLC	MS	✓		--		--		✓	*	--		--		--		--		✓	
	Entergy Texas Inc.	TX	✓	*	✓		--		--		✓	*	--		✓		--		✓	
13	**HAWAIIAN ELEC.**																			
	Hawaiian Electric Co.	HI	✓		✓		--		--		--		✓	*	--		--		--	
	Hawaii Electric Light Co.	HI	✓		✓		--		--		--		--		--		--		--	
	Maui Electric Co.	HI	✓		✓		--		--		--		✓	*	--		--		--	
14	**IDACORP**																			
	Idaho Power Co.	ID	✓	*	✓		✓	*	--		--		--		--		--		--	
	Idaho Power Co.	OR	✓		✓		--		--		--		--		--		--		--	
15	**NORTHWESTERN CORP.**																			
	NorthWestern Corp.	MT	✓	*	✓		--		--		--		--		--		--		--	
	NorthWestern Corp.	SD	✓		✓		--		--		--		--		--		--		--	
16	**OGE ENERGY CORP.**																			
	Oklahoma Gas & Electric Co.	AR	✓		✓		--		✓	*	✓		✓		✓		✓		✓	
	Oklahoma Gas & Electric Co.	OK	✓		✓	*	--		✓	*	--		--		✓	*	✓	*	✓	*
17	**OTTER TAIL CORP.**																			
	Otter Tail Power Co.	MN	✓		✓		--		--		--		✓		--		✓		✓	
	Otter Tail Power Co.	ND	✓		--		--		--		✓	*	✓	*	✓	*	✓	*	✓	*
	Otter Tail Power Corp.	SD	✓		✓		--		--		✓	*	--		✓		✓		--	
18	**PINNACLE WEST CAPITAL**																			
	Arizona Public Service Co.	AZ	✓		✓		--		✓	*	--		✓		--		✓		✓	
19	**PUB SV ENTERPRISE GRP**																			
	Public Service Electric & Gas Co.	NJ	--	*	✓	*	--		✓	*	--		--		✓	*	✓	*	--	
20	**SEMPRA ENERGY**																			
	San Diego Gas & Electric Co.	CA	✓		--		✓		--		--		--		--		--		--	
	Oncor Electric Delivery Co.	TX	--	*	✓		--		--		--		--		✓		--		✓	
21	**SOUTHERN CO.**																			
	Alabama Power Co.	AL	✓	*	--		--		--		✓	*	✓		--		✓	*	--	
	Georgia Power Co.	GA	✓		--		--		--		✓	*	--		--		✓	*	--	
	Mississippi Power Co.	MS	✓		--		--		✓	*	--		--		--		✓	*	--	

(a) S&P Global Market Intelligence, *Adjustment clauses: A state by state overview* , Regulatory Focus Topical Special Report *(* Jul. 18, 2022).

Notes:

* For additional context around the specific recovery mechanisms available to the particular operating companies in each state, see the source document.

DCF Model – Utility Group

PNM Exhibit AMM-5

Is contained in the following 3 pages.

DIVIDEND YIELD

	Company	(a) Price	(b) Dividends	Yield
1	ALLETE	$ 61.47	$ 2.60	4.2%
2	Ameren Corp.	$ 94.29	$ 2.44	2.6%
3	Avista Corp.	$ 42.59	$ 1.76	4.1%
4	Black Hills Corp.	$ 77.05	$ 2.38	3.1%
5	CenterPoint Energy	$ 32.07	$ 0.73	2.3%
6	CMS Energy Corp.	$ 69.08	$ 1.89	2.7%
7	Dominion Energy	$ 83.19	$ 2.75	3.3%
8	DTE Energy Co.	$ 132.91	$ 3.54	2.7%
9	Duke Energy Corp.	$ 109.87	$ 4.02	3.7%
10	Edison International	$ 69.14	$ 2.80	4.0%
11	Emera Inc.	$ 61.39	$ 2.65	4.3%
12	Entergy Corp.	$ 118.63	$ 4.04	3.4%
13	Hawaiian Elec.	$ 41.44	$ 1.40	3.4%
14	IDACORP, Inc.	$ 111.74	$ 3.00	2.7%
15	NorthWestern Corp.	$ 54.97	$ 2.54	4.6%
16	OGE Energy Corp.	$ 41.40	$ 1.64	4.0%
17	Otter Tail Corp.	$ 77.53	$ 1.65	2.1%
18	Pinnacle West Capital	$ 76.14	$ 3.46	4.5%
19	Pub Sv Enterprise Grp.	$ 66.58	$ 2.22	3.3%
20	Sempra Energy	$ 166.89	$ 4.67	2.8%
21	Southern Company	$ 78.29	$ 2.72	3.5%
	Average			**3.4%**

(a) Average of closing prices for 30 trading days ended Sep. 9, 2022.
(b) The Value Line Investment Survey, Summary & Index (Sep. 9, 2022).

GROWTH RATES

		(a)	(b)	(c)	(d)
		Earnings Growth			**br+sv**
	Company	**V Line**	**IBES**	**Zacks**	**Growth**
1	ALLETE	6.0%	8.7%	8.2%	4.8%
2	Ameren Corp.	6.5%	7.4%	7.2%	5.6%
3	Avista Corp.	3.0%	5.4%	5.4%	3.8%
4	Black Hills Corp.	6.0%	4.7%	6.2%	6.8%
5	CenterPoint Energy	6.5%	-0.4%	3.9%	5.0%
6	CMS Energy Corp.	6.5%	8.6%	8.3%	6.0%
7	Dominion Energy	5.0%	6.7%	6.4%	6.3%
8	DTE Energy Co.	4.5%	4.0%	6.0%	6.4%
9	Duke Energy Corp.	5.0%	5.6%	6.1%	3.2%
10	Edison International	16.0%	5.0%	3.0%	5.8%
11	Emera Inc.	6.5%	6.0%	n/a	4.0%
12	Entergy Corp.	4.0%	6.0%	6.7%	5.7%
13	Hawaiian Elec.	4.0%	1.3%	2.6%	4.2%
14	IDACORP, Inc.	4.0%	2.8%	2.8%	3.7%
15	NorthWestern Corp.	3.0%	4.5%	2.3%	3.6%
16	OGE Energy Corp.	6.5%	1.9%	3.5%	5.5%
17	Otter Tail Corp.	4.5%	9.0%	n/a	5.1%
18	Pinnacle West Capital	0.5%	0.1%	n/a	3.1%
19	Pub Sv Enterprise Grp.	4.0%	2.8%	3.1%	4.3%
20	Sempra Energy	7.5%	9.8%	5.8%	4.6%
21	Southern Company	6.5%	6.6%	4.0%	5.5%

(a) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(b) www.finance.yahoo.com (retreived Sep. 15, 2022).
(c) www.zacks.com (retrieved Sep. 15, 2022).
(d) See PNM Exhibit AMM-6.

COST OF EQUITY ESTIMATES

	Company	(a) V Line	(a) IBES	(a) Zacks	(a) br+sv Growth
1	ALLETE	10.2%	12.9%	12.4%	9.0%
2	Ameren Corp.	9.1%	10.0%	9.8%	8.2%
3	Avista Corp.	7.1%	9.5%	9.5%	8.0%
4	Black Hills Corp.	9.1%	7.8%	9.3%	9.8%
5	CenterPoint Energy	8.8%	1.9%	6.2%	7.2%
6	CMS Energy Corp.	9.2%	11.3%	11.0%	8.7%
7	Dominion Energy	8.3%	10.0%	9.7%	9.6%
8	DTE Energy Co.	7.2%	6.6%	8.7%	9.0%
9	Duke Energy Corp.	8.7%	9.3%	9.7%	6.9%
10	Edison International	20.0%	9.0%	7.0%	9.9%
11	Emera Inc.	10.8%	10.3%	n/a	8.3%
12	Entergy Corp.	7.4%	9.4%	10.1%	9.1%
13	Hawaiian Elec.	7.4%	4.7%	5.9%	7.6%
14	IDACORP, Inc.	6.7%	5.5%	5.5%	6.4%
15	NorthWestern Corp.	7.6%	9.1%	6.9%	8.2%
16	OGE Energy Corp.	10.5%	5.9%	7.4%	9.5%
17	Otter Tail Corp.	6.6%	11.1%	n/a	7.2%
18	Pinnacle West Capital	5.0%	4.6%	n/a	7.7%
19	Pub Sv Enterprise Grp.	7.3%	6.1%	6.4%	7.6%
20	Sempra Energy	10.3%	12.6%	8.5%	7.4%
21	Southern Company	10.0%	10.1%	7.5%	9.0%
	Average (b)	**8.8%**	**10.2%**	**9.1%**	**8.5%**

(a) Sum of dividend yield (PNM Exhibit AMM-5, p. 1) and respective growth rate (PNM Exhibit AMM-5, p. 2).

