Company: Southern California Gas Company (U 904 G)
Proceeding: Test Year 2026 Cost of Capital
Application: A.25-03-011
Exhibit No.: SCG-06

PREPARED REBUTTAL TESTIMONY OF

JOSHUA C. NOWAK - RETURN ON EQUITY

ON BEHALF OF

SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

August 20, 2025

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I. INTRODUCTION

Q. Please state your name, business address, and occupation.

A. My name is Joshua C. Nowak. I am employed by Concentric Energy Advisors, Inc. ("Concentric") as a Vice President. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. Did you previously file testimony in this proceeding?

A. Yes. I submitted direct testimony to the California Public Utilities Commission ("CPUC" or the "Commission") on behalf of Southern California Gas Company ("SoCalGas" or the "Company"), on March 20, 2025.

Q. What is the purpose of your rebuttal testimony?

A. My rebuttal testimony on behalf SoCalGas addresses the direct testimony of intervenors submitted on July 30, 2025, including the testimony of witnesses J. Randall Woolridge, Ph.D., on behalf of the Public Advocates' Office ("Cal Advocates"); Michael P. Gorman on behalf of the Energy Producers & Users Coalition ("EPUC"), Indicated Shippers ("IS"), and The Utility Reform Network ("TURN"); Jennifer Dowdell, CFA on behalf of TURN; Richard McCann, Ph.D. on behalf of Environmental Defense Fund ("EDF"); Caroline E. Yap on behalf of the Southern California Generation Coalition ("SCGC"); Mark E. Ellis on behalf of Sierra Club and the Protect Our Communities Foundation ("PCF"); and Aaron L. Rothschild on behalf of Wild Tree Foundation ("Wild Tree") as it

relates to the appropriate return on equity ("ROE") and capital structure for SoCalGas. I collectively refer to these individual witnesses as "Intervenor Witnesses," or "Witnesses."

Q. Are you sponsoring any exhibits as part of your rebuttal testimony?

A. Yes. My analyses and recommendations are supported by the data presented in Rebuttal Exhibits JCN-1 through JCN-9, which have been prepared by me or under my direction. I sponsor the following exhibits:

- Rebuttal Exhibit JCN-1 – Comprehensive Summary of ROE Results
- Rebuttal Exhibit JCN-2 – Proxy Group Screening Analysis
- Rebuttal Exhibit JCN-3 – Constant Growth Discounted Cash Flow ("DCF") Analysis
- Rebuttal Exhibit JCN-4 – Market Risk Premium ("MRP")
- Rebuttal Exhibit JCN-5 – Capital Asset Pricing Model ("CAPM") Analysis
- Rebuttal Exhibit JCN-6 – Bond Yield Plus Risk Premium ("Risk Premium") Analysis
- Rebuttal Exhibit JCN-7 – Expected Earnings Analysis
- Rebuttal Exhibit JCN-8 – Capital Structure Analysis
- Rebuttal Exhibit JCN-9 – Risk Premium Analysis Applying Mr. Gorman's Data

Q. How is the remainder of your rebuttal testimony organized?

A. My rebuttal testimony is organized by topic/issue, starting in Section II with an executive summary. Section III provides an overview and summary of the results and recommendations presented by the various ROE witnesses in this proceeding. Section IV presents the results of my updated ROE analyses based on market data through July 31, 2025. Section V discusses economic and capital market conditions and how those

conditions are affecting the various models used to estimate the cost of equity for SoCalGas. In Section VI, I respond to certain intervenor witnesses with respect to the composition of a risk-comparable proxy group for SoCalGas in this proceeding. In Section VII, I address the proper application of the Discounted Cash Flow ("DCF") model, and I discuss areas of disagreement in the application of the DCF model and the relevance of its results under current market conditions. In Section VIII, I discuss areas of disagreement in the application of the Capital Asset Pricing Model ("CAPM"), and in particular the appropriate inputs to that model. In Section IX, I respond to comments and concerns with regard to my application of the Bond Yield Plus Risk Premium ("Risk Premium") model. In Section X, I address concerns regarding the use of an Expected Earnings model as a benchmark analysis when estimating the cost of equity for SoCalGas. In Section XI, I respond to comments concerning SoCalGas's regulatory risk and the credit ratings of SoCalGas relative to those for the proxy group companies. In Section XII, I respond to intervenor witnesses comments related to market to book ratios. In Section XIII, I respond to concerns raised by certain witnesses with respect to SoCalGas's proposed capital structure, and I explain why that capital structure is reasonable by comparison to the proxy group. Lastly, in Section XIV, I summarize my key conclusions and recommendations.

II. EXECUTIVE SUMMARY

Q. What are your key conclusions regarding the analysis and recommendations provided by the Intervenor Witnesses regarding the appropriate ROE and capital structure for SoCalGas?

A. My key conclusions are as follows:

(1) The Intervenor Witnesses' analyses contain flaws and inconsistencies that produce some results that are more than 300 basis points below any return authorized for any electric or gas utility in at least 45 years and below current returns on utility bonds.[1] Witnesses Ellis's, Rothschild's, and McCann's ROE recommendations below 9.00 percent are lower than all recently authorized (since January 1, 2022) gas utility ROEs, which is especially problematic given the rising cost of capital in recent years and California's unique risks. These Witnesses' ROE recommendations defy any rational basis, do not satisfy the *Hope* and *Bluefield* standards, and should be dismissed from the outset.

(2) Several of the Intervenor Witnesses' ROE recommendations are unreasonably low and well below the average ROEs authorized for other gas utilities, yet none of the Intervenor Witnesses demonstrate that SoCalGas's risk profile is lower than the average gas utility to support such a significant departure from the returns available to other utilities. As explained in my Direct Testimony

[1] Source: S&P Capital IQ Pro, Regulatory Research Associates ("RRA"). 8.70 percent is the lowest authorized ROE for an electric or gas utility since at least 1980, excluding cases for limited-issue riders, formula-based rate plans, and ROEs that include penalties. Compared to yield of Baa utility bonds (6.08 percent, *see* Figure 5).

(Exhibit SCG-03) and Ms. Mijares' Direct Testimony (Exhibit SCG-01), SoCalGas's higher risk profile differs from its utility peer group.

(3) Each of the Intervenor Witnesses recommends a decrease in the Company's authorized ROE. This is inconsistent with trends in authorized ROEs and interest rates since the Commission's decision in 2022. Average authorized ROEs for gas utility companies have increased in 2024-2025 as compared to 2022. None of the Intervenor Witnesses has provided evidence that the SoCalGas's comparative level of risk has declined since the Company's last case despite offering ROE recommendations that are inconsistent with national trends.

(4) The cost of equity for regulated utility companies is being affected by several key factors in the current and prospective capital markets, including the interest rate environment and central bank monetary policy as well as current inflationary pressure and the longer-term outlook for inflation. Long-term interest rates remain elevated, and capital market volatility has increased. These circumstances also reinforce the importance of considering the results of multiple models, as I have with the CAPM, DCF, Risk Premium, and Expected Earnings approaches.

(5) All models are subject to certain limiting assumptions. However, in market conditions where ROE estimation models are producing return estimates lower than the current cost of utility debt (e.g. Mr. Ellis' CAPM), utility regulators recognize that such low returns are not compensatory for investors. Rather than endorsing the results of a specific methodology, the Commission should consider how current

market conditions affect the risks for equity investors as well as take into account the results of a broader range of ROE estimation methodologies.

(6) Based on my updated DCF, CAPM, Risk Premium, and Expected Earnings analyses, I continue to find a reasonable range of ROE for SoCalGas to be in the range of 10.25 percent to 11.25 percent and the Company's requested ROE of 11.00 percent to be fair and appropriate. In addition, I support SoCalGas's proposed financial capital structure of 52.00 percent common equity, 2.40 percent preferred equity and 45.60 percent long-term debt as reasonable.

III. COMPARISON OF INTERVENOR WITNESSES' COST OF CAPITAL RECOMMENDATIONS

Q. Please summarize the cost of capital recommendations presented by the various witnesses in this proceeding.

A. The Intervenor Witnesses who perform an ROE analysis (Dr. Woolridge, Mr. Gorman, Dr. McCann, Mr. Ellis, and Mr. Rothschild) recommend an authorized ROE for SoCalGas between 6.21 percent and 9.50 percent.[2] Other Witnesses (Ms. Yap and Ms. Dowdell) do not perform their own ROE analysis, and instead address certain policy issues, adjust certain inputs in my analyses, or reference authorized returns for utilities in other jurisdictions and argue that SoCalGas's authorized ROE should be set at or below those levels. As it relates to capital structure, Dr. Woolridge, Mr. Gorman, Dr. McCann, Mr. Ellis, and Mr. Rothschild recommend the Commission reject the Company's

[2] Direct Testimony of Mark E. Ellis on behalf of Sierra Club and PCF, Exhibit ("Ex.") SC/PCF-01 ("Ellis Testimony"), at 7; Direct Testimony of Aaron L. Rothschild on behalf of Wild Tree, Revised August 12, 2025, Ex. WTF-01E ("Rothschild Testimony"), at 8; Direct Testimony of Michael P. Gorman on behalf of EPUC, IS, and TURN, Ex. EPUC/IS/TURN-001 ("Gorman Testimony"), at 10; Direct Testimony of J. Randall Woolridge on behalf of the Cal Advocates ("Woolridge Testimony"), at 6; Direct Testimony of Richard McCann, Ph.D., on behalf of EDF, Ex. EDF-01 ("McCann Testimony"), at 68.

proposed capital structure (which aligns with its actual capital structure). They propose that the Commission authorize a hypothetical capital structure consisting of common equity ratios that range from 52.90 percent to 45.00 percent.[3]

As is evident, there are a broad array of recommendations from multiple witnesses. Notably, ROE recommendations as low as 6.21 percent are significantly below any authorized return for any gas utility since at least 1980 and almost as low as the cost of debt.[4] Some are supported by analytical approaches while others are more subjective or based on assumptions related to market to book ratios. I submit that the appropriate method for determining the cost of capital is through the application of rigorous analysis using financial models and market data from reliable sources, coupled with a comprehensive risk assessment of the regulated utility relative to comparable utilities nationwide.

Q. Please provide an overview of the Intervenor Witnesses' analytical results in this proceeding.

A. As shown in Figure 1, the Intervenor Witnesses base their recommendations on analyses that range from a low of 5.55 percent to a high of 10.15 percent.

[3] Ellis Testimony, at 7; McCann Testimony, at 16-17; Woolridge Testimony, at 6; Rothschild Testimony, at 9; Gorman Testimony, at 10.

[4] Source: S&P Capital IQ Pro, Regulatory Research Associates ("RRA"). 8.70 percent is the lowest authorized ROE for an electric or gas utility since at least 1980, excluding cases for limited-issue riders, formula-based rate plans, and ROEs that include penalties. Compared to yield of Baa utility bonds (*see* Figure 5).

Figure 1: ROE and Capital Structure Ranges and Recommendations of the Intervenor Witnesses

	Dr. Woolridge	Mr. Gorman	Mr. Ellis	Dr. McCann	Mr. Rothschild
DCF Results[5]	10.15%	9.25%	6.98%	N/A	7.59%-8.81%
CAPM Results[6]	9.05%	10.15%	5.55%	N/A	6.75%-7.18%
Risk Premium Results[7]	N/A	9.60%	N/A	N/A	N/A
ROE Recommendation (Range)[8]	**9.25%**	**9.50%**	**6.21%**	**6.30% - 7.39%**	**8.01%**
Capital Structure (Common Equity, Preferred Equity, Long-Term Debt)[9]	**50%, 2.50%, 47.5%**	**45.60%, 2.40%, 52%**	**52.9%, 0%, 47.1%**	**45%, 0%, 55%**	**50%, 2.40%, 47.60%**

There are a number of flaws and inconsistencies with the analyses conducted by the Intervenor Witnesses. I address each analytical approach and recommend appropriate revisions where appropriate; if I do not address a particular topic or issue, that does not mean that I agree with it. At the outset, one must question analyses producing results that are below any return authorized for any gas utility since at least 1980. Further,

[5] Ellis Testimony, at 7; Rothschild Testimony, at 14; Gorman Testimony, at 256; Woolridge Testimony, at 72.

[6] Ellis Testimony, at 7; Rothschild Testimony, at 14; Gorman Testimony, at 256; Woolridge Testimony, at 72.

[7] Gorman Testimony, at 256.

[8] Ellis Testimony, at 7; Rothschild Testimony, at 8; Gorman Testimony, at 10; Woolridge Testimony, at 6; McCann Testimony, at 68.

[9] Ellis Testimony, at 7; McCann Testimony, at 16-17; Woolridge Testimony, at 6; Rothschild Testimony, at 9; Gorman Testimony, at 10.

recommendations below the recent average authorized ROE for gas utilities (9.72 percent from January 1, 2024 through July 31, 2025) must also be questioned.[10]

Q. Please describe the legal standards that must be met to establish the authorized ROE for a regulated public utility such as SoCalGas.

A. As discussed in my direct testimony, the standards for a just and reasonable return established by the United States Supreme Court in the *Hope* and *Bluefield* cases are:

(1) Financial integrity: the return must be adequate to ensure the company's financial soundness and support credit quality;

(2) Capital attraction: the return must be sufficient to enable the company to attract capital on reasonable terms and conditions; and

(3) Comparable return: the return must be comparable to those available to investors in firms with commensurate risk.

Q. Multiple Intervenor Witnesses (Woolridge, Dowdell, and Gorman)[11] reference authorized ROEs for utilities in other jurisdictions. Do you agree with their characterization of the trend in authorized ROEs and the relevance of the trend on SoCalGas's cost of equity?

A. National average returns must be placed in the proper context in order to be useful. While I agree that investors consider authorized returns in other states in assessing the reasonableness of the authorized ROE for SoCalGas, I have several concerns with the nationwide average ROE information presented by the Intervenor Witnesses. First, market conditions at the time the authorized returns were established are very different

[10] Source: RRA.

[11] Woolridge Testimony, at 17-20; Direct Testimony of Jennifer Dowdell, CFA, on behalf of TURN ("Dowdell Testimony"), at 30; Gorman Testimony at 32-34.

than conditions going forward. For example, equity returns set when interest rates were very low in 2020 and 2021 are not a reasonable basis of comparison for evaluating the authorized ROE for 2025 when bond yields have increased and are projected to remain elevated as inflation is still elevated as I will explain further below.

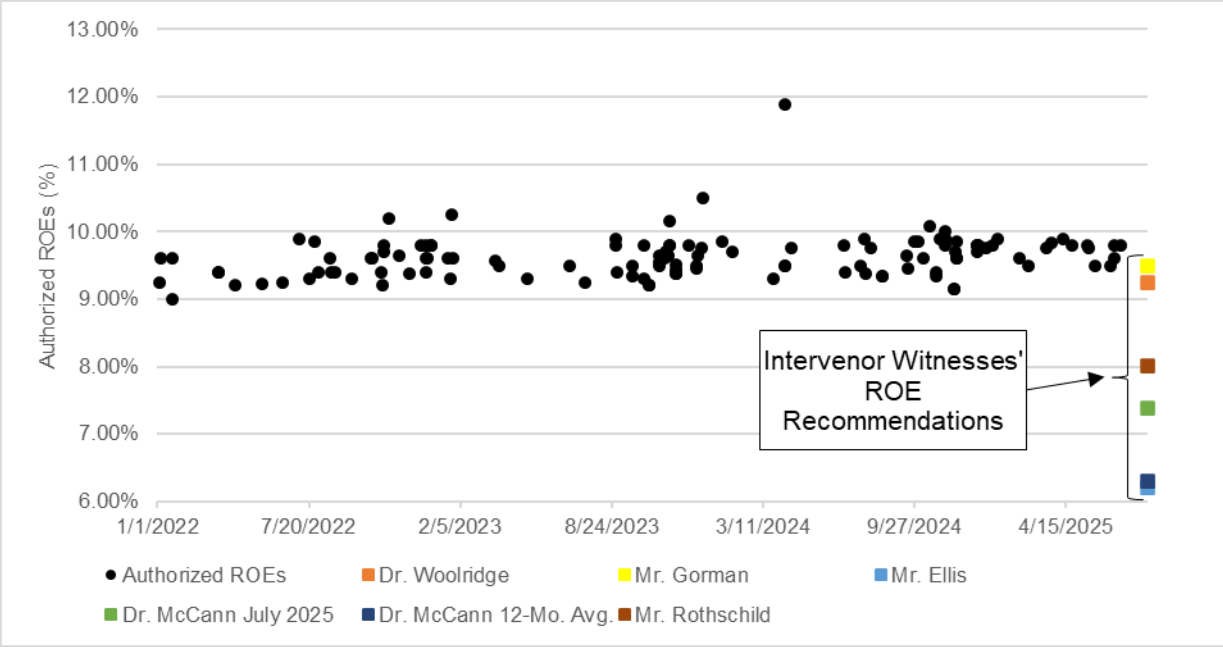
As shown in Figure 2 below, all of the Intervenor Witnesses' ROE recommendations are below the average authorized ROE for gas utilities in 2022 (9.53 percent), when SoCalGas's ROE was set in the last Cost of Capital proceeding. Since that time, the average authorized ROE for gas utilities has steadily increased by approximately 18 basis points. In addition, certain of the Intervenor Witnesses' ROE recommendations (Ellis, McCann, and Rothschild) are unjustifiably well below the national averages for gas utilities, as shown as in Figure 2, below. To support such a significant departure from the returns available to other gas utilities, the Intervenor Witnesses would have to demonstrate that SoCalGas's risk profile is meaningfully lower than the average gas utility. However, the Intervenor Witnesses have not demonstrated that SoCalGas's risk profile is lower than the average gas utility. My Direct Testimony[12] and SoCalGas Witness Sara P. Mijares' Direct Testimony[13] explain why the company's risk profile is above average risk as compared to the proxy group companies. The risks discussed in my testimony, as well as Ms. Mijares' testimony support the requested ROE that will allow SoCalGas to continue to attract funds as it carries out its obligation to provide safe, reliable, and resilient energy service to Southern California, while also supporting

[12] Direct Testimony of Joshua C. Nowak on behalf of SoCalGas, Ex. SCG-03 ("Nowak Testimony"), at 38-57.

