

**BEFORE THE  
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,

Complainant,

v.

CASCADE NATURAL GAS  
CORPORATION,

Respondent.

DOCKET UG-240008

**CASCADE NATURAL GAS CORPORATION**

**DIRECT TESTIMONY OF ANN E. BULKLEY**

**March 29, 2024**

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Exh. AEB-2	Résumé and Testimony Listing
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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Ann E. Bulkley. I am a Principal at The Brattle Group (“Brattle”). My  
4 business address is One Beacon Street, Suite 2600, Boston, Massachusetts 02108.

5 **Q. On whose behalf are you submitting this testimony?**

6 A. I am submitting this direct testimony before the Washington Utilities and Transportation  
7 Commission (“Commission”) on behalf of Cascade Natural Gas Corporation (“Cascade”  
8 or the “Company”), a wholly-owned subsidiary of MDU Resources Group, Inc. (“MDU  
9 Resources”).

10 **Q. Please describe your education and experience.**

11 A. I hold a Bachelor’s degree in Economics and Finance from Simmons College and a  
12 Master’s degree in Economics from Boston University, with more than 25 years of  
13 experience consulting to the energy industry. I have advised numerous energy and utility  
14 clients on a wide range of financial and economic issues with primary concentrations in  
15 valuation and utility rate matters. Many of these assignments have included the  
16 determination of the cost of capital for valuation and ratemaking purposes. My resume  
17 and a listing of the testimony that I have filed in other proceedings are included as  
18 Exhibit AEB-2.

1 **Q. What is the purpose of your testimony?**

2 A. The purpose of my direct testimony is to present evidence and provide an opinion  
3 regarding the Company's return on equity ("ROE") and capital structure to be used for  
4 ratemaking purposes.

5 **Q. Are you sponsoring any schedules in support of your direct testimony?**

6 A. Yes. My analysis and recommendations are supported by the data presented in Exhibits  
7 AEB-2 through AEB-17C, which were prepared by me or under my direction.

8 **Q. Please provide a brief overview of the analyses that led to your ROE recommendation.**

9 A. In developing my recommendation regarding the Company's proposed ROE in this  
10 proceeding, I have estimated the cost of equity by applying several traditional estimation  
11 methodologies to the proxy group, specifically the Discounted Cash Flow ("DCF")  
12 model, the Capital Asset Pricing Model ("CAPM"), the Empirical Capital Asset Pricing  
13 Model ("ECAPM"), and a Bond Yield Risk Premium ("BYRP" or "Risk Premium")  
14 analysis. I also consider the Company's relative business and regulatory risk as  
15 compared with the proxy group; and the Company's proposed capital structure as  
16 compared with the capital structures of the operating utilities of the proxy group  
17 companies. While I do not make specific adjustments to the cost of equity for these  
18 factors in developing my opinion regarding the reasonableness of the Company's ROE, I  
19 do consider them in the aggregate.

20 **Q. How is the remainder of your testimony organized?**

21 A. The remainder of my testimony is organized as follows:

22 

- Section II provides a summary of my analyses and conclusions.

- 1 • Section III reviews the regulatory guidelines pertinent to the development of the  
2 cost of capital.
- 3 • Section IV discusses current and projected capital market conditions and the  
4 effect of those conditions on the cost of equity.
- 5 • Section V explains my selection of the proxy group.
- 6 • Section VI describes my cost of equity estimates and the analytical basis for my  
7 opinion of the appropriate ROE for Cascade.
- 8 • Section VII provides a discussion of specific regulatory, business, and financial  
9 risks that have a direct bearing on the ROE to be authorized for the Company in  
10 this case.
- 11 • Section VIII provides an assessment of the reasonableness of the Company's  
12 proposed capital structure relative to the proxy group.
- 13 • Section IX presents my conclusions and recommendations.

## 14 II. SUMMARY OF ANALYSES AND CONCLUSIONS

15 **Q. Please summarize the key factors considered in your analyses and upon which you**  
16 **base your recommended ROE.**

17 **A.** My analyses and conclusions consider the following:

- 18 • The United States Supreme Court's *Hope* and *Bluefield* decisions,<sup>1</sup> which established  
19 the standards for determining a fair and reasonable authorized ROE for public  
20 utilities, including consistency of the allowed return with the returns of other  
21 businesses having similar risk, adequacy of the return to provide access to capital and  
22 support credit quality, and the requirement that the result lead to just and reasonable  
23 rates.<sup>2</sup>
- 24 • The effect of current and projected capital market conditions on cost of equity  
25 estimation models and on investors' return requirements.
- 26 • The results of several analytical approaches that provide estimates of the Company's  
27 cost of equity. Because the Company's authorized ROE should be a forward-looking  
28 estimate over the period during which the rates will be in effect, these analyses rely  
29 on forward-looking inputs and assumptions (e.g., projected analyst growth rates in the  
30 DCF model, forecasted risk-free rate and market risk premium in the CAPM  
31 analysis.)

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<sup>1</sup> *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*"); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("*Bluefield*"). See Exh. AEB-16.

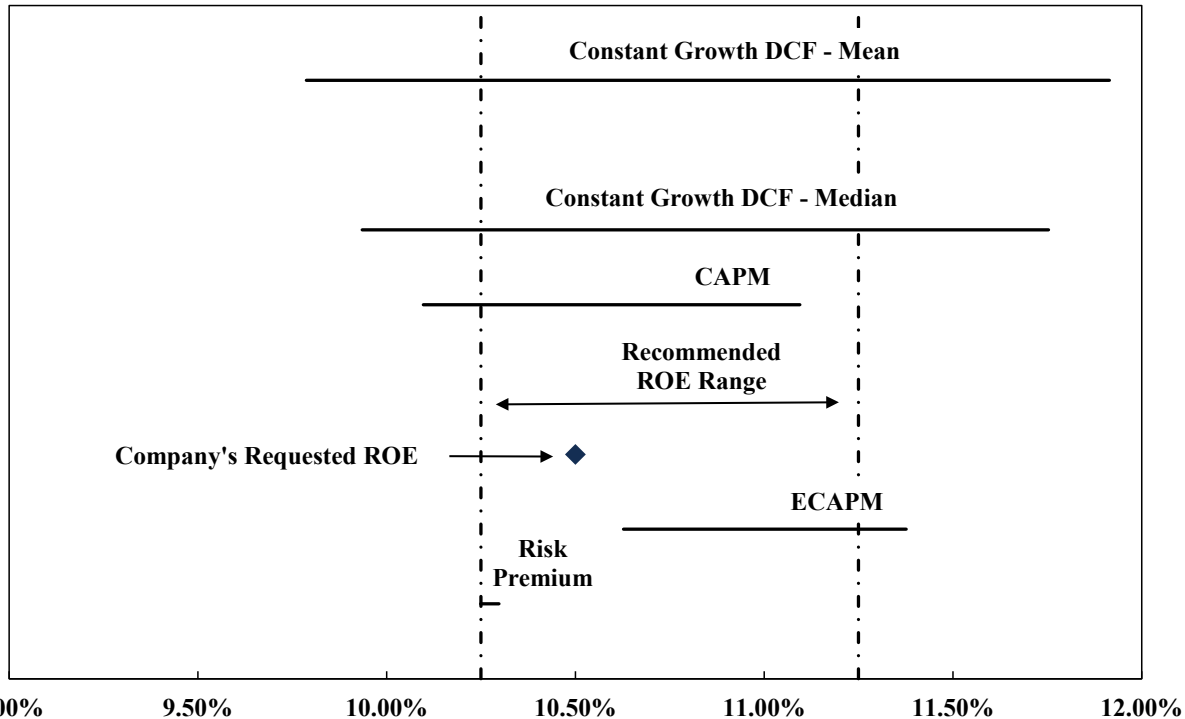
<sup>2</sup> See *Bluefield*, 262 U.S. at 693; see also *Hope*, 320 U.S. at 603. See Exh. AEB-16.