(b) Excludes highlighted values.

br + sv Growth Rate

PNM Exhibit AMM-6

Is contained in the following 2 pages.

BR+SV GROWTH RATE

UTILITY GROUP

		(a)	(a)	(a)	(b)	(c)	(d)	(e)		(f)	(g)		
		2026					Adjustment			"sv" Factor			
	Company	EPS	DPS	BVPS	b	r	Factor	Adjusted r	br	s	v	sv	br + sv
1	ALLETE	$4.75	$3.00	$54.00	36.8%	8.8%	1.0313	9.1%	3.3%	0.0424	0.3455	1.46%	4.8%
2	Ameren Corp.	$5.25	$3.10	$51.25	41.0%	10.2%	1.0389	10.6%	4.4%	0.0294	0.4306	1.27%	5.6%
3	Avista Corp.	$2.75	$2.05	$34.75	25.5%	7.9%	1.0297	8.1%	2.1%	0.0479	0.3682	1.76%	3.8%
4	Black Hills Corp.	$5.20	$2.95	$46.50	43.3%	11.2%	1.0365	11.6%	5.0%	0.0361	0.4833	1.74%	6.8%
5	CenterPoint Energy	$1.80	$0.95	$18.00	47.2%	10.0%	1.0280	10.3%	4.9%	0.0027	0.4000	0.11%	5.0%
6	CMS Energy Corp.	$3.75	$2.30	$29.25	38.7%	12.8%	1.0322	13.2%	5.1%	0.0155	0.5500	0.85%	6.0%
7	Dominion Energy	$5.30	$3.40	$43.00	35.8%	12.3%	1.0379	12.8%	4.6%	0.0316	0.5474	1.73%	6.3%
8	DTE Energy Co.	$7.50	$4.65	$60.75	38.0%	12.3%	1.0365	12.8%	4.9%	0.0274	0.5500	1.51%	6.4%
9	Duke Energy Corp.	$6.50	$4.30	$70.00	33.8%	9.3%	1.0133	9.4%	3.2%	0.0004	0.3778	0.02%	3.2%
10	Edison International	$6.15	$3.55	$48.25	42.3%	12.7%	1.0309	13.1%	5.6%	0.0050	0.5175	0.26%	5.8%
11	Emera Inc.	$4.20	$2.98	$42.10	29.0%	10.0%	1.0152	10.1%	2.9%	0.0249	0.4387	1.09%	4.0%
12	Entergy Corp.	$8.50	$5.10	$74.00	40.0%	11.5%	1.0308	11.8%	4.7%	0.0204	0.4618	0.94%	5.7%
13	Hawaiian Elec.	$2.55	$1.60	$26.00	37.3%	9.8%	1.0178	10.0%	3.7%	0.0115	0.4222	0.49%	4.2%
14	IDACORP, Inc.	$6.00	$4.00	$63.45	33.3%	9.5%	1.0217	9.7%	3.2%	0.0107	0.4600	0.49%	3.7%
15	NorthWestern Corp.	$4.00	$2.68	$49.50	33.0%	8.1%	1.0273	8.3%	2.7%	0.0365	0.2385	0.87%	3.6%
16	OGE Energy Corp.	$3.25	$1.85	$26.00	43.1%	12.5%	1.0249	12.8%	5.5%	0.0002	0.4526	0.01%	5.5%
17	Otter Tail Corp.	$3.75	$2.20	$34.25	41.3%	10.9%	1.0383	11.4%	4.7%	0.0086	0.4731	0.41%	5.1%
18	Pinnacle West Capital	$5.25	$3.76	$58.50	28.4%	9.0%	1.0154	9.1%	2.6%	0.0141	0.3842	0.54%	3.1%
19	Pub Sv Enterprise Grp.	$4.30	$2.72	$34.00	36.7%	12.6%	1.0153	12.8%	4.7%	(0.0073)	0.5613	-0.41%	4.3%
20	Sempra Energy	$10.75	$5.60	$100.75	47.9%	10.7%	1.0206	10.9%	5.2%	(0.0142)	0.4627	-0.66%	4.6%
21	Southern Company	$4.75	$3.10	$32.25	34.7%	14.7%	1.0216	15.0%	5.2%	0.0045	0.5839	0.26%	5.5%

BR+SV GROWTH RATE

UTILITY GROUP

		(a)	(a)	(h)	(a)	(a)	(h)	(i)	(a)	(a)		(j)	(a)	(a)	(i)
		2021			2026			Chg	2026				Common Shares		
	Company	Eq Ratio	Tot Cap	Com Eq	Eq Ratio	Tot Cap	Com Eq	Equity	High	Low	Avg.	M/B	2021	2026	Growth
1	ALLETE	57.8%	$4,176	$2,414	59.5%	$5,550	$3,302	6.5%	$95.0	$70.0	$82.5	1.528	53.20	61.00	2.77%
2	Ameren Corp.	43.3%	$22,391	$9,695	48.5%	$29,500	$14,308	8.1%	$100.0	$80.0	$90.0	1.756	257.70	280.00	1.67%
3	Avista Corp.	52.5%	$4,105	$2,155	51.5%	$5,630	$2,899	6.1%	$65.0	$45.0	$55.0	1.583	71.50	83.00	3.03%
4	Black Hills Corp.	40.3%	$6,914	$2,786	55.0%	$7,300	$4,015	7.6%	$105.0	$75.0	$90.0	1.935	64.74	71.00	1.86%
5	CenterPoint Energy	34.5%	$24,973	$8,616	37.5%	$30,400	$11,400	5.8%	$35.0	$25.0	$30.0	1.667	628.92	634.00	0.16%
6	CMS Energy Corp.	34.2%	$18,760	$6,416	38.0%	$23,300	$8,854	6.7%	$75.0	$55.0	$65.0	2.222	289.76	300.00	0.70%
7	Dominion Energy	38.5%	$66,344	$25,542	42.0%	$88,900	$37,338	7.9%	$110.0	$80.0	$95.0	2.209	810.40	870.00	1.43%
8	DTE Energy Co.	37.5%	$23,236	$8,714	39.0%	$32,200	$12,558	7.6%	$155.0	$115.0	$135.0	2.222	193.75	206.00	1.23%
9	Duke Energy Corp.	43.1%	$109,744	$47,300	37.5%	$144,100	$54,038	2.7%	$130.0	$95.0	$112.5	1.607	769.00	770.00	0.03%
10	Edison International	33.2%	$41,959	$13,930	34.5%	$55,000	$18,975	6.4%	$120.0	$80.0	$100.0	2.073	380.38	385.00	0.24%
11	Emera Inc.	41.6%	$24,312	$10,116	43.8%	$26,880	$11,780	3.1%	$85.0	$65.0	$75.0	1.781	261.07	279.80	1.40%
12	Entergy Corp.	31.7%	$36,733	$11,644	33.5%	$47,300	$15,846	6.4%	$160.0	$115.0	$137.5	1.858	202.65	214.00	1.10%
13	Hawaiian Elec.	52.8%	$4,524	$2,389	50.5%	$5,650	$2,853	3.6%	$50.0	$40.0	$45.0	1.731	109.31	113.00	0.67%
14	IDACORP, Inc.	57.2%	$4,669	$2,671	49.5%	$6,700	$3,317	4.4%	$130.0	$105.0	$117.5	1.852	50.52	52.00	0.58%
15	NorthWestern Corp.	47.8%	$4,893	$2,339	51.0%	$6,025	$3,073	5.6%	$75.0	$55.0	$65.0	1.313	54.06	62.00	2.78%
16	OGE Energy Corp.	47.4%	$8,553	$4,054	50.0%	$10,400	$5,200	5.1%	$55.0	$40.0	$47.5	1.827	200.10	200.20	0.01%
17	Otter Tail Corp.	57.4%	$1,725	$990	57.5%	$2,525	$1,452	8.0%	$75.0	$55.0	$65.0	1.898	41.55	42.50	0.45%
18	Pinnacle West Capital	46.1%	$12,820	$5,910	45.0%	$15,325	$6,896	3.1%	$110.0	$80.0	$95.0	1.624	113.01	118.00	0.87%
19	Pub Sv Enterprise Grp.	48.7%	$29,657	$14,443	42.5%	$39,600	$16,830	3.1%	$85.0	$70.0	$77.5	2.279	504.00	496.00	-0.32%
20	Sempra Energy	53.3%	$47,069	$25,088	52.0%	$59,300	$30,836	4.2%	$215.0	$160.0	$187.5	1.861	316.92	305.00	-0.76%
21	Southern Company	35.6%	$78,285	$27,869	37.0%	$93,500	$34,595	4.4%	$90.0	$65.0	$77.5	2.403	1060.00	1070.00	0.19%

