BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE APPLICATION OF ENBRIDGE GAS UTAH TO INCREASE DISTRIBUTION RATES AND CHARGES AND MAKE TARIFF MODIFICATIONS	Docket No. 25-057-06

DIRECT TESTIMONY OF

JENNIFER E. NELSON

FOR

ENBRIDGE GAS UTAH

May 1, 2025

EGU Exhibit 2.0

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I. WITNESS IDENTIFICATION AND QUALIFICATIONS

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

A. My name is Jennifer E. Nelson. I am a Vice President at Concentric Energy Advisors. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts, 01752.

Q. On whose behalf are you submitting this testimony?

A. I am submitting this direct testimony ("Direct Testimony") before the Public Service Commission of Utah ("Commission") on behalf of Enbridge Gas Utah ("EGU" or the "Company").

Q. Please describe your educational background.

A. I hold a Bachelor's degree in Business Economics from Bentley University and a Master's degree in Resource and Applied Economics from the University of Alaska.

Q. Please describe your experience in the energy and utility industries.

A. I have more than fifteen years of experience in the energy industry, having served as a consultant and energy/regulatory economist for state government agencies. Since 2013, I have provided consulting services to clients on a range of financial and regulatory issues including cost of capital, ratemaking policy, and regulatory strategy issues. Prior to consulting, I was a staff economist at the Massachusetts Department of Public Utilities, and a petroleum economist for the State of Alaska. I attended utility regulatory training offered by New Mexico State University's Center for Public Utilities and have earned the Certified Rate of Return Analyst designation from the Society of Utility and Regulatory Financial Analysts based on my experience and

successful completion of an examination. A summary of my professional and educational background, including a list of my testimonies filed before regulatory commissions, is included as EGU Exhibit 2.01.

Q. Have you previously testified before the Commission?

A. Yes, I testified on behalf of Dominion Energy Utah in Docket No. 22-057-03. I also have filed testimony before regulatory commissions in Alaska, Arkansas, Delaware, Florida, Kentucky, Maine, Michigan, Montana, New Mexico, New Hampshire, North Carolina, Ohio, Oklahoma, South Carolina, Texas, Virginia, Wyoming, and West Virginia. During my time as a consultant, I have supported the development of expert witness testimony and analyses regarding the cost of capital (*i.e.*, Return on Equity ("ROE") and capital structure) in more than 100 proceedings filed before numerous U.S. state regulatory commissions and the Federal Energy Regulatory Commission.

II. PURPOSE AND OVERVIEW OF TESTIMONY

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to present evidence and provide the Commission with a recommendation regarding the appropriate ROE[1] for the Company to be used for ratemaking purposes, and to assess the reasonableness of the Company's requested capital structure and cost of debt. My analyses and conclusions are supported by the data presented in EGU Exhibit 2.02 through EGU Exhibit 2.10, which have been prepared by me or under my direction.

[1] Throughout my testimony, I use the terms "ROE" and "cost of equity" interchangeably.

Q. Please summarize your conclusions regarding the appropriate cost of equity, capital structure, and cost of debt in this proceeding.

A. Based on my analyses of three widely used market-based financial models, the Company's specific risk profile, and the current capital market environment, I conclude the Company's ROE currently falls within a range of 9.80 percent to 11.40 percent; within that range, I conclude that the midpoint of the range of 10.60 percent is a reasonable estimate of EGU's cost of equity.

As to the Company's capital structure, I conclude its requested capital structure consisting of 53.0 percent common equity and 47.0 percent long-term debt is consistent with the proportions of long-term capital that finance the regulated natural gas operations of the proxy group and is therefore reasonable. These figures also correspond to the Company's forecast actual capital structure during the rate-effective period. Additionally, the Company's proposed 4.25 percent cost of long-term debt is consistent with yields on similarly rated utility debt. As such, I recommend the Commission approve the Company's requested capital structure and cost of debt.

Q. Please provide a brief overview of the analyses that led to your ROE determination.

A. To develop my ROE range and estimate, I relied on three widely accepted financial modeling approaches: (1) the constant growth and quarterly forms of the Discounted Cash Flow ("DCF") model; (2) the traditional and empirical forms of the Capital Asset Pricing Model ("CAPM"); and (3) the Bond Yield Plus Risk Premium approach. The results of those analytical approaches are summarized in Figure 1 below.

64 **Figure 1: Summary of Results**[2]

Constant Growth DCF	**Low**	**Mean**	**High**
30-Day Average	9.07%	10.47%	11.52%
90-Day Average	9.19%	10.65%	11.58%
180-Day Average	9.34%	10.81%	11.67%
Quarterly Growth DCF	**Low**	**Mean**	**High**
30-Day Average	9.23%	10.68%	11.76%
90-Day Average	9.35%	10.88%	11.83%
180-Day Average	9.52%	11.04%	11.92%
CAPM		**Current 30-Year Treasury Yield (4.61%)**	**Projected 30-Year Treasury Yield (4.39%)**
Forward Market Return, 5-Yr Average Betas		13.00%	12.96%
Forward Market Return, 10-Yr Bloomberg Betas		12.49%	12.43%
Historical Market Return, 5-Yr Average Betas		10.76%	10.72%
Historical Market Return, 10-Yr Bloomberg Betas		10.39%	10.34%
Empirical CAPM		**Current 30-Year Treasury Yield (4.61%)**	**Projected 30-Year Treasury Yield (4.39%)**
Forward Market Return, 5-Yr Average Betas		13.48%	13.45%
Forward Market Return, 10-Yr Bloomberg Betas		13.09%	13.06%
Historical Market Return, 5-Yr Average Betas		11.11%	11.08%
Historical Market Return, 10-Yr Bloomberg Betas		10.83%	10.79%
Bond Yield Plus Risk Premium			
Current 30-Year Treasury Yield (4.61%)		10.20%	
Projected 30-Year Treasury Yield (4.39%)		10.10%	

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66 In addition to the analytical results summarized above, my recommendation
67 considers the Company's significant capital investment requirements, the regulatory

[2] *See,* EGU Exhibits 2.02 to 2.06. DCF and CAPM model results are the average of the mean and median proxy group results. Data as of March 31, 2025.

environment in which it operates, and the financial leverage associated with its requested capital structure. I also consider the current economic and capital market conditions and recent authorized ROEs for similar natural gas distribution utilities in the United States.

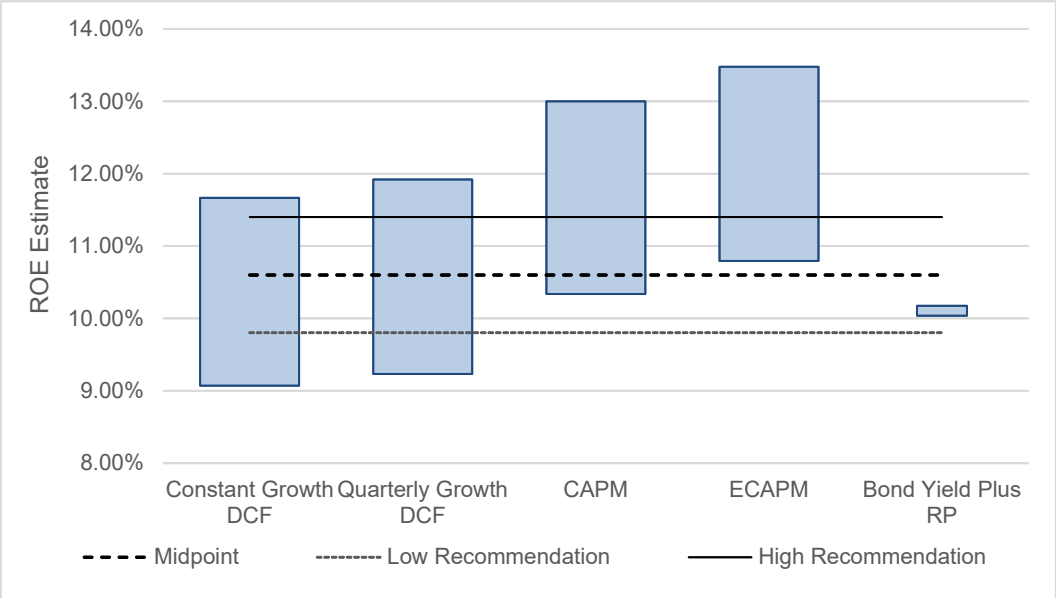
Q. How did you determine your recommendation from the results summarized above?

A. The cost of equity is an opportunity cost that cannot be precisely quantified. Therefore, it must be estimated through the use of various financial models. Each of the ROE-estimation models is subject to limiting assumptions and each provides a different perspective on investors' return requirements under varying market conditions. The use of multiple financial models, therefore, enables a robust and comprehensive assessment of the cost of equity instead of relying on one specific estimation model.

After reviewing the model results shown above in Figure 1, I assess the Company's risk profile relative to a group of proxy companies, including its capital expenditure program, the regulatory environment in which it operates, and the need to maintain access to capital. My recommendation also considers EGU's financial risk reflected in its capital structure compared to its peers. Lastly, my recommendation reflects the current capital market and macroeconomic environment in which utilities such as EGU operate. Although these factors are relevant to investors, their effect on the Company's cost of equity cannot be directly quantified. The low end of my range, 9.80 percent, is within the range of the low and mean DCF results. The high end of

my recommended range, 11.40 percent, is within the lower half of the CAPM results (see Figure 2 below).

Figure 2: ROE Model Results and Recommendation



Based on those considerations, it is my opinion that an ROE at the midpoint of the range, 10.60 percent, is a reasonable estimate of EGU's cost of equity.

Q. Have you reviewed recent orders by the Commission with respect to its ROE and capital structure determinations?

A. Yes. In preparing my Direct Testimony, I reviewed the Commission's Order in the Company's rate case issued December 23, 2022 (Docket No. 22-057-03), its Report and Order in the Company's rate case issued February 25, 2020 (Docket No. 19-057-02), and its Redacted Order issued December 30, 2020 for Rocky Mountain Power in Docket No. 20-035-04.

These orders confirm that the Commission appreciates that no single financial model conclusively determines a utility's appropriate ROE.[3] Additionally, while the Commission considers recent authorized ROEs for other utilities in other jurisdictions to be relevant information in determining an appropriate ROE, it understands the limitations of comparisons to authorized ROEs in other jurisdictions, and recognizes that each utility and jurisdiction differs with respect to the factors that affect utility risk.[4] Lastly, the Commission recognizes the fundamental "symbiotic" relationship between the capital structure and the ROE.[5]

Q. Does your recommendation consider changes in economic and financial market conditions since EGU's last rate case, consistent with the Commission's practice?

A. Yes, it does. As a preliminary matter, the cost of equity is forward-looking; as such, the relevant point of emphasis in the cost of equity estimation process is on forward-looking data and expectations. Nonetheless, I recognize the Commission's practice and consider the changes in economic and capital market environment since December 23, 2022, when the Commission issued its Order in EGU's last rate case in Docket No. 22-057-03. Specifically, the average authorized ROE for gas distribution utilities has increased by approximately 20 basis points from 9.53 percent in 2022 to 9.72 percent in 2024.[6] Thus far in 2025, there have been seven rate case decisions; the

[3] Docket No. 22-057-03, at 8 (December 23, 2022); Docket No. 20-035-04, Redacted Order, at 14 (December 30, 2020); Docket No. 19-057-02, Report and Order, at 7 (February 25, 2020).
[4] Docket No. 22-057-03, at 9 (December 23, 2022); Docket No. 20-035-04, Redacted Order, at 15 (December 30, 2020); Docket No. 19-057-02, Report and Order, at 8 (February 25, 2020).
[5] Docket No. 22-057-03, at 10 (December 23, 2022): Docket No. 20-035-04, Redacted Order, at 16 (December 30, 2020); see also Docket No. 19-057-02, Report and Order, at 9 (February 25, 2020).
[6] Source: Regulatory Research Associates.

authorized ROE for gas distributors range from 9.50 percent to 9.90 percent, with a mean and median of 9.76 percent and 9.80 percent, respectively.[7] In December 2022, the 30-year Treasury bond yield stood at approximately 3.8 percent and Moody's A-rated and Baa-rated utility bond yields were approximately 5.4 percent to 5.7 percent. Since December 2022, government and utility bond yields have increased by approximately 80 basis points and 25-35 basis points, respectively. For more details, see Figure 16 in Section V of my Direct Testimony.