- 1 Although the companies in my proxy group are generally comparable to Cascade,  
 2 each company is unique, and no two companies have the exact same business and  
 3 financial risk profiles. Accordingly, I consider the Company's regulatory, business,  
 4 and financial risks relative to the proxy group of comparable companies in assessing  
 5 where within the range of analytical results the Company's ROE should reasonably  
 6 fall to appropriately account for any residual differences in risk.

7 **Q. What are the results of the models that you have used to estimate the cost of equity**  
 8 **for Cascade in this proceeding?**

9 A. Figure 1 summarizes the range of results produced by my cost of equity analyses.

10 **Figure 1: Summary of Cost of Equity Model Results**



11 9.00% 9.50% 10.00% 10.50% 11.00% 11.50% 12.00%

12 As shown in Figure 1 (and Exhibit AEB-3), the range of results produced by the cost of  
 13 equity estimation models is wide. While it is common to consider multiple models to  
 14 estimate the cost of equity, it is particularly important when the range of results varies  
 15 considerably across methodologies.

1 **Q. Are prospective capital market conditions expected to affect the cost of equity for the**  
2 **Company during the period in which the rates established in this proceeding will be**  
3 **in effect?**

4 A. Yes. Capital market conditions are expected to affect the results of the cost of equity  
5 estimation models. Specifically:

- 6 • Long-term interest rates have increased substantially in the past year and are  
7 expected to remain relatively high at least over the next year as compared to the  
8 period prior to the Federal Reserve initiating its restrictive monetary policy.
- 9 • Since (i) utility dividend yields are less attractive than the risk-free rates of  
10 government bonds; (ii) interest rates are expected to remain near current levels  
11 over the next year, and (iii) utility stock prices are inversely related to changes in  
12 interest rates; utility share prices may remain depressed.
- 13 • Rating agencies have responded to the risks of the utility sector, citing factors  
14 including elevated capital expenditures, interest rates, and inflation that create  
15 pressures for customer affordability and prompt rate recovery, and have noted the  
16 importance of regulatory support in their current outlooks.
- 17 • Similarly, equity analysts have noted the increased risk for the utility sector as a  
18 result of elevated interest rates and expect the sector to underperform in 2024.
- 19 • Consequently, it is important to consider that if utility share prices decline, the  
20 results of the DCF model, which relies on current utility share prices, would  
21 understate the cost of equity during the period that the Company's rates will be in  
22 effect.

23 It is appropriate to consider all these factors when estimating a reasonable range of the  
24 investor-required cost of equity and the recommended ROE for the Company.

25 **Q. What is your recommendation regarding the Company's ROE in this proceeding?**

26 A. Based on the analytical results of the cost of equity models, and current and prospective  
27 capital market conditions, I conclude that an ROE in the range of 10.25 percent to 11.25  
28 percent is reasonable. Within that range, the Company is requesting an ROE of 10.50  
29 percent, which considers the Company's regulatory, business, and financial risk relative



1 to the proxy group, and the increase in the cost of equity since the Company's last rate  
2 proceeding.

3 **Q. Is the Company's proposed capital structure to be used for ratemaking purposes**  
4 **reasonable?**

5 A. Yes. The Company's proposed equity ratio of 50.285 percent for the duration of the  
6 multiyear rate plan ("MYRP") is well within the range of the actual capital structures of  
7 the utility operating subsidiaries of the proxy group companies. Further, the Company's  
8 proposed equity ratio is reasonable considering that the Company's business and  
9 regulatory risk is higher than the proxy group, yet the Company's requested ROE is at the  
10 lower-end of the range. Also supporting the reasonableness of the Company's proposed  
11 equity ratio is the fact that credit rating agencies have identified in their outlook for the  
12 utility sector significant risks such as relatively high interest rates and inflation, record  
13 levels of capital spending, and the need to fund capital spending in a credit supportive  
14 manner.

15 **III. REGULATORY GUIDELINES**

16 **Q. Please describe the principles that guide the establishment of the cost of capital for a**  
17 **regulated utility.**

18 A. The United States Supreme Court's precedent-setting *Hope and Bluefield* cases  
19 established the standards for determining the fairness or reasonableness of a utility's  
20 allowed ROE. Among the standards established by the Court in those cases are: (1)  
21 consistency with other businesses having similar or comparable risks; (2) adequacy of the  
22 return to support credit quality and access to capital; and (3) the principle that the result

1 reached, as opposed to the methodology employed, is the controlling factor in arriving at  
2 just and reasonable rates.<sup>3</sup>

3 **Q. Has the Commission provided similar guidance in establishing the appropriate ROE?**

4 A. Yes. In Cascade’s 2020 rate filing, the Commission stated that:

5 The Commission follows the long-standing precedents set by the Hope  
6 and Bluefield decisions. In *Hope* and *Bluefield*, the United States Supreme  
7 Court recognized that rates for regulated monopoly utilities must  
8 incorporate a fair rate of return on equity that is comparable to returns  
9 investors would expect to receive on other investments of similar risk,  
10 sufficient to assure confidence in the utility’s financial integrity, and  
11 adequate to attract capital at reasonable costs.