[13] Direct Testimony of Sara P. Mijares on behalf of SoCalGas, Ex. SCG-01 ("Mijares Testimony"), at 12-23.

California's clean energy goals. On that basis, I conclude that the returns recommended by these witnesses do not satisfy the requirements for a just and reasonable return for SoCalGas, as outlined in the *Hope* and *Bluefield* decisions.

Figure 2: Gas Utility Authorized ROEs 2022-July 2025[14]



Q. What other topics and issues do the Intervenor Witnesses raise beyond the analytical results?

A. The Intervenor Witnesses raise several additional issues related to SoCalGas's business risk, discuss the market to book ratio topic, and the current/projected level of ROEs and the affordability impact on SoCalGas's customers. I will address those issues in detail below. The Intervenor Witnesses also reject SoCalGas's proposed capital structure; I will respond to parts of those arguments, and SoCalGas Witness Ricardo Gonzalez will also address those arguments.

[14] Source: RRA. Rate case decisions for gas utilities as of July 31, 2025. Excludes decisions with companies that operate under a formula rate plan or decisions with ROE penalties.

IV. UPDATED ROE RESULTS

Q. Have you updated your ROE analyses?

A. Yes, I have updated the results of the financial models used to estimate the cost of equity for SoCalGas in my direct testimony (data as of February 28, 2025) to include market data through July 31, 2025. There were no changes to the proxy group.[15] The results of those updated analyses are shown in Figure 3 below and Rebuttal Exhibits JCN-1 to JCN-8.

Figure 3: Updated ROE Results

	Direct (2/28/25)	Rebuttal (7/31/2025)
Primary Analyses		
DCF Result	10.24%	10.92%
CAPM Result	12.00%	11.32%
Risk Premium	10.39%	10.43%
Average	**10.88%**	**10.89%**
Benchmark Analysis		
Expected Earnings	9.79%	10.14%

Q. How do these updated results compare with those presented in your Direct Testimony?

A. The updated results are generally in line with those presented in my direct testimony. Three of the models (the DCF, Risk Premium, and Expected Earnings models) increased

[15] On July 29, 2025, Duke announced the sale of its Tennessee Piedmont Natural Gas business to Spire for $2.48 billion. Source: Duke Energy, *Duke Energy announces sale of its Tennessee Piedmont Natural Gas business to Spire for $2.48 billion* (July 29, 2025), *available at:* https://news.duke-energy.com/releases/duke-energy-announces-sale-of-its-tennessee-piedmont-natural-gas-business-to-spire-for-2-48-billion. Given the fact that this sale was announced so close to the July 31, 2025 cutoff date and the relatively minor impact on Spire's stock price afterwards, I kept Spire in my proxy group, as the additional robustness from one additional proxy company outweighed the negligible impact on the 30-, 90-, and 180- day dividend yield calculation.

between the Direct filing and the Rebuttal filing. The mean DCF result increased by 68 basis points, the Risk Premium result increased by 4 basis points, and the Expected Earnings result increased by 35 basis points. The CAPM result, however, decreased by 68 basis points. These results emphasize the importance of using multiple models to estimate the cost of equity.

Q. What caused the DCF, Risk Premium, and Expected Earnings results to increase?

A. The DCF results increased due to higher projected earnings growth. The Risk Premium results increased due to higher recent and projected interest rates. The Expected Earnings results increased due to higher Value Line ROEs.

Q. What caused the CAPM results to decrease?

A. The CAPM results declined primarily due to reductions in Beta coefficients, which are summarized in Figure 4 below. The small increase in risk-free rates was approximately offset by small decreases in Value Line S&P 500 earnings growth rates. The reduction in Beta coefficients is primarily due to the movement away from the post-COVID period and inclusion of April 2025 data, where utility stocks were not as volatile as the overall market.

Figure 4: Updated CAPM Beta Coefficients

	Direct (02/28/2025)	**Rebuttal (07/31/2025)**
Value Line Beta Coefficients	0.92	0.81
Bloomberg 10-Year Beta Coefficients	0.77	0.74
Average Beta Coefficient	**0.85**	**0.78**

Q. Have you also updated your capital structure analysis?

A. Yes, I have updated my capital structure analysis (Rebuttal Exhibit JCN-9) to include 2024 year-end data (while still using three years of data – 2022 year-end through 2024

year-end). This update reinforces the results of my original capital structure analysis; the proxy group eight-quarter average common equity ratio ranges from 46.51 percent to 60.16 percent; SoCalGas's proposed 52.00 percent common equity ratio is within this range. As such, my conclusion that SoCalGas's proposed capital structure of 52.00 percent common equity, 2.40% preferred equity, and 45.60 percent long-term debt is reasonable remains unchanged.

Q. What is your recommendation regarding a fair ROE for SoCalGas based on these updated results?

A. I continue to find a reasonable ROE for SoCalGas to be in the range of 10.25 percent to 11.25 percent and the Company's requested ROE of 11.00 percent to be fair and appropriate. My recommendation also remains within the range of estimates produced based on both end-of-February 2025 and end-of-July 2025 market data. I continue to consider this recommendation a just and reasonable estimate of SoCalGas's required ROE, given the Company's risk profile and economic and capital market conditions

V. CAPITAL MARKET CONDITIONS

Q. How have the economic and financial market conditions changed since you prepared your Direct Testimony?

A. Since I filed my Direct Testimony in March 2025, several changes have occurred. Over the past few months, federal policy uncertainty has climbed sharply and financial market volatility increased during the second quarter of 2025. While financial market volatility has subsided recently, inflation and interest rates remain elevated.

In response to the market uncertainty, the Federal Reserve paused its interest rate cuts and has held the target federal funds rate steady at 4.25 to 4.50 percent during its 2025 Federal Open Market Committee ("FOMC") meetings. In its July 2025 FOMC meeting press

release, the Federal Reserve noted that "[i]nflation remains somewhat elevated" and "[u]ncertainty about the economic outlook remains elevated."[16]

Despite the pause in rate cuts by the Federal Reserve, long-term government and utility bond yields have increased by approximately 15 basis points since I prepared my Direct Testimony and are expected to remain well above pre-pandemic levels (see Figure 5 below).

Figure 5: Comparison of Bond Yields between February 2025 and July 2025[17]

Bond	30-day Average as of February 28, 2025	30-day Average as of July 31, 2025	Change (basis points)
30-Year Treasury Bond Yield	4.73%	4.90%	+17
Moody's Utility "A" Index	5.75%	5.88%	+13
Moody's Utility "Baa" Index	5.94%	6.08%	+14

Q. Certain Intervenor Witnesses note that interest rates are projected to decline.[18] Do you agree with them?

A. As it pertains to the interest rates that are applicable to the ROE in this proceeding (i.e., long-term interest rates), no, I do not. Witnesses Rothschild and Gorman primarily analyze *short-term* interest rates. As shown in Figure 6 below, short-term interest rates have declined commensurate with the Fed's rate reductions, but long-term interest rates have actually *increased* during that same period. Similarly, while short-term interest rates

[16] Refer to the FOMC Press Release, *see* Federal Reserve, *Federal Reserve issues FOMC statement* (July 30, 2025), *available at:* thttps://www.federalreserve.gov/newsevents/pressreleases/monetary20250730a.htm.

[17] Source: Bloomberg Professional.

[18] Gorman Testimony, at 46-48; Rothschild Testimony at 30-31.

are projected to decline,[19] the long-term interest rates used in my CAPM and Risk Premium analyses are projected to remain near current levels.

Figure 6: U.S. Treasury Yields (June 2024 vs. July 2025)[20]

	1-year Treasury	2-year Treasury	10-year Treasury	30-year Treasury
June 28, 2024	5.09%	4.71%	4.36%	4.51%
July 31, 2025	4.10%	3.94%	4.37%	4.89%
Change	-0.99%	-0.77%	+0.01%	**+0.38%**

Q. Is inflation expected to remain somewhat elevated?

A. Even though the pace of inflation has slowed, U.S. consumers continue to expect inflation to remain elevated. While the University of Michigan Surveys of Consumers July 2025 inflation expectations had dropped from their recent highs in April 2025, they are still above the Fed's 2.0 percent target, and Director Joanne Hsu noted that "[Inflation e]xpectations exhibit substantial uncertainty, particularly in light of ongoing developments and changes with economic policy and concerns that impacts on inflation are still to come."[21]

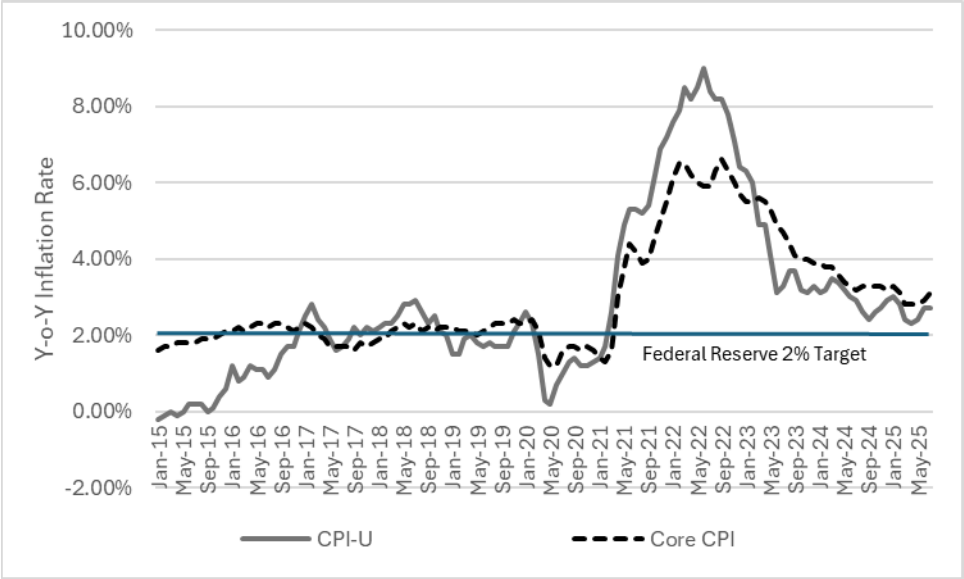
[19] *See* Figure 4 of Nowak Testimony, at 17.

[20] Source: Spot yields reported by Federal Reserve Board of Governors: Federal Reserve, *Selected Interest Rates (Daily) - H.15* (August 19, 2025), *available at:* https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H15

[21] University of Michigan – Survey of Consumers, *July 2025 Update: Current versus Pre-Pandemic Long-Run Inflation Expectations* (August 1, 2025), *available at:* https://www.sca.isr.umich.edu/files/px5web202507.pdf.

As shown in Figure 7, the pace of inflation (both the overall inflation rate and core inflation rate[22]) has ticked up recently and remains elevated above the Federal Reserve's 2.0 percent target.

Figure 7: Year-Over-Year Inflation (2015-2025)[23]



Q. How has the market responded to unpredictable changes in federal trade policy and how do proposals for higher tariffs affect inflation and bond yields?

A. The most notable development since I filed my Direct Testimony has been the unpredictable federal trade policy. In the four days after the April 2, 2025 announcement that the administration would impose a 10 percent base tariff on all imports from nearly every country plus an additional tariff customized for each of approximately 60 countries,[24] the S&P 500 Index lost 12 percent of its value and the CBOE Volatility Index

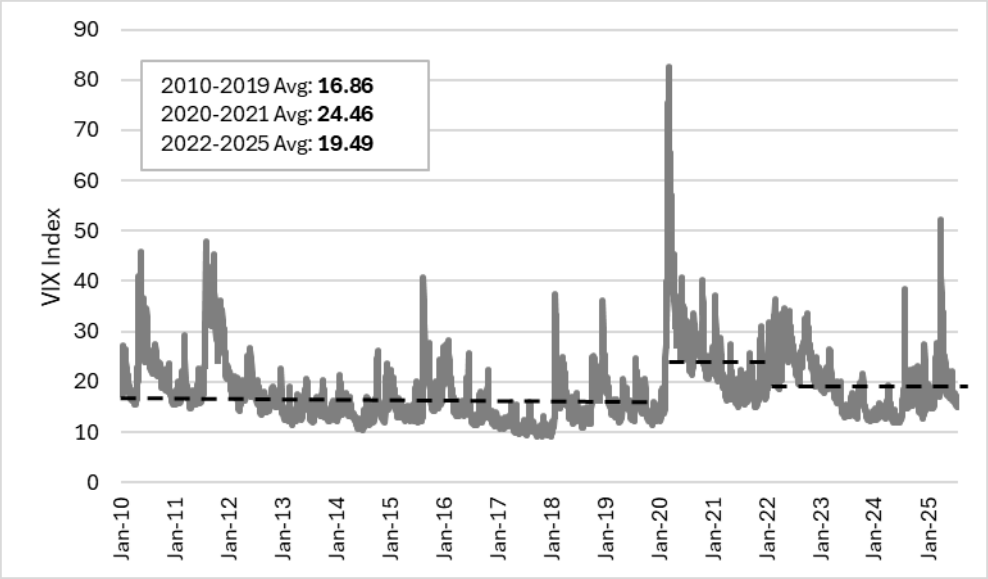
[22] The core inflation rate excludes volatile food and energy prices.

[23] Source: U.S. Bureau of Labor Statistics.

[24] The White House, *Regulating Imports with a Reciprocal Tariff to Rectify Trade Practices that Contribute to Large and Persistent Annual United States Goods Trade Deficits* (April 2, 2025), *available at:* https://www.whitehouse.gov/presidential-actions/2025/04/regulating-imports-with-a-

("VIX") rose to 52.33, the highest level since the onset of the COVID-19 pandemic in 2020, as shown in Figure 8 below.[25] Higher market volatility indicates an increase in equity market risk and as market risk rises, so does the cost of equity since equity investors require higher returns to compensate them for greater market risk.

Figure 8: VIX Index (2010-2025)[26]



In an April 9, 2025 article published by S&P Global Market Intelligence, economists noted the "enormous uncertainty" associated with the effect of tariffs on inflation and the economy, but projected that if President Trump's tariffs are imposed as proposed, they "would cause the core consumer price index[27] to run at a 6% annual pace on average over

reciprocal-tariff-to-rectify-trade-practices-that-contribute-to-large-and-persistent-annual-united-states-goods-trade-deficits/

[25] Source: CBOE Global Markets, Incorporated, "Historical Data for Cboe VIX® Index and Other Volatility Indices", https://www.cboe.com/tradable_products/vix/vix_historical_data/.

[26] Source: Federal Reserve Bank of St. Louis, FRED Economic Database.

[27] As measured by the Personal Consumption Expenditures ("PCE") price index.

the next two years".[28] Higher inflation complicates the Federal Reserve's unwinding of restrictive monetary policies,[29] and puts upward pressure on long-term bond yields like the 30-year Treasury yield. Long-term bonds like the 30-year Treasury bond are more sensitive to inflation expectations than shorter-term bonds because inflation has a more substantial effect due to their longer maturity holding period and reinvestment rate implications. Thus, as the value (price) of bonds declines due to higher inflation expectations, the yield increases. Because utilities are capital intensive enterprises, higher inflation and interest rates are typically associated with downward pressure on the value of utility stocks. If realized, higher inflation and interest rates would suggest that the cost of capital for utilities may increase in the future.

Q. How have investment returns from Edison International ("EIX"), PG&E Corporation ("PCG"), and Sempra ("SRE") (together, the "California Companies") performed relative to the broader market and other utilities?