Prevailing long-term bond yields have a significant effect on utilities' cost of capital, as well as investors' return requirements. Rising treasury yields signal to investors that they can earn a higher return investing in risk-free government bonds. Because investors expect higher returns when investing in assets riskier than government-issued bonds such as utility equities, the cost of equity for utilities has increased along with the rise in interest rates, though not on a one-to-one basis.

As explained in Section III, a utility's capital costs are part of the cost of service and reflect the cost that the utility must pay its debt and equity investors to compensate them for the use of their financial capital. An ROE that does not sufficiently allow EGU to recover its higher capital costs ultimately reduces the Company's attractiveness to investors and further increases the cost of debt and equity. Consequently, it is important that the Commission's decision in this case reflect the increase in capital costs that EGU faces.

[7] Source: Regulatory Research Associates, rate case decisions through April 10, 2025.

Q. How is the remainder of your Direct Testimony organized?

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

- Section III – Summarizes the issues and regulatory guidelines relevant to the cost of capital estimation in regulatory proceedings, explains my selection of the proxy group used to develop my analytical results, and describes the analyses on which my ROE determination is based;
- Section IV – Discusses the effect of the Company's planned capital expenditures and its regulatory environment on its cost of equity;
- Section V – Reviews the current capital market conditions and the implication on the cost of equity;
- Section VI – Provides an assessment of the Company's requested capital structure and cost of long-term debt; and
- Section VII – Summarizes my conclusions and recommendations.

III. COST OF EQUITY ESTIMATION

A. Regulatory Guidelines and Principles

Q. Before addressing the specific aspects of this proceeding, please explain the connection between the cost of capital and a utility's cost of service.

A. Under the cost-of-service ratemaking paradigm, the development of utility rates begins with determining the utility's total cost to serve customers. This is known as the revenue requirement, since the utility's revenue must be sufficient to recover its cost to serve customers. The revenue requirement consists of four components: (1) operating and maintenance ("O&M") expenses, (2) taxes, (3) the return *of* capital

through depreciation expense, and (4) the return *on* capital through the regulated return on rate base. The return on rate base is calculated as the weighted average cost of capital multiplied by the rate base. The return on capital must be sufficient to allow the utility to repay its debt obligations and compensate equity investors for the use of their financial capital. From that important perspective, the return on capital reflects a cost to the utility just like any other component of the revenue requirement.

Q. Please explain the cost of capital conceptually.

A. The cost of capital (*i.e.*, the costs of both debt and equity) is the return that investors require to commit capital to a firm. Investors will provide funds to a firm only if the return they *expect* is equal to, or greater than, the return they *require* to accept the risk of investing capital in the firm. Simply, the cost of capital is the expected rate of return prevailing in the capital markets on alternative investments of similar risk.[8] Conceptually, the cost of capital is: (1) forward looking and reflects an *expected* rate of return; (2) an opportunity cost; (3) determined in the capital markets, and (4) dependent on, and proportional to, the risk of the investment.[9]

Because the cost of equity is expectational and premised on the principle of opportunity costs, it is not directly observable. Instead, it must be estimated using market data applied to various financial models that reflect simplified representations of investor behavior and expectations. Further, equity investors have a claim on cash flows only *after* debt holders are paid; the uncertainty (or risk) associated with those

[8] Lawrence A. Kolbe, James A. Read, Jr., and George R. Hall, The Cost of Capital – Estimating the Rate of Return for Public Utilities, The MIT Press, Cambridge, MA (1985).
[9] Ibid.

residual cash flows determines the cost of equity. Because equity investors bear the residual risk, they take greater risks and require higher returns than debt holders. In the end, the estimated cost of equity should reflect the return that investors require considering the subject company's risk profile and the returns available on comparable investments.

Q. How is the cost of equity estimated in regulatory proceedings?

A. Regulated utilities primarily use long-term capital (*i.e.*, common stock, preferred stock, and long-term debt) to finance their permanent rate base. The allowed rate of return for a regulated utility is calculated as its weighted average cost of capital, in which the costs of the individual sources of capital are weighted by their respective book values. The ROE reflects the cost of raising and retaining equity capital and is estimated by using one or more market-based analytical approaches. However, as noted earlier and as the Commission has recognized, although quantitative models are used to estimate the ROE, it cannot be precisely quantified through a strict mathematical exercise.[10] As such, a reasonable and appropriate ROE reflects the financial, economic, and regulatory environment in which the estimate is developed, as well as the subject company's relative risk profile.

[10] This is consistent with the *Hope* and *Bluefield* principle that the analytical result, as opposed to the method employed, controls the determination of just and reasonable rates.

Q. Please summarize the guiding principles used in establishing the cost of capital for a regulated utility.

A. Public utility regulation is rooted in the principle that utilities receive a fair rate of return sufficient to attract the capital required to provide public utility service for customers at reasonable rates. The U.S. Supreme Court ("Supreme Court") established the guiding principles for establishing a fair rate of return for a public utility in two seminal cases: (1) *Bluefield Water Works and Improvement Co. v. Public Service Comm'n*. ("*Bluefield*");[11] and (2) *Federal Power Comm'n v. Hope Natural Gas Co.* ("*Hope*").[12] In *Bluefield*, the Supreme Court stated:

> A public utility is entitled to such rates as will permit it to earn a return upon the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit, and enable it to raise the money necessary for the proper discharge of its public duties.[13]

In *Hope*, the Supreme Court reiterated the three primary standards for a regulated rate of return:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock...By that standard the return to the equity owner should be commensurate with returns on investments in other

[11] See, Bluefield Water Works and Improvement Co. v. Public Service Comm'n. 262 U.S. 679, 692 (1923).
[12] See, Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944).
[13] Bluefield Water Works and Improvement Co. v. Public Service Comm'n. 262 U.S. 679, 692 (1923).

> enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[14]

In summary, the Supreme Court has recognized that the fair rate of return on equity should be: (1) comparable to returns investors expect to earn on other investments of similar risk (the "comparable return" standard); (2) sufficient to assure confidence in the company's financial integrity (the "financial integrity" standard); and (3) adequate to maintain and support the company's credit and to attract capital (the "capital attraction" standard). Importantly, a fair and reasonable return satisfies all three of these standards.

Q. Have Utah Courts and the Commission also looked to the *Hope* and *Bluefield* standards as guidance for setting rates?

A. Yes. Utah courts and the Commission have followed the principles set out in *Hope* and *Bluefield* in establishing a fair rate of return, which have been upheld by the Utah Supreme Court.[15] In Docket No. 97-049-08, the Commission stated the following in reference to *Hope* and *Bluefield*:

> As we have stated many times, these cases counsel us to reach a decision which gives investors the opportunity to earn returns sufficient to attract capital and that are comparable to returns investors require to assume the same degree of risk in other investments they might make. Investors' required return, the opportunity cost of capital, is the utility's cost of capital.[16]

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[14] Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 603 (1944).

[15] *See generally Utah Power & Light v. Public Serv. Comm'n*, 152 P.2d 542 (Utah 1944) (general discussion of and reliance on *Hope*); *Mountain Fuel Supply Co. v. Public Serv. Comm'n*, 861 P.2d 414, 427 (Utah 1993) (citing *Bluefield* and *Hope* for the proposition that "[t]he primary substantive limitation on the Commission's authority is that it cannot establish a rate of return that is insufficient to assure confidence in the financial integrity of the utility, such that it would undermine its credit and capital.").

[16] Docket No. 97-049-08, *Re U S West Communications, Inc*., 1997 WL 875832, *438 (Utah PSC 1997).

Based on those standards, the authorized ROE should provide the Company with a reasonable opportunity (which is not a guarantee) to earn a fair return and enable efficient access to external capital under a variety of market conditions.

Q. Why is it important for a utility to be allowed the opportunity to earn a return that is adequate to attract capital at reasonable terms?

A. Regulated utilities have a legal obligation to serve regardless of prevailing economic and capital market conditions. Unlike non-regulated firms, a regulated utility cannot decide to whom it provides utility service in its footprint, how much service it delivers, nor when it provides service. Utility service requires substantial amounts of capital, and utilities must ensure they have access to external financial capital (debt and equity) on cost effective terms to finance its assets not only during times when markets are well-behaving, but also when markets are volatile or constrained (*e.g.*, during periods of high inflation and interest rates, global pandemics, changes in government, and economic recessions). A return that is adequate to attract capital at reasonable terms enables the utility to provide safe and reliable service to customers while maintaining its financial integrity. As discussed above, and in keeping with the *Hope* and *Bluefield* standards, that return must be commensurate with the returns expected for investments of equivalent risk.

The ratemaking process is based on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility services, the utility must have the opportunity to recover the return of, and the market-required return on, invested capital. The allowed ROE should enable the subject utility to

maintain its financial integrity in a variety of economic and capital market conditions. A return that is adequate to attract capital at reasonable terms enables the utility to provide safe, reliable service to customers while maintaining its financial soundness.

Further, the financial community carefully monitors utility companies' current and expected financial conditions, as well as the regulatory environment in which those companies operate. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' assessments of risk.[17] That consideration is especially important during uncertain economic and financial conditions in which the utility may require access to capital markets.

The outcome of the Commission's order in this case, therefore, must provide EGU with the opportunity to earn a ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks. Providing EGU with a reasonable opportunity to earn its market-based cost of equity ensures that customers receive safe and reliable service at a reasonable cost in all market environments.

Q. What are your conclusions regarding the regulatory principles pertaining to the cost of capital for a public utility?

A. Congruent with other costs in a utility's cost of service, the regulated return on rate base is a cost that EGU incurs as part of its normal operations, including the need to compensate equity investors for the use of their capital. Under the *Hope* and *Bluefield*

[17] See, e.g., Moody's Ratings, *Rating* Methodology*: Regulated Electric and Gas Utilities*, August 6, 2024, at 2.

standards, the cost of equity authorized for EGU in this proceeding should be (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises having corresponding risks.

Because utilities are capital intensive and investors have many investment alternatives, the Company's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions. The Commission's decision regarding the authorized ROE and capital structure in this proceeding will directly affect the Company's ability to attract the capital needed to maintain and enhance service to customers.

B. Proxy Group Selection

Q. Why is it necessary to select a group of proxy companies to determine the cost of equity for EGU?

A. Because the ROE is a market-based concept, and EGU is not a separate entity with its own stock price, it is necessary to establish a group of companies that are both publicly traded and comparable to the Company in certain fundamental respects to serve as its "proxy" in the ROE estimation process. Even if the Company were a publicly traded entity, short-term events could bias its market value during a given period. A significant benefit of using a proxy group is that it moderates the effects of anomalous, temporary events associated with any one company.

Q. Please provide a summary profile of EGU.

A. EGU is a wholly owned subsidiary of Enbridge, Inc. ("Enbridge"). In October of 2024, Enbridge acquired EGU from Dominion Energy, Inc.[18] EGU provides natural gas distribution services to approximately 1.2 million customers in Idaho, Utah, and Wyoming.[19] Its Utah and Idaho[20] operations (which are the subject of this proceeding) constitute approximately 98 percent of total company sales volume and customers. Enbridge's and EGU's current long-term issuer credit ratings are as follows:

Figure 3: Issuer Credit Ratings[21]

	S&P	Moody's	Fitch
Enbridge, Inc.	BBB+	Baa2	BBB+
EGU (Questar Gas Corp.)	a-[22]	Baa1	A-

Q. Does the fact that EGU is a subsidiary of Enbridge, Inc. affect its cost of equity?

A. No. The cost of equity depends on the risk of a firm's operations and the assets supporting those operations. In other words, the cost of equity depends on the *use* of capital, not on the *source* of capital. Therefore, the Company's corporate structure, including whether it (or its parent) is privately held or publicly traded, does not affect

[18] Source: https://www.enbridge.com/media-center/news/details?id=123828&lang=en.
[19] Source: https://www.enbridgegas.com/about-enbridge-gas
[20] The Idaho Commission contracts with the Utah Commission for rate oversight of EGU's operations in a small area of southeastern Idaho.
[21] Source: Enbridge Inc website, accessed on February 28, 2025.
[22] S&P's standalone credit profile for EGU is 'a-'; S&P's issuer rating for EGU based on the Enbridge family is 'BBB+'.

the analysis. That is, the ROE is not determined by reference to EGU's parent company.