12 The Commission’s long-standing practice is first to identify within the  
13 range of possible returns shown by expert analyses a range of reasonable  
14 returns on equity considering all cost of capital testimony in the record.  
15 Then, the Commission weighs the analysts’ more detailed results and  
16 considers other evidence relevant to the selection of a specific point value  
17 within the range. The Commission’s final determination of an acceptable  
18 ROE recognizes fully the guiding principles of regulatory ratemaking that  
19 require us to reach an end result that yields fair, just, reasonable, and  
20 sufficient rates.<sup>4</sup>

21 A. This guidance is in accordance with the *Hope* and *Bluefield* decisions and the principles  
22 that I employed to estimate the ROE for Cascade, including the principle that an allowed  
23 rate of return must be sufficient to enable regulated companies like Cascade to attract  
24 capital on reasonable terms.

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<sup>3</sup> *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923). See Exh. AEB-16.

<sup>4</sup> Washington Utilities and Transportation Commission v. Cascade Natural Gas Corporation, Docket No. UG-200568, Order 5, May 18, 2021, at ¶ 120-121.

1 **Q. Why is it important for a utility to be allowed the opportunity to earn an ROE that is**  
2 **adequate to attract capital at reasonable terms?**

3 A. An ROE that is adequate to attract capital at reasonable terms enables the Company to  
4 continue to provide safe, reliable natural gas service while maintaining its financial  
5 integrity. That return should be commensurate with returns expected elsewhere in the  
6 market for investments of equivalent risk. If it is not, debt and equity investors will seek  
7 alternative investment opportunities for which the expected return reflects the perceived  
8 risks, thereby inhibiting the Company's ability to attract capital at reasonable cost.

9 **Q. Is a utility's ability to attract capital also affected by the ROEs authorized for other**  
10 **utilities?**

11 A. Yes. Utilities compete directly for capital with other investments of similar risk, which  
12 include other electric, natural gas, and water utilities. Therefore, the ROE authorized for  
13 a utility sends an important signal to investors regarding whether there is regulatory  
14 support for financial integrity, dividends, growth, and fair compensation for business and  
15 financial risk. The cost of capital represents an opportunity cost to investors. If higher  
16 returns are available elsewhere for other investments of comparable risk over the same  
17 time-period, investors have an incentive to direct their capital to those alternative  
18 investments. Thus, an authorized ROE significantly below authorized ROEs for other  
19 electric, natural gas, and water utilities can inhibit the utility's ability to attract capital for  
20 investment.

1 **Q. What is the standard for setting the ROE in any jurisdiction?**

2 A. The stand-alone ratemaking principle is the foundation of jurisdictional ratemaking. This  
3 principle requires that the rates that are charged in any operating jurisdiction be for the  
4 costs incurred in that jurisdiction. The stand-alone ratemaking principle ensures that  
5 customers in each jurisdiction only pay for the costs of the service provided in that  
6 jurisdiction, which is not influenced by the business operations in other operating  
7 companies. In order to maintain this principle, the cost of equity analysis is performed  
8 for an individual operating company as a stand-alone entity. As such, I have evaluated  
9 the investor-required return for the Company's natural gas operations in Washington.

10 **Q. Does the fact that Cascade is owned by MDU Resources, a publicly-traded company,**  
11 **affect your analysis?**

12 A. No. In this proceeding, consistent with stand-alone ratemaking principles, it is  
13 appropriate to establish the cost of equity for Cascade, not its publicly-traded parent,  
14 MDU Resources. More importantly, however, it is appropriate to establish a cost of  
15 equity and capital structure that provide Cascade the ability to attract capital on  
16 reasonable terms both on a stand-alone basis and within its parent corporation.

17 **Q. Are the regulatory framework and the authorized ROE and equity ratio important**  
18 **to the financial community?**

19 A. Yes. The regulatory framework is one of the most important factors in debt and equity  
20 investors' assessments of risk. Specifically, the authorized ROE and equity ratio for  
21 regulated utilities is very important for determining the degree of regulatory support for a  
22 utility's creditworthiness and financial stability in the jurisdiction. To the extent that

1 authorized returns in a jurisdiction are lower than the returns that have been authorized  
2 more broadly, such actions are considered by both debt and equity investors in the overall  
3 risk assessment of the regulatory jurisdiction in which the company operates.

4 **Q. Are you aware of any utilities that have experienced a credit rating downgrade and/or**  
5 **market response related to the financial effects of a rate case decision?**

6 A. Yes. There are numerous examples in which utilities have experienced a negative market  
7 response related to the financial effects of a rate case decision, including credit rating  
8 downgrades and material stock price declines. For example, ALLETE, Inc.,<sup>5</sup> CenterPoint  
9 Energy Houston Electric,<sup>6</sup> and Pinnacle West Capital Corporation (“PNW”)<sup>7</sup> each  
10 received credit rating downgrades following rate case decisions in the past few years for  
11 reasons that included below average authorized ROEs. The most recent example is the  
12 decision by the Illinois Commerce Commission (“ICC”) in mid-December 2023 that  
13 rejected the multiyear grid plan proposals of Ameren Illinois Co. (“Ameren IL”) and  
14 Commonwealth Edison Co. (“ComEd”) and authorized lower-than-expected ROEs for  
15 both utilities. Specifically, the ICC authorized an ROE for Ameren IL of 8.72 percent

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<sup>5</sup> Moody’s Investors Service, “Credit Opinion: ALLETE, Inc. Update following downgrade,” April 3, 2019, at 3. See Exh. AEB-17C.

<sup>6</sup> FitchRatings, “Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative,” February 19, 2020, available at <https://www.fitchratings.com/research/corporate-finance/fitch-downgrades-centerpoint-energy-houston-electric-to-bbb-affirms-cnp-outlooks-negative-19-02-2020>.

<sup>7</sup> S&P Capital IQ Pro; FitchRatings, “Fitch Downgrades Pinnacle West Capital & Arizona Public Service to ‘BBB+’; Outlooks Remain Negative,” October 12, 2021, available at <https://www.fitchratings.com/research/corporate-finance/fitch-downgrades-pinnacle-west-capital-arizona-public-service-to-bbb-outlooks-remain-negative-12-10-2021>; and Moody’s Investors Service, “Rating Actions: Moody’s downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative,” November 17, 2021.