(a) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(b) "b" is the retention ratio, computed as (EPS-DPS)/EPS.
(c) "r" is the rate of return on book equity, computed as EPS/BVPS.
(d) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).
(e) Product of average year-end "r" for 2025 and Adjustment Factor.
(f) Product of change in common shares outstanding and M/B Ratio.
(g) Computed as 1 - B/M Ratio.
(h) Product of total capital and equity ratio.
(i) Five-year rate of change.
(j) Average of High and Low expected market prices divided by 2025 BVPS.

CAPM

PNM Exhibit AMM-7

Is contained in the following 2 pages.

CURRENT BOND YIELD

		(a)	(b)		(c)		(d)		(e)	(f)	
		Market Return (R_m)									
	Company	**Div Yield**	**Proj. Growth**	**Cost of Equity**	**Risk-Free Rate**	**Risk Premium**	**Beta**	**Unadjusted K_e**	**Market Cap**	**Size Adjustment**	**CAPM Result**
1	ALLETE	2.0%	10.2%	12.2%	3.6%	8.6%	0.90	11.3%	$3,400	0.91%	12.3%
2	Ameren Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.85	10.9%	$25,000	0.44%	11.4%
3	Avista Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.90	11.3%	$3,100	1.20%	12.5%
4	Black Hills Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.95	11.8%	$4,700	0.91%	12.7%
5	CenterPoint Energy	2.0%	10.2%	12.2%	3.6%	8.6%	1.15	13.5%	$20,000	0.44%	13.9%
6	CMS Energy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.80	10.5%	$20,200	0.44%	10.9%
7	Dominion Energy	2.0%	10.2%	12.2%	3.6%	8.6%	0.80	10.5%	$67,000	-0.17%	10.3%
8	DTE Energy Co.	2.0%	10.2%	12.2%	3.6%	8.6%	0.95	11.8%	$26,000	0.44%	12.2%
9	Duke Energy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.85	10.9%	$84,600	-0.17%	10.7%
10	Edison International	2.0%	10.2%	12.2%	3.6%	8.6%	0.95	11.8%	$23,800	0.44%	12.2%
11	Emera Inc.	2.0%	10.2%	12.2%	3.6%	8.6%	0.75	10.1%	$16,200	0.57%	10.6%
12	Entergy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.95	11.8%	$24,300	0.44%	12.2%
13	Hawaiian Elec.	2.0%	10.2%	12.2%	3.6%	8.6%	0.80	10.5%	$4,400	0.91%	11.4%
14	IDACORP, Inc.	2.0%	10.2%	12.2%	3.6%	8.6%	0.80	10.5%	$5,300	0.56%	11.0%
15	NorthWestern Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.90	11.3%	$3,100	1.20%	12.5%
16	OGE Energy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	1.05	12.6%	$8,300	0.57%	13.2%
17	Otter Tail Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.85	10.9%	$3,200	1.20%	12.1%
18	Pinnacle West Capital	2.0%	10.2%	12.2%	3.6%	8.6%	0.90	11.3%	$8,100	0.56%	11.9%
19	Pub Sv Enterprise Grp.	2.0%	10.2%	12.2%	3.6%	8.6%	0.90	11.3%	$32,800	0.44%	11.8%
20	Sempra Energy	2.0%	10.2%	12.2%	3.6%	8.6%	0.95	11.8%	$46,700	-0.17%	11.6%
21	Southern Company	2.0%	10.2%	12.2%	3.6%	8.6%	0.90	11.3%	$81,500	-0.17%	11.2%
	Average							**11.3%**			**11.8%**

(a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Aug. 26, 2022)..
(b) Average of weighted average earnings growth rates from IBES, Value Line, and Zacks for dividend-paying stocks in the S&P 500 based on data from Refinitiv, as provided by fidelity.com (retrieved Aug. 26, 2022), www.valueline.com (retrieved Aug. 26, 2022)., and www.zacks.com (retrieved Aug. 26, 2022). Eliminated growth rates that were greater than 20%, as well as all negative values.
(c) Average yield on 30-year Treasury bonds for Sep. 2022 based on data from https://fred.stlouisfed.org/.
(d) The Value Line Investment Survey, Summary & Index (Sep. 9, 2022).
(e) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(f) Kroll, 2022 Supplementary CRSP Decile Size Study Data Exhibits.

PROJECTED BOND YIELD

		(a)	(b)		(c)		(d)		(e)	(f)	
		Market Return (R_m)									
	Company	**Div Yield**	**Proj. Growth**	**Cost of Equity**	**Risk-Free Rate**	**Risk Premium**	**Beta**	**Unadjusted K_e**	**Market Cap**	**Size Adjustment**	**CAPM Result**
1	ALLETE	2.0%	10.2%	12.2%	3.8%	8.4%	0.90	11.4%	$3,400	0.91%	12.3%
2	Ameren Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.85	10.9%	$25,000	0.44%	11.4%
3	Avista Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.90	11.4%	$3,100	1.20%	12.6%
4	Black Hills Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.95	11.8%	$4,700	0.91%	12.7%
5	CenterPoint Energy	2.0%	10.2%	12.2%	3.8%	8.4%	1.15	13.5%	$20,000	0.44%	13.9%
6	CMS Energy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.80	10.5%	$20,200	0.44%	11.0%
7	Dominion Energy	2.0%	10.2%	12.2%	3.8%	8.4%	0.80	10.5%	$67,000	-0.17%	10.4%
8	DTE Energy Co.	2.0%	10.2%	12.2%	3.8%	8.4%	0.95	11.8%	$26,000	0.44%	12.2%
9	Duke Energy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.85	10.9%	$84,600	-0.17%	10.8%
10	Edison International	2.0%	10.2%	12.2%	3.8%	8.4%	0.95	11.8%	$23,800	0.44%	12.2%
11	Emera Inc.	2.0%	10.2%	12.2%	3.8%	8.4%	0.75	10.1%	$16,200	0.57%	10.7%
12	Entergy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.95	11.8%	$24,300	0.44%	12.2%
13	Hawaiian Elec.	2.0%	10.2%	12.2%	3.8%	8.4%	0.80	10.5%	$4,400	0.91%	11.4%
14	IDACORP, Inc.	2.0%	10.2%	12.2%	3.8%	8.4%	0.80	10.5%	$5,300	0.56%	11.1%
15	NorthWestern Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.90	11.4%	$3,100	1.20%	12.6%
16	OGE Energy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	1.05	12.6%	$8,300	0.57%	13.2%
17	Otter Tail Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.85	10.9%	$3,200	1.20%	12.1%
18	Pinnacle West Capital	2.0%	10.2%	12.2%	3.8%	8.4%	0.90	11.4%	$8,100	0.56%	11.9%
19	Pub Sv Enterprise Grp.	2.0%	10.2%	12.2%	3.8%	8.4%	0.90	11.4%	$32,800	0.44%	11.8%
20	Sempra Energy	2.0%	10.2%	12.2%	3.8%	8.4%	0.95	11.8%	$46,700	-0.17%	11.6%
21	Southern Company	2.0%	10.2%	12.2%	3.8%	8.4%	0.90	11.4%	$81,500	-0.17%	11.2%
	Average							**11.3%**			**11.9%**