Q. How did you select the companies included in your proxy group?

A. Because estimating the cost of equity is a comparative exercise, it is necessary to develop a proxy group of companies with risk profiles that are reasonably comparable to the subject company. As each company is unique, no two companies will have identical business and financial risk profiles. In selecting a proxy group, my objective is to balance the competing interests of selecting companies that are representative of the risks and prospects faced by EGU, while at the same time ensuring that there is a sufficient number of companies in the proxy group. Based on those two considerations, I began with the universe of companies that Value Line classifies as Natural Gas Utilities and applied the following screening criteria:

- Because certain of the models used in my analyses assume that earnings and dividends grow over time, I excluded companies that do not consistently pay quarterly cash dividends, or have cut their dividend in the last two years;
- Because certain of the models assume that earnings grow over time, I exclude companies that do not have positive earnings growth rates from at least two sources;
- To ensure that the growth rates used in my analyses are not biased by a single analyst, all the companies in my proxy group are covered by at least two utility industry equity analysts;

- All the companies in my proxy group have investment grade senior unsecured bond and/or corporate credit ratings from S&P and/or Moody's Investor's Service;
- To incorporate companies that are primarily regulated gas distribution utilities, I include companies with a majority of net operating income from regulated natural gas utility operations, on average, over the last three years; and
- I eliminate companies that have recent or potential merger activity or other significant transaction, or have had any recent financial event that could affect a company's market data or financial condition.

Q. Do you include Enbridge in your analyses?

A. No. Enbridge, Inc. is not classified by *Value Line* as a natural gas utility, nor does it meet my screening criterion of having at least 50 percent of net operating income from regulated natural gas utility operations. Further, it would be circular logic to include EGU's ultimate parent company in my analyses.

Q. Does the Company's recent acquisition by Enbridge have any effect on your ROE analysis or recommendation?

A. No, it does not. The purpose of my testimony and analysis is to estimate the cost of equity for EGU on a stand-alone basis, based on the business and financial risks of EGU relative to a proxy group of gas distribution companies. According to financial theory, the ownership of EGU is not a relevant consideration in the ROE analysis,

because it is the *use* of funds, not the *source* of those funds, that determines the investor-required return.

Q. Which companies meet your screening criteria?

A. The criteria discussed above resulted in a proxy group of the following seven companies:

Figure 4: Proxy Group Screening Results

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

Q. Is a proxy group of seven companies sufficiently large?

A. Yes. The analyses performed in estimating the ROE are more likely to be representative of the subject utility's cost of equity to the extent that the selected proxy companies are fundamentally comparable to the subject utility. Moreover, a larger proxy group does not necessarily improve the representative nature of the proxy group. In my opinion, including companies whose fundamental comparability may be questionable simply for the purpose of expanding the number of observations, does not improve the reliability of the results or the conclusions drawn from them. On balance, it is my opinion that my proxy group is reasonably comparable to EGU and is an appropriate basis for the ROE estimation process.

C. Cost of Equity Models

Q. What analytical approaches do you rely on to determine the Company's ROE?

A. As discussed earlier, I rely on the constant growth and quarterly growth forms of the DCF model, the traditional and empirical forms of the CAPM, and the Bond Yield Plus Risk Premium approach. The models I apply are commonly used in practice, as well as in regulatory proceedings.[23] Additionally, each model provides a different perspective of investors' views of risk and return. Therefore, using multiple methods provides a more comprehensive, and therefore more reliable, perspective on investors' return requirements.

1. Constant Growth Discounted Cash Flow Model

Q. Please describe the Constant Growth DCF approach.

A. The Constant Growth DCF model is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its simplest form, the Constant Growth DCF model expresses the cost of equity shown in Equation [1] below sets the ROE equal to the expected dividend yield plus the expected long-term annual growth rate in perpetuity:

$$k = \frac{D_0\ (1+g)}{\mathrm{P}} + g \qquad [1]$$

where:

k = the required ROE,

D_0 = the current annualized dividend,

[23] *See, for example,* Eugene Brigham, Louis Gapenski, Financial Management: Theory and Practice, 7th Ed., 1994, at 341.

P = the current stock price, and

g = the expected long-term annual growth rate.

Q. What assumptions underlie the Constant Growth DCF model?

A. The Constant Growth DCF model assumes: (1) a constant average annual growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant Price/Earnings multiple; and (4) a discount rate greater than the expected growth rate. The model also assumes that the current cost of equity remains constant in perpetuity.

Q. What market data do you use as inputs of your Constant Growth DCF analysis?

A. I calculate the Constant Growth DCF result for each of the proxy companies using the following inputs:

- The average daily closing prices for the 30-, 90-, and 180-trading days ended March 31, 2025, for the term P_0;
- The current quarterly dividend as of March 31, 2025 multiplied by 4, for the term D_0; and
- Long-term earnings per share ("EPS") growth rate projections as of March 31, 2025 reported by Zacks, S&P Capital IQ Pro, and *Value Line*.

Q. Why do you use three averaging periods to calculate an average stock price?

A. I do so to ensure that the model's results are not skewed by anomalous events that may affect stock prices on any given trading day. At the same time, the averaging period should be reasonably reflective of expected capital market conditions over the long term. Using 30-, 90-, and 180-trading day averaging periods balances those concerns.

Q. How do you calculate the expected dividend yield over the coming year?

A. Because utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption, it is appropriate to calculate the expected dividend yield by applying one-half of the long-term growth rate to the current dividend yield. That adjustment ensures that the expected dividend yield is, on average, representative of the coming 12-month period.

Q. Why is projected EPS growth the appropriate measure of long-term growth in the Constant Growth DCF model?

A. In its Constant Growth form, the DCF model (*i.e.*, as presented in Equation [1] above) assumes a single expected growth estimate in perpetuity, which assumes a fixed payout ratio, and the same constant growth rate in EPS, dividends per share, and book value per share. In the long run, dividend growth can only be sustained by earnings growth.

Further, academic studies have clearly and consistently shown that measures of earnings and cash flow are strongly related to returns, and that analysts' forecasts of growth are superior to other measures of growth in predicting stock prices.[24] For example, the research of Vander Weide and Carleton demonstrates that earnings growth projections have a statistically significant relationship to stock valuation

[24] *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).

levels, while dividend growth rates do not.[25] Those findings suggest that investors form their investment decisions based on expectations of growth in earnings, not dividends. Lastly, the only forward-looking growth rates that are available on a consensus basis are analysts' EPS growth rates. The fact that earnings growth projections are the only widely available estimates of growth further supports the conclusion that earnings growth is the most meaningful measure of growth among the investment community. For these reasons, earnings growth is the appropriate measure of long-term growth in the DCF model.

Q. What are the results of your Constant Growth DCF analysis?

A. To provide a spectrum of DCF-based ROE estimates, I calculate the low, mean, and high Constant Growth DCF result. The mean result combines the average of the three EPS growth rate estimates with each proxy company's expected dividend yield. The high DCF result adds the maximum EPS growth rate estimate with each proxy company's expected dividend yield. Similarly, the low DCF result adds the minimum EPS growth rate estimate for each proxy company to the expected dividend yield. I then calculate the mean and median low, mean, and high DCF results for the proxy group. In developing my ROE recommendation, I rely on the average of the mean and median proxy group Constant Growth DCF results (*see* Figure 5, below, and EGU Exhibit 2.02). By relying on the average of the mean and median proxy group results,

[25] *See* Vander Weide and Carleton, *Investor Growth Expectations: Analysts vs. History*, The Journal of Portfolio Management (Spring 1988).

I consider the individual DCF results of each proxy company while mitigating the effect of the highest and lowest estimates.

Figure 5: Constant Growth DCF Results[26]

	Low	Mean	High
30-Day Average	9.07%	10.47%	11.52%
90-Day Average	9.19%	10.65%	11.58%
180-Day Average	9.34%	10.81%	11.67%

2. Quarterly Growth DCF Model

Q. Please briefly describe the Quarterly Growth DCF model.

A. As noted earlier, the Constant Growth DCF model is based on several limiting assumptions, one of which is that dividends are paid annually. However, most dividend-paying companies, including utilities, pay dividends on a quarterly (as opposed to an annual) basis. Although the dividend yield adjustment discussed earlier is meant to address that assumption (by increasing the current dividend yield by one-half of the expected growth rate), it does not fully account for the quarterly receipt and reinvestment of dividends. As a consequence, the Constant Growth DCF model likely understates the cost of equity.

The Quarterly Growth DCF model specifically incorporates investors' expectations of the quarterly payment of dividends, and the associated quarterly

[26] EGU Exhibit 2.02 (average of the mean and median proxy group results).

compounding of those dividends as they are reinvested at the required ROE. As noted by Dr. Roger Morin:

> Clearly, given that dividends are paid quarterly and that the observed stock price reflects the quarterly nature of dividend payments, the market-required return must recognize quarterly compounding, for the investor receives dividend checks and reinvests the proceeds on a quarterly schedule ... The annual DCF model inherently understates the investors' true return because it assumes all cash flows received by investors are paid annually.[27]

Q. How is the dividend yield component of the Quarterly Growth DCF model calculated?

A. To reflect the timing and compounding of quarterly dividends more accurately, the model replaces the "*D*" component of the Constant Growth DCF equation with the following equation:

$$D = d_1(1+k)^{0.75}+d_2(1+k)^{0.50}+d_3(1+k)^{0.25}+d_4(1+k)^{0} \quad [2]$$

where:

d_1, d_2, d_3, d_4 = expected quarterly dividends over the coming year; and

k = the required Return on Equity.

Because the required ROE (k) is a variable in the dividend yield calculation, the Quarterly Growth DCF model is solved iteratively.

To calculate the expected dividends over the coming year for the proxy companies (*i.e.*, $d_1, d_2, d_3,$ and d_4), I obtained the last four paid quarterly dividends for each company and multiplied them by one plus the growth rate (*i.e.,* $1 + g$). For the

[27] Roger A. Morin, Ph.D., New Regulatory Finance, Public Utility Reports, Inc., 2006 at 344.

505 P_0 component of the dividend yield, I used the same average stock prices applied in
506 the Constant Growth DCF analysis for each proxy company.

507 **Q. What are the results of your Quarterly Growth DCF analysis?**

508 A. My Quarterly Growth DCF results are summarized in Figure 6, below (*see also* EGU
509 Exhibit 2.03). As with my Constant Growth DCF results, I rely on the average of the
510 mean and median proxy group results.

511 **Figure 6: Quarterly Growth DCF Results[28]**

	Low	Mean	High
30-Day Average	9.23%	10.68%	11.76%
90-Day Average	9.35%	10.88%	11.83%
180-Day Average	9.52%	11.04%	11.92%

512

513 **3. Capital Asset Pricing Model and Empirical Capital Asset Pricing**
514 **Model**

515 **Q. Please describe the general form of the CAPM.**

516 A. The CAPM is a risk premium method that estimates the cost of equity for a given
517 security as a function of a risk-free return plus a risk premium to compensate investors

[28] EGU Exhibit 2.03. Average of the mean and median proxy group results.

for the non-diversifiable or "systematic" risk of that security. As shown in Equation [3], the CAPM is defined by four components, each of which theoretically is a forward-looking estimate:

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

where:

K_e = the required market ROE for a security;

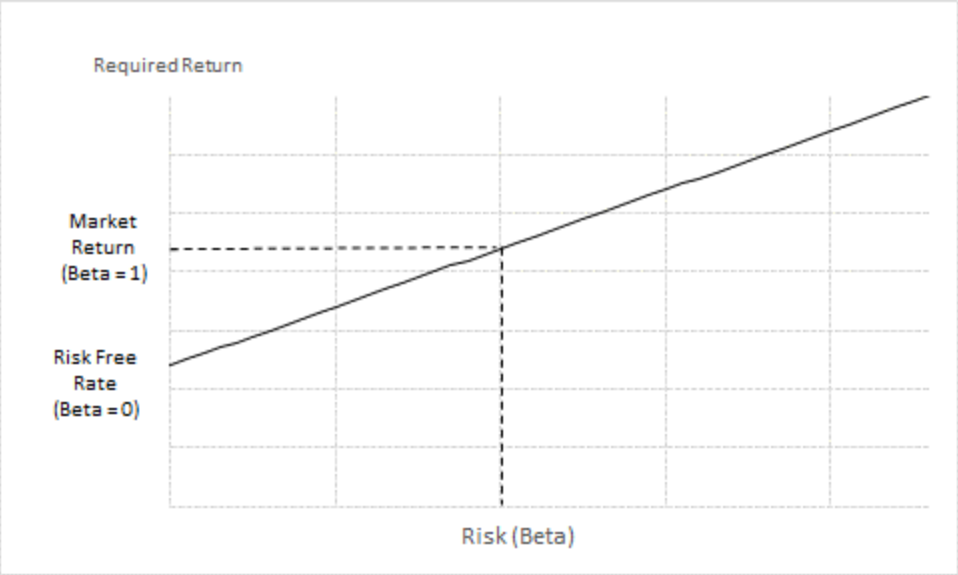
β = the Beta coefficient of that security;

r_f = the risk-free rate of return; and

r_m = the required return on the market as a whole.