A. As shown in Figures 9 and 10 below, the California Companies' total returns (which include dividends) have lagged both the broader market and the S&P500 Utilities Index in the short-term (this year) and longer term (over the past 10+ years, since January 1, 2015).[30] This provides clear empirical evidence that the returns investors in the California Companies (which are largely driven by their California utility subsidiaries,

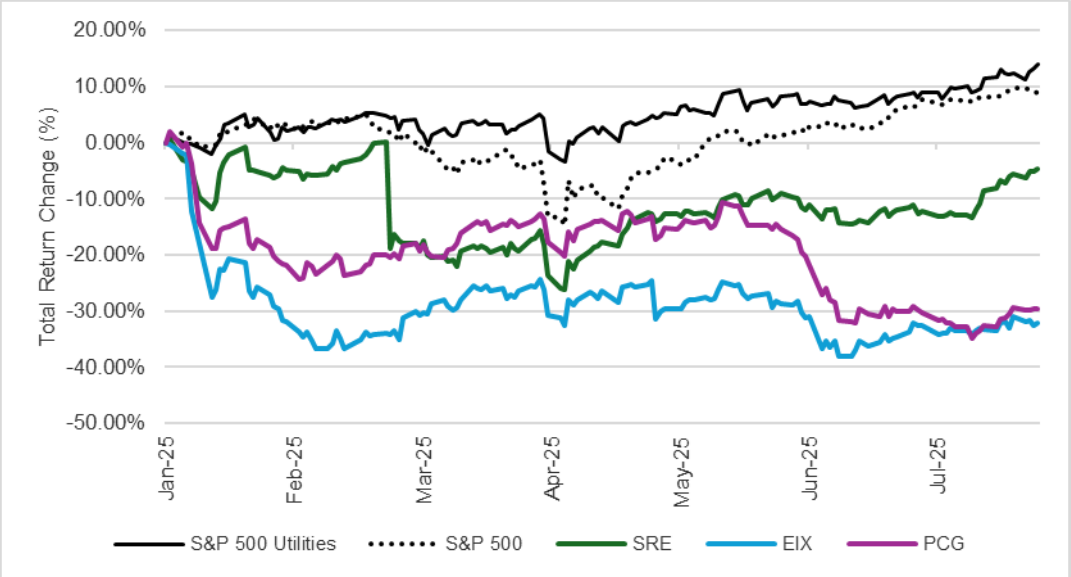
[28] S&P Global Market Intelligence, "Tariffs projected to push US inflation near 2022 highs," April 9, 2025.

[29] *See e.g.,* S&P Global Market Intelligence, "Tariffs projected to push US inflation near 2022 highs," April 9, 2025.

[30] Compared to EIX and PCG, SRE has substantial operations outside of California which mitigates SRE's overall exposure to risk factors unique to California and therefore influences SRE's performance relative to EIX and PCG.

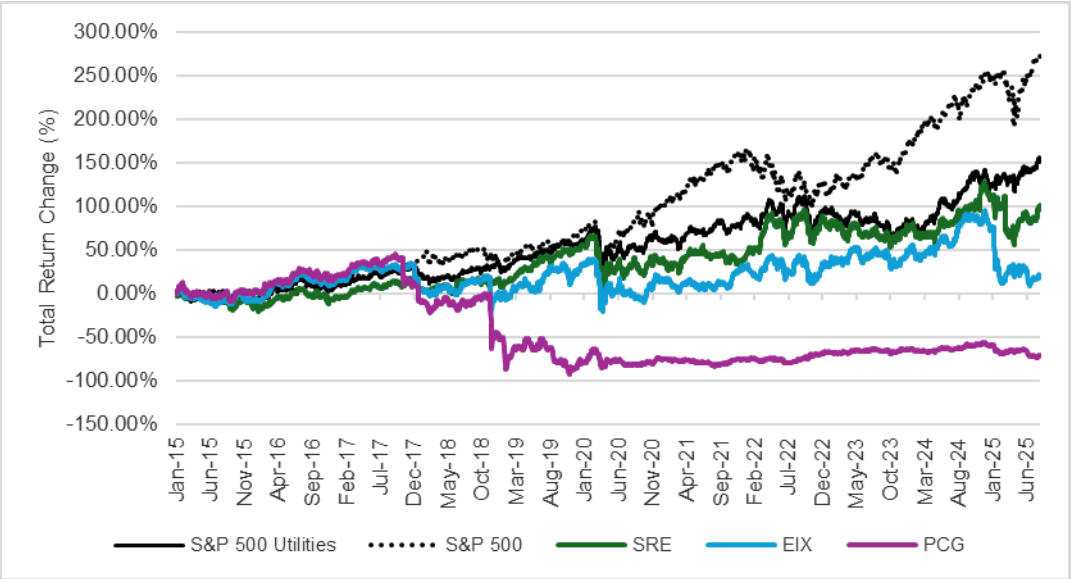
Southern California Edison Company, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and SoCalGas) have earned and anticipate earning are not adequate given their heightened level of risk. As I explained in my Direct Testimony, "[t]he foundations of public utility regulation require that utilities receive a fair rate of return sufficient to attract needed capital to maintain important infrastructure for customers at reasonable rates."[31] Absent authorization for a reasonable rate of return, the California Companies' and their regulated utilities' ability to attract capital to maintain critical infrastructure to serve their customers may be threatened.

Figure 9: Relative Performance of California Companies, January 2025 – July 2025



[31] Nowak Testimony, at 7.

Figure 10: Relative Performance of California Companies, January 2015 – July 2025



Q. Have you factored these circumstances into your updated cost of equity estimates for SoCalGas, and, if so, what conclusions do you draw?

A. Yes. I have relied on the most recent market data and forecasts available to me in my updated analysis. Long-term interest rates have increased since my Direct Testimony and since SoCalGas's ROE was set in the last Cost of Capital proceeding, and are expected to continue to remain elevated as the Federal Reserve attempts to bring inflation down to its 2.0 percent target level. These conditions support the use of both current and forecasted bond yields in the CAPM and Risk Premium analyses. These circumstances also reinforce the importance of considering the results of multiple models, as I have with the DCF, CAPM, Risk Premium, and Expected Earnings approaches. Three out of my four ROE model results have increased since I prepared the ROE analysis in my Direct Testimony in March 2025 and underscore that my recommended ROE for SoCalGas is reasonable.

VI. PROXY GROUP COMPOSITION

Q. What companies have the Witnesses used in their proxy groups?

A. Mr. Rothschild, Mr. Gorman, and Mr. Ellis adopt[32] my Direct Testimony proxy group. Dr. Woolridge develops his own proxy group consisting of a combination of electric and gas utilities based on a different set of screening criteria.[33] Dr. McCann, Ms. Yap, and Ms. Dowdell do not develop their own ROE analyses but rely primarily on other financial analyses or authorized returns in other jurisdictions as a benchmark of reasonableness for the ROE requested by SoCalGas in this proceeding.

Q. Do you have any significant concerns with any of the Intervenor Witnesses' proxy groups?

A. I do not.

VII. DCF MODEL

Q. Please summarize the Intervenor Witnesses' DCF-based ROE estimates.

A. Figure 11 below summarizes the Intervenor Witnesses' constant growth DCF ("CGDCF") and multi-stage[34] DCF ("MSDCF") ROE estimates.

[32] Rothschild Testimony, at 42-43; Gorman Testimony, at 257; Ellis Testimony, at 52.

[33] Woolridge Testimony, at 24-25.

[34] For purposes of this testimony, I am referring to two-stage, multiple-stage, and non-constant growth DCF models as multi-stage DCF models.

Figure 11: Witnesses' DCF Estimates, As Filed

Witness	DCF Range of Mean Results	DCF-based ROE Estimate
Mr. Ellis[35]	MSDCF: 6.98%	MSDCF: 6.98%
Mr. Rothschild[36]	CGDCF: 7.83%-8.01% MSDCF: 7.71%-7.59%	CGDCF: 8.35% MSDCF: 7.65%
Mr. Gorman[37]	CGDCF: 10.20%-11.29% MSDCF: 8.62%	10.05%
Dr. Woolridge[38]	CGDCF: 7.36%-11.16%	CGDCF: 10.15%

Q. Are there areas of the DCF analysis with which you and the Witnesses agree?

A. Yes. In particular, Witnesses Gorman's and Woolridge's approaches to obtain the forward-looking dividend yield are reasonable.[39] While I do not agree with the stock prices that Intervenor Witnesses Ellis, and Rothschild apply in their dividend yield calculations,[40] and I strongly disagree with Mr. Ellis' assertion that the dividend yield calculation is upwardly biased,[41] the impact of those inputs on the DCF-based ROE estimate is minor as compared to the growth rates that they apply in their DCF analyses. I do not have any concerns with the analysts' *earnings* growth rate estimates that Witnesses Gorman, Woolridge, and use in their DCF models.[42] However, Witnesses Ellis, Rothschild, Gorman, and Woolridge also consider additional measures of growth,

35 Ellis Testimony, at 7.

36 Rothschild Testimony, at Exhibit ALR-2.

37 Gorman Testimony, at 273.

38 Woolridge Testimony, at 57, Exhibit JRW-5. Uses adjusted dividend yield of gas proxy group (3.56 percent) with the lowest projected growth rate (sustainable growth, 3.8 percent) for range low; uses adjusted dividend yield of gas proxy group with the highest mean growth rate (projected EPS, 7.6 percent) for range high.

39 Woolridge Testimony, at 46-47; Gorman Testimony, at 258.

40 Rothschild Testimony, at 48; Ellis Testimony, at 47-49.

41 Ellis Testimony, at 47-49.

42 Woolridge Testimony, at 48; Gorman Testimony, at 259.

and Witnesses Ellis, Rothschild, and Gorman utilize the multi-stage DCF analysis.[43] As explained below, I disagree with the use of historical growth rates as well as projected dividend, book value, and sustainable growth rates. Further, Witnesses Gorman's, Ellis', and Rothschild's application of the multi-stage DCF analysis is not appropriate in this proceeding when calculating SoCalGas's DCF-based ROE estimate.

Q. Witnesses Ellis, Gorman, Woolridge, and Rothschild criticize your reliance on analysts' projected earnings per share ("EPS") growth rates in the DCF analysis.[44] Why are analysts' projected EPS growth rates the appropriate measure of growth in the DCF analysis?

A. As explained in my Direct Testimony, over the long term, dividend growth can only be sustained by earnings growth.[45] Importantly, when providing guidance to investors regarding the overall total return targets in their investor presentations, companies define the total return as the dividend yield plus *earnings* growth, not dividend, book value, or sustainable growth.[46] Academic studies suggest that investors base their investment decisions on analysts' expectations of growth in earnings.[47] I am not aware of any

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[43] Woolridge Testimony, at 48; Rothschild Testimony, at 52-54; Gorman Testimony, at 261-272; Ellis Testimony, at 50-55.

[44] Ellis Testimony, at 41-47; Gorman Testimony, at 289-290; Woolridge Testimony, at 86-89; Rothschild Testimony, at 78-80.

[45] Nowak Testimony, at 27.

[46] *See, e.g.,* American Electric Power Company, Inc., May 6, 2025, Investor Presentation, at 4; Duke Energy Corporation, May 6, 2025, Earnings Review and Business Update, at 10; Xcel Energy, April 24, 2025, Investor Presentation, at 15.

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

similar findings regarding dividend- or book value-based growth estimates. In addition, the only forward-looking growth rates that are available on a consensus basis are analysts' EPS growth rate projections. The fact that earnings growth projections are the only widely reported and accepted estimates of growth further supports the finding that earnings growth is the most meaningful measure of growth among the investment community.

Additionally, academic studies have shown that analysts' consensus earnings forecasts are better at predicting the valuation of common stocks.[48] Witness Gorman cites an academic study from The Journal of Portfolio Management and concludes that, "As predictors of future returns, securities analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data," as well as sustainable growth rates.[49] Additionally, a 2002 study in the *Journal of Accounting Research* examined "the valuation performance of a comprehensive list of value drivers" and found that "forward earnings explain stock prices remarkably well" and were generally superior to other value drivers analyzed.[50] A 2012 study from the journal *Contemporary Accounting Research* found that the sell-side analysts with the most accurate stock price

[48] *See, e.g.*, Andreas C. Christofi, Petros C. Christofi, Marcus Lori and Donald M. Moliver, Evaluating Common Stocks Using Value Line's Projected Cash Flows and Implied Growth Rate, Journal of Investing (Spring 1999); Harris and Marston, Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts, Financial Management at 21 (Summer 1992); and Vander Weide and Carleton, Investor Growth Expectations: Analysts vs. History, The Journal of Portfolio Management (Spring 1988); Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholder Required Rate of Return, Financial Management (Spring 1986).

[49] Gorman Testimony, at 260, citing David Gordon, Myron Gordon & Lawrence Gould, "Choice Among Methods of Estimating Share Yield," The Journal of Portfolio Management, Spring 1989.

[50] Liu, Jing, et al., "Equity Valuation Using Multiples," Journal of Accounting Research, Vol. 40 No. 1, March 2002.

targets were those whom the researchers found to have more accurate earnings forecasts.[51]

Q. Witnesses Woolridge, Ellis, and Rothschild assert that analysts' EPS forecasts are upwardly biased.[52] Do you agree?

A. No, I do not agree. First, although Dr. Woolridge asserts that analysts' EPS projections are "upwardly biased," he ultimately relies on them in his DCF analysis and his overall recommendation.[53] Therefore, Dr. Woolridge's critique of my DCF analysis is unfounded. While Dr. Woolridge considers various growth rates in his DCF analysis, he implicitly concludes that analysts' projected EPS growth rates are the best indicator of future growth for the proxy group companies by giving them the most weight in his analysis.

Further, the majority of the studies that Witnesses Woolridge and Ellis cite are from over a decade ago - 1999, 2000, 2007, 2008, 2010, and 2011,[54] and the one recent (2021) study cited by Mr. Ellis does not support his conclusion that analysts' long-term growth rate projections are currently biased.[55] Most of these studies are over a decade old, and partially or fully contain data that pre-dates the 2003 Global Analysts Research

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[51] Gleason, C.A., et al., "Valuation Model Use and the Price Target Performance of Sell Side Equity Analysts," *Contemporary Accounting Research*.

[52] Woolridge Testimony, at 50-53; Ellis Testimony, at 42-43; Rothschild Testimony, at 84.

[53] Woolridge Testimony, at 57.

[54] Woolridge Testimony, at 50-53; Ellis Testimony, at 43.

[55] Cassella et al., *Horizon Bias and the Term Structure of Equity Returns* (November 2021), *available at:* http://dx.doi.org/10.2139/ssrn.3328970. The study concludes that horizon bias is correlated with a negative equity term premium (investors' requiring lower premium for longer duration securities than shorter duration securities). In other words, the study is not investigating whether analysts' long-term growth rates are actually upwardly biased, nor is it investigating the effect of analysts' projected growth rates on the cost of equity.

Settlement, which aimed to reduce forecast bias by requiring financial institutions to insulate investment banking from analysis, prohibiting analysts from participating in "road shows," and requiring the settling financial institutions to fund independent third-party research.[56] In fact, a 2010 article in Financial Analysts Journal found that analyst forecast bias declined significantly or disappeared entirely after the Global Settlement:

> Introduced in 2002, the Global Settlement and related regulations had an even bigger impact than Reg FD on analyst behavior. **After the Global Settlement, the mean forecast bias declined significantly, whereas the median forecast bias essentially disappeared.** Although disentangling the impact of the Global Settlement from that or related rules and regulations aimed at mitigating analysts' conflicts of interest is impossible, forecast bias clearly declined around the time the Global Settlement was announced. These results suggest that the recent efforts of regulators have helped neutralize analysts' conflicts of interest.[57]

In addition, analysts covering the common stock of the proxy companies certify that their analyses and recommendations are not related, either directly or indirectly, to their compensation.[58] Thus, it is unclear why investors would assume that the proxy group companies are susceptible to a continuing upward bias in earnings projections, especially given the fact that gas utilities operate in the steady-state, mature stage of the business cycle (as Dr. Woolridge had pointed out[59]) in an industry with a very high degree of financial transparency due to their regulation.

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[56] SEC, *Federal Court Approves Global Research Analyst Settlement, available at:* https://www.sec.gov/enforcement-litigation/litigation-releases/lr-18438.

[57] Armen Hovakimian and Ekkachai Saenyasiri, *Conflicts of Interest and Analyst Behavior: Evidence from Recent Changes in Regulation*, Financial Analysts Journal, Volume 66, Number 4, July/August 2010, at 195. (emphasis added)

[58] 17 C.F.R. § 242.501 - Certifications in connection with research reports.

[59] Woolridge Testimony, at 45.

On the contrary, multiple studies have emphasized the superiority of analysts' EPS forecasts in predicting future returns and stock valuations, as I noted above. In conclusion, Dr. Woolridge's and Mr. Ellis' critique that analysts' EPS forecasts are upwardly biased is misplaced and should not be given any weight by the Commission.

Q. Witness Gorman proposes a way "to correct" your DCF model.[60] Do you agree with this purported "correction"?

A. No, I do not. Witness Gorman does not "correct" my DCF model, he simply applies his multi-stage DCF methodology to the analyst growth rates that I had used in my Direct Testimony. Further, as I explain below, the premise underlying the multi-stage DCF model does not currently hold. As such, Witness Gorman's "correction" of my model should be disregarded.

Q. Do you agree with the use of historical growth rates in the DCF model?

A. No, I do not. Historical dividend and earnings growth is likely factored into analysts' projections; therefore, placing any weight on historical growth rates gives undue weight to historical estimates. Additionally, the DCF model is forward-looking; as I noted in my Direct Testimony, the "*g*" term in the DCF model is "the *expected* growth rate."[61] As such, I agree with Dr. Woolridge that "to best estimate the cost of common-equity capital using the conventional DCF model, one must look to long-term growth rate expectations."[62] While not explicitly recommended by Dr. Woolridge, I recommend that

[60] Gorman Testimony, at 290.

[61] Nowak Testimony, at 25. (emphasis added).