(a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Aug. 26, 2022)..
(b) Average of weighted average earnings growth rates from IBES, Value Line, and Zacks for dividend-paying stocks in the S&P 500 based on data from Refinitiv, as provided by fidelity.com (retrieved Aug. 26, 2022), www.valueline.com (retrieved Aug. 26, 2022)., and www.zacks.com (retrieved Aug. 26, 2022). Eliminated growth rates that were greater than 20%, as well as all negative values.
(c) Projected yield on 30-year Treasury bonds for 2023-27 based on data from Wolters Kluwer, Blue Chip Financial Forecasts (Jun. 1, 2022).
(d) The Value Line Investment Survey, Summary & Index (Sep. 9, 2022).
(e) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(f) Kroll, 2022 Supplementary CRSP Decile Size Study Data Exhibits.

Empirical CAPM

PNM Exhibit AMM-8

Is contained in the following 2 pages.

CURRENT BOND YIELD

		(a)	(b)		(c)		(d)		(e)	(d)				(f)	(g)	
		Market Return (R_m)														
		Div	**Proj.**	**Cost of**	**Risk-Free**	**Risk**	**Unadjusted RP**		**Beta Adjusted RP**				**Unadjusted**	**Market**	**Size**	**ECAPM**
	Company	**Yield**	**Growth**	**Equity**	**Rate**	**Premium**	**Weight**	RP^1	**Beta**	**Weight**	RP^2	**Total RP**	**K_e**	**Cap**	**Adjustment**	**Result**
1	ALLETE	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.90	75%	5.8%	8.0%	11.6%	$3,400	0.91%	12.5%
2	Ameren Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.85	75%	5.5%	7.6%	11.2%	$25,000	0.44%	11.7%
3	Avista Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.90	75%	5.8%	8.0%	11.6%	$3,100	1.20%	12.8%
4	Black Hills Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.95	75%	6.1%	8.3%	11.9%	$4,700	0.91%	12.8%
5	CenterPoint Energy	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	1.15	75%	7.4%	9.6%	13.2%	$20,000	0.44%	13.6%
6	CMS Energy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.80	75%	5.2%	7.3%	10.9%	$20,200	0.44%	11.4%
7	Dominion Energy	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.80	75%	5.2%	7.3%	10.9%	$67,000	-0.17%	10.7%
8	DTE Energy Co.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.95	75%	6.1%	8.3%	11.9%	$26,000	0.44%	12.3%
9	Duke Energy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.85	75%	5.5%	7.6%	11.2%	$84,600	-0.17%	11.1%
10	Edison International	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.95	75%	6.1%	8.3%	11.9%	$23,800	0.44%	12.3%
11	Emera Inc.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.75	75%	4.8%	7.0%	10.6%	$16,200	0.57%	11.2%
12	Entergy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.95	75%	6.1%	8.3%	11.9%	$24,300	0.44%	12.3%
13	Hawaiian Elec.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.80	75%	5.2%	7.3%	10.9%	$4,400	0.91%	11.8%
14	IDACORP, Inc.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.80	75%	5.2%	7.3%	10.9%	$5,300	0.56%	11.5%
15	NorthWestern Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.90	75%	5.8%	8.0%	11.6%	$3,100	1.20%	12.8%
16	OGE Energy Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	1.05	75%	6.8%	8.9%	12.5%	$8,300	0.57%	13.1%
17	Otter Tail Corp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.85	75%	5.5%	7.6%	11.2%	$3,200	1.20%	12.4%
18	Pinnacle West Capital	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.90	75%	5.8%	8.0%	11.6%	$8,100	0.56%	12.1%
19	Pub Sv Enterprise Grp.	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.90	75%	5.8%	8.0%	11.6%	$32,800	0.44%	12.0%
20	Sempra Energy	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.95	75%	6.1%	8.3%	11.9%	$46,700	-0.17%	11.7%
21	Southern Company	2.0%	10.2%	12.2%	3.6%	8.6%	25%	2.2%	0.90	75%	5.8%	8.0%	11.6%	$81,500	-0.17%	11.4%
	Average												**11.5%**			**12.1%**

(a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Aug. 26, 2022)..
(b) Average of weighted average earnings growth rates from IBES, Value Line, and Zacks for dividend-paying stocks in the S&P 500 based on data from Refinitiv, as provided by fidelity.com (retrieved Aug. 26, 2022), www.valueline.com (retrieved Aug. 26, 2022)., and www.zacks.com (retrieved Aug. 26, 2022). Eliminated growth rates that were greater than 20%, as well as all negative values.
(c) Average yield on 30-year Treasury bonds for Sep. 2022 based on data from Moody's Investors Service.
(d) Roger A. Morin, *New Regulatory Finance* , Pub. Util. Reports, Inc. (2006) at 190.
(e) The Value Line Investment Survey, Summary & Index (Sep. 9, 2022).
(f) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(g) Kroll, 2022 Supplementary CRSP Decile Size Study Data Exhibits.

PROJECTED BOND YIELD

		(a)	(b)		(c)		(d)		(e)	(d)				(f)	(g)	
		Market Return (R_m)														
		Div	**Proj.**	**Cost of**	**Risk-Free**	**Risk**	**Unadjusted RP**		**Beta Adjusted RP**				**Unadjusted**	**Market**	**Size**	**ECAPM**
	Company	**Yield**	**Growth**	**Equity**	**Rate**	**Premium**	**Weight**	RP^1	**Beta**	**Weight**	RP^2	**Total RP**	**K_e**	**Cap**	**Adjustment**	**Result**
1	ALLETE	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.90	75%	5.7%	7.8%	11.6%	$3,400	0.91%	12.5%
2	Ameren Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.85	75%	5.4%	7.5%	11.3%	$25,000	0.44%	11.7%
3	Avista Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.90	75%	5.7%	7.8%	11.6%	$3,100	1.20%	12.8%
4	Black Hills Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.95	75%	6.0%	8.1%	11.9%	$4,700	0.91%	12.8%
5	CenterPoint Energy	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	1.15	75%	7.2%	9.3%	13.1%	$20,000	0.44%	13.6%
6	CMS Energy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.80	75%	5.0%	7.1%	10.9%	$20,200	0.44%	11.4%
7	Dominion Energy	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.80	75%	5.0%	7.1%	10.9%	$67,000	-0.17%	10.8%
8	DTE Energy Co.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.95	75%	6.0%	8.1%	11.9%	$26,000	0.44%	12.3%
9	Duke Energy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.85	75%	5.4%	7.5%	11.3%	$84,600	-0.17%	11.1%
10	Edison International	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.95	75%	6.0%	8.1%	11.9%	$23,800	0.44%	12.3%
11	Emera Inc.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.75	75%	4.7%	6.8%	10.6%	$16,200	0.57%	11.2%
12	Entergy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.95	75%	6.0%	8.1%	11.9%	$24,300	0.44%	12.3%
13	Hawaiian Elec.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.80	75%	5.0%	7.1%	10.9%	$4,400	0.91%	11.9%
14	IDACORP, Inc.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.80	75%	5.0%	7.1%	10.9%	$5,300	0.56%	11.5%
15	NorthWestern Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.90	75%	5.7%	7.8%	11.6%	$3,100	1.20%	12.8%
16	OGE Energy Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	1.05	75%	6.6%	8.7%	12.5%	$8,300	0.57%	13.1%
17	Otter Tail Corp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.85	75%	5.4%	7.5%	11.3%	$3,200	1.20%	12.5%
18	Pinnacle West Capital	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.90	75%	5.7%	7.8%	11.6%	$8,100	0.56%	12.1%
19	Pub Sv Enterprise Grp.	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.90	75%	5.7%	7.8%	11.6%	$32,800	0.44%	12.0%
20	Sempra Energy	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.95	75%	6.0%	8.1%	11.9%	$46,700	-0.17%	11.7%
21	Southern Company	2.0%	10.2%	12.2%	3.8%	8.4%	25%	2.1%	0.90	75%	5.7%	7.8%	11.6%	$81,500	-0.17%	11.4%
	Average												**11.6%**			**12.1%**