Equation [3] describes the Security Market Line ("SML"), or the CAPM risk-return relationship, depicted in Figure 7 below. The intercept is the risk-free rate (r_f) that has a Beta coefficient of zero, and the slope is the expected market risk premium ($r_m - r_f$). As shown in Figure 7, the slope of the line is upward sloping, illustrating the principle that investments of higher risk require a higher return. By definition, r_m, the return on the market, has a Beta coefficient of 1.00.

Figure 7: Security Market Line



The CAPM assumes that all non-market or unsystematic risk, can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. Therefore, the CAPM assumes that investors require compensation only for systematic, or market, risk. Systematic (or non-diversifiable) risk is measured by the Beta coefficient, which is defined as:

$$\beta_j = \frac{\sigma_j}{\sigma_m} \times \rho_{j,m} \quad [4]$$

where σ_j is the standard deviation of returns for company "*j*," σ_m is the standard deviation of returns for the broad market (as measured, for example, by the S&P 500 Index), and $\rho_{j,m}$ is the correlation of returns in between company *j* and the broad market. The Beta coefficient, therefore, represents both relative volatility (*i.e.*, the standard deviation) of returns, and the correlation in returns between the subject company and the overall market. Intuitively, higher Beta coefficients indicate that the

subject company's returns have been relatively volatile and have moved in tandem with the overall market.

Q. What risk-free rates do you assume in your CAPM analysis?

A. I apply two estimates of the risk-free rate: (1) the current 30-day average yield on 30-year Treasury bonds (*i.e.*, 4.61 percent)[29] and (2) a projected 30-year Treasury yield (*i.e.*, 4.39 percent).[30]

Q. Why have you relied on the 30-year Treasury yield as the risk-free rate in your CAPM analysis?

A. In determining the security most relevant to the application of the CAPM, the term (or maturity) should approximate the life of the underlying investment. Natural gas utilities are typically long-duration investments; therefore, the 30-year Treasury yield is more suitable for the risk-free rate applied in the CAPM.

Q. What Beta coefficients did you use in your CAPM model?

A. As shown in EGU Exhibit 2.05, I rely on two estimates of the Beta coefficient. I first consider the average Beta coefficients from Value Line and Bloomberg for each proxy company as of March 31, 2025. Beta coefficients from both services are calculated using weekly returns over a five-year period, adjusted to reflect the tendency of Beta coefficients to regress toward the market mean of 1.00. Second, I consider a version of the CAPM analyses using Bloomberg Beta coefficients calculated using weekly

[29] Source: Bloomberg Professional Service, as of March 31, 2025.

[30] The average of: (1) the average projected 30-year Treasury yield for the six quarters ended Q3 2026 and (2) the average long-term projected 30-year Treasury yield for the years 2026-2030 and 2031-2035 reported by *Blue Chip Financial Forecasts. See, Blue Chip Financial Forecasts* Vol. 44, No. 4, April 1, 2025, at 2 and *Blue Chip Financial Forecasts,* Vol. 43, No. 12, November 27, 2024, at 14.

return data over the ten years ended March 31, 2025, rather than a five-year period. The 10-year Bloomberg Beta coefficients serve to attenuate any perceived distortion in the five year Beta coefficients associated with the early months of the COVID-19 pandemic (i.e., March and April 2020).

Q. What estimates of the expected market return do you use to calculate the market risk premium?

A. I apply two estimates of the expected market return. The first calculates the market capitalization-weighted ROE of the S&P 500 Index by applying the Constant Growth DCF model described earlier to the S&P 500 Index. The second estimate applies the long run historical arithmetic average market return of 12.17 percent between 1926 and 2024 reported by Kroll (formerly Duff & Phelps).[31]

Q. Please explain your forward-looking DCF approach to estimating the market return.

A. Using the Constant Growth DCF model described earlier, I develop two estimates of the expected market return by applying dividend yields from Bloomberg and projected earnings growth rates from Bloomberg and Value Line. I calculate a market capitalization-weighted dividend yield and projected earnings growth rate for the S&P 500 Index and apply those estimates to the Constant Growth DCF formula, using the same half-growth rate assumption described earlier. The expected market return from Bloomberg and *Value Line* are 15.89 percent and 14.92 percent, respectively (*see* EGU

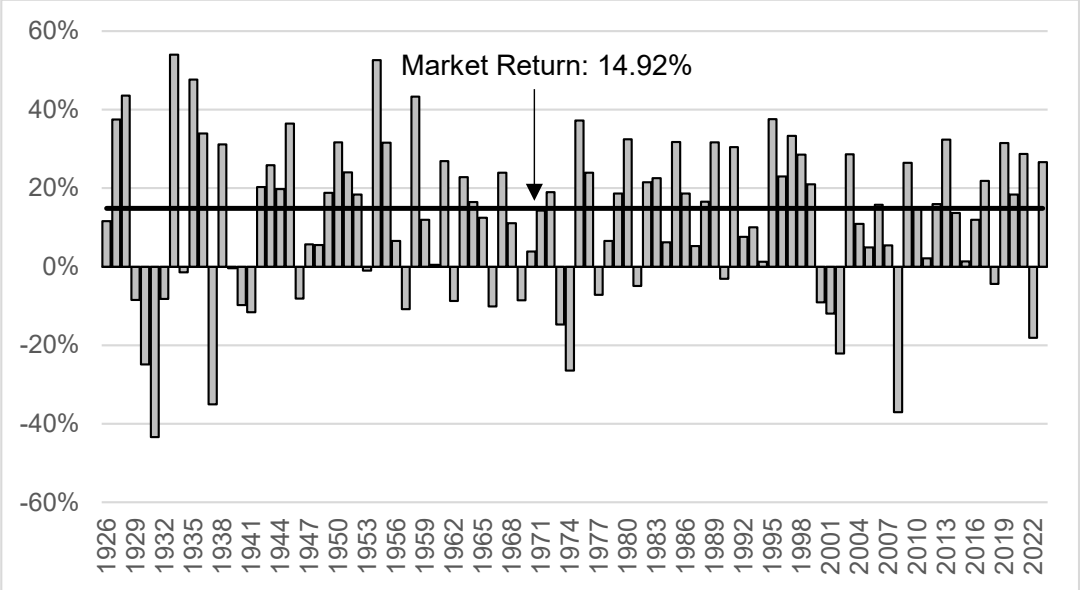
[31] Source, Kroll, Cost of Capital Navigator.

Exhibit 2.04). To be conservative, I rely on *Value Line's* expected market return estimate of 14.92 percent in my CAPM analysis.

Q. Is the *Value Line* DCF-based market return estimate of 14.92 percent consistent with actual observed returns on the market?

A. Yes, it is. As shown in Figure 8 below, an expected market-required return of 14.92 percent or higher occurred in 50 of the last 99 years (*i.e.,* 51 percent of the time). Since 2009, the annual market return has averaged 15.58 percent, and equaled or exceeded 14.92 percent in ten of the last 16 years, and eleven of the last 20 years. In other words, an annual market return of 14.92 percent, or higher, has occurred frequently.

Figure 8: Annual Market Return (1926 – 2024)[32]



[32] Source: Kroll, Cost of Capital Navigator.

598 **Q. Are there other investor sources that estimate an expected market return in the**
599 **range of Bloomberg and Value Line?**
600 A. Yes. For example, as of March 31, 2025, S&P Earnings and Estimates projects annual
601 earnings growth for the S&P 500 Index of 13.98 percent per year over the next five
602 years. Combined with a current dividend yield of 1.35 percent for the S&P 500 Index,
603 the expected market return is 15.42 percent.[33] However, as discussed below, I also
604 consider the long-term historical average market return of 12.17 percent.
605 **Q. Why do you also consider the long-term arithmetic average historical return on**
606 **the market of 12.17 percent as an alternate estimate of the expected market**
607 **return?**
608 A. My objective is to develop a reasonable estimate of the expected market return over
609 the long term to calculate an expected market risk premium. Because the cost of equity
610 is forward looking, any estimate – whether based on historical or projected data –
611 assumes the estimate reflects investors' expectations into the future. Although the
612 14.92 percent expected market return is highly consistent with historically observed
613 market returns (as shown in Figure 8 above), it is above the long-term arithmetic
614 annual average market return. Therefore, it may be reasonable to expect that, over the
615 long-term, the market return will revert to its long-run historical arithmetic average.
616 From that perspective, the application of the long-run historical arithmetic average

[33] Source: S&P Earnings & Estimates as of March 31, 2025. Using the DCF formula in Equation [1] above, 15.42% = 1.35% (1+0.5*13.98%) + 13.98%.

market return as an alternate estimate of the expected market return is prospective in nature.

Q. With the risk-free rates and expected market return estimates described above, how do you calculate the market risk premium?

A. I apply two estimates of the risk-free rate and two estimates of the expected market return. Combined, those variables produce four estimates of the expected market risk premium, ranging from 7.56 percent to 10.52 percent, as shown below in Figure 9.

Figure 9: Market Risk Premium Estimates

	Current Risk-Free Rate (4.61%)	Projected Risk-Free Rate (4.39%)
Value Line DCF-based Expected Market Return (14.92%)	10.31%	10.52%
Long-Term Historical Average Market Return (12.17%)	7.56%	7.78%

Q. What are the results of your CAPM analysis?

A. As shown in Figure 10 below, the CAPM results range from 10.34 percent to 13.00 percent.

Figure 10: Summary of CAPM Results[34]

	Current 30-Year Treasury Yield (4.61%)	Projected 30-Year Treasury Yield (4.39%)
Long-Term Historical Average Market Return (Average 5 yr Beta)	10.76%	10.72%
DCF-Based Expected Market Return (Average 5 yr Beta)	13.00%	12.96%
Long-Term Historical Average Market Return (10 yr Bloomberg Beta)	10.39%	10.34%
DCF-Based Expected Market Return (10 yr Bloomberg Beta)	12.49%	12.43%

Q. Did you consider another form of the CAPM?

A. Yes, I also consider the Empirical CAPM ("ECAPM") approach, which calculates the product of the adjusted Beta coefficient and the Market Risk Premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the Market Risk Premium, without any effect from the Beta coefficient.[35] The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

where:

k_e = the required market ROE;

β = the adjusted Beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market as a whole.

[34] EGU Exhibit 2.05.
[35] *See, e.g.*, Roger A. Morin, Ph.D., New Regulatory Finance, at 189-190 (2006).