[62] Woolridge Testimony, at 48.

the Commission not rely on the historical growth rates that Dr. Woolridge presents in Exhibit JRW-5.

Q. Do you agree with the use of dividend growth rates in the DCF model?

A. No. As explained above, over the long term, dividend growth can only be sustained by earnings growth. Additionally, dividend growth depends on management decisions regarding the dividend payout ratio over the near term and may not necessarily not reflect the long-term growth prospects of the company. Additionally, Value Line is the only source I am aware of that publishes dividend growth rate projections. The fact that dividend growth rate projections are not widely reported by other sources further supports the conclusion that earnings growth is the most meaningful measure of growth among the investment community. In other words, if investors relied heavily on projections of dividend growth, more sources would offer that data. As such, the DCF-based ROE estimate that Dr. Woolridge calculated using dividend growth rates should not be given any weight, nor[63] be relied upon.

Q. Mr. Rothschild uses stock options data to estimate investor anticipated growth in a version of his DCF model.[64] Please describe your concerns, conceptually, with using stock options data to develop the growth rate in the DCF model.

A. Mr. Rothschild's proprietary "option-implied" model inputs are overly complex approaches to two very simple and widely used models - the DCF and CAPM - that are applied by numerous cost of capital practitioners and investors. Importantly, investors often purchase options to hedge against adverse price movements. As such, options may

[63] Woolridge Testimony, Exhibit JRW-5.

[64] Rothschild Testimony, Exhibit ALR-3 at 2.

not reveal investors' equity return requirements. In other words, options reflect a measure of insurance against what *could* happen, not necessarily what investors *expect* to happen. As JP Morgan Chase explains in its Fund terms and conditions, when options are used for hedging, "the change in value of a derivative may not correlate as expected with the currency, security or other risk being hedged. In addition, **given their complexity, derivatives expose the Fund to risks of mispricing or improper valuation**."[65]

Additionally, Mr. Rothschild has not provided any academic support for the use of his option-implied growth rates in the DCF model, nor has he demonstrated that investors rely on his approach to estimate their required equity return. In estimating equity investors' required return for SoCalGas, it is essential to use models that investors actually rely upon. As noted below in my response to Mr. Rothschild's CAPM analysis, even the academic study his approach is based on cautions against using the approach for Cost of Equity estimation, stating that (1) the approach is relevant for "certain applications such as abnormal returns".[66] Since regulated utilities, such as SoCalGas, do not have abnormal returns, it appears the authors of the study on which Mr. Rothschild's approach relies suggest the approach is not relevant for the purpose of estimating the cost of capital for regulated utilities.

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[65] *See e.g.*, SEC, *JPMorgan International Bond Opportunities ETF Summary Prospectus* (July 1, 2025), *available at:* https://www.sec.gov/Archives/edgar/data/1485894/000119312525146598/d14575d497k.htm?utm (emphasis added).

[66] Peter Christoffersen, Kris Jacobs, and Gregory Vainberg, "Forward-Looking Betas", April 25, 2008, at 24.

With respect to his DCF analysis specifically, Mr. Rothschild provides no explanation regarding how he developed his option-implied growth approach in his Constant Growth DCF analysis. To the extent that his growth rates for the proxy group are developed based on his option-implied Beta coefficient methodology, as explained below, the limited data available for the proxy group renders the analysis inappropriate and of little value.

Q. Do you agree with the use of sustainable (or retention ratio) growth rates[67] in the DCF model?

A. No, I do not. As a preliminary matter, as Witnesses Woolridge[68] applies it, this is the product of "b" and "r" (where "b" is the retention ratio, or the portion of net income not paid in dividends, and where "r" is the expected ROE on the portion of net income that is retained within the Company as a means for future growth). This approach fails to consider earnings growth that occurs from new equity issuances – externally-generated funds. In the sustainable growth rate formula, this is shown as the product of "s" and "v" (where "s" represents the growth in shares outstanding, and where "v" is that portion of the market to book ("M/B") ratio that exceeds unity). This methodology is recognized as a common approach to calculating the sustainable growth rate. By only considering the funds from internally generated sources, Dr. Woolridge's sustainable growth rates understate the prospective growth rates for the companies in the proxy groups. Notwithstanding, I also note that Witnesses Rothchild's, Gorman's, and Woolridge's sustainable growth rate calculations all rely on Value Line's projected ROE data for the

[67] Referring to the "br + sv" sustainable growth rates; I will address the use of GDP and inflation in sustainable growth rates below.

[68] Woolridge Testimony, Exhibit JRW-5.

proxy group companies.[69] Those projected ROEs are substantially higher than the results of the DCF model using sustainable growth rates presented by these Witnesses and demonstrate the fact that investors are expecting to earn higher returns on equity from the proxy group companies than what is shown by the DCF model using sustainable growth rates.

Moreover, the sustainable growth rate calculation assumes that future earnings will increase as the retention ratio increases. However, this relationship may not hold for a given company based on management decisions associated with the dividend payout rate. This conclusion is supported by two articles published in the Financial Analysts Journal that discussed the theory that high dividend payouts (i.e., low retention ratios) are associated with low future earnings growth.[70] Each of those articles cited a 2003 study by Arnott and Asness[71] that found, over the course of 130 years of data, future earnings growth is associated with high, rather than low payout ratios.[72] Specifically, Arnott and Asness concluded:

> Unlike optimistic new-paradigm advocates, we found that low payout ratios (high retention rates) historically precede low earnings growth. This relationship is statistically strong and robust. We found that the empirical facts conform to a world in which managers possess private information that causes them to pay out a large share of earnings when they are optimistic that dividend cuts will not be necessary and to pay out a small share when they are pessimistic, perhaps so that they can be confident of

[69] Rothschild Testimony, Exhibit ALR-3 at 1; Gorman Testimony, Chapter 7 (SoCalGas) Ex. MPG-6; Woolridge Testimony, Exhibit JRW-5 at 4 of 6.

[70] Ping Zhou, William Ruland, *Dividend Payout and Future Earnings Growth*, Financial Analysts Journal, Vol. 62, No. 3, 2006. *See* also Owain ap Gwilym, James Seaton, Karina Suddason, Stephen Thomas, *International Evidence on the Payout Ratio, Earnings, Dividends and Returns*, Financial Analysts Journal, Vol. 62, No. 1, 2006.

[71] Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

[72] Since the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

> maintaining the dividend payouts. Alternatively, the facts also fit a world in which low payout ratios lead to, or come with, inefficient empire building and the funding of less than-ideal projects and investments, leading to poor subsequent growth, whereas high payout ratios lead to more carefully chosen projects. The empire-building story also fits the initial macroeconomic evidence quite well. At this point, these explanations are conjectures; more work on discriminating among competing stories is appropriate.[73]

Given that these studies found that there is a negative relationship between earnings growth and retention ratios, the theory underlying the Witnesses' sustainable growth rates in the DCF model does not hold and these results should be dismissed.

In addition, the sustainable growth model requires the analyst to estimate four separate variables rather than relying on a single estimate of projected growth. The result is that the potential for bias and error increases as the analyst must assess and estimate four inputs rather than one. As Dr. Roger Morin explains:

> There are three problems in the practical application of the sustainable growth method. The first is that it may be even more difficult to estimate what b, r, s, and v, investors have in mind than it is to estimate what g they envisage. It would appear far more economical and expeditious to use available growth forecasts and obtain g directly instead of relying on four individual forecasts of the determinants of such growth. It seems only logical that the measurement and forecasting errors inherent in using four different variables to predict growth far exceed the forecasting error inherent in a direct forecast of growth itself.[74]

Further, Dr. Morin notes that the empirical financial literature demonstrates that the retention growth methodology is not strongly correlated to measures of stock value, such as stock prices and price/earnings ratios. Dr. Morin concludes that the retention growth method is the "weakest" of the three common measures of growth applied in the DCF

[73] Robert Arnott, Clifford Asness, *Surprise: Higher Dividends = Higher Earnings Growth*, Financial Analysts Journal, Vol. 59, No. 1, January/February 2003.

[74] Roger A. Morin, Ph.D., New Regulatory Finance, Public Utility Reports, Inc., at 306 (2006).

model "on both conceptual and empirical grounds."[75] In conclusion, the sustainable growth rates that Witnesses Rothschild, Gorman, and Woolridge use in their DCF models should not be given any weight.

Q. Do you agree with Witnesses Rothchild's, Ellis', and Gorman's application of the multi-stage DCF model in this proceeding?

A. No, I do not. In general, a multi-stage DCF model is best utilized for companies that are in the early growth stages, whereby they may be growing faster at their current stage than they may grow in later years, as the company enters the mature stage. As noted by Witnesses Ellis and Woolridge,[76] utilities are in the mature stage of business growth, and in general, have decades of stable historical growth and stable future expectations. Mr. Gorman, citing an academic textbook published by Eugene Brigham and Joel F. Houston, notes that, "The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations."[77] Consequently, I do not believe the multi-stage DCF model is appropriate in this proceeding.

Specific to this case, first, Mr. Ellis uses a multi-stage DCF analysis with the first stage using consensus analysts' 3-to-5-year EPS growth forecasts from S&P Global Market Intelligence;[78] I have no issue with these growth rates used in the first stage. For his terminal growth rate, Mr. Ellis conducts an analysis that shows that real utility sector

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75 *Id*., at 307.

76 Ellis Testimony, at 71; Woolridge Testimony, at 45.

77 Gorman Testimony, at 268, citing *Fundamentals of Financial Management*, Eugene F. Brigham & Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation, at 298.

78 Ellis Testimony, at 52.

dividends per share have been essentially constant over the past nearly 100 years.[79] This analysis is of little value, as it does not address numerous factors, such as utilities under-earning their authorized ROEs, non-regulated income/losses, equity issuances, acquisitions, dividend payout ratios, heightened historical inflation, operational changes over time, etc. These factors are precisely why dividend growth is *not* a suitable estimate of growth in the DCF model. Mr. Ellis then applies an implausibly low estimate of dividend growth in the DCF model, concluding that, long-term, dividends would only grow at the rate of inflation (i.e., 1.95 percent).[80] Mr. Ellis's use of an inflation rate as a proxy for earnings growth has no reasonable basis of support, as he has provided no evidence that investors would accept growth in perpetuity that tracks inflation. There are many lower risk investment alternatives available that offer more attractive growth and return potential. As noted above, utility bonds are currently offering returns within 1 percent of Mr. Ellis's DCF-based cost of equity recommendation. No investor would commit capital to an equity investment if they can receive a comparable return from a safer debt investment that has a senior claim on cash flow. In summary, as I noted above, in the long-term, dividend growth can only be sustained by earnings growth; Mr. Ellis's presumption of zero real long-term earnings growth fails the test of economic logic.

As to Mr. Rothschild's multi-stage DCF analysis, he relies on forecasted dividends per share in the first stage, and growth in book value (from Value Line, though conceptually similar to the sustainable growth method I addressed above) for the final stage and

[79] *Id*., at 43-44, 53.

[80] *Id*., at 54.

closing price.[81] My prior discussion regarding the appropriateness of dividend and sustainable growth rates in the DCF model would apply to Mr. Rothchild's multi-stage DCF analysis. As such, the Commission should not give any weight to Mr. Rothschild's multi-stage DCF analysis.

As to Mr. Gorman's multi-stage DCF analysis, he too relied on consensus analysts' earnings growth projections for the first five years, with which I agree. He then uses a 5-year transition period, concluding with the projected long-term GDP growth rate (4.1 percent) as the terminal rate in year 11 through perpetuity.[82] To justify this, he notes that "[u]tilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services" and points to sales growth underperforming U.S. GDP growth.[83] I do not agree with Witness Gorman's assumptions, as I'll further explain below. Note that these explanations would also apply to Witness Ellis's terminal rate (i.e. inflation, 1.95 percent, as noted above).

Q. Is there evidence to support the position that utility growth is not limited by GDP growth?

A. Yes, I present three analyses that illustrate that utility growth is not limited by GDP growth. First, from 2010 through the end of July 2025, the S&P 500 Utilities Index had a compound annual growth rate ("CAGR") of 6.71 percent, when looking at price-only growth (excluding dividends, as would be comparable to the analyst growth rates used in my DCF analysis as stock prices are driven by earnings growth over the long-term).[84]

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[81] Rothschild Testimony, Exhibit ALR-3 at 3-4.

[82] Gorman Testimony, at 272.

[83] *Id*., at 212.

[84] Source: S&P Capital IQ Pro.

This CAGR is much more comparable to the analyst growth rates that I use in my analysis (7.23 percent)[85] than the terminal growth rates used by Witnesses Ellis and Gorman (1.95 percent and 4.1 percent, respectively).

Second, the GDP growth rate is an approximate average of the growth rates of all public and private U.S. sectors. As such, some sectors will grow faster than the average, and some will grow slower, as Mr. Ellis acknowledges.[86] As shown in Figure 12 below, from 1947 through 2024, the utility sector as a component of GDP has grown at a faster compound average annual rate (6.47 percent) than the overall GDP growth rate (6.38 percent). Here again, Mr. Gorman's premise that GDP growth is an upper limit on an individual utility company's growth or the utility sector's growth expectations is unproven.

[85] *See* my Rebuttal Ex. JCN-4, column 8.

[86] Ellis Testimony, at 53.

Figure 12: GDP Growth by Industry[87]

Industry	1947	2024	CAGR
Agriculture, forestry, fishing, and hunting	19.9	248.4	3.33%
Mining	5.8	393.7	5.63%
Utilities	**3.5**	**437.3**	**6.47%**
Construction	8.9	1,312.3	6.70%
Manufacturing	63.4	2,913.1	5.10%
Wholesale trade	15.6	1,706.8	6.29%
Retail trade	23.2	1,841.7	5.85%
Transportation and warehousing	14.1	969.2	5.65%
Information	7.7	1,569.5	7.15%
Finance, insurance, real estate, rental, and leasing	25.8	6,190.0	7.38%
Professional and business services	8.2	3,847.4	8.32%
Educational services, health care, and social assistance	4.6	2,542.0	8.55%
Arts, entertainment, recreation, accommodation, and food services	8.0	1,293.2	6.83%
Other services, except government	7.5	626.7	5.92%
Government	33.5	3,293.7	6.14%
Total Gross Domestic Product	**249.7**	**29,185.0**	**6.38%**

Further, Dr. Woolridge's Exhibit JRW-9, pages 1 and 6, demonstrates that the S&P 500 price and earnings growth have outpaced GDP growth rates over the last 65 years. Thus, the theoretical premise that no company can grow faster than the economy over the long-term does not hold up in practice.

The analyst EPS growth rate projections included in my and the Witnesses' DCF analyses are consistent with the long-term historical compound annual GDP growth rate

[87] In billions of dollars. Source: Bureau of Economic Analysis, *GDP by Industry,* Tables Only (XLSX), table 14, *available at:* https://www.bea.gov/data/gdp/gdp-industry.

for the utility sector, as well as overall GDP growth.[88] From that perspective, the projected EPS growth rates in our respective Constant Growth DCF analyses are not excessive.

Finally, Mr. Gorman observes that "[u]tilities' earnings/dividend growth is fueled by increased utility investment or rate base."[89] I agree with this statement and emphasize that utility capital expenditures have been growing at a rate that far exceeds GDP, over the past 10 years, as can be seen in Figure 13 below.

Figure 13: Compound Annual Growth in Capital Expenditures (2014-2024)[90]

	3-yr CAGR (2021-2024)	5-yr CAGR (2019-2024)	10-yr CAGR (2014-2024)
SoCalGas Proxy Group	10.85%	6.80%	11.86%
Total Gas Utility Sector	10.88%	6.61%	9.52%

The proxy group analyst average projected earnings growth rates used in my, Mr. Gorman's, and Dr. Woolridge's Constant Growth DCF analyses (7.23 percent, 7.50 percent, and 7.6 percent, respectively),[91] are in-line with or lower than growth rates in gas utility capital expenditures and therefore are not overstated. Rather, they are highly consistent with the rate base growth, as would be expected. Moreover, these capital expenditure growth rates are much higher than Witness Gorman's 4.1 percent GDP growth, which indicates that utility growth is not constrained by economic growth.

Given the substantial amount of capital that is expected to be invested to facilitate the

[88] S*ee also*, Dr. Woolridge's Ex. JRW-9.

[89] Gorman Testimony, at 212.

[90] S&P Global Market Intelligence, *Utility Capex Capital Expenditures Update, H1 2025*, March 24, 2025.

[91] Rebuttal Ex. JCN-3, column 8; Gorman Testimony, Chapter 7 (SoCalGas), Ex. MPG-4; Woolridge Testimony, Ex. JRW-5.

energy transition, it is unlikely that gas utilities are nearing the end of their investment cycles; rather it is likely the beginning.