(a) Weighted average for dividend-paying stocks in the S&P 500 based on data from www.valueline.com (retrieved Aug. 26, 2022)..
(b) Average of weighted average earnings growth rates from IBES, Value Line, and Zacks for dividend-paying stocks in the S&P 500 based on data from Refinitiv, as provided by fidelity.com (retrieved Aug. 26, 2022), www.valueline.com (retrieved Aug. 26, 2022)., and www.zacks.com (retrieved Aug. 26, 2022). Eliminated growth rates that were greater than 20%, as well as all negative values.
(c) Projected yield on 30-year Treasury bonds for 2023-27 based on data from Wolters Kluwer, Blue Chip Financial Forecasts (Jun. 1, 2022).
(d) Roger A. Morin, *New Regulatory Finance* , Pub. Util. Reports, Inc. (2006) at 190.
(e) The Value Line Investment Survey, Summary & Index (Sep. 9, 2022).
(f) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(g) Kroll, 2022 Supplementary CRSP Decile Size Study Data Exhibits.

Risk Premium

PNM Exhibit AMM-9

Is contained in the following 4 pages.

CURRENT BOND YIELD

Current Equity Risk Premium	
(a) Avg. Yield over Study Period	7.89%
(b) Average Utility Bond Yield	5.32%
Change in Bond Yield	-2.57%
(c) Risk Premium/Interest Rate Relationship	-0.4303
Adjustment to Average Risk Premium	1.10%
(a) Average Risk Premium over Study Period	3.87%
Adjusted Risk Premium	**4.97%**

Implied Cost of Equity	
(b) Baa Utility Bond Yield	5.61%
Adjusted Equity Risk Premium	4.97%
Risk Premium Cost of Equity	**10.58%**

(a) PNM Exhibit AMM-9, page 2.
(b) Average bond yield on all utility bonds and 'Baa' subset for Sep. 2022 based on data from Moody's Investors Service at www.credittrends.com.
(c) PNM Exhibit AMM-9, page 3.

PROJECTED BOND YIELD

Current Equity Risk Premium	
(a) Avg. Yield over Study Period	7.89%
(b) Average Utility Bond Yield 2023-27	5.55%
Change in Bond Yield	-2.34%
(c) Risk Premium/Interest Rate Relationship	-0.4303
Adjustment to Average Risk Premium	1.01%
(a) Average Risk Premium over Study Period	3.87%
Adjusted Risk Premium	**4.88%**

Implied Cost of Equity	
(b) Baa Utility Bond Yield 2023-27	5.85%
Adjusted Equity Risk Premium	4.88%
Risk Premium Cost of Equity	**10.73%**

(a) PNM Exhibit AMM-9, page 2.
(b) Yields on all utility bonds and 'Baa' subset based on data from Wolters Kluwer, Blue Chip Financial Forecasts (Jun. 1, 2021) and Moody's Investors Service at www.credittrends.com.
(c) PNM Exhibit AMM-9, page 3.

ELECTRIC UTILITY RISK PREMIUM

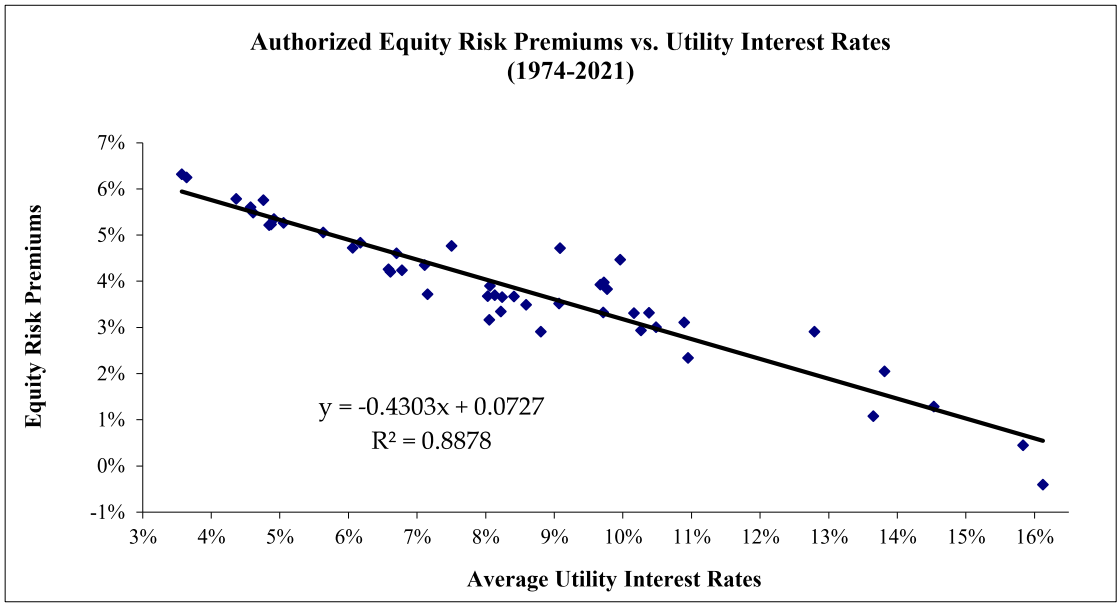
AUTHORIZED RETURNS

Year	(a) Allowed ROE	(b) Average Utility Bond Yield	Risk Premium
1974	13.10%	9.27%	3.83%
1975	13.20%	9.88%	3.32%
1976	13.10%	9.17%	3.93%
1977	13.30%	8.58%	4.72%
1978	13.20%	9.22%	3.98%
1979	13.50%	10.39%	3.11%
1980	14.23%	13.15%	1.08%
1981	15.22%	15.62%	-0.40%
1982	15.78%	15.33%	0.45%
1983	15.36%	13.31%	2.05%
1984	15.32%	14.03%	1.29%
1985	15.20%	12.29%	2.91%
1986	13.93%	9.46%	4.47%
1987	12.99%	9.98%	3.01%
1988	12.79%	10.45%	2.34%
1989	12.97%	9.66%	3.31%
1990	12.70%	9.76%	2.94%
1991	12.54%	9.21%	3.33%
1992	12.09%	8.57%	3.52%
1993	11.46%	7.56%	3.90%
1994	11.21%	8.30%	2.91%
1995	11.58%	7.91%	3.67%
1996	11.40%	7.74%	3.66%
1997	11.33%	7.63%	3.70%
1998	11.77%	7.00%	4.77%
1999	10.72%	7.55%	3.17%
2000	11.58%	8.09%	3.49%
2001	11.07%	7.72%	3.35%
2002	11.21%	7.53%	3.68%
2003	10.96%	6.61%	4.35%
2004	10.81%	6.20%	4.61%
2005	10.51%	5.67%	4.84%
2006	10.34%	6.08%	4.26%
2007	10.32%	6.11%	4.21%
2008	10.37%	6.65%	3.72%
2009	10.52%	6.28%	4.24%
2010	10.29%	5.56%	4.73%
2011	10.19%	5.13%	5.06%
2012	10.02%	4.26%	5.76%
2013	9.82%	4.55%	5.27%
2014	9.76%	4.41%	5.35%
2015	9.60%	4.37%	5.23%
2016	9.60%	4.11%	5.49%
2017	9.68%	4.07%	5.61%
2018	9.56%	4.34%	5.22%
2019	9.65%	3.86%	5.79%
2020	9.39%	3.07%	6.32%
2021	9.39%	3.14%	6.25%
Average	**11.76%**	**7.89%**	**3.87%**

(a) S&P Global Market Intelligence, *Major Rate Case Decisions* , RRA Regulatory Focus; *UtilityScope Regulatory Service* , Argus. Data for "general" rate cases (excluding limited-issue rider cases) beginning in 2006 (the first year such data presented by RRA).