Q. What is the benefit of the ECAPM approach?

A. The ECAPM addresses the tendency of the CAPM to underestimate the cost of equity for companies, such as regulated utilities, with relatively low Beta coefficients. As discussed below, the ECAPM recognizes academic research that indicates the risk-return relationship is flatter than that estimated by the CAPM, and that the CAPM under-estimates the Alpha (α), or the constant return term.[36]

Numerous tests of the CAPM have measured the extent to which security returns and Beta coefficients are related as predicted by the CAPM. The ECAPM method reflects the finding that the actual SML described by the CAPM formula is not as steeply sloped as the predicted SML.[37] Fama and French state that "[t]he returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low."[38] Similarly, Morin states:

> With few exceptions, the empirical studies agree that . . . low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted. . . .
>
> Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:

$$K = R_F + x\,(R_M - R_F) + (1-x)\beta(R_M - R_F)$$

> where x is a fraction to be determined empirically. The value of x that best explains the observed relationship Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:

[36] Roger A. Morin, Ph.D., New Regulatory Finance, at 191 (2006).
[37] Roger A. Morin, Ph.D., New Regulatory Finance, at 175 (2006). The Security Market Line plots the CAPM estimate on the Y-axis, and Beta coefficients on the X-axis.
[38] Eugene F. Fama & Kenneth R. French, *The Capital Asset Pricing Model: Theory and Evidence*, Journal of Economic Perspectives, Vol. 18, No. 3, Summer 2004, at 33.

$$K = R_F + 0.25(R_M - R_F) + 0.75\ \beta(R_M - R_F)$$ [39]

Q. Does the use of adjusted Beta coefficients in the ECAPM address the empirical issues with the CAPM?

A. No, it does not. Beta coefficients are adjusted because of their general regression tendency to converge toward 1.00 over time, *i.e.*, over successive calculations. As also noted earlier, numerous studies have determined that at any given point in time, the SML described by the CAPM formula is not as steeply sloped as the predicted SML. To that point, Morin explains:

> Some have argued that the use of the ECAPM is inconsistent with the use of adjusted betas, such as those supplied by Value Line and Bloomberg. This is because the reason for using the ECAPM is to allow for the tendency of betas to regress toward the mean value of 1.00 over time, and, since Value Line betas are already adjusted for such trend, an ECAPM analysis results in double-counting. This argument is erroneous. Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. This is obvious from the fact that the expected return on high beta securities is actually lower than that produced by the CAPM estimate. The ECAPM is a formal recognition that the observed risk-return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks. Even if the ECAPM is used, the return for low-beta securities is understated if the betas are understated. Referring back to Figure 6-1, the ECAPM is a return (vertical axis) adjustment and not a beta (horizontal axis) adjustment. Both adjustments are necessary.[40]

Therefore, it is appropriate to rely on adjusted Beta coefficients in both the CAPM and ECAPM.

[39] Roger A. Morin, Ph.D., New Regulatory Finance at 175, 190 (2006).
[40] Roger A. Morin, Ph.D., New Regulatory Finance, at 191 (2006).

Q. Are you aware of academic studies that support the use of the ECAPM for utilities?

A. Yes, I am. In a 2011 study by Stéphane Chrétien and Frank Coggins, the authors studied the CAPM's ability to estimate the risk premium for the utility industry in particular subgroups of utilities.[41] The study considered the traditional CAPM approach, the Fama-French three-factor model, and a model similar to the ECAPM. In the study, the ECAPM relied on adjusted Beta coefficients similar to *Value Line*'s approach. As Chrétien and Coggins found, the ECAPM significantly outperformed the traditional CAPM model at predicting the observed risk premium for the various utility subgroups.

Q. What are the results of your ECAPM analyses?

A. I apply the same market return, Beta coefficient, and risk-free rates described earlier in my ECAPM analysis to Equation [5] above. The results of my ECAPM analyses are summarized in Figure 11 below.

[41] Stéphane Chrétien and Frank Coggins, *Cost of Equity for Energy Utilities: Beyond The CAPM*, Energy Studies Review, Vol. 18, No. 2 (2011).

Figure 11: Summary of ECAPM Results[42]

	Current 30-Year Treasury Yield (4.61%)	Projected 30-Year Treasury Yield (4.39%)
Long-Term Historical Average Market Return (Average 5 yr Beta)	11.11%	11.08%
DCF-Based Expected Market Return (Average 5 yr Beta)	13.48%	13.45%
Long-Term Historical Average Market Return (10 yr Bloomberg Beta)	10.83%	10.79%
DCF-Based Expected Market Return (10 yr Bloomberg Beta)	13.09%	13.06%

4. Bond Yield Plus Risk Premium Approach

Q. Please describe the Bond Yield Plus Risk Premium approach.

A. The Bond Yield Plus Risk Premium approach is based on the basic financial principle of risk and return, which states that equity investors require a premium over the return required as a bondholder to account for the incremental residual risk associated with equity ownership. Risk premium approaches estimate the cost of equity as the sum of the equity risk premium and the yield on a particular class of bonds.

Q. Please explain how you perform your Bond Yield Plus Risk Premium analysis.

A. I first define the equity risk premium as the difference between the authorized ROE and the then-prevailing 30-year Treasury bond yield, using the authorized ROE for 1,339 natural gas utility rate proceedings between January 1, 1980, and March 31, 2025. To reflect the prevailing level of bond yields during the pendency of the

[42] EGU Exhibit 2.05.

proceedings, I calculate the average 30-year Treasury yield over the average lag period between the filing of the rate case and the date of the final order (approximately 188 days).

Because the data covers several economic cycles, the analysis is helpful in assessing the change in the equity risk premium over time. Prior research, for example, has shown that the equity risk premium is inversely related to the level of bond yields.[43] That finding is particularly relevant given the relatively low, but increasing, level of current Treasury bond yields.

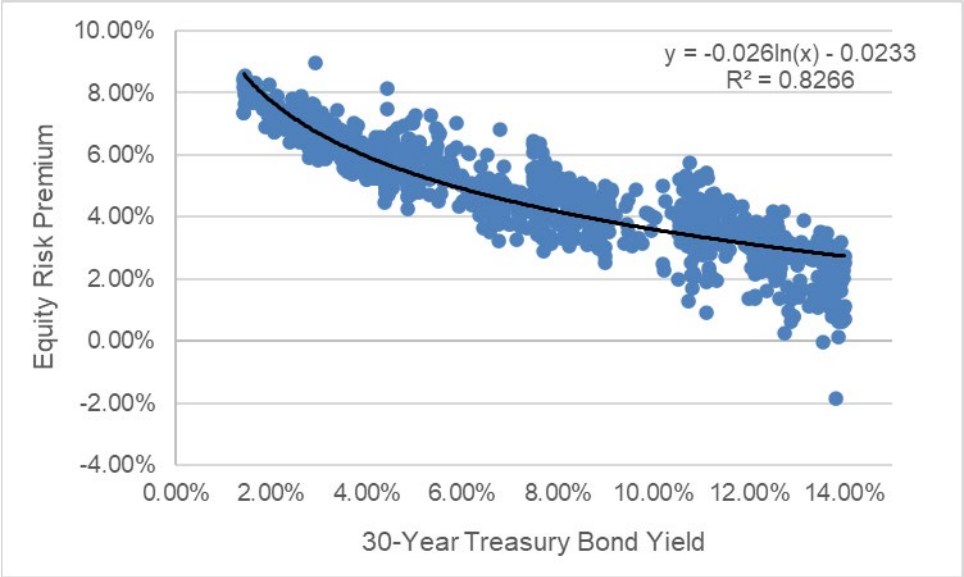
Q. How do you analyze the relationship between bond yields and the equity risk premium?

A. I estimate the relationship between bond yields and the equity risk premium by applying a regression analysis, in which the equity risk premium described above is the dependent variable, and the 30-year Treasury yield is the independent variable. To account for the variability in bond yields and authorized ROEs over several decades, I use the semi-log regression, in which the equity risk premium is expressed as a function of the natural log of the 30-year Treasury yield:

$$RP = \alpha + \beta \left(LN \left(T_{30} \right) \right) \quad [6]$$

[43] *See*, *e.g.,* Robert S. Harris and Felicia C. Marston, *Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts*, Financial Management at 63-70 (Summer 1992); Eugene F. Brigham, Dilip K. Shome, and Steve R. Vinson, *The Risk Premium Approach to Measuring a Utility's Cost of Equity*, Financial Management at 33-45 (Spring 1985); and Farris M. Maddox, Donna T. Pippert, and Rodney N. Sullivan, *An Empirical Study of Ex Ante Risk Premiums for the Electric Utility Industry*, Financial Management at 89-95 (Autumn 1995).

Figure 12: Equity Risk Premium[44]



As Figure 12 illustrates, the equity risk premium increases as interest rates fall. The finding that the equity risk premium and interest rates are inversely related is supported by published research. For example, Dr. Roger Morin notes that: "… [p]ublished studies by Brigham, Shome, and Vinson (1985), Harris (1986), Harris and Marston (1992, 1993), Carleton, Chambers, and Lakonishok (1983), Morin (2005), McShane (2005), and others demonstrate that, beginning in 1980, risk premiums varied inversely with the level of interest rates – rising when rates fell and declining when interest rates rose."[45] Based on the regression coefficients in Figure 12, the implied ROE is between 10.20 percent and 10.10 percent (*see* Figure 13 and EGU Exhibit 2.06).

[44] EGU Exhibit 2.06.
[45] Roger A: Morin, Ph.D., New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 128 [clarification added].

Figure 13: Summary of Bond Yield Plus Risk Premium Results[46]

	30-Year Treasury Yield	Risk Premium	Return on Equity
Current 30-Year Treasury	4.61%	5.59%	10.20%
Projected 30-Year Treasury	4.39%	5.71%	10.10%

Q. What are the advantages of the Bond Yield Plus Risk Premium approach?

A. There are several advantages. First, authorized ROEs in other jurisdictions are a significant part of the market information that investors consider when evaluating their investment alternatives. Therefore, they are a direct measure of returns available to other natural gas utilities, as required under the comparable return standard of the *Hope* and *Bluefield* decisions. The level of authorized ROE also provides a signal to investors about the level of regulatory support that a company can expect with regard to its ability to compete for capital and to ensure its financial integrity. An ROE below its peers for a given period may be an impediment to the Company's ability to attract capital and finance the infrastructure required to provide safe, reliable service to its customers.

Second, the use of the Bond Yield Plus Risk Premium model in conjunction with the DCF and CAPM approaches adds diversity to the model results, which enables a more robust and reliable ROE estimate. The fewer models that are relied upon, the more likely it is that model risk biases the ultimate ROE determination. For

[46] EGU Exhibit 2.06.

the same reasons that diversity is a wise and prudent investment strategy, diversity of the models used to estimate the ROE is similarly prudent, as it reduces the risk that the results of any single model may not reasonably reflect investors' return requirements.

A third advantage of the Bond Yield Plus Risk Premium approach is its simplicity and reliance on fewer contentious inputs. Lastly, the Bond Yield Plus Risk Premium approach adds a measure of stability because it is less vulnerable to changes in market data. As shown in the regression equation in Figure 13, the change in the risk premium (and therefore the ROE estimate) as a result of a change in bond yields is less than one-to-one. For example, as shown in Figure 13 above, a 22-basis point increase in the bond yield (from 4.39 percent to 4.61 percent) results in a 10-basis point change in the ROE from 10.10 percent to 10.20 percent.

IV. THE COMPANY'S CAPITAL EXPENDITURE PLAN, REGULATORY ENVIRONMENT, AND CAPITAL ACCESS

Q. Do you have any preliminary thoughts on the importance of access to capital for natural gas utilities such as EGU?

A. Yes, I do. As a capital-intensive enterprise, the allowed ROE should enable EGU to finance capital expenditures and working capital requirements at reasonable rates and to maintain its financial integrity in a variety of economic and capital market conditions. As discussed throughout my Direct Testimony, a return that is adequate to attract capital at reasonable terms enables the utility to provide safe, reliable service while maintaining its financial soundness to the benefit of customers.

Natural gas utilities are one of the most capital-intensive market sectors. On average, natural gas utilities generate less than half as much revenue per dollar of assets as the non-utility U.S. companies covered by *Value Line*.[47] To fund the significant capital expenditures needed to maintain, expand, and modernize existing infrastructure, natural gas utilities require sufficient internally-generated cash flow and ongoing access to investor supplied capital. Because natural gas utilities are often cash flow negative (*i.e.*, cash spent on plant is often more than cash flow received from operations), it is critical that regulation enable timely cost recovery and provide predictable, adequate, and achievable allowed returns that support the financial integrity of the utility.

Q. Does the regulatory environment influence utilities' access to capital?

A. Yes, it does. The regulatory environment is a key driver of investors' assessment of a utility's risk. Investors and rating agencies understand that a constructive regulatory environment is critical to support utilities' credit ratings and financial integrity, especially during adverse market conditions. Ratings agencies also recognize the importance of the regulatory environment when assessing a utility's business risk profile.