1 and 8.905 percent for ComEd, which was a significant reduction from the Administrative  
2 Law Judge's recommendations of 9.24 percent and 9.28 percent, respectively.<sup>8</sup>

3 **Q. How did the market respond to the ICC's decisions for these utilities?**

4 A. While the Standard & Poor's ("S&P") 500 Index was increasing, the share prices of the  
5 parent companies of both Ameren IL and ComEd (*i.e.*, Ameren Corp. and Exelon Corp.,  
6 respectively) each dropped more than 7 percent on December 14, 2023 after the ICC's  
7 decision, and declined again by more than 4.4 percent and 6.4 percent the following day,  
8 respectively.<sup>9</sup> As of the market close on January 5, 2024, Ameren and Exelon's stock  
9 prices were, respectively, 8.9 percent and 11.4 percent below where their stock prices  
10 closed on December 13, 2023, or the day immediately prior to the ICC's decisions.<sup>10</sup>

11 In addition, the reactions of equity analysts were universally negative, and  
12 questioned whether the parents of both Ameren IL and ComEd (*i.e.*, Ameren Corp. and  
13 Exelon Corp., respectively) will shift their capital spending out of the jurisdiction as a  
14 result of the uncertainty associated with the multiyear rate plan and low authorized ROEs.  
15 For example:

- 16 • Barclays characterized the ICC's ROE authorizations as "draconian" and "one of  
17 the lowest awarded in recent memory, especially in an elevated interest rate and  
18 cost of capital environment."<sup>11</sup> Barclays also stated it found it hard to believe

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<sup>8</sup> Allison Good, "Ameren, Exelon shares fall after Illinois regulators reject grid plans," *Platts*, December 15, 2023, available at <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/ameren-exelon-shares-fall-after-illinois-regulators-reject-grid-plans-79805593-?text=Shares%20of%20Ameren%20Corp.,returns%20beginning%20in%20January%202024>.

<sup>9</sup> Yahoo! Finance, Stock Prices for AEE and EXC from November 1, 2023, through January 5, 2024, available at: <https://finance.yahoo.com/quote/AEE/history/> and <https://finance.yahoo.com/quote/EXC/history/>.

<sup>10</sup> Ameren Corp.'s stock price closed at \$81.32 on December 13, 2023 and \$74.05 on January 5, 2023, available at <https://finance.yahoo.com/quote/AEE/history>. Exelon Corp.'s stock price closed at \$41.00 on December 13, 2023 and \$36.31 on January 5, 2023, available at <https://finance.yahoo.com/quote/EXC/history/>.

<sup>11</sup> Barclays, "AEE/EXC: Coal Stocking-Stuffer in Illinois," December 14, 2023. *See* Exh. AEB-17C.

1 utilities “can deploy capital under the same magnitude on the updated grid plans  
2 to be filed, especially under the current proposed ROE framework.”

- 3 • In its assessment of the impact on Exelon, the parent of ComEd, UBS stated that,  
4 “[t]he actions taken by the ICC today call into question, in our view, the  
5 regulatory backdrop in which EXC operates.”<sup>12</sup>
- 6 • Wells Fargo stated that it was not mincing words, and that the ICC’s orders were  
7 “onerous” and that:

8 We now view IL as one of the worst regulatory jurisdictions in the  
9 U.S. (nipping at CT's heels). We think the totality of the recent  
10 orders suggest that the regulatory balancing act between customers  
11 and investors is currently heavily skewed toward customers. As a  
12 result, we wonder if AEE & EXC will allocate capital away from  
13 IL. Keep in mind, IL represents ~25% of both AEE's & EXC's  
14 total rate base.”<sup>13</sup>

- 15 • In its evaluation of Ameren IL, BofA Securities characterized the ICC’s decision  
16 as “punitive” and stated that it was a surprise based on numerous conversations  
17 with investors that believed the ICC may authorize an ROE above the ALJ’s  
18 recommendation, not substantially lower, and that the downside surprise was one  
19 of the biggest in recent memory for their regulated utility coverage.<sup>14</sup> While  
20 BofA Securities acknowledged that Ameren IL represents less than 20 percent of  
21 Ameren Corp.’s consolidated rate base, it will nonetheless need offsets or capital  
22 expenditures elsewhere in order to hit its earnings growth rate targets.<sup>15</sup>
- 23 • After the decisions, Guggenheim questioned, “Is Illinois Becoming the Next  
24 Connecticut?” Guggenheim noted that investors questioned whether Illinois was  
25 “slowly becoming a CT-esque jurisdiction,” and that equity and debt holders are  
26 going to be wary of Illinois as a jurisdiction going forward and that the ICC is  
27 “simply sending a negative message to investors.”<sup>16</sup>

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<sup>12</sup> UBS, First Read Exelon Corp., “Negative Rate Case Outcome – Rating and PT Under Review,” December 14, 2023. *See* Exh. AEB-17C.

<sup>13</sup> Wells Fargo, “The ICC Delivers a Lump of Coal for AEE & EXC,” December 14, 2023. *See* Exh. AEB-17C.

<sup>14</sup> BofA Securities, Ameren Corporation, “Illinois delivers downside surprise,” December 15, 2023. *See* Exh. AEB-17C.

<sup>15</sup> *Id.*

<sup>16</sup> Guggenheim, “IL: Is Illinois Becoming the Next Connecticut? To Be Determined, but Taking a Neutral Stance on the State,” December 15, 2023. *See* Exh. AEB-17C.

1 Also, after the ICC's decisions, Regulatory Research Associates ("RRA") lowered its  
2 rating of the Illinois regulatory jurisdiction from Average/2 to Average/3 due to the  
3 "concerning pattern of restrictive" rate actions in the state.

4 **Q. What are your conclusions regarding the regulatory principles to be used in**  
5 **establishing the cost of capital in this proceeding?**

6 A. The ratemaking process is premised on the principle that, in order for investors and  
7 companies to commit the capital needed to provide safe and reliable utility services, a  
8 utility must have a reasonable opportunity to recover the return of, and the market-  
9 required return on, its invested capital. Accordingly, the Commission's order in this  
10 proceeding should establish rates that provide the Company with a reasonable  
11 opportunity to earn an ROE that is: (1) adequate to attract capital at reasonable terms; (2)  
12 sufficient to ensure its financial integrity; and (3) commensurate with returns on  
13 investments in enterprises with similar risk. It is important for the ROE authorized in this  
14 proceeding to take into consideration current and projected capital market conditions, as  
15 well as investors' expectations and requirements for both risks and returns. Because  
16 utility operations are capital-intensive, regulatory decisions should enable the utility to  
17 attract capital at reasonable terms under a variety of economic and financial market  
18 conditions. Providing the opportunity to earn a market-based cost of capital supports the  
19 financial integrity of the Company, which is in the interest of both customers and  
20 shareholders.



1 **IV. CAPITAL MARKET CONDITIONS**

2 **Q. Why is it important to analyze capital market conditions?**

3 A. The models used to estimate the cost of equity rely on market data and thus the results of  
4 those models can be affected by prevailing market conditions at the time the analysis is  
5 performed. While the ROE established in a rate proceeding is intended to be forward-  
6 looking, the analyst uses current and projected market data, including stock prices,  
7 dividends, growth rates, and interest rates, in the cost of equity estimation models to  
8 estimate the investor-required return for the subject company.