(b) Moody's Investors Service.

REGRESSION RESULTS



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.942226
R Square	0.887791
Adjusted R Square	0.885351
Standard Error	0.004807
Observations	48

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.008411	0.008411	363.948371	0.000000
Residual	46	0.001063	0.000023		
Total	47	0.009474			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.072668	0.001911	38.034901	0.000000	0.068822	0.076514	0.068822	0.076514
X Variable 1	-0.430291	0.022555	-19.077431	0.000000	-0.475692	-0.384890	-0.475692	-0.384890

Expected Earnings

PNM Exhibit AMM-10

Is contained in the following 1 page.

EXPECTED EARNINGS APPROACH

UTILITY GROUP

	Company	(a) Expected Return on Common Equity	(b) Adjustment Factor	(c) Adjusted Return on Common Equity
1	ALLETE	9.0%	1.0313	9.3%
2	Ameren Corp.	10.0%	1.0389	10.4%
3	Avista Corp.	8.0%	1.0297	8.2%
4	Black Hills Corp.	10.0%	1.0365	10.4%
5	CenterPoint Energy	10.0%	1.0280	10.3%
6	CMS Energy Corp.	13.0%	1.0322	13.4%
7	Dominion Energy	12.5%	1.0379	13.0%
8	DTE Energy Co.	12.5%	1.0365	13.0%
9	Duke Energy Corp.	9.0%	1.0133	9.1%
10	Edison International	13.0%	1.0309	13.4%
11	Emera Inc.	10.0%	1.0152	10.2%
12	Entergy Corp.	11.5%	1.0308	11.9%
13	Hawaiian Elec.	9.5%	1.0178	9.7%
14	IDACORP, Inc.	9.5%	1.0217	9.7%
15	NorthWestern Corp.	8.0%	1.0273	8.2%
16	OGE Energy Corp.	13.0%	1.0249	13.3%
17	Otter Tail Corp.	11.5%	1.0383	11.9%
18	Pinnacle West Capital	9.0%	1.0154	9.1%
19	Pub Sv Enterprise Grp.	12.5%	1.0153	12.7%
20	Sempra Energy	10.5%	1.0206	10.7%
21	Southern Company	14.5%	1.0216	14.8%
	Average	**10.8%**		**11.1%**

(a) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).
(b) Adjustment to convert year-end return to an average rate of return from PNM Exhibit AMM-6.
(c) (a) x (b).

DCF Model – Non-Utility Group

PNM Exhibit AMM-11

Is contained in the following 3 pages.

DIVIDEND YIELD

	Company	Industry Group	(a) Price	(b) Dividends	Yield
1	3M Company	Diversified Co.	$ 138.49	$ 5.96	4.3%
2	Abbott Labs.	Med Supp Non-Invasive	$ 107.43	$ 1.88	1.8%
3	Air Products & Chem.	Chemical (Diversified)	$ 258.82	$ 6.48	2.5%
4	Amdocs Ltd.	IT Services	$ 86.88	$ 1.58	1.8%
5	Amgen	Biotechnology	$ 246.21	$ 8.39	3.4%
6	Apple Inc.	Computers/Peripherals	$ 164.57	$ 0.92	0.6%
7	Archer Daniels Midl'd	Food Processing	$ 86.34	$ 1.60	1.9%
8	Baxter Int'l Inc.	Med Supp Invasive	$ 58.90	$ 1.16	2.0%
9	Becton, Dickinson	Med Supp Invasive	$ 256.55	$ 3.60	1.4%
10	Bristol-Myers Squibb	Drug	$ 72.09	$ 2.16	3.0%
11	Brown-Forman 'B'	Beverage	$ 75.17	$ 0.76	1.0%
12	Church & Dwight	Household Products	$ 86.20	$ 1.05	1.2%
13	Cisco Systems	Telecom. Equipment	$ 45.99	$ 1.53	3.3%
14	Clorox Co.	Household Products	$ 145.53	$ 4.72	3.2%
15	CME Group	Brokers & Exchanges	$ 199.83	$ 4.00	2.0%
16	Coca-Cola	Beverage	$ 63.43	$ 1.76	2.8%
17	Colgate-Palmolive	Household Products	$ 80.22	$ 1.88	2.3%
18	Comcast Corp.	Cable TV	$ 37.59	$ 1.08	2.9%
19	Costco Wholesale	Retail Store	$ 539.11	$ 3.60	0.7%
20	Danaher Corp.	Diversified Co.	$ 286.32	$ 1.00	0.3%
21	Gen'l Mills	Food Processing	$ 76.70	$ 2.16	2.8%
22	Gilead Sciences	Drug	$ 63.29	$ 2.92	4.6%
23	Hershey Co.	Food Processing	$ 228.24	$ 4.14	1.8%
24	Hormel Foods	Food Processing	$ 49.55	$ 1.04	2.1%
25	Hunt (J.B.)	Trucking	$ 182.74	$ 1.65	0.9%
26	Intel Corp.	Semiconductor	$ 34.23	$ 1.46	4.3%
27	Intercontinental Exch.	Brokers & Exchanges	$ 105.04	$ 1.52	1.4%
28	Johnson & Johnson	Med Supp Non-Invasive	$ 167.45	$ 4.52	2.7%
29	Kellogg	Food Processing	$ 74.50	$ 2.36	3.2%
30	Kimberly-Clark	Household Products	$ 132.44	$ 4.64	3.5%
31	Lilly (Eli)	Drug	$ 312.37	$ 3.92	1.3%
32	Lockheed Martin	Aerospace/Defense	$ 428.48	$ 11.80	2.8%
33	Marsh & McLennan	Financial Svcs. (Div.)	$ 166.85	$ 2.36	1.4%
34	McCormick & Co.	Food Processing	$ 87.72	$ 1.50	1.7%
35	McDonald's Corp.	Restaurant	$ 260.35	$ 5.68	2.2%
36	McKesson Corp.	Med Supp Non-Invasive	$ 359.12	$ 2.16	0.6%
37	Merck & Co.	Drug	$ 88.75	$ 2.76	3.1%
38	Microsoft Corp.	Computer Software	$ 276.15	$ 2.57	0.9%
39	Mondelez Int'l	Food Processing	$ 63.59	$ 1.54	2.4%
40	NewMarket Corp.	Chemical (Specialty)	$ 298.56	$ 8.40	2.8%
41	Northrop Grumman	Aerospace/Defense	$ 482.48	$ 6.92	1.4%
42	Oracle Corp.	Computer Software	$ 76.62	$ 1.28	1.7%
43	PepsiCo, Inc.	Beverage	$ 175.80	$ 4.40	2.5%
44	Pfizer, Inc.	Drug	$ 48.32	$ 1.60	3.3%
45	Procter & Gamble	Household Products	$ 143.70	$ 3.65	2.5%
46	Progressive Corp.	Insurance (Prop/Cas.)	$ 122.43	$ 0.40	0.3%
47	Public Storage	R.E.I.T.	$ 340.43	$ 8.10	2.4%
48	Republic Services	Environmental	$ 144.18	$ 1.98	1.4%
49	Sherwin-Williams	Retail Building Supply	$ 241.05	$ 2.50	1.0%
50	Smucker (J.M.)	Food Processing	$ 137.75	$ 4.08	3.0%
51	Texas Instruments	Semiconductor	$ 175.30	$ 4.60	2.6%
52	Thermo Fisher Sci.	Precision Instrument	$ 577.87	$ 1.20	0.2%
53	United Parcel Serv.	Air Transport	$ 199.73	$ 6.08	3.0%
54	Verizon Communic.	Telecom. Services	$ 43.88	$ 2.60	5.9%
55	Walmart Inc.	Retail Store	$ 133.10	$ 2.24	1.7%
56	Waste Management	Environmental	$ 170.85	$ 2.60	1.5%
	Average				**2.2%**

(a) Average of closing prices for 30 trading days ended Sep. 9, 2022.
(b) The Value Line Investment Survey, *Summary & Index* (Sep. 9, 2022).