Moody's considers the regulatory structure to be so important that 50 percent of the factors that weigh in a ratings determination are related to the nature of

[47] Source: *Value Line,* downloaded February 22, 2025.

regulation.[48] The predictability and consistency of regulatory actions are among the key factors considered by Moody's in assessing the regulatory framework:

> As the revenues set by the regulator are a primary component of a utility's cash flow, the utility's ability to obtain predictable and supportive treatment within its regulatory framework is one of the most significant factors in assessing a utility's credit quality. The regulatory framework generally provides more certainty around a utility's cash flow and typically allows the company to operate with significantly less cushion in its cash flow metrics than comparably rated companies in other industrial sectors.
>
> ***
>
> In situations where the regulatory framework is less supportive, or is more contentious, a utility's credit quality can deteriorate rapidly.[49]

S&P states that regulatory advantage is "of critical importance" because "[i]t defines the environment in which a utility operates and has a significant bearing on a utility's financial performance.[50] S&P explains that it considers four subfactors when assessing a utility's ability to recover all its costs "on time and in full – and to earn a return on the capital it deploys".[51] Those four subfactors are (1) regulatory stability, (2) tariff-setting procedures and design, (3) financial stability, and (4) regulatory independence and insulation.[52] With respect to capital expenditures, S&P notes that a regulatory "framework's ability to attract long-term capital, and the availability of capital support during construction," support a utility's financial stability as they

[48] Moody's Ratings, Rating Methodology, *Regulated Electric and Gas Utilities,* at 2 (August 6, 2024).
[49] Moody's Investors Service, Regulatory Frameworks – Ratings and Credit Quality for Investor-Owned Utilities at 2 (June 18, 2010).
[50] S&P Global Ratings, *Sector-Specific Corporate Methodology*, Section 29 Regulated Utilities, at 147 (April 4, 2024).
[51] S&P Global Ratings, *Sector-Specific Corporate Methodology*, Section 29 Regulated Utilities, at 147 (April 4, 2024).
[52] S&P Global Ratings, *Sector-Specific Corporate Methodology*, Section 29 Regulated Utilities, at 147 (April 4, 2024).

"alleviate funding and cash flow pressure when heavy investment is needed."[53] Thus, predictability and consistency of regulatory actions are among the primary concerns for the rating agencies, as is full and timely cost recovery, including recovery of capital costs.

Q. How does the regulatory environment in which a utility operates affect its cost of capital?

A. The regulatory environment can significantly affect both the access to and the cost of capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. Regulatory decisions regarding the authorized ROE and capital structure have direct consequences for the subject utility's internal cash flow generation (sometimes referred to as "Funds from Operations," or "FFO"; or "Cash from Operations," or "CFO"). Because credit ratings are intended to reflect the ability to meet financial obligations as they come due, the ability to generate the cash flows required to meet those obligations (and to provide an additional amount for unexpected events) is of critical importance to debt investors. Two of the most important metrics used to assess that ability are the ratios of FFO to debt, and FFO to interest expense, both of which are directly affected by regulatory decisions regarding the appropriate rate of return and capital structure.

[53] S&P Global Ratings, RatingsDirect, Sector Specific Corporate Methodology, Section 29 Regulated Utilities, at 147 (April 4, 2024).

In short, supportive regulation supports credit profiles. Investors recognize that an authorized capital structure and ROE that are reasonable, but subject to earnings attrition due to unfavorable regulatory or economic factors, do not provide assurance that the utility will have a reasonable opportunity to recover its costs, or to earn a reasonable return. The authorized capital structure and ROE affect not only the cash flow-related metrics that measure financial strength, but also provide an indication of the degree of regulatory support, and risk, associated with a given utility and jurisdiction. Thus the authorized ROE and capital structure are important signals of regulatory support and financial integrity. Consequently, a utility that operates in a less predictable and more challenging regulatory environment is likely to be viewed as a riskier investment; this may result in lower credit ratings, constrained access to capital (particularly in volatile and adverse market environments), and higher costs of both debt and equity, all else equal. To meet the obligation to serve, it is in customers' best interests to ensure that a utility has efficient access to capital on reasonable terms in all market environments.

Q. Please briefly summarize the Company's capital investment plans.

A. As discussed in the direct testimony of Jordan Stephenson, the Company is planning approximately $1.8 billion in capital expenditures during the 2025 to 2029 timeframe,[54] which is approximately 55 percent of its net utility plant as of December 31, 2024 of $3.28 billion. Because EGU will continue to make substantial investments

[54] Company provided data.

in its utility operations, it will require efficient access to external capital during the period that rates established in this proceeding will be in effect.

Q. How do the company's capital expenditure requirements affect its risk profile?

A. As with any utility facing substantial capital expenditure requirements, the Company's risk profile is affected in two significant and related ways: (1) the heightened level of investment increases the risk of under recovery or delayed recovery of the invested capital; and (2) an inadequate return would put downward pressure on key credit metrics due to both the reduction in cash flow and an increase in debt to fund its expenditures.

Q. Do credit rating agencies recognize the risk associated with increased capital expenditures?

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

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an

incentive to investors.[55]

Moody's also notes that increasing capital expenditures are pressuring utility credit profiles by widening cash flow deficits and weakening their financial strength:

> Credit pressure is emerging most acutely for companies with large, complete or multiyear projects or for those that are experiencing a delay in the recovery of investment costs. Unlike exogenous events of recent year – such as severe storms, commodity price spikes and the COVID-19 pandemic, which we viewed as temporary events – capital spending and related financings are core long-term financial policy issues.[56]

To the extent that the regulatory environment does not enable timely and sufficient cost recovery of its full cost of doing business, including capital costs, the Company will face increased pressure on its credit metrics thus raising the cost of both debt and equity. Maintaining the ability to access to capital markets on favorable terms, in the form of financial integrity (i.e., capital structure and return on equity) is especially important for utilities and their customers during periods of significant capital investment.

Q. Have you compared EGU's regulatory risk relative to the natural gas utilities within the proxy group?

A. Yes, I have. To assess the regulatory environment of the proxy companies and EGU, I reviewed the key cost recovery mechanisms and ratemaking frameworks for each of the natural gas operating companies within the proxy group in the jurisdictions in

[55] S&P Ratings Direct, "Industry Economic and Ratings Outlook: U.S. Regulated Utilities Will Likely Stay On A Stable Trajectory For The Rest Of 2012 And Into 2013, at 6 (July 17, 2012).

[56] Moody's Ratings, "High capital spending will weigh on credit quality without supportive company actions," October 21, 2024.

which they operate, including the cost recovery and volumetric risk mitigation mechanisms in place, test year, and rate base methodology.

As shown in EGU Exhibit 2.07, like EGU, all the proxy group operating companies with a retail supply obligation have a purchased gas cost recovery mechanism; 96 percent have a mechanism to mitigate weather or volumetric risk, such as a weather normalization adjustment mechanism or revenue decoupling; 71 percent have a mechanism to recover energy efficiency program costs; and 96 percent have a capital cost recovery mechanism.

From an investor perspective, the Company's regulatory mechanisms do not offer any level of risk mitigation that is meaningfully different from the proxy companies. Furthermore, these regulatory mechanisms are only as effective as their implementation, including a compensatory return. It is in customers' best interest that the regulatory environment in Utah be viewed as predictable, balanced, and supportive of utility investment.

Q. Do the Company's regulatory mechanisms reduce its risk relative to its peers?

A. While the Company's regulatory mechanisms serve to reduce its absolute level of risk, the cost recovery mechanisms employed by EGU are similar to those used by the proxy group; as such, its risk relative to the proxy group is not reduced as a result of its rate structures. In other words, the Company's regulatory mechanisms are credit supportive, but not necessarily credit enhancing relative to its peers. Further, because the proxy companies all have similar mechanisms, any effects on the cost of equity associated with the rate mechanisms are captured in the analytical model results.

It is important to remember that risk assessment is a comparative exercise. Rate adjustment mechanisms are common in the industry, and the financial community is fully aware of their prevalence. In fact, rate adjustment mechanisms have become more common in the industry, not less. As noted earlier, the proxy companies all have similar mechanisms as EGU. While the specific details of the mechanics of the rate adjustment mechanisms may differ from utility to utility and jurisdiction to jurisdiction, their objective is the same: To improve the timeliness of cost recovery and mitigate (but not necessarily eliminate) earnings erosion associated with regulatory lag. Because the proxy companies all have mechanisms that improve the timeliness of cost recovery, the Company's regulatory mechanisms simply render it more comparable to its peers.

Q. What are your conclusions regarding the Company's regulatory risk?

A. The Company's regulatory mechanisms support its ability to recover costs in a timely manner and render it comparable in risk to its peers. Therefore, there is no reduction in the Company's risk, or its ROE, on account of its regulatory mechanisms.

The regulatory environment is one of the most important issues considered by both debt and equity investors in assessing the risks and prospects of utility companies. The return authorized by the Commission in this proceeding will send an important signal to the financial community regarding the constructiveness of the regulatory environment in Utah. From the perspective of investors, the authorized return should enable the Company to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its system,

and maintain sufficient levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally generated funds, but also from efficient access to external capital. Because utilities are capital intensive enterprises, it is essential that the ROE authorized in this proceeding enable EGU to continue to invest the capital necessary to meet its obligation to serve in a variety of market environments, as well as maintain confidence in Utah's regulatory environment among credit rating agencies and investors.

V. CAPITAL MARKET ENVIRONMENT

Q. Do economic conditions influence the required cost of capital, including the ROE?

A. Yes. The required cost of capital, including the ROE, is a function of prevailing and expected economic and capital market conditions. Each of the analytical models used to estimate the required ROE is influenced by current and expected capital market conditions. Therefore, an evaluation of current and projected market conditions is integral to any ROE recommendation.

Q. What are the key factors affecting the cost of equity for regulated utilities in the current and prospective capital markets?

A. The cost of equity for regulated utilities is currently affected by several key factors, including: (1) the interest rate environment and central bank monetary policy; (2) inflationary pressure and the longer-term outlook for inflation; and (3) greater market volatility and economic uncertainty associated with federal trade policy and a change in administration at the federal level. As discussed below, although the Federal

Reserve reduced the Federal Funds in the fall of 2024 as inflation stabilized and moved closer to the central bank's two percent target, stubborn inflation and greater market and economic uncertainty have prompted the Federal Reserve to pause its easing of monetary policy. Consequently, interest rates and inflation are expected to remain above the levels experienced prior to the COVID-19 pandemic and long-term yields on Treasury bonds are expected to remain above the levels existing at the time of the Company's last general rate case. Further, as noted later in this section, inflation is expected to remain markedly above levels experienced prior to the COVID-19 pandemic and above the Federal Reserve's two percent target. Lastly, the change in the federal administration and trade policy present significant uncertainties with respect to the near-term economic and capital market environment in which EGU will be raising external capital.

Q. Please summarize the changes in capital market conditions since early 2020.

A. The COVID-19 pandemic had wide ranging impacts on markets, affecting all market sectors, including utilities. At the start of the pandemic, both the S&P 500 Index and the utility sector lost more than a third of its value. At the same time, the Chicago Board Options Exchange ("CBOE") Volatility Index ("VIX", a measure of expected market volatility) tripled, from 25.03 on February 24, 2020, to 82.69 on March 16, 2020.[57]

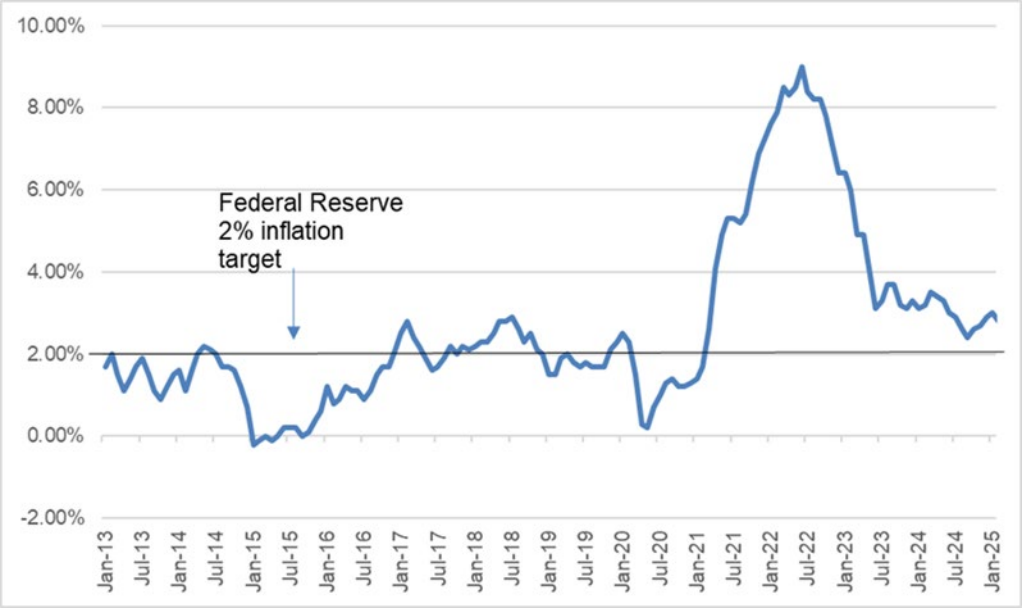
Treasury bond yields declined rapidly as the stock market became extremely volatile and investors sought the relative safety of government bonds, combined with

[57] Source: Federal Reserve Bank of St. Louis FRED Database.

the Federal Reserve's reduction in the Federal Funds rate to a target range of 0 percent to 0.25 percent. Because bond yields and bond prices are inversely related, as demand for safer bonds increases, investors bid up the price of bonds and bid down the yields. Since the decline in bond yields was caused by investors' increased aversion to equity market risk, the cost of equity did not decline commensurately with the decline in bond yields.