9 Analysts and regulatory commissions recognize that current market conditions  
10 affect the results of the cost of equity estimation models. As a result, it is important to  
11 consider the effect of the market conditions on these models when determining an  
12 appropriate range for the ROE, and the reasonableness of an ROE to be used for  
13 ratemaking purposes for a future period. If investors do not expect current market  
14 conditions to be sustained in the future, it is possible that the cost of equity estimation  
15 models will not provide an accurate estimate of investors' required return during that rate  
16 period. Therefore, it is very important to consider projected market data to estimate the  
17 return for that forward-looking period.

18 **Q. What factors affect the cost of equity for regulated utilities in the current and**  
19 **prospective capital markets?**

20 A. The cost of equity for regulated utility companies is affected by several factors in the  
21 current and prospective capital markets, including: (1) changes in monetary policy; (2)  
22 relatively high inflation; and (3) increased interest rates that are expected to remain

1 relatively high over the next few years. These factors affect the assumptions used in the  
2 cost of equity estimation models.

3 **A. Inflationary Expectations in Current and Projected Capital Market**  
4 **Conditions**

5 **Q. What has the level of inflation been over the past few years?**

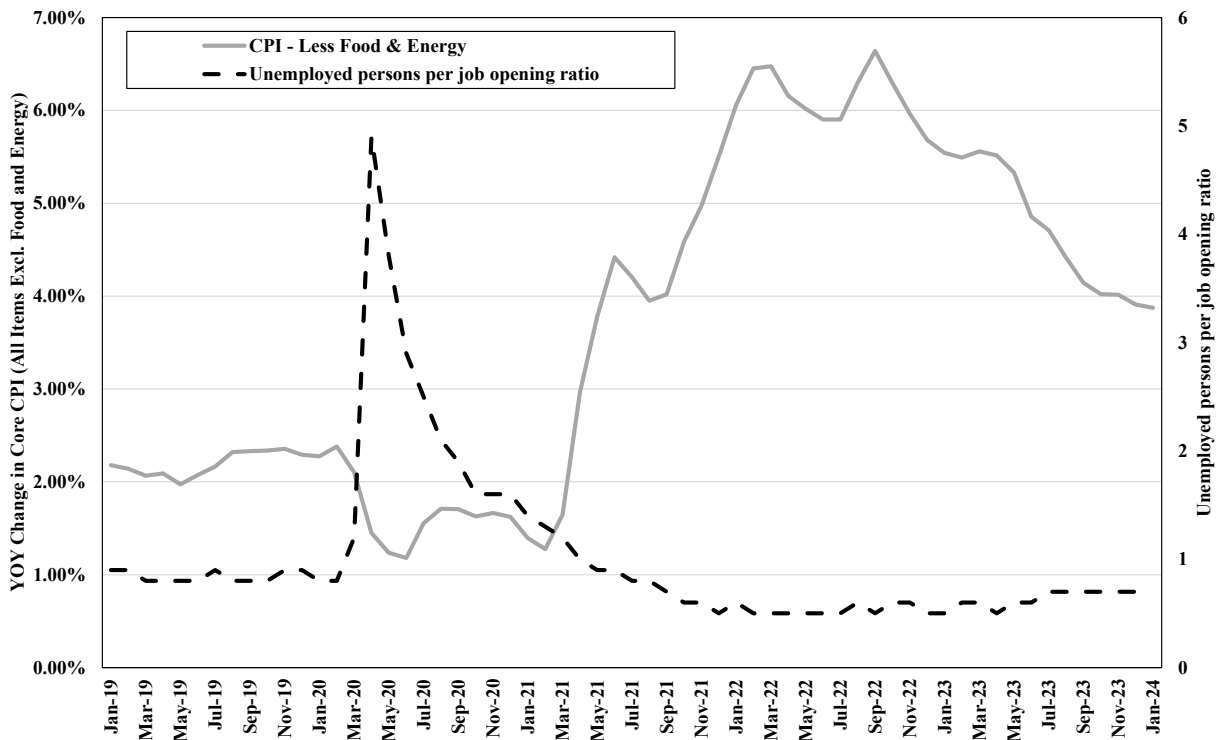
6 A. As shown in Figure 2, core inflation increased steadily beginning in early 2021, rising  
7 from 1.41 percent in January 2021 to a high of 6.64 percent in September 2022, which  
8 was the largest 12-month increase since 1982.<sup>17</sup> Since that time, while core inflation has  
9 declined in response to the Federal Reserve’s monetary policy, it continues to remain  
10 above the Federal Reserve’s target level of 2.0 percent.

11 In addition, as shown in Figure 2, I also have considered the ratio of unemployed  
12 persons per job opening, which is currently 0.7 and has been consistently below 1.0 since  
13 2021, despite the Federal Reserve’s accelerated policy normalization. This metric  
14 indicates sustained strength in the labor market. Given the Federal Reserve’s dual  
15 mandate of maximum employment and price stability, the continued increased levels of  
16 core inflation coupled with the strength in the labor market has resulted in the Federal  
17 Reserve’s sustained focus on the priority of reducing inflation.

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<sup>17</sup> Figure 2 presents the year-over-year (“YOY”) change in core inflation, as measured by the Consumer Price Index (“CPI”) excluding food and energy prices as published by the Bureau of Labor Statistics. I considered core inflation because it is the preferred inflation indicator of the Federal Reserve for determining the direction of monetary policy. Core inflation is preferred by the Federal Reserve because it removes the effect of food and energy prices, which can be highly volatile. *See* AEB WP 1.

**Figure 2: Core Inflation and Unemployed Persons-to-Job Openings,  
January 2019 to January 2024<sup>18</sup>**



1 **Q. What are the expectations for inflation over the near-term?**

2 A. The Federal Reserve has indicated that it expects inflation will remain elevated above its  
 3 target level until 2026 and that the extent to which it maintains the restrictive monetary  
 4 policy will depend on market indicators going forward. For example, Federal Reserve  
 5 Chair Jerome Powell at the Federal Open Market Committee (“FOMC”) meeting on  
 6 January 31, 2024 observed that while inflation is off of its recent highs, the progress  
 7 towards the objective of two percent inflation is not assured and may require policy rates

<sup>18</sup> Bureau of Labor Statistics. See AEB WP 1.