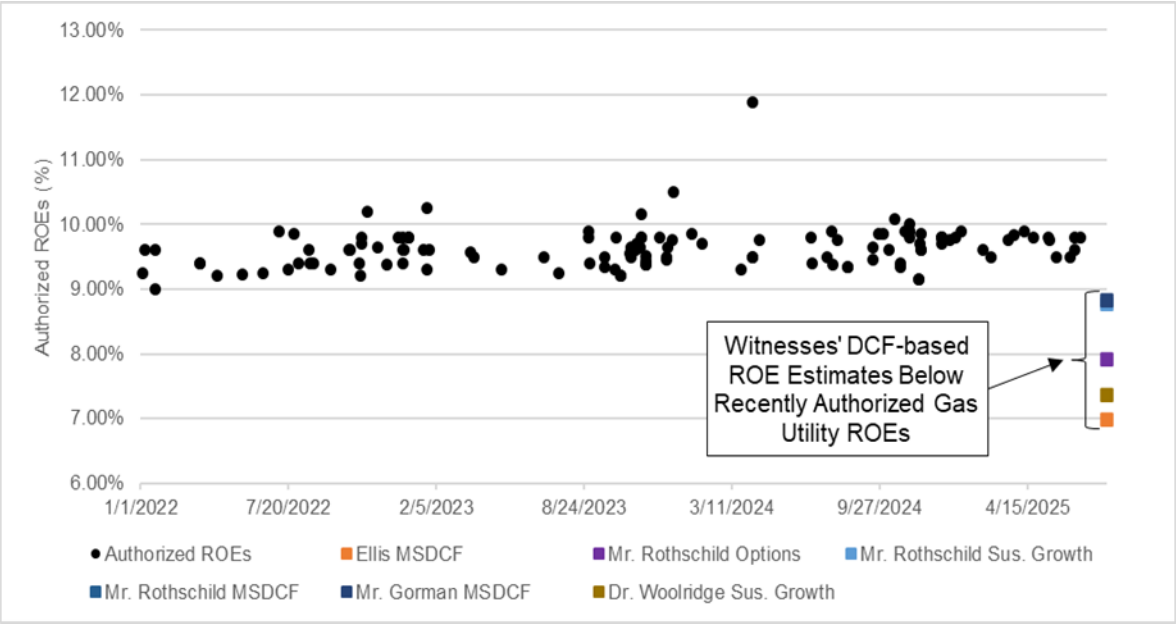
Q. Do you have any concluding thoughts on the appropriateness of using the GDP growth rate in the DCF model?

A. Yes, I do. No company, or investor, would be satisfied with growth that simply tracks the broader economy. Investors would shift capital to more attractive investments. Companies are constantly searching for new avenues of growth and have levers such as capital resource allocation to achieve growth greater than GDP. There is no reason to expect that an individual corporation competing for capital as a going concern will limit earnings or dividend growth to GDP. Limiting growth in the DCF model to long-term GDP is an unfounded constraint.

Q. Do some Intervenor Witness DCF estimates using historical, dividend, sustainable, inflation, GDP, or multi-stage DCF growth rates satisfy the *Hope* and *Bluefield* comparable return standard?

A. No, they do not. As can be seen on Figure 14 below, Mr. Ellis' and Mr. Rothschild's DCF-based ROE estimates, as well as Mr. Gorman's multi-stage DCF and Dr. Woolridge's sustainable growth DCF ROE estimates are well below all recently authorized ROEs for gas utilities. Thus, these estimates fail to satisfy the *Hope* and *Bluefield* comparable return standard I noted above.

Figure 14: Witnesses' DCF-based ROE Estimates Below Recently Authorized Gas Utility ROEs[92]



Q. Please summarize your conclusions regarding the Witnesses' DCF models.

A. The Witnesses present several different DCF models with various inputs and results. I recommend that the Commission not give any weight to Mr. Ellis' and Mr. Rothschild's DCF models, as neither satisfy the *Hope* and *Bluefield* comparable return standard. I further recommend that the Commission not give any weight to Mr. Gorman's, Dr. Woolridge's, or sustainable growth, multi-stage DCF, historical growth, dividend growth, and/or book value growth rate DCF models; those similarly contain flaws and do not satisfy the *Hope* and *Bluefield* comparable return standard. Mr. Gorman's and Dr.

[92] Source: RRA, rate case decisions for gas utilities as of July 31, 2025. Excludes decisions with companies that operate under a formula rate plan or decisions with ROE penalties.

Woolridge's[93] DCF models that use analyst growth rates are reasonable and result in DCF-based ROE estimates that are in-line with my DCF-based ROE estimate.

VIII. CAPM ANALYSIS

Q. Please summarize the Intervenor Witnesses' CAPM-based ROE estimates.

A. Figure 15 below summarizes the Intervenor Witnesses' CAPM-based ROE estimates.

Figure 15: Witnesses' CAPM Estimates, As Filed

Witness	CAPM Range of Mean Results	CAPM-based ROE Estimate
Mr. Ellis[94]	5.55%	5.55%
Mr. Rothschild[95]	6.75%-7.18%	6.93%
Mr. Gorman[96]	10.15%	10.15%
Dr. Woolridge[97]	9.05%	9.05%

From the onset, it is evident that Mr. Ellis' 5.55 percent CAPM ROE estimate fails the test of economic logic. No rational investor would accept a return on equity that is below the return that they could receive on debt by investing in safer utility bonds that have a priority claim on earnings ahead of equity shareholders. As such, results that are so implausibly low should be given no weight.

Also, as a preliminary matter, Mr. Rothschild, Mr. Gorman, and Dr. Woolridge incorrectly claimed that I relied on the Empirical CAPM ("ECAPM") analysis in my

[93] Dr. Woolridge does not directly present the results of his analyst growth rate DCF models. Referencing Ex. JRW-5 of his Direct Testimony, using his adjusted dividend yield of 3.56 percent for the gas proxy group combined with his projected analyst EPS growth rate of 7.6 percent results in an equity cost rate of 11.16 percent..

[94] Ellis Testimony, at 7.

[95] Rothschild Testimony, Ex. ALR-2; point estimate is the average of low and high results.

[96] Gorman Testimony, at 286.

[97] Woolridge Testimony, Ex. JRW-6.

Direct Testimony.[98] I did not introduce the ECAPM in this proceeding and consequently will not address anything related to the ECAPM.

Q. Before responding to the Intervenor Witnesses' criticisms of your CAPM analysis, are there areas of agreement with respect to your respective CAPM analyses?

A. Yes, there are. First, Dr. Woolridge, Mr. Gorman, Mr. Ellis, and I agree that the 30-year Treasury bond yield is appropriate to use as the risk-free rate.[99] Second, Dr. Woolridge relies on Value Line Beta coefficients.[100]

Q. Mr. Ellis asserts that the use of forecasted risk-free rates "tend to introduce upward bias."[101] Is he correct?

A. No. The forecasted risk-free rates in my analysis are lower than the current 30-day average risk-free rate. Thus, the CAPM results using a projected risk-free rate are lower than the results using the current risk-free rate. Further, Mr. Gorman's Table 6 shows that, in 2024, Blue Chip underestimated the 30-year Treasury yield that actually had occurred in the first two quarters of 2025.[102] Thus the CAPM estimates using the risk-free rates projected by Blue Chip in 2024 would have underestimated the ROE, not overstated it.

[98] Rothschild Testimony, at 76; Gorman Testimony, at 287; Woolridge Testimony, at 82.

[99] Ellis Testimony, at 84; Woolridge Testimony, at 59; Gorman Testimony, at 281.

[100] Woolridge Testimony, at 62.

[101] Ellis Testimony, at 58.

[102] Gorman Testimony, at 48.

Q. Do you have any concerns with Mr. Rothschild's estimates of the risk-free rate?

A. Yes, I do. I disagree with Mr. Rothschild's application of 3-month Treasury bills as an estimate of the risk-free rate.[103] Mr. Rothschild's claim that "The value of short-term U.S. Treasury bills has a relatively low exposure to swings in the overall market,"[104] is demonstrably false given changes over the recent years. For example, on January 3, 2022 the spot yield on 3-month Treasury bill was 0.08 percent compared to 4.42 percent on December 31, 2022.[105] Moreover, the use of a short-term interest rate is inappropriate for the risk-free rate in this application of the CAPM. In determining the security most relevant to the application of the CAPM, it is important to select the term that best matches the life of the underlying investment. As noted by Morningstar:

> The traditional thinking regarding the time horizon of the chosen Treasury security is that it should match the time horizon of whatever is being valued… Note that the horizon is a function of the investment, not the investor. If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years.[106]

Since utility assets are long-duration investments, it is appropriate to use yields on long-term Treasury bonds as the risk-free rate component of the CAPM. The 30-year Treasury bond is the appropriate security for that purpose.

Additionally, Mr. Rothschild notes that "a CAPM analysis that uses a risk-free rate based only on long-term interest rates may overstate the COE because these bonds do not have a zero beta. It is not appropriate to use a risk-free rate based on interest rate forecasts

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[103] Rothschild Testimony, at 56-57.

[104] Rothschild Testimony, at 57.

[105] Federal Reserve, *H15 Selected Interest Rates* (August 19, 2025), *available at:* https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H15.

[106] Morningstar Inc., Ibbotson SBBI 2013 Valuation Yearbook, at 44.

because it often does not represent investors' expectations."[107] I disagree with this contention. Estimating the cost of equity is a forward-looking exercise, which is based on investor expectations. Further, according to Dr. Roger Morin:

> At the conceptual level, given that ratemaking is a forward-looking process, interest rate forecasts are preferrable. Moreover, the conceptual models used in the determination of the cost of equity, such as the CAPM, are prospective in nature and require expectational inputs. [108]

Q. How do the Intervenor Witnesses estimate Beta coefficients?

A. Dr. Woolridge and Mr. Gorman each rely on Value Line Beta coefficients, though Mr. Gorman makes a calculation adjustment that I will address below. Dr. Woolridge also relies on Beta coefficients published by S&P Capital IQ, to which he applies the Blume adjustment.[109] Mr. Ellis relies on Zacks and Yahoo! Finance estimates of Beta that are calculated based on monthly returns, rather than the weekly convention used by Value Line and Bloomberg.[110] Mr. Rothschild relies on two measures of Beta: a "forward beta" and a "historical blended beta."[111] Mr. Rothschild's "forward beta" is an unconventional "option-implied" estimate that he has calculated based on market prices for stock options. Mr. Rothschild's "historical blended beta" is a weighted average of three historical measures of Beta, also calculated by Mr. Rothschild.

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[107] Rothschild Testimony, at 58.

[108] *See, e.g.*, Roger A. Morin, Ph.D., New Regulatory Finance, at 172 (2006).

[109] Woolridge Testimony, at 62.

[110] Ellis Testimony, at 70, 84.

[111] Rothschild Testimony, at 58.

Q. Please describe Mr. Rothschild's "forward beta" approach.

A. Mr. Rothschild introduces an unconventional measure of "option-implied" Beta coefficients, citing a 2008 article in support of this methodology.[112] The authors discuss the advantages of forward-looking Beta coefficients as follows:

> …an important advantage when a company experiences major changes in its operating environment or capital structure, in which case historical return data do not constitute a reliable source for estimating betas. Examples include firms undergoing large mergers or acquisitions, reorganized firms emerging from Chapter 11, firms undertaking IPOs or SEOs, firms undertaking large-scale expansions and major changes in the composition of debt and equity.[113]

None of these conditions are true in this case as utilities operate in the mature stage of the business cycle where there is not any expectation for structural changes in the coming six months. Mr. Rothschild also cites a subsequent article from Chang, Christoffersen, Jacobs, and Vainberg, who regard the approach as a "radically different approach," and note "much remains to be done" in terms of further research.[114] As such, it is not appropriate to apply this approach in this proceeding, and in general, it should be applied with caution.

Further, Mr. Rothschild fails to address several of the fundamental concerns cited in the research surrounding option-implied Beta coefficients. For example, in another article referenced by Mr. Rothschild as support for the methodology, titled "Forward-Looking Betas", Christoffersen, Jacobs and Vainberg suggest that six months may not be the

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[112] Rothschild Testimony, at 67.

[113] Peter Christoffersen, Kris Jacobs, and Gregory Vainberg, "Forward-Looking Betas", April 25, 2008, at 24. (Emphasis added)

[114] Bo-Young Chang & Peter Christoffersen & Kris Jacobs & Gregory Vainberg, (2011) Option-Implied Measures of Equity Risk, Review of Finance 16: 385-428.

appropriate time-period to use when estimating the cost of capital. Specifically, Christoffersen, Jacobs and Vainberg note that:

> [T]he main focus in this paper has been on forecasting 180-day ex-post betas, which are relevant for certain applications such as abnormal returns. **For other applications, such as cost of capital calculations, longer-horizon betas may be needed.**[115]

Mr. Rothschild's option-implied Beta calculations are based on options data for the next six months.[116] Specifically, with regard to estimating the cost of capital, given that Mr. Rothschild did not address one of the fundamental concerns cited by the authors who developed option-implied Beta calculations, this "radically different approach" should be rejected.

Q. Are you aware of any publication that produces estimates of option-implied Beta coefficients?

A. No, I am not. More importantly, Mr. Rothschild provides no evidence that investors rely on option-implied Beta coefficients. While the underlying options that Mr. Rothschild is relying on are certainly market-based, there is no evidence that the Beta calculations that Mr. Rothschild performs reflect investor expectations.

Q. Do you have any broader concerns about Mr. Rothschild's option-implied Beta analysis?

A. Yes, I do. I do not agree generally with Mr. Rothschild's option-implied Beta approach. In particular, I take specific issue with (1) the lack of liquidity within his options analysis, (2) statistical inferences based on highly questionable data, and (3) significant swings in

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[115] Peter Christoffersen, Kris Jacobs, and Gregory Vainberg, "Forward-Looking Betas", April 25, 2008, at 24 (emphasis added).

[116] Rothschild Testimony, at 68.

the Beta coefficients (and consequent CAPM results) from week to week. To briefly summarize, Mr. Rothschild's option-implied Beta analysis is built on limited observational data that makes his analysis not robust. This is illustrated by the large swings in cost of equity in the charts he includes as Appendix H to his testimony.[117] For example, the various options models find a cost of equity in the approximately 5-7 percent range towards the end of 2021, which jumps up to being in the approximately 9-10 percent range towards the end of 2022. Any approach that can vary that wildly, without a significant market event (i.e., COVID-19) to cause that variation, fails the test of economic logic and should be rejected.

Q. When estimating the cost of capital for a utility, is it appropriate to use shorter-duration Beta coefficients, such as the 6-month and 2-year Beta coefficients that Mr. Rothschild uses?

A. No. Utilities are required to provide safe and reliable service, and potentially raise or access capital to do so, in all market environments. Shorter-duration Beta coefficients may not fully capture a broad base of market conditions, leading to a cost of equity capital estimate that is unduly based on recent market conditions, which may not reflect future market conditions. Additionally, this results in a less robust estimation, which may undulate in short time periods; this is not appropriate when estimating the cost of equity capital for long-duration utility infrastructure.

[117] Rothschild Testimony, at 140-141.

Q. What is your response to Mr. Gorman's "calculated" historical average Beta coefficient?

A. Witness Gorman considers a "calculated" proxy group average historical Beta coefficient of 0.78 rather than Value Line's published Beta coefficients (0.81 on average) to "exclude the aberrant market data during the onset of the COVID-19 pandemic."[118] However, referencing Mr. Gorman's Chapter 7 (SoCalGas) Exhibit MPG-15, it is not clear how Mr. Gorman performs this calculation, as Mr. Gorman's footnote 3 on Exhibit MPG-15 is not described within that exhibit. As such, from the onset, the Commission should exercise caution when considering Mr. Gorman's calculated Beta coefficients, as it is not apparent how they are calculated. Notwithstanding, utilities are required to provide safe and reliable service, and potentially raise or access capital to do so, in all market environments. As such, arbitrarily excluding data because it is "aberrant" may jeopardize SoCalGas's ability attract the amount of capital it needs on favorable terms to provide safe and reliable service and meet California's clean energy mandates. Additionally, I use 10-year Beta coefficients to better capture the variety of market conditions in which utilities are required to serve, without applying undue weight to any particular period.

Q. Mr. Ellis asserts that Blume-adjusted Beta coefficients "are not valid for utilities."[119] What is your response?

A. I disagree. First, I note that Marshall Blume included utilities in the sample of his original 1971 study published in the *Journal of Finance*, which consisted of all common

[118] Gorman Testimony, at 283.

[119] Ellis Testimony, at 70-71.

stocks listed on the New York Stock Exchange during January 1926 to June 1968. Mr. Ellis incorrectly asserts that Marshall Blume "did not investigate whether and how this tendency might vary across stocks with different characteristics."[120] Contrary to Witnesses Ellis' assertion, Blume investigated the tendency between lower risk portfolios versus higher risk portfolios and concluded that the tendency to regress towards the mean was "stronger for the lower risk portfolios than the higher risk portfolios."[121] I continue to believe that Blume-adjusted Beta coefficients are reasonable for utility companies, as used by a multitude of cost of capital practitioners in this proceeding (i.e., the Utilities' Witnesses as well as Intervenor Witnesses Woolridge, Gorman, and Rothschild) and numerous other utility regulatory proceedings.

Q. What is your response to Witness Ellis' use of monthly Beta coefficients, rather than weekly Beta coefficients?

A. As a preliminary matter, I disagree with Witness Ellis' contention that "[t]he Utilities' omission of betas from other commonly used sources, including those they use elsewhere in their analyses, is unambiguous evidence of cherry-picking."[122] Value Line's reported Beta coefficients are widely used by cost of equity witnesses representing a variety of parties and have been accepted by regulatory commissions for decades. Bloomberg's Beta coefficients are similarly widely used and accepted by investors and industry practitioners.