As the U.S. economy opened from the COVID-19 lockdowns, economic activity quickly rebounded, causing inflation to reach the highest levels seen in the last 40 years (*see* Figure 14 below).

Figure 14: Year-Over-Year U.S. Consumer Price Index (2014-2025)[58]

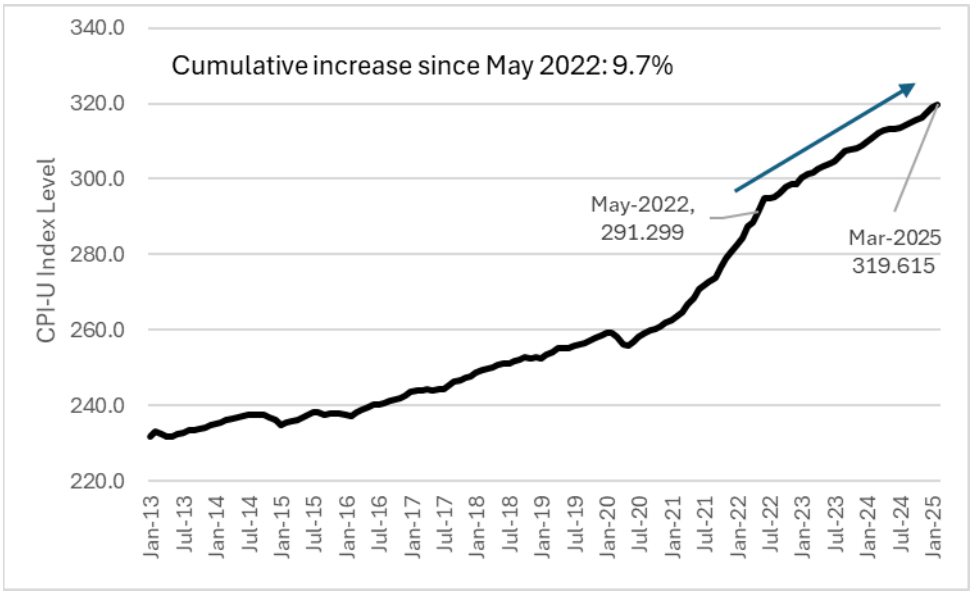


[58] Source: U.S. Bureau of Labor Statistics.

In response, the Federal Reserve tightened monetary policy at the fastest pace since the 1980s by increasing the Federal Funds rate by 525 basis points over the course of 11 consecutive Federal Open Market Committee ("FOMC") meetings between March 2022 and July 2023. Although the pace of inflation subsided from its peak reached in June 2022, year-over-year inflation remained stubbornly above 3.0 percent through the first half of 2024. In October 2024, the CPI reversed its downward trend, increasing 0.2 percent on a year-over-year basis, a trend that continued through January 2025. As of March 2025, the annualized CPI stood at 2.4 percent.

As shown in Figure 15, on a cumulative basis, seasonally adjusted inflation has increased 9.7 percent between May 2022 when the Company filed its last rate case and March 2025.

Figure 15: Consumer Price Index Level (2013-2025)[59]



Q. How have government and utility bond yields responded to the Federal Reserve's monetary policy tightening?

A. As the U.S. economy improved in 2021 and the Federal Reserve moved aggressively to tighten monetary policy to fight stubbornly higher inflation, prevailing interest rates rose to their highest levels since 2010.[60] As shown in Figure 16 below, the 30-year Treasury bond yield has increased 259 basis points since November 3, 2021, when the Federal Reserve signaled it would begin tapering its asset purchases. Utility bond yields have increased by approximately 270 basis points over the same period. As noted earlier, since the Commission's December 2022 Order in the Company's last

[59] Source: U.S. Bureau of Labor Statistics, CPI-U, seasonally adjusted.
[60] Source: Federal Reserve Bank of St. Louis, FRED Economic Database.

rate case, government and utility bond yields have increased by approximately 80 basis points and 25-35 basis points, respectively.

Figure 16: 30-Year Treasury Bond and Utility Bond Yields (2021-2025)[61]

	30-yr Treasury Bond	Moody's A Utility Bond	Moody's Baa Utility Bond
11/3/2021	2.00%	3.02%	3.27%
12/23/2022	3.82%	5.42%	5.72%
3/31/2025	4.59%	5.76%	5.95%
Change since 11/3/21	+2.59%	+2.74%	+2.68%

Consensus forecasts from Blue Chip project long-term government and corporate bond yields to remain at current levels over the next six quarters.[62]

Q. Please explain how higher bond yields affect the ROE estimates.

A. The 30-year Treasury bond yield is a direct input to both the CAPM and the Risk Premium models because, as explained earlier, the term of the security aligns with the long life of natural gas utility assets. As yields increase, the cost of capital generally increases, and the ROE estimates from those two models also increase, although not on a one-to-one basis. Further, while interest rates are not a direct input to the DCF model, dividend yields on utility stocks must compete with yields on Treasury bonds. As yields on government bonds increase, utilities must offer a higher dividend yield to attract and retain investors, signaling an increase in the cost of equity for utilities.

[61] Source: Federal Reserve Bank of St. Louis, FRED Economic Database; Bloomberg Professional.
[62] Blue Chip Financial Forecasts, Vol. 44, No. 4, April 1, 2025.

All else equal, higher dividend yields produce higher ROE estimates in the DCF model.

Q. How have economic and financial market conditions changed in recent months?

A. At the end of 2024, financial markets were optimistic that the Federal Reserve was close to attaining a "soft landing" by taming inflation without a consequential rise in unemployment. Over the past few months, however, federal policy uncertainty has climbed sharply, and financial market volatility has increased. Inflation and interest rates remain elevated, and the fears of an economic slowdown prompted by federal government workforce reductions and significantly lower government spending are growing.[63]

Expectations for inflation are markedly higher than in the five years prior to the pandemic. The University of Michigan's Consumer Sentiment survey reported that U.S. consumer sentiment continued its decline with expectations of year-ahead inflation expectations increasing from 3.3 percent in January to 5.0 percent in March.[64] Longer-run inflation expectations rose from 3.5 percent in February to 4.1 percent in March. As noted in the March 2025 special report on inflation expectations:

> As of March 2025, long-run expectations have climbed sharply for three consecutive months and are now comparable to the peak readings from the post-pandemic inflationary episode. They exhibit substantial uncertainty, particularly in light of frequent developments and changes with economic policy.[65]

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[63] See, e.g., Blue Chip Financial Forecasts, Vol. 44, No. 4, April 1, 2025, at 1.

[64] University of Michigan, Surveys of Consumers, accessed April 1, 2025. https://www.sca.isr.umich.edu/files/tbmpx1px5.pdf

[65] University of Michigan, Surveys of Consumers, March 2025 Update: Current versus Pre-Pandemic Long-Run Inflation Expectations (March 28, 2025) https://data.sca.isr.umich.edu/fetchdoc.php?docid=78367

Q. How might changes in federal trade policy affect inflation and bond yields?

A. On February 1, 2025, President Trump issued an executive order implementing a 25 percent additional tariff on imports from Canada and Mexico, and a 10 percent additional tariff on imports from China.[66] These tariffs were paused for 30 days and restored on March 4, 2025. Two days later, President Trump paused tariffs temporarily imposed on approximately half of imports from Canada and 38 percent of imports from Mexico until April 2.[67] Further, on February 10, President Trump restored a 25 percent tariff on steel and increased the tariff on aluminum to 25 percent.[68] On March 24, 2025, the White House announced it would implement a 25 percent tariff on all goods from any country that imports Venezuelan oil, whether directly or indirectly.[69] Lastly, on April 2, 2025, President Trump announced 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.[70] These "reciprocal" tariffs were subsequently paused for 90 days.

Although the effect of these tariffs on the economy is uncertain, economists generally agree that higher tariffs increase inflation by increasing the cost of consumer goods. The tariffs could lead to higher inflation and reduced overall demand, as well

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66 https://www.whitehouse.gov/fact-sheets/2025/02/fact-sheet-president-donald-j-trump-imposes-tariffs-on-imports-from-canada-mexico-and-china/

67 https://www.whitehouse.gov/presidential-actions/2025/03/amendment-to-duties-to-address-the-flow-of-illicit-drugs-across-our-southern-border/;https://www.whitehouse.gov/presidential-actions/2025/03/amendment-to-duties-to-address-the-flow-of-illicit-drugs-across-our-northern-border-0c3c/

68 https://www.whitehouse.gov/fact-sheets/2025/02/fact-sheet-president-donald-j-trump-restores-section-232-tariffs/

69 https://www.whitehouse.gov/presidential-actions/2025/03/imposing-tariffs-on-countries-importing-venezuelan-oil/

70 https://www.whitehouse.gov/presidential-actions/2025/04/regulating-imports-with-a-reciprocal-tariff-to-rectify-trade-practices-that-contribute-to-large-and-persistent-annual-united-states-goods-trade-deficits/

as higher interest rates and a stronger dollar.[71] The Budget Lab at Yale University estimates that these tariffs would raise consumer prices by 1.4 to 5.1 percent before substitution, which would be the equivalent to the cost of $1,900 to $7,600 in disposable income for the average household.[72]

In a recent article published by S&P Global Market Intelligence, economists noted the "enormous uncertainty" associated with the effect of tariffs on inflation and the economy. The article projected that if President Trump's tariffs are imposed as proposed, they "would cause the core consumer price index[73] to run at a 6% annual pace on average over the next two years".[74]

Higher inflation could complicate the Federal Reserve's unwinding of restrictive monetary policies, [75] as well as increase long-term bond yields like the 30-year Treasury yield. The FOMC paused its cuts in the Federal Funds rate at its January 2025 meeting, citing elevated inflation and a stable labor market, and held rates steady at its March 2025 meeting. In an April 4, 2025 speech, Federal Reserve Chair Jerome Powell stated that the outlook is "highly uncertain" and the tariff proposals are "significantly larger than expected" that are likely to result in higher inflation and slower growth.[76]

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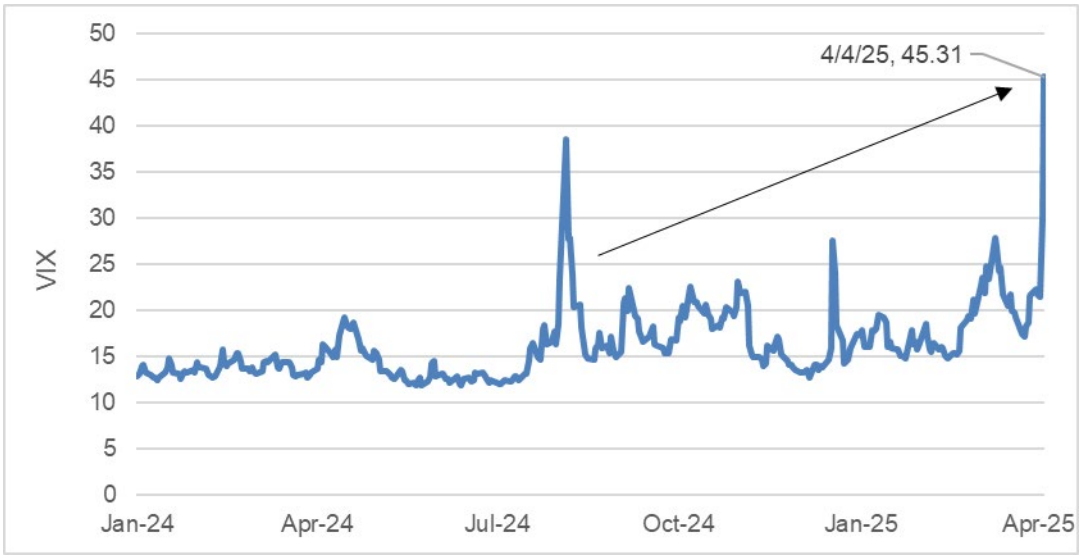
[71] J.P. Morgan Asset Management, Market Insights "2025 Year-Ahead Investment Outlook," November 21, 2024.
[72] Yale Budget Lab, "Fiscal, Macroeconomic, and Price Estimates of Tariffs Under Both Non-Retaliation and Retaliation Scenarios," October 16, 2024.
[73] As measured by the Personal Consumption Expenditures ("PCE") price index.
[74] S&P Global Market Intelligence, "Tariffs projected to push US inflation near 2022 highs," April 9, 2025.
[75] See, e.g., S&P Global Market Intelligence, "Tariffs projected to push US inflation near 2022 highs," April 9, 2025.
[76] Chair Powell's speech at the Society for Advancing Business Editing and Writing Annual Conference, Arlington, Virginia, April 4, 2025, https://www.federalreserve.gov/newsevents/speech/powell20250404a.htm

Longer-term bonds like the 30-year Treasury bond are more sensitive to inflation expectations than shorter-term bonds because their value is influenced more by inflation 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 tend to have a negative effect on utility stocks. If realized, higher inflation and interest rates would suggest that the cost of capital for utilities may increase in the future.