1 to remain elevated for longer and added that a March cut is “not the most likely” or “base  
2 case” scenario.<sup>19</sup>

3 We believe that our policy rate is likely at its peak for this tightening cycle  
4 and that, if the economy evolves broadly as expected, it will likely be  
5 appropriate to begin dialing back policy restraint at some point this year.  
6 But the economy has surprised forecasters in many ways since the  
7 pandemic, and ongoing progress toward our 2 percent inflation objective  
8 is not assured. The economic outlook is uncertain, and we remain highly  
9 attentive to inflation risks. We are prepared to maintain the current target  
10 range for the federal funds rate for longer, if appropriate.<sup>20</sup>

11 In the December 13, 2023 FOMC meeting, Chair Powell reiterated that the FOMC was  
12 committed to bringing inflation down to the two percent target level, and that while the  
13 easing of inflation has been good news, it is currently projected to take until 2026 to  
14 reach the Federal Reserve’s target of two percent:

15 Inflation has eased over the past year but remains above our longer-run  
16 goal of 2 percent. Based on the consumer price index [*CPI*] and other data,  
17 we estimate that total PCE [*Personal Consumption Expenditures*] prices  
18 rose 2.6 percent over the 12 months ending in November; and that,  
19 excluding the volatile food and energy categories, core PCE prices rose  
20 3.1 percent. The lower inflation readings over the past several months are  
21 welcome, but we will need to see further evidence to build confidence that  
22 inflation is moving down sustainably toward our goal. Longer-term  
23 inflation expectations appear to remain well anchored, as reflected in a  
24 broad range of surveys of households, businesses, and forecasters, as well  
25 as measures from financial markets. As is evident from the SEP [*Summary*  
26 *of Economic Projections*], we anticipate that the process of getting  
27 inflation all the way to 2 percent will take some time. The median  
28 projection in the SEP is 2.8 percent this year, falls to 2.4 percent next year,  
29 and reaches 2 percent in 2026.<sup>21</sup>

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<sup>19</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, January 31, 2024, at 16, available at [Transcript of Chair Powell's Press Conference -- January 31, 2024 \(federalreserve.gov\)](https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20240131.pdf).

<sup>20</sup> *Id.* at 3.

<sup>21</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, December 13, 2023, at 2-3, available at <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20231213.pdf>; clarification added.

1 **Q. Have there been economic indicators published since the FOMC published the**  
2 **Summary of Economic Projections on December 13, 2023 that indicate strength in**  
3 **the U.S. economy?**

4 A. Yes. Since December 13, 2023, the following data has been released demonstrating the  
5 unexpected strength in the U.S. economy:

- 6 • GDP increased in the fourth quarter of 2023 by 3.3 percent, which exceeded the  
7 expectation of 2.0 percent. This followed an increase of 4.9 percent in the third  
8 quarter of the year.<sup>22</sup>
- 9 • U.S. employers added 353,000 jobs in January, far exceeding forecasts. Further,  
10 revised 2023 data indicated that 2023 was stronger than previously reported.<sup>23</sup>
- 11 • The unemployment rate remained at 3.7 percent and has been below 4.0 percent  
12 for 24 months.<sup>24</sup>
- 13 • Average hourly earnings increased 0.6 percent in January 2024, up 4.5 percent  
14 year-over-year.<sup>25</sup>

15 **Q. How has more recent economic data affected the FOMC’s views on changes to current**  
16 **monetary policy?**

17 A. While the December 13, 2023 Summary of Economic Projections suggested the potential  
18 for interest rate reductions, the FOMC concluded their January 2024 FOMC meeting with  
19 a unanimous decision to leave the federal funds rate unchanged. Following that meeting,  
20 Chair Powell indicated that inflation was still too high and added that a March cut is “not  
21 the most likely” or “base case” scenario.<sup>26</sup> More recently, Chairman Powell addressed

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<sup>22</sup> See, e.g., Jeff Cox, “The U.S. economy grew at a blistering 3.3% pace in Q4 while inflation pulled back,” CNBC, January 25, 2024, available at <https://www.cnbc.com/2024/01/25/gdp-q4-2023-the-us-economy-grew-at-a-3point3percent-pace-in-the-fourth-quarter.html> - :~:text=Economy-.The%20U.S.%20economy%20grew%20at%20blistering%203.3%25%20pace,Q4%20while%20inflation%20pulled%20back&text=GDP%2C%20a%20measure%20of%20all,looking%20for%20a%202%25%20gain.

<sup>23</sup> See, e.g., Lydia DePillis, “Job Market Starts 2024 With a Bang,” *The New York Times*, February 2, 2024. See Exh. AEB-16.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, January 31, 2024, at 16.

1 Congress on March 6, 2024, indicating that “The Committee does not expect that it will  
2 be appropriate to reduce the target range until it has gained greater confidence that  
3 inflation is moving sustainably toward 2 percent.”<sup>27</sup> Chairman Powell further noted that  
4 the labor market remains relatively tight even though inflation has eased notably.<sup>28</sup>  
5 Further, at the March 2024 meeting the FOMC decided maintain the target range for the  
6 federal funds rate at 5.25 percent to 5.50 percent. In his speech following the meeting,  
7 Chairman Powell noted the continued economic strength, and that the FOMC remains  
8 highly attentive to inflation risks and is prepared to maintain the current federal funds rate  
9 for longer, if appropriate.<sup>29</sup>

10 **Q. What has been the market’s expectation about interest rate cuts since the recent**  
11 **economic data you referenced has been reported?**

12 A. The market has recognized the strength in the economy and the labor market and has  
13 tempered its expectations that the FOMC will decrease interest rates in the first quarter of  
14 this year. The CME Group, which publishes a “FedWatch” probability chart of FOMC  
15 activity, is currently reporting less than a ten percent probability that the FOMC will  
16 reduce rates in May.<sup>30</sup>

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<sup>27</sup> Powell Reaffirms Fed Is Waiting to Cut Interest Rates in Testimony on Capitol Hill March 6, 2024. [Powell Reaffirms Fed Is Waiting to Cut Interest Rates in Testimony on Capitol Hill | Economy | U.S. News \(usnews.com\)](https://www.usnews.com/economy/story/2024/03/06/powell-reaffirms-fed-is-waiting-to-cut-interest-rates-in-testimony-on-capitol-hill).

<sup>28</sup> *Id.*

<sup>29</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, March 20, 2024, at 16. [Federal Reserve Board - Federal Reserve issues FOMC statement](https://www.federalreserve.gov/newswallpapers/2024/0320/powell.htm).

<sup>30</sup> CME Group, CME FedWatch Tool, available at <https://www.cmegroup.com/markets/interest-rates/cme-fedwatch-tool.html>; accessed March 21, 2024.

1                   **B. The Use of Monetary Policy to Address Inflation**

2 **Q. What policy actions has the Federal Reserve enacted to respond to increased**  
3 **inflation?**

4 A. The dramatic increase in inflation has prompted the Federal Reserve to pursue an  
5 aggressive normalization of monetary policy, removing the accommodative policy  
6 programs used to mitigate the economic effects of COVID-19. Since the March 2022  
7 meeting, the Federal Reserve increased the target federal funds rate through a series of  
8 increases from a range of 0.00 – 0.25 percent to a range of 5.25 percent to 5.50 percent.<sup>31</sup>  
9 Further, as noted above, while the Federal Reserve acknowledges that inflation has  
10 declined from its peak, it still is well above the Federal Reserve’s target of two percent.  
11 Therefore, the Federal Reserve anticipates the continued need to maintain the federal  
12 funds rate at a restrictive level in order to achieve its goal of two percent inflation over  
13 the long-run.