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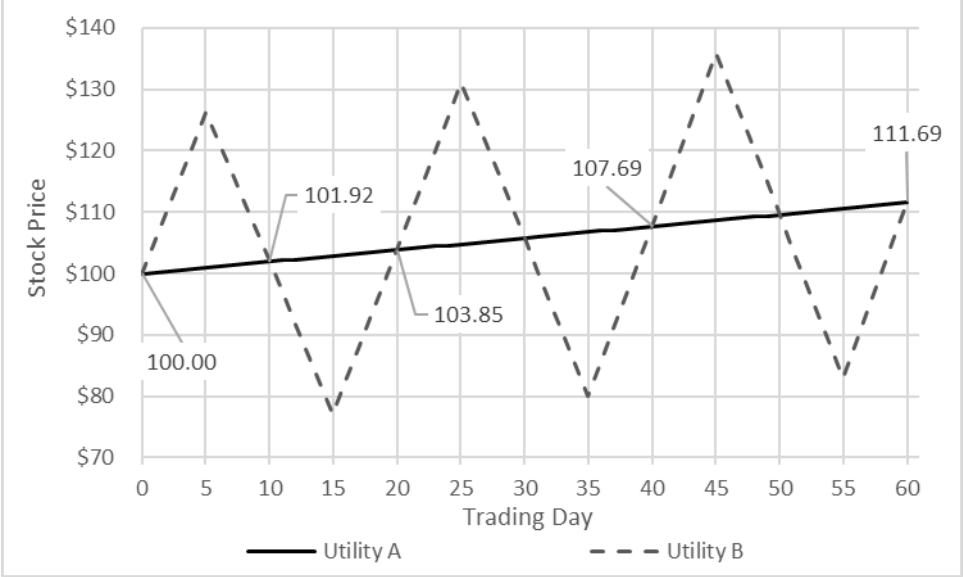
[120] Ellis Testimony, at 71.

[121] Marshall E. Blume, "On the Assessment of Risk," The Journal of Finance Vol. 26, No. 1, at 7-8 (1971).

[122] Ellis Testimony, at 70.

Notwithstanding, by their nature, Beta coefficients calculated using monthly returns do not capture intra-month return volatility and could lead one to conclude utility stock returns are more stable than they actually are. Consider, for example, stock prices for two utilities – Utility A and Utility B – over a 60-trading day period (roughly three calendar months), illustrated in Figure 16 below. Both utilities start trading at a price of $100 per share. Both utilities report a stock price return of 11.69 percent at the end of three months. At the end of every month (the 20th trading day), both stocks have the same price. However, Utility B's stock price is clearly more volatile (and therefore riskier) than Utility A's stock price.

Figure 16: Illustrative Example of Weekly vs. Monthly Stock Volatility



If the Beta coefficient for Utility B was calculated using monthly returns, it would not capture intra-month stock price volatility and Utility B's Beta coefficient would be the same as Utility A's. On the other hand, if the Beta coefficients were calculated using weekly returns (every five trading days), Utility B's Beta coefficient would be higher than Utility A's, all else equal, better reflecting its higher volatility.

In my experience, weekly Beta coefficients reported by Value Line and Bloomberg are commonly relied on by ROE witnesses in regulatory proceedings, and I am not aware of broad regulatory acceptance of monthly Beta coefficients.

Q. What is your response to Mr. Ellis' contention that you "manipulated" the Beta coefficients from Bloomberg?

A. Mr. Ellis is incorrect and his position is based on a presumption that Bloomberg's "default" setting means that it is Bloomberg's preferred or recommended setting, which is unproven. As Witness Ellis acknowledges, Bloomberg allows users to select each of the parameters of Beta estimates. Users can select the time period, return frequency, and benchmark index and doing so is not "manipulation," but rather a feature of Bloomberg's Beta estimates.

Q. The Intervenor Witnesses challenge the growth rate used when calculating the market risk premium ("MRP") you have used in your CAPM analysis, noting that it is too high, excessive, or unsustainable.[123] Can you please respond to their concerns?

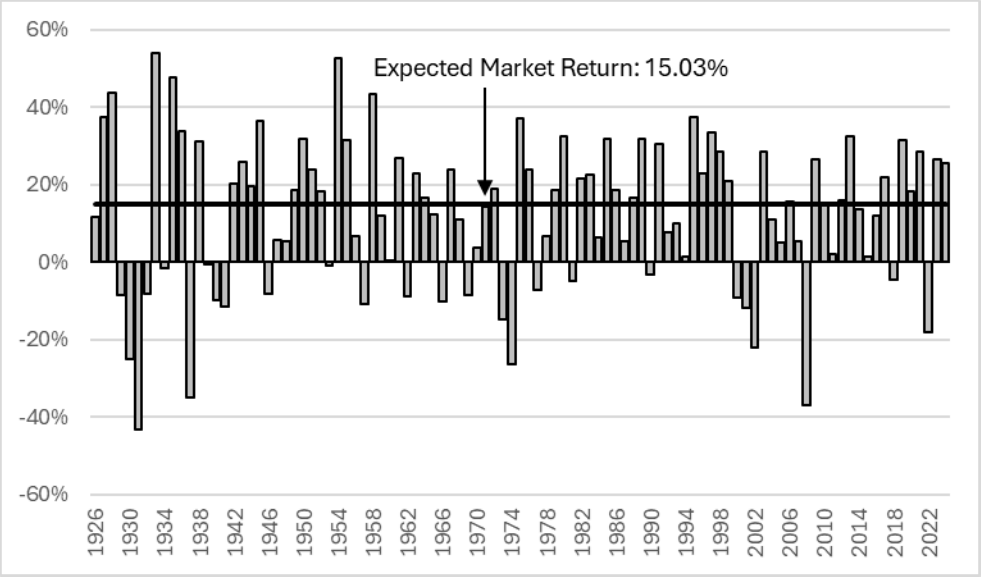
A. The Intervenor Witnesses' concerns are misplaced, for multiple reasons. First, the cost of equity is forward looking, therefore the growth rate should also be forward looking. Second, my approach is widely used in utility regulatory proceedings and is consistent with the approach adopted by FERC, as I had noted in my Direct Testimony.[124] Third, a market return that is greater than or equal to the market return that I use, 15.03 percent or 11.54 percent (see Rebuttal Exhibit JCN-4) has occurred frequently. I have analyzed the

[123] Woolridge Testimony, at 94-110; Gorman Testimony, at 292-294; Ellis Testimony, at 76-77; Rothschild Testimony, at 80-82.

[124] Nowak Testimony, at 32.

annual performance of the S&P 500 from 1926-2024 and conservatively compared that to the higher of my two growth rates (15.03 percent). As shown in Figure 17 below, the actual return on the S&P 500 Index has exceeded 15.03 percent in more than half (50 out of 99) of the years from 1926-2024, 12 of the past 24 years, and 10 of the past 16 years.[125] These data demonstrate that actual total returns for the broad market greater than 15.03 percent are not uncommon.

Figure 17: Total Returns of S&P 500 Index – 1926-2024



Finally, my explanations presented in Section VII above as to why earnings growth is not limited by GDP would also apply here. Using the multi-stage DCF model to estimate the market return component of the CAPM (as Witness Ellis does)[126] is not appropriate, similar to how using a multi-stage DCF model is not appropriate, as I had explained above. Companies are frequently being added or removed from the S&P500, and by

[125] Kroll, 2025 SBBI Yearbook, Appendix A-1, A-7 (years 1926-2024); Cost of Capital Navigator (2024 data).

[126] Ellis Testimony, at 84.

economic logic, those removed would likely be undergoing financial hardship (i.e., low or negative growth) while those added would likely be quickly growing such that they're able to increase their market cap enough to enter the S&P500. Additionally, Mr. Ellis's example comparing the S&P 500 Index's profit to GDP[127] has no meaningful value, as the current market value of the S&P 500 Index is approximately $50 trillion, which already exceeds GDP. In summary, the idea that the growth of the S&P 500 would be limited to GDP or the risk-free rate has no merit.

Q. Have the actual observed Market Risk Premia been consistent with the Market Risk Premia estimates produced by Dr. Damodaran (whose MRP estimates are used by Dr. Woolridge)?[128]

A. No, they have not. As shown in Figure 18 below, Dr. Damodaran's annual implied equity risk premium has been far removed from actual observed market risk premia in recent years. Further, the average actual market risk premium (11.92 percent) is significantly above my market risk premiums (which range from 6.64 percent to 10.63 percent, as shown on Rebuttal Exhibit JCN-5), which suggests that my CAPM MRP may be conservative.

[127] Ellis Testimony, at 77.

[128] Woolridge Testimony, at 71

Figure 18: NYU Annual Implied Equity Risk Premium vs. Observed Market Risk Premium[129]

Year	NYU Implied Equity Risk Premium	Actual Market Risk Premium
2010	5.20%	10.81%
2011	6.01%	-1.71%
2012	5.78%	13.54%
2013	4.96%	29.51%
2014	5.78%	10.28%
2015	6.12%	-1.09%
2016	5.69%	9.66%
2017	5.08%	19.16%
2018	5.96%	-7.20%
2019	5.20%	28.94%
2020	4.72%	16.98%
2021	4.24%	26.98%
2022	5.94%	-20.72%
2023	4.60%	22.44%
2024	4.33%	21.28%
Average	**5.31%**	**11.92%**

Q. Do you have any concerns with Mr. Rothschilds MRP?

A. Yes, I do. First, Mr. Rothschild states that "Leading scholars on the topic have determined that investors generally demand an MRP of 4.0% on average, when using the rate on ten-year Treasuries as the risk-free rate."[130] He does not cite these "leading scholars", essentially providing no evidence to support his assertion.

[129] Sources: https://pages.stern.nyu.edu/~adamodar/New_Home_Page/home.htm; Kroll, 2023 SBBI Yearbook, Appendix A-1 and A-7 (years 1926-2022); Cost of Capital Navigator (2023-2024 data).

[130] Rothschild Testimony, at 32.

Additionally, similar to other areas of his analyses, Mr. Rothschild uses an option-implied return expectations approach to calculate the MRP that he uses in his CAPM analyses.[131] My concerns with this "option-implied" approach that I discussed extensively earlier in my Rebuttal Testimony would apply here as well. Further, this approach fails the test of basic economic logic in that its MRP results go from a roughly 8 to 11 percent range (depending on which variant is referenced) towards the beginning/middle of 2022 to a roughly 2 to 4 percent range toward the middle of 2024.[132] Such a precipitous drop calls into question the validity of the metric, especially considering that 30-year Treasury rates only increased by roughly 220 basis points over that same time period, a 430 basis point differential vs. Mr. Rothschild's option-implied MRP approximately 650 basis point drop.[133] To analyze this in a more sophisticated way, using the -0.5753 slope term in my Risk Premium analysis[134] yields an expected decrease in the MRP of 127 basis points,[135] a much lower magnitude than Mr. Rothschild's roughly 650 basis point drop.

In conclusion, due to the myriad of issues with Mr. Rothschild's "option-implied" methodology and his MRP calculations failing the test of economic logic, the Commission should reject Mr. Rothschild's MRP.

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131 Rothschild Testimony, at 69-70.

132 Rothschild Testimony, at 33, "Historical Option-Implied MRP" chart.

133 The 30-year Treasury bond rate was 2.44 percent on April 1, 2022 and 4.64 percent on July 1, 2024. Using a midpoint of 9.50 percent and 3.00 percent for Mr. Rothschild's MRP indicates a 650-basis point drop.

134 *See* Rebuttal Exhibit JCN-6.

135 Calculated by multiplying -0.5753 and 220 basis points.

Q. Dr. Woolridge relies on several surveys and studies to determine his market risk premium.[136] Do you have any concerns with this approach?

A. Yes, I do. First, my concern with relying on surveys is that surveys are often ambiguous and not clearly designed to have confidence that the responses are based on a uniform baseline understanding of what is being surveyed. Analysts are likely to give different responses regarding the expected market return or Equity Risk Premium depending on whether they are considering short or long periods, the current market environment, the risk-free rate that is assumed, real vs. nominal returns, arithmetic vs. geometric returns, and the prevailing point in the economic cycle (expansion vs. contraction; high vs. low inflation, etc.). In other words, we cannot verify respondents' inputs and assumptions to assess whether the responses are comparable.

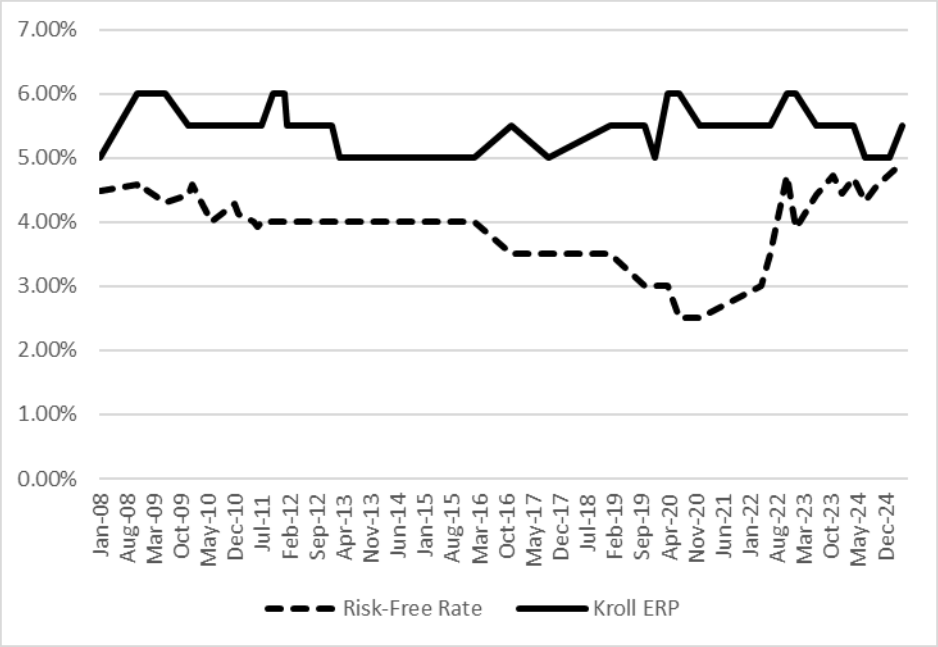
Second, I disagree with Kroll's recommended market risk premium. My primary concern is that it is not clear that Kroll develops its market risk premium in relation to its risk-free rate. The market risk premium is calculated as the difference between the expected market return and risk-free rate; therefore, it is a function of the expected market return and risk-free rate at a point in time. Consequently, the market risk premium and risk-free rate are not independent of each other, they are interrelated. In fact, academic studies have shown that the two are inversely related.[137] As the risk-free rate decreases, the market risk premium increases and vice versa. However, as shown in Figure 19 below, there is no clear relationship between Kroll's recommended equity risk premium and

[136] Woolridge Testimony, at 63-71.

[137] *See, e.g.*, Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management, (Summer 1992), at 63-70.

risk-free rate. Whereas academic studies indicate that the two lines should move in opposite directions, Figure 19 shows they do not.

Figure 19: Kroll Recommended Equity Risk Premium and Risk-Free Rate (2008-2025)[138]



The conclusion that there is no clear relationship between Kroll's variables is supported by statistical analysis. To assess whether there is a relationship, I performed a linear regression in which Kroll's recommended Equity Risk Premium was the dependent variable and the recommended risk-free rate was the independent variable. The R-square was 0.12 percent, which means that Kroll's risk-free rate explains only 0.12 percent - virtually none - of the change in the Equity Risk Premium. This runs counter to the fundamental principle that the MRP is a function of the risk-free rate, as noted earlier. Moreover, the slope coefficient was not statistically significant, which means there is little confidence in the statistical results. This is not to suggest that Kroll is not a valid or

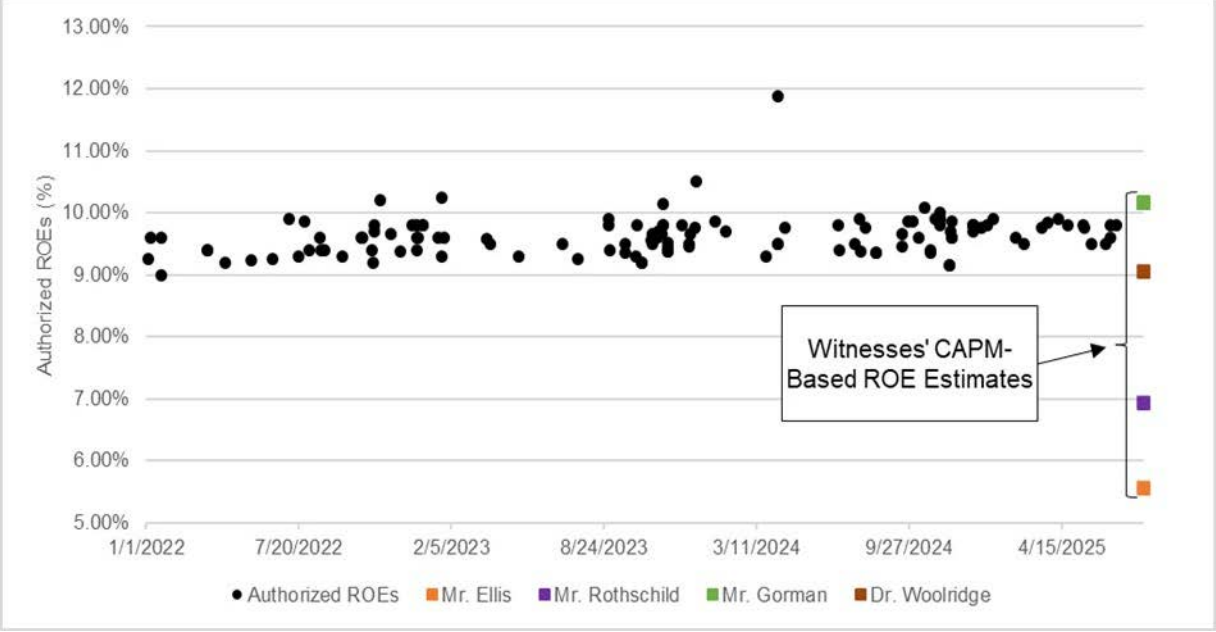
[138] Sources: Kroll Cost of Capital Navigator, Federal Reserve Bank of St. Louis FRED Economic Data.

credible source of data. Rather, it suggests that the usefulness of Kroll's Equity Risk Premium recommendation at the current time is questionable given that it runs counter to academic and financial theory.