Q. Has market volatility increased in recent months?

A. Yes. As noted earlier, the VIX is a measure of expected equity market volatility. As shown in Figure 17, the VIX has been on an increasing trend since January 2024. Further, after President Trump's tariff announcement on April 2, 2025, the VIX climbed to levels not seen since 2020 when the COVID-19 pandemic was spreading across the country. 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 17: VIX (2024-2025)[77]



Q. What conclusions do you draw from your review of the current capital market environment and its implications for EGU's cost of equity?

A. Over the last five years, the economic and financial market environment has operated under heightened uncertainty associated with the COVID-19 pandemic, the war in Ukraine, stubborn inflation, and more recently, uncertainty surrounding the economy and federal trade policy. The effect of the new presidential administration on the economy is uncertain, and higher tariffs could complicate investor expectations for inflation and interest rates. Although the Federal Reserve responded to easing inflation by cutting short-term rates in late 2024, it has since paused those cuts to assess how the effects of fluctuating trade policies affect the economy. These factors underscore the importance of using multiple models when determining EGU's cost of

[77] Source: Federal Reserve Bank of St. Louis FRED Economic Data

equity to gain a comprehensive perspective of the effect of fluid and evolving market conditions on the cost of equity.

VI. CAPITAL STRUCTURE AND COST OF DEBT

Q. What is the Company's requested capital structure?

A. As described by Company witness Jordan Stephenson, the Company requests a 2026 test year capital structure consisting of 53.00 percent common equity and 47.00 percent long-term debt. I understand that these figures correspond to the Company's projected actual capital structure.

Q. How does the capital structure affect the cost of capital?

A. A company's total risk consists of business risk and financial risk. Business risk includes operating, market, regulatory, and competitive uncertainties, while financial risk is the incremental risk to investors associated with additional leverage, or levels of debt. Therefore, the capital structure indicates a company's financial risk, which reflects the risk that a company may not have adequate cash flows to meet its financial obligations.

As the percentage of debt in the capital structure increases, so do the fixed obligations for the repayment of that debt and the risk of financial distress.[78] In essence, even if two firms face the same business risks, a company with meaningfully higher levels of debt in its capital structure is riskier, which increases its costs of both debt and equity. As the Commission has recognized, the capital structure affects the

[78] *See,* Roger A. Morin, Ph.D., New Regulatory Finance, Public Utility Reports, Inc. at 45-46 (2006).

subject company's overall level of risk, and the ROE and capital structure "cannot be considered in isolation from each other."[79]

Q. Please summarize the approaches to determining the appropriate capital structure for regulated utilities.

A. There are two primary approaches regulators use to determine the appropriate capital structure for ratemaking purposes. The most common approach is to use the subject utility's actual capital structure. This approach is preferred when the subject utility (1) issues its own debt, (2) has its own credit rating, and (3) its actual capital structure is within industry standards and practice. When the subject utility does not issue its own debt and have its own credit rating, or when the actual capital structure deviates substantially from industry practice, a hypothetical capital structure may be imputed.

Q. Does EGU issue its own debt and have its own credit rating?

A. Yes. Therefore, the next step is to assess the reasonableness of its actual capital structure within the context of industry practice.

Q. What are the guidelines for determining whether a utility's capital structure is within industry standards?

A. In a 2020 publication titled *A Cost of Capital and Capital Markets Primer for Utility Regulators*, the National Association of Regulatory Utility Commissioners ("NARUC") states that actual capital structure ratios should be used unless they "greatly diverge" from sound industry practice:

> A utility management must be permitted latitude, discretion, and flexibility in managing capital structure ratios. Since there is no

[79] Docket No. 20-035-04, Redacted Order, at 16.

> practical methodology to pinpoint theoretically optimal capital structure ratios, targeted ratios can only be broadly conceptualized. Appropriate ratios may shift over time as capital market conditions or business risk characteristics change. Additionally, the timing of upcoming issuances and maturities may influence the capital structure ratios because both the size and frequency of issuances are affected by the relative cost-effectiveness of various issuance increments.
>
> Given these practical considerations, capital structure ratios cannot be deemed to be inappropriate unless the ratios greatly diverge from sound industry practice and cause a lack of financial flexibility that may lead to higher overall costs.
>
> ***
>
> As increasing financial leverage shifts the weight from common equity to lower cost debt, it also increases both the cost of debt and the cost of common equity. In practice, these offsetting impacts cancel each other out over a wide range of capital structure ratios".[80]

Further, James C. Bonbright explains in his seminal text *Principles of Public Utility Rates* that a hypothetical capital structure should be used only when actual capital structures are "clearly unsound" or "extravagantly conservative," reasoning that using hypothetical capital structures "substitutes an estimate of what the capital cost would be under non-existing conditions for what it actually is or will soon be under prevailing conditions."[81]

Q. Have you assessed whether EGU's capital structure is consistent with sound industry practice?

A. Yes, I have. To make that assessment, I calculated the average capital structure for each of the proxy group operating companies over the last three years (*see,* EGU

[80] NARUC, *A Cost of Capital and Capital Markets Primer for Utility Regulators* (April 2020), at 11 (emphasis added).

[81] James C. Bonbright, Principles of Public Utility Rates, at 243-44.

Exhibit 2.08). On average, the proxy group operating companies finance their regulated natural gas distribution operations with 54.53 percent common equity, within a range of 47.37 percent to 60.03 percent.[82] From that perspective, EGU's proposed capital structure is well within the range of its peers.

Q. What is the basis for using average capital components rather than a point-in-time measurement?

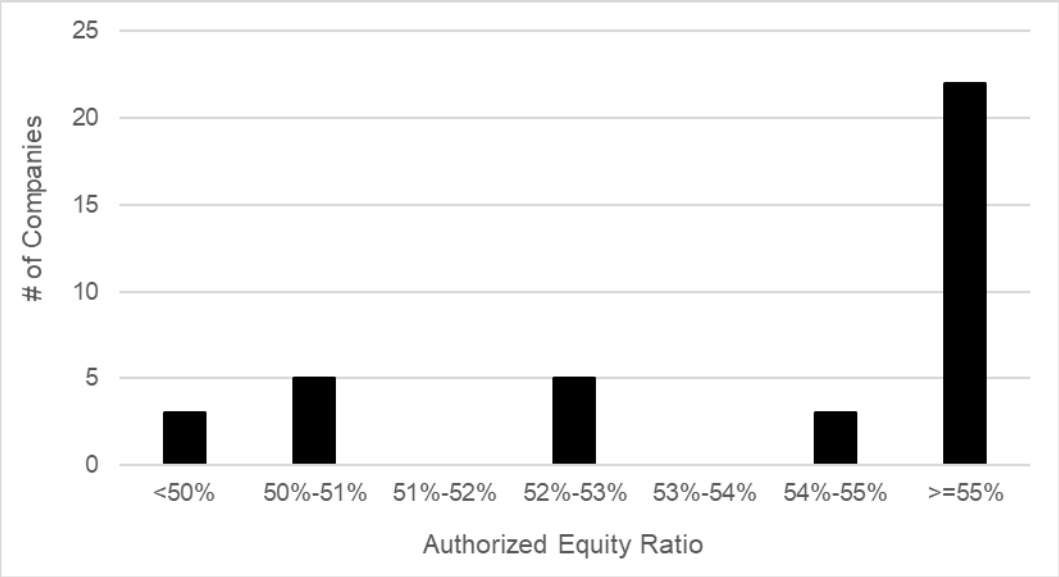
A. Measuring the capital components at a particular point in time can skew the capital structure by the specific circumstances of a particular period. Therefore, it is appropriate to normalize the relative relationship between the capital components over a period of time.

Q. Is a capital structure consisting of 53.00 percent common equity consistent with authorized equity ratios for the proxy group?

A. Yes. As shown in Figure 18 below, an equity ratio of 53.00 percent is lower than the average and median current authorized equity ratios for the proxy companies in the jurisdictions in which they operate (55.68 percent and 57.16 percent, respectively). In fact, 66 percent of the proxy group companies have an authorized equity ratio above 54 percent in the jurisdictions in which they operate (*see also* EGU Exhibit 2.09).

[82] EGU Exhibit 2.08.

Figure 18: Distribution of Proxy Group Current Authorized Equity Ratios[83]



Q. What is your conclusion regarding the Company's requested capital structure?

A. The requested common equity ratio of 53.00 percent is within the range of actual and authorized equity ratios for its peers and is, therefore, consistent with industry standards. As such, a capital structure including 53.00 percent common equity and 47.00 percent long-term debt is reasonable and should be approved.

Q. What cost of debt does the Company request in this proceeding?

A. As discussed in the pre-filed Direct Testimony of Jordan Stephenson, the Company requests a cost of long-term debt of 4.25 percent.

Q. Please explain your analysis assessing the Company's requested cost of debt.

A. To assess the reasonableness of EGU's requested cost of debt, I reviewed the yield on equivalent utility debt at the time of issuance. As shown in EGU Exhibit 2.10, I compared the yield of each of EGU's individual debt issuances to the A-rated and

[83] EGU Exhibit 2.09.

BBB-rated utility bond yield curves at the time of issuances. The comparable cost of debt based on the Bloomberg Fair Value Curve for A-rated and BBB-rated utility bonds ranges from 4.15 percent to 4.49 percent. Because EGU's requested cost of debt is at the lower end of the range of utility debt yields of the same term issued during the same period, I conclude the Company's requested cost of debt is reasonable.

VII. CONCLUSIONS

Q. What is your conclusion regarding the ROE, capital structure, and cost of debt for EGU?

A. As discussed throughout my testimony, it is important to consider both quantitative and qualitative information arriving at an appropriate ROE determination. Based on my review of the results from three commonly used analytical approaches, I conclude an ROE in the range of 9.80 percent to 11.40 percent represents the range of equity investors' required ROE for investment in a natural gas utility like EGU. Within that range, I conclude that an ROE of 10.60 percent is reasonable and appropriate in this proceeding. That conclusion considers EGU's capital expenditure requirements, the regulatory environment in which it operates, the current volatile capital market environment, and the Company's requested capital structure.

As to the capital structure and cost of debt, a capital structure including 53.00 percent common equity and 47.00 percent long-term debt is consistent with the capital structures in place at the proxy group companies. The requested cost of debt is within the range of benchmarks of similarly rated utility debt. Therefore, I conclude the capital structure and cost of debt are reasonable and should be approved.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

Commonwealth of Massachusetts)

) ss.

County of Middlesex)

I, Jennifer E. Nelson, being first duly sworn on oath, state that the answers in the foregoing written testimony are true and correct to the best of my knowledge, information, and belief. The exhibits attached to the testimony were prepared by me or under my direction and supervision, and they are true and correct to the best of my knowledge, information, and belief. Any exhibits not prepared by me or under my direction and supervision are true and correct copies of the documents they purport to be.

Jennifer E. Nelson

SUBSCRIBED AND SWORN TO this 22nd day of April, 2025.

Notary Public

REGINA A. KOLB
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires On
November 27, 2026