14                   **C. The Effect of Inflation and Monetary Policy on Interest Rates and the**  
15 **Investor-Required Return**

16 **Q. Have the yields on long-term government bonds increased in response to inflation and**  
17 **the Federal Reserve’s normalization of monetary policy?**

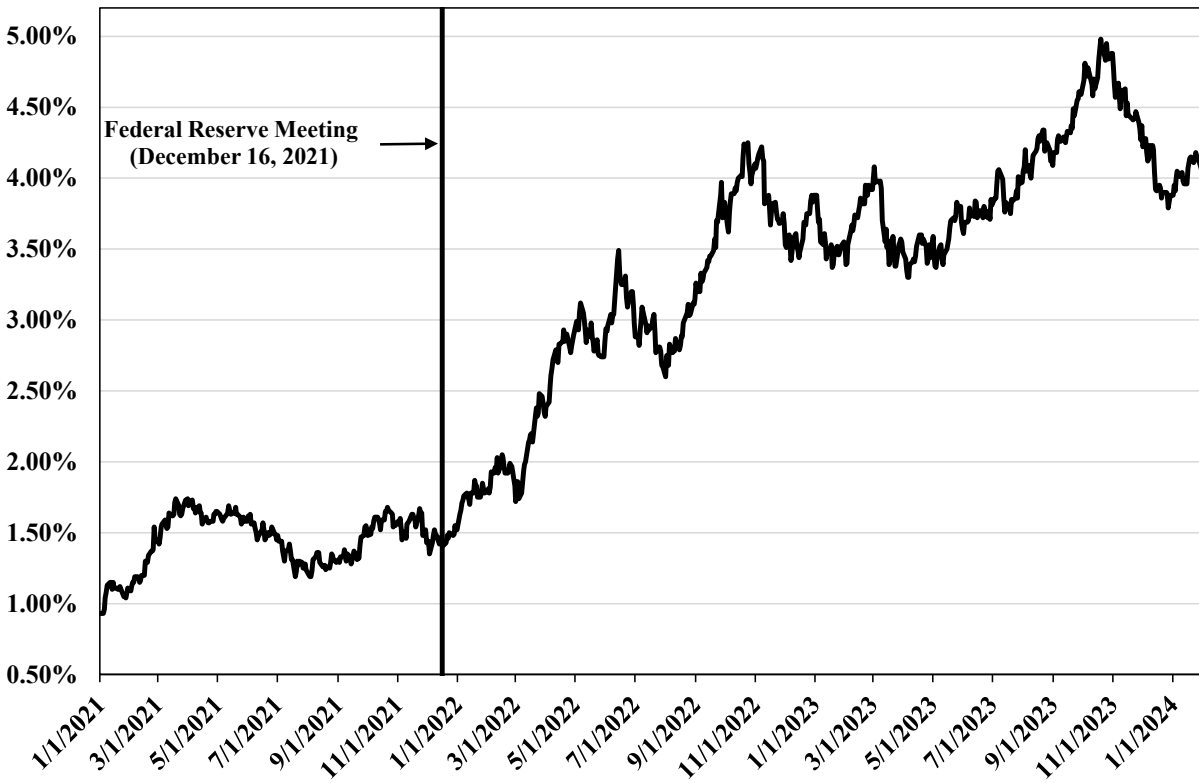
18 A. Yes. As the Federal Reserve has substantially increased the federal funds rate and  
19 decreased its holdings of Treasury bonds and mortgage-backed securities in response to  
20 increased levels of inflation that have persisted for longer than originally projected,  
21 longer term interest rates have also increased. As shown in Figure 3, since the Federal

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<sup>31</sup> Federal Reserve, “FOMC’s target federal funds rate or range, change (basis points) and level,” available at <https://www.federalreserve.gov/monetarypolicy/openmarket.htm>.

1 Reserve's December 2021 meeting, the yield on 10-year Treasury bonds has more than  
2 doubled, increasing from 1.47 percent on December 15, 2021, to 3.99 percent at the end  
3 of January 2024.

**Figure 3: 10-Year Treasury Bond Yield—January 2021 through January 2024<sup>32</sup>**



4  
5 **Q. How have interest rates and inflation changed since the Company's last rate case?**

6 A. As shown in Figure 4, at the time of the Company's last rate proceeding, interest rates (as  
7 measured by the 30-year Treasury bond yield) were 3.08 percent and core inflation was  
8 6.30 percent. However, since that time, long-term interest rates have increased by 111  
9 basis points as the Federal Reserve has increased the federal funds rate to combat

<sup>32</sup> S&P Capital IQ Pro. See AEB WP 2.



1 inflation, which, as shown in Figure 4, also remains slightly higher than during the  
2 Company's 2021 rate case, and, as noted, remains above the Federal Reserve's target.

3 **Figure 4: Change in Capital Market Conditions Since the Company's 2021 Rate Case**<sup>33</sup>

<b>Docket</b>	<b>Date</b>	<b>Federal Funds Rate</b>	<b>30-Day Avg of 30-Year Treasury Bond Yield</b>	<b>Core Inflation Rate</b>	<b>Auth'd ROE</b>
UG-210755	8/23/2022	2.33%	3.08%	6.30%	9.40%
Current	1/31/2024	5.33%	4.19%	3.87%	

4 **Q. What have equity analysts said about long-term government bond yields?**

5 A. Leading equity analysts have noted that they expect the yields on long-term government  
6 bonds to remain elevated. For example, the consensus estimate of the average yields on  
7 the 10-year and 30-year Treasury bonds reported by *Blue Chip Financial Forecasts* are  
8 3.88 percent and 4.10 percent, respectively, through the second quarter of 2025.<sup>34</sup>  
9 Therefore, investors expect interest rates to remain elevated for at least the next 15  
10 months. As a result, it is reasonable to expect that if government bond yields remain  
11 elevated, the cost of equity will remain materially higher than at the time of the  
12 Company's 2021 rate proceeding.

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<sup>33</sup> St. Louis Federal Reserve Bank; Bureau of Labor Statistics. *See* AEB WP 3.

<sup>34</sup> *Blue Chip Financial Forecasts*, Vol. 43, No. 2, February 1, 2024, p. 2. *See* Exh. AEB-16.