GROWTH RATES

		(a)	(b)	(c)
		Earnings Growth		
	Company	V Line	IBES	Zacks
1	3M Company	6.50%	0.40%	9.50%
2	Abbott Labs.	8.00%	11.00%	5.41%
3	Air Products & Chem.	12.00%	11.98%	14.22%
4	Amdocs Ltd.	8.00%	12.92%	11.50%
5	Amgen	5.50%	8.00%	7.10%
6	Apple Inc.	14.00%	9.48%	12.67%
7	Archer Daniels Midl'd	13.00%	9.20%	6.96%
8	Baxter Int'l Inc.	10.00%	8.41%	7.61%
9	Becton, Dickinson	4.50%	5.00%	6.75%
10	Bristol-Myers Squibb	n/a	4.65%	6.28%
11	Brown-Forman 'B'	14.00%	9.15%	n/a
12	Church & Dwight	6.00%	4.62%	8.00%
13	Cisco Systems	8.00%	6.69%	6.50%
14	Clorox Co.	4.50%	7.19%	7.00%
15	CME Group	8.50%	6.96%	7.80%
16	Coca-Cola	7.50%	5.50%	6.41%
17	Colgate-Palmolive	6.50%	3.93%	4.61%
18	Comcast Corp.	9.00%	10.15%	13.50%
19	Costco Wholesale	10.50%	13.74%	9.24%
20	Danaher Corp.	17.00%	10.45%	20.03%
21	Gen'l Mills	3.50%	4.84%	7.50%
22	Gilead Sciences	13.50%	-1.23%	14.67%
23	Hershey Co.	6.50%	10.37%	7.67%
24	Hormel Foods	6.00%	8.75%	7.29%
25	Hunt (J.B.)	11.50%	20.09%	15.00%
26	Intel Corp.	2.50%	-0.16%	7.50%
27	Intercontinental Exch.	6.50%	6.26%	5.17%
28	Johnson & Johnson	8.00%	4.07%	5.23%
29	Kellogg	3.50%	2.30%	4.10%
30	Kimberly-Clark	5.50%	5.76%	5.00%
31	Lilly (Eli)	11.50%	20.44%	19.41%
32	Lockheed Martin	7.00%	9.60%	5.45%
33	Marsh & McLennan	11.00%	8.20%	8.22%
34	McCormick & Co.	5.50%	5.10%	5.33%
35	McDonald's Corp.	10.50%	7.17%	8.37%
36	McKesson Corp.	10.00%	10.61%	10.05%
37	Merck & Co.	8.00%	11.07%	10.15%
38	Microsoft Corp.	16.50%	15.41%	11.71%
39	Mondelez Int'l	9.50%	5.24%	6.91%
40	NewMarket Corp.	-1.50%	7.70%	n/a
41	Northrop Grumman	6.50%	6.10%	2.19%
42	Oracle Corp.	9.00%	10.13%	8.00%
43	PepsiCo, Inc.	6.00%	8.00%	7.66%
44	Pfizer, Inc.	6.50%	-1.20%	12.47%
45	Procter & Gamble	6.50%	5.83%	6.09%
46	Progressive Corp.	6.50%	30.00%	17.50%
47	Public Storage	n/a	17.00%	6.97%
48	Republic Services	12.50%	11.45%	11.34%
49	Sherwin-Williams	11.50%	13.74%	12.00%
50	Smucker (J.M.)	4.00%	5.15%	2.77%
51	Texas Instruments	9.00%	10.00%	9.33%
52	Thermo Fisher Sci.	11.00%	7.89%	14.00%
53	United Parcel Serv.	11.50%	5.61%	8.87%
54	Verizon Communic.	2.50%	3.35%	4.15%
55	Walmart Inc.	7.50%	6.00%	5.50%
56	Waste Management	6.50%	14.64%	11.81%

(a) The Value Line Investment Survey (various editions as of Sep. 9, 2022).
(b) www.finance.yahoo.com (retrieved Sep. 15, 2022).
(c) www.zacks.com (retrieved Sep. 15, 2022).

DCF COST OF EQUITY ESTIMATES

		(a)	(b)	(c)
		Earnings Growth		
	Company	**V Line**	**IBES**	**Zacks**
1	3M Company	10.8%	4.7%	13.8%
2	Abbott Labs.	9.8%	12.8%	7.2%
3	Air Products & Chem.	14.5%	14.5%	16.7%
4	Amdocs Ltd.	9.8%	14.7%	13.3%
5	Amgen	8.9%	11.4%	10.5%
6	Apple Inc.	14.6%	10.0%	13.2%
7	Archer Daniels Midl'd	14.9%	11.1%	8.8%
8	Baxter Int'l Inc.	12.0%	10.4%	9.6%
9	Becton, Dickinson	5.9%	6.4%	8.2%
10	Bristol-Myers Squibb	n/a	7.6%	9.3%
11	Brown-Forman 'B'	15.0%	10.2%	n/a
12	Church & Dwight	7.2%	5.8%	9.2%
13	Cisco Systems	11.3%	10.0%	9.8%
14	Clorox Co.	7.7%	10.4%	10.2%
15	CME Group	10.5%	9.0%	9.8%
16	Coca-Cola	10.3%	8.3%	9.2%
17	Colgate-Palmolive	8.8%	6.3%	7.0%
18	Comcast Corp.	11.9%	13.0%	16.4%
19	Costco Wholesale	11.2%	14.4%	9.9%
20	Danaher Corp.	17.3%	10.8%	20.4%
21	Gen'l Mills	6.3%	7.7%	10.3%
22	Gilead Sciences	18.1%	3.4%	19.3%
23	Hershey Co.	8.3%	12.2%	9.5%
24	Hormel Foods	8.1%	10.8%	9.4%
25	Hunt (J.B.)	12.4%	21.0%	15.9%
26	Intel Corp.	6.8%	4.1%	11.8%
27	Intercontinental Exch.	7.9%	7.7%	6.6%
28	Johnson & Johnson	10.7%	6.8%	7.9%
29	Kellogg	6.7%	5.5%	7.3%
30	Kimberly-Clark	9.0%	9.3%	8.5%
31	Lilly (Eli)	12.8%	21.7%	20.7%
32	Lockheed Martin	9.8%	12.4%	8.2%
33	Marsh & McLennan	12.4%	9.6%	9.6%
34	McCormick & Co.	7.2%	6.8%	7.0%
35	McDonald's Corp.	12.7%	9.4%	10.6%
36	McKesson Corp.	10.6%	11.2%	10.7%
37	Merck & Co.	11.1%	14.2%	13.3%
38	Microsoft Corp.	17.4%	16.3%	12.6%
39	Mondelez Int'l	11.9%	7.7%	9.3%
40	NewMarket Corp.	1.3%	10.5%	n/a
41	Northrop Grumman	7.9%	7.5%	3.6%
42	Oracle Corp.	10.7%	11.8%	9.7%
43	PepsiCo, Inc.	8.5%	10.5%	10.2%
44	Pfizer, Inc.	9.8%	2.1%	15.8%
45	Procter & Gamble	9.0%	8.4%	8.6%
46	Progressive Corp.	6.8%	30.3%	17.8%
47	Public Storage	n/a	19.4%	9.3%
48	Republic Services	13.9%	12.8%	12.7%
49	Sherwin-Williams	12.5%	14.8%	13.0%
50	Smucker (J.M.)	7.0%	8.1%	5.7%
51	Texas Instruments	11.6%	12.6%	12.0%
52	Thermo Fisher Sci.	11.2%	8.1%	14.2%
53	United Parcel Serv.	14.5%	8.7%	11.9%
54	Verizon Communic.	8.4%	9.3%	10.1%
55	Walmart Inc.	9.2%	7.7%	7.2%
56	Waste Management	8.0%	16.2%	13.3%
	Average (b)	**10.5%**	**10.5%**	**10.2%**

(a) Sum of dividend yield (p. 1) and respective growth rate (p. 2).
(b) Excludes highlighted figures.