Q. Do Witnesses Ellis', Rothschild's, and Woolridge's CAPM estimates satisfy the *Hope* and *Bluefield* comparable return standard?

A. No, they do not. As can be seen on Figure 20 below, the CAPM-based ROE estimates that Witnesses Ellis, Rothschild, and Woolridge recommend are well below almost all recently authorized ROEs for gas utilities. Thus, these estimates fail to satisfy the *Hope* and *Bluefield* comparable return standard I noted above.

Figure 20: Witnesses' CAPM-Based ROE Estimates[139]



Q. What is your conclusion with regard to the CAPM?

A. My conclusion is that using reasonable inputs for the risk-free rate and MRP, along with current Beta coefficients from Value Line and Bloomberg, the CAPM is producing

[139] Source: RRA, rate case decisions for gas utilities as of July 31, 2025. Excludes decisions with companies that operate under a formula rate plan or decisions with ROE penalties.

reasonable results that should be considered along with the results from the DCF, Risk Premium and Expected Earnings models. The CAPM results of Witnesses Ellis, Rothschild, and Woolridge do not satisfy the *Hope* and *Bluefield* comparable return standard and should be disregarded. Mr. Gorman's CAPM results should be given little weight, as his arbitrary Beta adjustment may jeopardize SoCalGas's ability attract the amount of capital it needs on favorable terms to provide safe and reliable service and meet California's clean energy mandates.

IX. RISK PREMIUM MODEL

Q. The Witnesses challenge the use of a Risk Premium model such as the one you have presented, or they contend that your application of the Risk Premium model is not reasonable. How do you respond to their concerns?

A. The Witnesses have expressed three primary concerns regarding my Risk Premium analysis: (1) that I have used historical authorized ROEs and Treasury yields and applied the resulting risk premium to projected Treasury yields; (2) that the analysis is a gauge of regulatory commission behavior, not investor behavior (i.e., is not market-based and dependent on authorized ROEs); and (3) that my methodology produces an inflated or upwardly biased required rate of return because interest rate volatility is not as extreme in today's marketplace and utilities have been selling above book value for the last decade.[140]

As a preliminary matter, I assume Dr. Woolridge is addressing my approach when he says "Nelson's approach"[141] (likely referring to my colleague, Jennifer E. Nelson).

[140] Woolridge Testimony, at 111-112; Rothschild Testimony, at 82-84; Ellis Testimony, at 34-39; Gorman Testimony, at 295-297; McCann Testimony, at 24-28.

[141] Woolridge Testimony, at 111.

Notwithstanding, regarding the first concern, my Risk Premium analysis determines the appropriate risk premium based on the relationship between historical authorized ROEs for gas utilities and Treasury bonds yields over the last 33 years. I disagree with Witness Woolridge that it is incorrect to apply the risk premium estimated from the regression analysis to current and projected Treasury yields in order to estimate the ROE at specified interest rates. As shown in Rebuttal Exhibit JCN-6, my Risk Premium analysis is supported by a regression equation that evaluates the relationship between Treasury bond yields and the equity risk premium over time. The regression equation has an R^2 of 0.8262, which indicates that there is a high degree of correlation between the change in the equity risk premium and changes in interest rates, making the model a reliable predictor of the equity risk premium at various levels of interest rates. This is a statistically significant relationship, and an intuitive one, reflecting the change in the equity risk premium in response to changes in interest rates and economic conditions. In other words, my Risk Premium analysis is designed to do exactly what Witness Woolridge suggests it cannot – that is, use the historical relationship between bond yields and equity risk premia to predict how the risk premium, and ultimately the ROE, reacts to changes in interest rates.

As a preliminary matter, Dr. Woolridge's statement that "Treasury yields are always forecasted to increase"[142] is incorrect; as can be seen in Rebuttal Exhibit JCN-6, Blue Chip Financial Forecasts projects that Treasury yields will decrease slightly from current levels. Notwithstanding, in response to the second concern, while my Risk Premium analysis is based on authorized ROEs and the corresponding Treasury yields at the time

[142] Woolridge Testimony, at 111.

the regulatory decisions were issued, investors are informed by allowed ROEs from several hundred rate case decisions to frame their return expectations. A fundamental principle in setting a just and reasonable return is that the return must be comparable to returns available to investors in companies with commensurate risk. In that regard, the returns that have been authorized for other gas utility companies are highly relevant to investors. Moreover, the use of several hundred rate cases over the last 33 years mitigates the effect of the unique circumstances of any one rate case. Lastly, commissions are tasked with determining the appropriate regulated return that is based on a utility's cost of equity. In my experience, regulators like this Commission carefully weigh the results of various models that reflect investor behavior and market data. From that perspective, authorized ROEs reflect the commission's informed opinion regarding investors' views of the utility's cost of equity. Dr. McCann's assertion that commissions have authorized excessive ROE premiums[143] is unfounded, as the work of any academic study cannot claim to have more correctly identified the appropriate ROE than several hundred regulatory proceedings that each individually spends months of thorough investigation into what the just and reasonable ROE is for that particular situation. Notably, the Commission has repeatedly found that the Risk Premium Model is regularly used in cost of capital proceedings.[144]

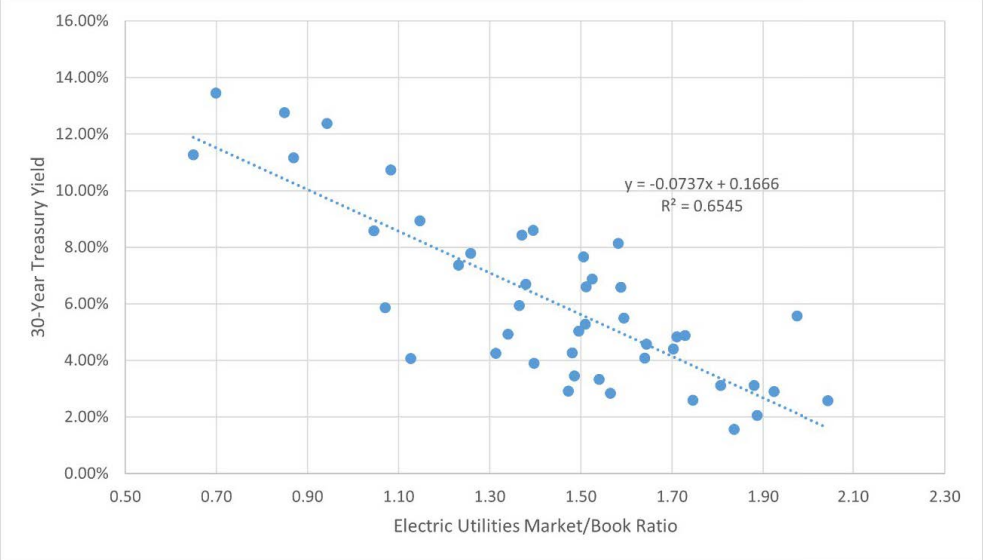
Regarding the third concern, as shown in Figure 21 below, I performed an analysis that examines the correlation between government bond yields and the market-to-book ratios for gas utilities from 1980-2024, using data provided in Exhibit JRW-2 from 2001-2024

[143] McCann Testimony, at 25-27.

[144] D.22-12-031 at 18-19.

and from the Mergent Public Utility Manual from 1980-2000. The R^2 for this analysis is approximately 0.65, indicating a measurable relationship between M/B ratios and interest rates. This relationship indicates that utility M/B ratios have increased not because authorized returns were higher than the true cost of equity, but because interest rates on government bonds were steadily declining for most of the past four decades. Low interest rates are favorable for capital-intensive industries such as utilities, while increasing interest rates are not. As interest rates rose in recent years, market-to-book ratios for utilities declined (see, e.g., Dr. Woolridge's Exhibit JRW-2).

Figure 21: M/B Ratios and Treasury Bond Yields – 1980-2024[145]



[145] Sources: Treasury Yields from Bloomberg Professional; electric utility market/book ratios from Woolridge Testimony Ex. JRW-2 for 2001-2024 and Mergent Public Utility Manual for 1980-2000.

Q. Mr. Ellis notes that "FERC has specifically ruled out [the Risk Premium model] for use in its rate of return proceedings"[146] and "Regulators in […] California have explicitly rejected or dismissed proposals to use book ROE-based models."[147] Do you agree with him?

A. No, I do not. First, Mr. Ellis does not cite the FERC's most current stance. In its most recent Order on the ROE topic, FERC noted that, "[t]herefore, while we do not adopt the Risk Premium model here for the reasons discussed above, we do not foreclose the use of a Risk Premium model in future proceedings if parties can demonstrate the concerns discussed above have been addressed."[148] As such, FERC has not "ruled out" the Risk Premium model; it would consider it if parties can demonstrate that its concerns have been addressed.

Second, the California regulatory decision that Mr. Ellis cites[149] deals with the Commission's rejection of flotation costs (which I have not proposed in this proceeding), not "book ROE-based models" as Mr. Ellis contends. Flotation costs are a completely different concept than the Risk Premium or Expected Earnings models, and any attempt to conflate these two concepts should be disregarded.

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[146] Ellis Testimony, at 37 (clarification added).

[147] *Id*., at 39. (clarification added).

[148] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.,* 189 FERC ¶ 61,036 (Oct. 2024).

[149] A.19-04-014, *et.al.,* Decision on Test Year 2020 Cost of Capital for the Major Energy Utilities, Decision 19-12-056 (December 19, 2019), *available at:* https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M322/K633/322633896.PDF.

Q. Mr. Ellis notes that the "[Risk Premium model] is not used elsewhere in finance."[150] Do investors use the Risk Premium model?

A. Yes, they do. As an example, in a December 2023 report from UBS on the utility sector, the investment bank presents a regression analysis which shows that current authorized ROEs are below what would be expected given the historical level of the 10-year Treasury bond yield – i.e., the premise of my Risk Premium analysis.[151] As such, Mr. Ellis' statement is incorrect.

Q. Please describe Mr. Gorman's Risk Premium Analyses.[152]

A. Mr. Gorman develops two Risk Premium-based approaches. Both approaches are based on his calculation of the risk premium as the difference between the average annual authorized equity returns for gas utilities and a measure of long-term bond yields for each year between 1986 and March 31, 2025. Mr. Gorman's first approach to estimating the Risk Premium looks to the 30-year Treasury yield, and his second approach considers A-rated utility bond yields.

In developing his risk premium estimates, Mr. Gorman reviews annual risk premiums as well as risk premiums over five-year and ten-year rolling averages. He states that he recommends "a risk premium near the historical average"[153] but ultimately discounts the historical averages he reports by ten percent. For his Risk Premium analysis using Treasury bond yields, he applies his projected 30-year Treasury bond yield of 4.50 percent with a Treasury bond risk premium of 5.00 percent, which is 90 percent of his

[150] Ellis Testimony, at 35 (clarification added).

[151] UBS, "US Utilities 2024 Outlook: A Year for Resolutions and Resolve," December 12, 2023, at 10.

[152] Gorman Testimony, at 272-280.

[153] *Id*., at 279.

average annual Treasury bond risk premium between 1986 and March 31, 2025, which produces an ROE estimate of 9.50 percent.[154]

Using the same approach for his utility bond yield analysis, Mr. Gorman calculates annual risk premiums as well as risk premiums over five-year and ten-year rolling averages and relies on the annual average from January 1986 to March 31, 2025, of 4.26 percent with a ten percent discount (3.90 percent). Combining the 3.80 percent average risk premium estimate with the three month average A-rated utility bond yields between January and March 2025 (5.89 percent), Mr. Gorman calculates an ROE estimate of 9.70 percent. Based on his two Risk Premium analyses, he concludes that the midpoint of his range of 9.60 percent is an appropriate Risk Premium-based ROE estimate.[155]

Q. What are your specific concerns with Mr. Gorman's Risk Premium analysis?

A. I have three concerns with his analysis. First, Mr. Gorman's method understates the required risk premium in the current market because it fails to fully reflect the inverse relationship between the Equity Risk Premium and interest rates (whether measured by Treasury or utility bond yields). Second, Mr. Gorman artificially lowers his equity risk premium estimates by taking 90 percent of his annual average risk premia, which is arbitrary. Third, he does not apply a projected utility bond yield even though he applies a projected 30-year Treasury yield. To address these issues, I have updated Mr. Gorman's Risk Premium analysis with the more sophisticated regression approach that I have applied.

[154] Gorman Testimony, at 279-280.

[155] *Id.,* at 279-280.

Q. Please summarize Mr. Gorman's modified risk premium estimates once adjusted to fully reflect the inverse relationship between the equity risk premium and bond yields.

A. Applying the regression analyses to the data in Chapter 7 (SoCalGas) Exhibits MPG-12 and MPG-13 to fully reflect the inverse relationship between bond yields and the equity risk premium would suggest estimated ROEs ranging from 10.40 percent to 10.62 percent as shown in Rebuttal Exhibit JCN-9 and summarized in Figure 22, below. The average and midpoint are approximately 10.49 and 10.51 percent, respectively, or 89 to 91 basis points above Witness Gorman's 9.60 percent Risk Premium-based ROE recommendation.

Figure 22: Witness Gorman's Revised Risk Premium ROE Results

	Yield	Risk Premium	Estimated ROE
Projected 30-Year Treasury Yield	4.50%	5.90%	10.40%
May 2025 30-Year Treasury Yield	4.90%	5.72%	10.62%
3-Month Average Moody's 'A' Utility Bond Yield	5.89%	4.54%	10.43%
May 2025 Moody's 'A' Utility Bond Yield	6.05%	4.47%	10.52%
Projected Moody's 'A' Utility Bond Yield	5.96%	4.51%	10.47%
Average			**10.49%**
Midpoint			**10.51%**

Q. What is your conclusion with regard to the Risk Premium?

A. The Risk Premium model presents an intuitive relationship between interest rates, risk premiums, and the resultant cost of equity estimate. I have correctly applied this model, obtaining an ROE estimate of 10.43 percent. Applying this application to Mr. Gorman's

Risk Premium framework results in ROE estimates that range from 10.40 percent to 10.62 percent, which corroborates my analysis.

X. EXPECTED EARNINGS ANALYSIS

Q. Some Intervenor Witnesses disagree with the use of an Expected Earnings analysis to estimate the cost of equity for SoCalGas in this proceeding.[156] What is your response?

A. As a preliminary matter, I reiterate that I had only used the Expected Earnings analysis as a benchmark for my other cost of equity analyses. Notwithstanding, Dr. Woolridge contends that there are a number of issues with the Expected Earnings approach, claiming: 1) it does not measure the market cost of equity capital; 2) changes in ROE ratios do not track capital market conditions; 3) the approach is circular; 4) the proxy companies' projected ROEs reflect earnings on business activities that are not representative of SoCalGas's rate-regulated gas utility operations; and 5) the Value Line data used to develop the Expected Earnings analysis is biased upward and reflects the views of only one analyst.[157] I do not agree with these contentions.

In response to Dr. Woolridge's concerns, the *Hope* and *Bluefield* standards establish that a utility should be granted the opportunity to earn a return that is commensurate with the return on other investments of similar risk. Therefore, it is reasonable to consider the returns that investors expect to earn on the common equity of the gas utility companies in the proxy group as a benchmark for a just and reasonable return because that is the expected earned ROE that an investor will consider in determining whether to purchase

[156] Ellis Testimony, at 34-36, 38-39. Woolridge Testimony, at 114-117; Gorman Testimony, at 298-300.