Capital Structure

PNM Exhibit AMM-12

Is contained in the following 3 pages.

UTILITY GROUP OPERATING SUBSIDIARIES

		At Year-End 2021 (a)		
	Operating Company	**Debt**	**Preferred**	**Common Equity**
1	**ALLETE**			
	ALLETE, Inc. (Minnesota Power)	43.9%	0.0%	56.1%
2	**AMEREN CORP.**			
	Ameren Illinois Co.	43.8%	0.5%	55.7%
	Union Electric Co.	48.7%	0.7%	50.6%
3	**AVISTA CORP.**			
	Avista Corp.	52.8%	0.0%	47.2%
	Alaska Electric Light & Power	39.5%	0.0%	60.5%
4	**BLACK HILLS CORP.**			
	Black Hills Power	52.0%	0.0%	48.0%
	Cheyenne Light Fuel & Power	53.6%	0.0%	46.4%
	Black Hills/Colorado Electric Utility Co	53.4%	0.0%	46.6%
5	**CENTERPOINT ENERGY**			
	Centerpoint Energy Houston Electric	60.3%	0.0%	39.7%
6	**CMS ENERGY**			
	Consumers Energy Co.	47.7%	0.2%	52.1%
7	**DOMINION ENERGY**			
	Virginia Electric & Power	47.2%	0.0%	52.8%
	Dominion Energy South Carolina	48.7%	1.2%	50.1%
8	**DTE ENERGY CO.**			
	DTE Electric Co.	50.0%	0.0%	50.0%
9	**DUKE ENERGY**			
	Duke Energy Carolinas	48.9%	0.0%	51.1%
	Duke Energy Florida	50.6%	0.0%	49.4%
	Duke Energy Indiana	46.3%	0.0%	53.7%
	Duke Energy Ohio	41.7%	0.0%	58.3%
	Duke Energy Progress	51.8%	0.0%	48.2%
	Duke Energy Kentucky	50.4%	0.0%	49.6%
10	**EDISON INTERNATIONAL**			
	Southern California Edison Co.	52.9%	4.6%	42.4%
11	**EMERA INC.**			
	Tampa Electric Co.	46.3%	0.0%	53.7%
12	**ENTERGY CORP.**			
	Entergy Arkansas Inc.	52.5%	0.0%	47.5%
	Entergy Louisiana LLC	57.2%	0.0%	42.8%
	Entergy Mississippi Inc.	54.2%	0.0%	45.8%
	Entergy New Orleans Inc.	55.2%	0.0%	44.8%
	Entergy Texas Inc.	48.7%	0.8%	50.5%

UTILITY GROUP OPERATING SUBSIDIARIES

		At Year-End 2021 (a)		
	Operating Company	**Debt**	**Preferred**	**Common Equity**
13	**HAWAIIAN ELEC.**			
	Hawaiian Electric Co.	42.2%	0.9%	56.9%
14	**IDACORP**			
	Idaho Power Co.	44.8%	0.0%	55.2%
15	**NORTHWESTERN CORP.**			
	NorthWestern Corporation	52.2%	0.0%	47.8%
16	**OGE ENERGY CORP.**			
	Oklahoma G&E	46.5%	0.0%	53.5%
17	**OTTER TAIL CORP.**			
	Otter Tail Power Co.	47.6%	0.0%	52.4%
18	**PINNACLE WEST CAPITAL**			
	Arizona Public Service Co.	48.1%	0.0%	51.9%
19	**PUB SV ENTERPRISE GRP**			
	Pub Service Electric & Gas Co.	44.7%	0.0%	55.3%
20	**SEMPRA ENERGY**			
	San Diego Gas & Electric	48.1%	0.0%	51.9%
	Oncor Electric Delivery	42.5%	0.0%	57.5%
21	**SOUTHERN CO.**			
	Alabama Power Co.	46.8%	1.4%	51.8%
	Georgia Power Co.	44.4%	0.0%	55.6%
	Mississippi Power Co.	44.7%	0.0%	55.3%
	Minimum	**39.5%**	**0.0%**	**39.7%**
	Maximum	**60.3%**	**4.6%**	**60.5%**
	Average	**48.7%**	**0.3%**	**51.0%**

(a) Data from 2021 Company Form 10-K and FERC Form 1 reports.

UTILITY GROUP

		At Year-end 2021 (a)			Value Line Projected (b)		
	Company	**Debt**	**Preferred**	**Common Equity**	**Debt**	**Preferred**	**Common Equity**
1	ALLETE	40.2%	0.0%	59.8%	40.5%	0.0%	59.5%
2	Ameren Corp.	57.1%	0.0%	42.9%	51.0%	0.5%	48.5%
3	Avista Corp.	49.9%	0.0%	50.1%	48.5%	0.0%	51.5%
4	Black Hills Corp.	58.8%	0.0%	41.2%	45.0%	0.0%	55.0%
5	CenterPoint Energy	63.1%	3.1%	33.8%	60.0%	2.5%	37.5%
6	CMS Energy Corp.	63.4%	1.1%	35.5%	61.0%	1.0%	38.0%
7	Dominion Energy	58.4%	2.7%	38.9%	56.0%	2.0%	42.0%
8	DTE Energy Co.	66.6%	0.0%	33.4%	61.0%	0.0%	39.0%
9	Duke Energy Corp.	55.5%	0.0%	44.5%	61.0%	1.5%	37.5%
10	Edison International	58.7%	0.0%	41.3%	60.5%	5.0%	34.5%
11	Emera Inc.	59.1%	5.7%	35.2%	56.2%	0.0%	43.8%
12	Entergy Corp.	68.5%	0.6%	31.0%	66.0%	0.5%	33.5%
13	Hawaiian Elec.	49.8%	0.7%	49.4%	49.0%	0.5%	50.5%
14	IDACORP, Inc.	42.8%	0.0%	57.2%	50.5%	0.0%	49.5%
15	NorthWestern Corp.	52.2%	0.0%	47.8%	49.0%	0.0%	51.0%
16	OGE Energy Corp.	52.6%	0.0%	47.4%	50.0%	0.0%	50.0%
17	Otter Tail Corp.	43.5%	0.0%	56.5%	42.5%	0.0%	57.5%
18	Pinnacle West Capital	54.0%	0.0%	46.0%	55.0%	0.0%	45.0%
19	Pub Sv Enterprise Grp.	52.4%	0.0%	47.6%	57.5%	0.0%	42.5%
20	Sempra Energy	43.6%	0.0%	56.4%	46.5%	1.5%	52.0%
21	Southern Company	61.6%	0.3%	38.0%	63.0%	0.0%	37.0%
	Average	**54.8%**	**0.7%**	**44.5%**	**53.8%**	**0.7%**	**45.5%**
	Average - Ex. High and Low	**54.9%**	**0.5%**	**44.4%**	**53.9%**	**0.5%**	**45.4%**

(a) 2021 SEC Form 10-K reports.

(b) The Value Line Investment Survey (Jul. 22, Aug. 12 and Sep. 9, 2022).

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF NEW MEXICO FOR REVISION OF ITS RETAIL ELECTRIC RATES PURSUANT TO ADVICE NOTICE NO. 595	)	**Case No. 22-00270-UT**
PUBLIC SERVICE COMPANY OF NEW MEXICO,	)	
Applicant	)	

SELF AFFIRMATION

ADRIEN M. MCKENZIE, Principal, FINCAP, Inc., upon penalty of perjury under the laws of the State of New Mexico, affirm and state: I have read the foregoing **Direct Testimony of Adrien M. McKenzie.** and it is true and accurate based on my own personal knowledge and belief.

Dated this 5th day of December, 2022.

/s/ Adrien M. McKenzie
ADRIEN M. MCKENZIE

GCG # 530011