[157] Woolridge Testimony, at 115-117.

shares in the company or to seek alternative investments with a better risk/reward profile. As Dr. Morin notes:

> The Comparable Earnings standard has a long and rich history in regulatory proceedings, and finds its origins in the fair return doctrine enunciated by the U.S. Supreme Court in the landmark Hope case. The governing principle for setting a fair return decreed in Hope is that the allowable return on equity should be commensurate with returns on investments in other firms having comparable risks, and that the allowed return should be sufficient to assure confidence in the financial integrity of the firm, in order to maintain creditworthiness and ability to attract capital on reasonable terms. Two distinct standards emerge from this basic premise: a standard of Capital Attraction and a standard of Comparable Earnings. The Capital Attraction standard focuses on investors' return requirements, and is applied through market value methods described in prior chapters, such as DCF, CAPM, or Risk Premium. The Comparable Earnings standard uses the return earned on book equity investment by enterprises of comparable risks as the measure of fair return.[158]

Dr. Woolridge fails to note in his critique of the Expected Earnings analysis that the authorized ROE that is established in this case will be applied to the net book value of the Company's authorized rate base (subject to certain regulatory adjustments). In this regard, the Expected Earnings approach provides valuable insight into the opportunity cost of investing in SoCalGas's gas utility operations. If investors devote capital to the Company (which would offer a return of only 9.25 percent on book value if Dr. Woolridge's recommendation were adopted), they forgo the opportunity for that same capital to earn a potentially greater return on book value through investment in the proxy companies. As a result, the Expected Earnings approach is informative because it

[158] New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 381.

provides a measure of the return on book value that is available to investors through other investments with comparable risk to SoCalGas.

Q. Please comment on Dr. Woolridge's references to Dr. Morin's statements in *New Regulatory Finance* as it pertains to the Expected Earnings analysis.[159]

A. Dr. Woolridge references Dr. Morin, who does discuss some of the weaknesses of the Expected Earnings analysis. However, in *New Regulatory Finance*, Dr. Morin discusses the strengths and weaknesses of each of the methodologies used to compute the cost of equity including the DCF and CAPM analyses. Additionally, Dr. Woolridge fails to mention Dr. Morin's conclusion regarding the Expected Earnings analysis. Specifically, Dr. Morin stated:

> The Comparable Earnings approach is far more meaningful in the regulatory arena than in the sphere of competitive firms. Unlike industrial companies the earnings requirement of utilities is determined by applying a percentage rate of return to the book value of a utility's investment, and not on the market value of that investment. Therefore, it stands to reason that a different percentage rate of return than the market cost of capital be applied when the investment base is stated in book value terms rather than market value terms. In a competitive market, investment decisions are taken on the basis of market prices, market values, and market cost of capital. **If regulation's role was to duplicate the competitive result perfectly, then the market cost of capital would be applied to the current market value of rate base assets employed by utilities to provide service. But because the investment base for ratemaking purposes is expressed in book value terms, a rate of return on book value, as is the case with Comparable Earnings, is highly meaningful.**[160]

[159] Woolridge Testimony, at 115.

[160] New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 394-395 (emphasis added).

Therefore, contrary to Dr. Woolridge's views, Dr. Morin believes that the Expected Earnings approach is highly meaningful in a regulatory setting similar to the one being used to set the cost of equity for SoCalGas.

Q. Please summarize Witnesses Gorman's and Ellis' positions regarding your Expected Earnings analysis.

A. Mr. Gorman argues that my Expected Earnings analysis "should be rejected because this approach does not measure the market required return appropriate for the investment risk of SoCalGas. Rather, it measures the book accounting return."[161] Mr. Ellis[162] expresses a similar concern. In addition, Mr. Gorman contends that "the earned return on book equity is simply not an accurate or legitimate basis upon which to determine a fair and reasonable ROE for both investors and customers."[163] Mr. Ellis additionally notes that "FERC has rejected the [Expected Earnings analysis]."[164]

Q. What is your response to Witnesses Gorman's, and Ellis' concerns related to the Expected Earnings approach?

A. The Expected Earnings approach provides an expected return for like-risk companies, which is a core strength of the model and consistent with the basic tenets of *Hope,* which requires that *"*the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks." Arguably, an investor would consider both current market valuations in deciding between companies of like risk and the value of the expected return on book value. Lastly, in developing his

[161] Gorman Testimony, at 298.

[162] Ellis Testimony, at 35-36.

[163] Gorman Testimony, at 299.

[164] Ellis Testimony, at 38 (clarification added).

sustainable growth rates for the DCF model, Mr. Gorman (as well as Witnesses Woolridge and Rothschild) assumes the reasonableness of the projected returns on equity from Value Line for the proxy group companies, which are the same returns that he dismisses as unreliable in the Expected Earnings analysis.

To Mr. Ellis, although the FERC has not included the Expected Earnings analysis in its more recent orders setting its ROE methodology (i.e., Opinion No. 569-A) for electric transmission companies, FERC has left the door open for presentation of an Expected Earnings analysis on a case-by-case basis.[165]

In my view, the Expected Earnings analysis provides a more stable picture of the returns that investors are expecting for companies in the utility sector based on Value Line data. This stability is due to Value Line's analysis and projections, which change when updated, in contrast to the CAPM and DCF results, which shift with more volatile market data. Moreover, as explained in this section, the use of accounting returns is appropriate because the authorized ROE is being applied to an accounting rate base in order to determine the net income a company is authorized to recover in rates. For all of these reasons, I continue to support the use of an Expected Earnings analysis as a benchmark to reference when estimating the cost of equity for SoCalGas in this proceeding.

[165] Federal Energy Regulatory Commission, Opinion No. 569-A, Order on Rehearing, issued May 21, 2020, at para. 132.

XI. BUSINESS RISKS

A. Regulatory Risk

Q. Several Intervenor Witnesses argue that the Company's rate structures mitigate SoCalGas's risk.[166] What is your response?

A. It is important to remember that the cost of equity is a comparative exercise. As such, the relevant point of comparison is the Company's risk relative to its peers. As explained in my Direct Testimony and shown in Direct Exhibit JCN-9, a substantial majority of the proxy group companies employ a variety of rate structures and mechanisms to mitigate regulatory lag; the regulatory structures available to SoCalGas are no different from the perspective of the investment community than those in place at the proxy companies.[167] And as Moody's recently noted, those regulatory mechanisms to mitigate regulatory lag, such as two-way balancing accounts, were recently weakened for SoCalGas.[168] Further, RRA, in their most recent state regulatory evaluations overview, downgraded California from "Average/1" to "Average/2", i.e., the middle result of 9 possible ratings, suggesting that the Company's regulatory climate is not any better or worse than its peers.[169] As a result, SoCalGas is no more or less risky than the proxy companies on account of its regulatory mechanisms. Therefore, contrary to these Intervenor Witnesses' arguments, my testimony and recommendation account for SoCalGas's regulatory mechanisms.

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[166] McCann Testimony, at 49-50; Yap Testimony, at 2-17; Dowdell Testimony, at 16-23; Gorman Testimony, at 20-23; Rothschild Testimony, at 22.

[167] Nowak Testimony, at 56-57.

[168] Moody's Ratings, "Southern California Gas Company Update to credit analysis", April 3, 2025, at 8.

[169] RRA State Regulatory Evaluations – Energy, Released July 2025, at 3.

Q. Ms. Yap submitted an overview of SoCalGas's proxy group companies' regulatory mechanisms and argues that "SoCalGas has superior risk mitigation to the bulk of the proxy companies."[170] Do you agree with her?

A. No. As a preliminary matter, I am not relying on my regulatory risk analysis to "justify an increase in the rate of return on equity for SoCalGas" as Ms. Yap claims.[171] As she herself quotes, I conclude that "the regulatory framework does not provide risk mitigation that meaningfully reduces the risk of the Company relative to the proxy companies."[172] As such, Ms. Yap's interpretation of my testimony is not correct. Notwithstanding, to emphasize what I explained above, the regulatory structures available to SoCalGas are not significantly different from the perspective of the *investment community* than those in place at the proxy companies. I am not aware of a situation whereby an investor made their investment decision based on, e.g., whether a utility subsidiary has full decoupling vs. partial decoupling and an infrastructure rider. This is emphasized by the fact that Ms. Yap did not provide any type of empirical analysis to demonstrate that investors had meaningfully changed their return requirements based on what she had analyzed. While Ms. Yap's argument may sound persuasive in theory, it misses the mark in application. Therefore, contrary to Ms. Yap's assertion, my testimony and recommendation account for SoCalGas' regulatory mechanisms, which do not meaningfully change its risk relative to the proxy group companies.

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[170] Yap Testimony, at 17.

[171] *Id*.

[172] *Id*., at 16, quoting Nowak Testimony, at 45.

B. Credit Ratings

Q. Do you agree with the Intervenor Witnesses (Dr. Woolridge and Mr. Gorman) who contend that credit ratings take into account all business and financial risks that are relevant to investors?[173]

A. No. Credit ratings, while important, are not the only consideration in assessing business or financial risk, and the risks for equity investors are not the same as the risks for bondholders. Credit ratings are assessments of the likelihood a company could default on its *debt*, whereas, the purpose of setting and ROE is to determine the riskiness and cost of the Company's *equity*. Equity investors are more concerned with earnings and rate base growth, regulatory support for recovery of prudently-incurred costs, the strength of the local economy and housing markets, capital spending, changes in interest rates, changes in long-term weather patterns, and exposure and opportunities related to decarbonization of the industry. Bondholders focus more on stability and predictability of cash flows and timeliness of cost recovery.

XII. MARKET TO BOOK RATIOS

Q. Some Intervenor Witnesses (Mr. Ellis, Dr. McCann, Mr. Gorman, Mr. Rothschild, and Dr. Woolridge)[174] have argued that because utility market to book ratios are above unity, or 1.0, utility ROEs are higher than their cost of equity. Do you agree?

A. No. First, I emphasize my analysis conducted in Section IX, which shows that the level of interest rates are a significant driver of M/B ratios. This demonstrates that there are exogenous factors that impact M/B ratios; enacting a policy of setting the ROE such that

[173] Woolridge Testimony, at 73-74; Gorman Testimony, at 29.

[174] McCann Testimony, at 28-37; Woolridge Testimony, at 12, 36-39; Gorman Testimony, at 274; Ellis Testimony, at 18-21, 105-112; Rothschild Testimony, at 19, 117-118.

a company's M/B ratio would equal 1.0, as Dr. McCann suggests,[175] would be a grave mistake that would ignore the market-based cost of equity. Further, if such a policy were enacted, ROEs could theoretically fluctuate wildly, which would be especially inappropriate for utilities with long-duration infrastructure.

Second, there are numerous reasons as to why a company's (utility or otherwise) M/B ratio should be greater than 1.0. An M/B ratio in excess of 1.0 provides little insight as to the appropriate level of authorized returns. Book value (or book equity) is an accounting measure reflecting historical costs. Market value is forward-looking and reflects future earnings dependent upon many factors, including future cash flows. The expectation that a backward-looking accounting measure should equal a forward-looking market measure is contrary to market economics. As such, it is reasonable to expect M/B ratios to exceed 1.0, not because returns are inflated, but rather due to investor expectations for the future value of a company to be higher than that of a historical accounting measure. Dr. McCann cites a few examples of companies having M/B ratios significantly above 1.0, i.e., "Apple (47.86), Meta (9.75), and Alphabet (6.45)".[176] Potential reasons for M/B ratios greater than 1.0 are numerous; they include (but are not limited to): intangible assets, goodwill, growth expectations, human capital (workforce skill/knowledge/expertise), innovation, patents/technology, brand, competitive or regulatory environment, management quality, investment stability, land appreciation that is not reflected in book value, historical vs. replacement cost differential, and potential fully depreciated assets still being in use. While some of these may be lower for utilities

[175] McCann Testimony, at 36-37.

[176] McCann Testimony, at 29.

than, e.g., technology companies, to conclude that all of these are non-existent for any utility would clearly be a failure of economic logic.

Finally, most companies have M/B ratios that are greater (sometimes much greater) than 1.0. As can be seen in Figure 23 below, which shows the M/B ratios for various sectors over the past three years from Siblis Research, all sectors have M/B ratios that are significantly higher than 1.0.

Figure 23: Price-to-Book Ratio by Sector[177]

Sector	12/31/24	12/31/23	12/31/22
Communications	5.10	3.91	2.61
Consumer Discretionary	10.06	9.40	7.54
Consumer Staples	6.33	5.54	6.12
Energy	1.99	2.13	2.50
Financials	2.33	2.05	1.64
Health Care	4.86	4.83	5.07
Industrials	6.35	5.82	5.27
Information Technology	13.09	11.42	7.93
Materials	2.74	3.01	2.90
Real Estate	3.02	3.03	3.00
Utilities	**2.22**	**1.93**	**2.21**

In conclusion, for the reasons noted above, it is clear that utilities do not have an ROE premium above the cost of equity, and the Intervenor Witnesses' arguments on this topic should not be given any weight.

XIII. CAPITAL STRUCTURE

Q. Some Intervenor Witnesses (Dr. Woolridge, Mr. Gorman, and Mr. Rothschild) present capital structure analyses of the proxy group companies at the holding

[177] Siblis Research, "Price-to-Book (P/B) Ratio by Sector (U.S. Large Cap)", 2025, https://siblisresearch.com/data/price-to-book-sector/.

company level,[178] and disagree with SoCalGas's proposed capital structure. What is your response?

A. Dr. Woolridge's, Mr. Gorman's, and Mr. Rothchild's analyses do not provide an apples-to-apples assessment. Because capital at the parent holding company level may finance unregulated operations, comparisons to the parent company capital structure may lead to flawed and misleading conclusions. The Intervenor Witnesses' comparisons of the Company's requested capital structure to the proxy group holding company capital structure that reflects both regulated and unregulated operations lead to their erroneous conclusion that the Company's financial risk is lower than the proxy group.

The capital structure analysis presented in Exhibit JCN-10 of my Direct Testimony (and updated in Rebuttal Exhibit JCN-8) calculates the actual capital structures in place only for the proxy companies' regulated utility operations. It therefore provides an apples-to-apples assessment of the reasonableness of SoCalGas's requested capital structure. As shown in Rebuttal Exhibit JCN-8, the Company's requested common equity ratio of 52.00 percent is within the range of the proxy group's operating utilities' actual equity ratios, demonstrating SoCalGas's requested capital structure is consistent with those in place at the proxy group, and is therefore reasonable and should be approved.

[178] Woolridge Testimony, at 27-28; Gorman Testimony, at Chapter 7 (SoCalGas) Exhibit MPG-2; Rothschild Testimony, Ex. ALR-5 at 5.

Q. Mr. Ellis and Dr. Woolridge make an adjustment to their recommended ROE to account for SoCalGas's equity ratio.[179] Do you agree with this adjustment?

A. No, I do not. SoCalGas's equity ratio satisfies the three-prong reasonableness standard widely applied by regulators for equity ratios – SoCalGas has access to capital markets and issues debt, has its own investment-grade credit rating, and its equity ratio is within industry standards (as noted above). Ultimately, lowering SoCalGas's ROE would harm its longstanding policy of maintaining financial resiliency and conservatively managing financial risk, which results in the strong financial metrics that intervenors laud SoCalGas for. It would also discourage utilities from maintaining strong credit metrics and prudently managing their financial risk.

Q. What is your conclusion with regard to SoCalGas's proposed capital structure?

A. My conclusion is that SoCalGas's proposed capital structure, including a common equity ratio of 52.00 percent, takes into account its unique business and operating risks, is in line with their recent actual capital structures (as explained by Company Witness Mekitarian), and is reasonable compared to the range of equity ratios for the operating companies held by the proxy group and compared to the authorized equity ratios for gas utilities in other jurisdictions. Further, SoCalGas's proposed capital structure enables it to maintain its financial strength, which translates into favorable access for capital for the benefit of customers. For all of these reasons, I agree with Company Witness Mekitarian that the proposed capital structure for SoCalGas is appropriate and should be approved by the Commission.

[179] Woolridge Testimony, at 7; Ellis Testimony, at 25-34.

XIV. CONCLUSIONS

Q. What is your conclusion regarding a fair ROE for SoCalGas?

A. My key conclusions and recommendations are as follows:

1) The Commission has been presented with a broad array of recommendations from multiple witnesses. Some include proposed analytical approaches, while others are more judgmental or based on decisions from other jurisdictions.

2) The only reliable method for determining the cost of capital is through the application of rigorous analysis using financial models and market data from reliable sources, coupled with a comprehensive risk assessment of the regulated utility.

3) The Commission's cost of capital determination should consider the general economic and capital market environment, and the influence capital market conditions exert over the results of the ROE estimation models.

4) Interest rates on government and utility bonds have increased since the Company's current cost of equity was authorized—reflected in the increase in authorized ROEs nationwide—and projections suggest that interest rates will remain elevated in the coming years. This increase in the cost of capital, and other risk factors indicate that the uncertainty and volatility in financial markets have caused equity investors to require a higher rate of return for utilities and specifically for the California utilities.

Q. What is your conclusion regarding a fair ROE for SoCalGas?

A. Based on my updated DCF, CAPM, Risk Premium, and Expected Earnings analyses, I continue to find a reasonable range of ROE for SoCalGas to be in the range of 10.25

percent to 11.25 percent and the Company's requested ROE of 11.00 percent to be fair and appropriate.

Q. What is your recommendation with regard to the capital structure for SoCalGas in this proceeding?

A. I support SoCalGas's proposed financial capital structure of 52.00 percent common equity, 2.40 percent preferred equity and 45.60 percent long-term debt as reasonable relative to the risk profile of SoCalGas and to the range of actual capital structures for the operating companies held by the proxy group companies.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.