1 **D. Expected Performance of Utility Stocks and the Investor-Required Return**  
2 **on Utility Investments**

3 **Q. Are utility share prices correlated to changes in the yields on long-term government**  
4 **bonds?**

5 A. Yes. Interest rates and utility share prices are inversely correlated, which means that  
6 increases in interest rates result in declines in the share prices of utilities and vice versa.  
7 For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices  
8 of different industries to changes in interest rates over the past five years. Both Goldman  
9 Sachs and Deutsche Bank found that utilities had one of the strongest negative  
10 relationships with bond yields (*i.e.*, increases in bond yields resulted in the decline of  
11 utility shares).<sup>35</sup>

12 **Q. How do equity analysts expect the utilities sector to perform in 2024?**

13 A. Equity analysts have recently projected the continued underperformance of the utility  
14 sector, and have not changed their views on the sector:

- 15 • Fidelity Investments classifies the utility sector as underweight<sup>36</sup>;
- 16 • Bank of America recently noted that they are “not so constructive on [u]tilities”  
17 given that the dividend yields for utilities are below both the yields available on  
18 long- and short-term treasury bonds.<sup>37</sup>

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<sup>35</sup> Justina Lee, “Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks,” Bloomberg.com, March 11, 2021. *See* Exh. AEB-16.

<sup>36</sup> Fidelity Investments. “First Quarter 2024 Investment Research Update,” January 30, 2024, p. 3, available at <https://institutional.fidelity.com/app/literature/white-paper/9906006/first-quarter-2024-investment-research-update.html>.

<sup>37</sup> Dumoulin-Smith, Julien, *et. al.* “US Electric Utilities & IPPs: As the leaves fall, preparing for Autumn utility outlook. Macro still has potholes.” BofA Securities, September 6, 2023. *See* Exh. AEB-17C.

- 1 • UBS recently classified the 11 sectors of the S&P 500 as most preferred, natural  
2 and least preferred for 2024 with the utility sector being classified as one of  
3 UBS's three least preferred sectors (*i.e.*, utilities, materials and real estate);<sup>38</sup> and
- 4 • Professional investors surveyed by *Barron's* in its most recent Big Money poll  
5 selected the utility sector as one of the four equity sectors that they liked the least  
6 over the next twelve months, indicating they are projecting that utilities will  
7 underperform the broader market in 2024.<sup>39</sup>

8 Finally, while Ned Davis Research classified the utility sector as marketweight, they cited  
9 risks going forward that could result in a downgrade of their rating to underweight:

10 Key drivers: Falling yields have made Utilities' dividend yield more  
11 attractive, but the sector still yields less than the 10-year Treasury. At the  
12 end of December, only 40% of the sector's stocks yielded more than the  
13 10-year Treasury, 0.6 standard deviations below its long-term average.  
14 Lower interest rates or a continuation of the sector's decline in price will  
15 be needed to attract dividend-hungry investors.

16 Indicators to watch: Utilities saw slight sector model score deterioration in  
17 December, as one of its relative overbought/oversold indicators flipped  
18 from bullish to neutral during the month. Utilities starts 2024 tied with  
19 Consumer Staples and Financials for the lowest composite scores among  
20 all sectors. We see the possibility for more defensive leadership in the new  
21 year, but the sector model has us much closer to a downgrade of the sector  
22 than an upgrade.<sup>40</sup>

23 **Q. Why do equity analysts expect the utility sector to underperform over the near-term?**

24 A. Equity analysts expect the utility sector to continue to underperform given that utility  
25 dividend yields remain lower than the yields on long-term government bonds. To  
26 illustrate this point, I examined the difference between the dividend yields of utility  
27 stocks and the yields on long-term government bonds from January 2010 through January  
28 2024 ("yield spread"). I selected the dividend yield on the S&P Utilities Index as the

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<sup>38</sup> Capul, Jason. "UBS Prefers Info Tech, Consumer Staples and Energy in 2024." Seeking Alpha, December 12, 2023, seekingalpha.com/news/4045578-ubs-outlines-its-sector-outlook-and-offers-a-year-end-sp-price-target. See Exh. AEB-16.

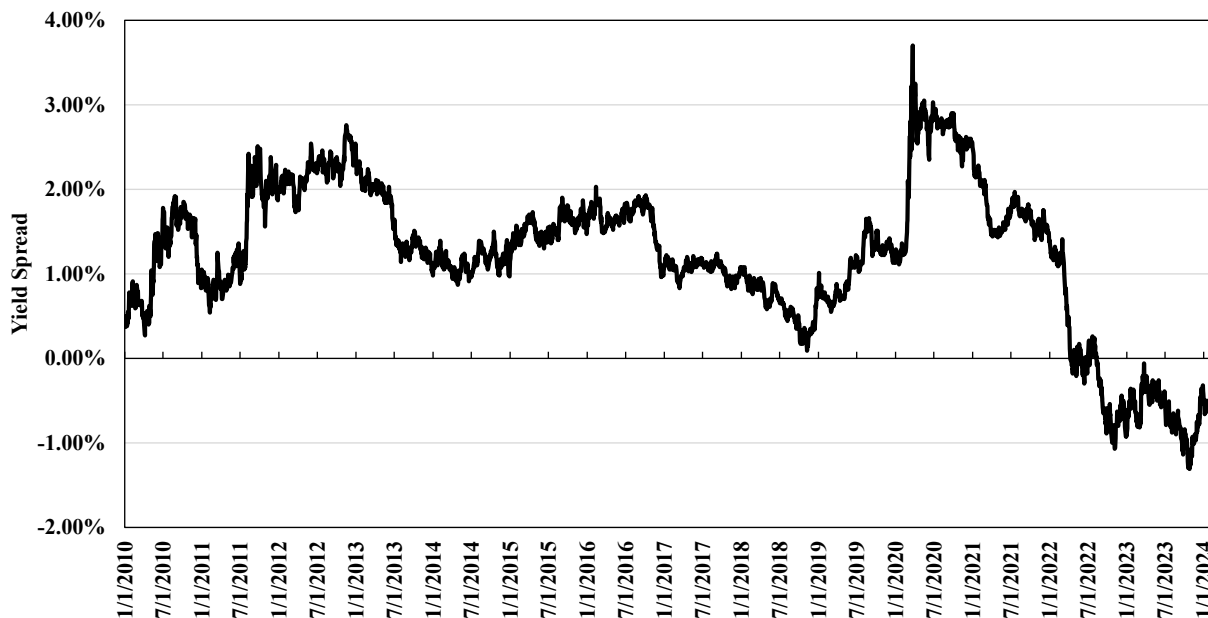
<sup>39</sup> Jasinski, Nicholas. "Big Money Pros Are Split on the Outlook for Stocks. But They Are Fans of Bonds." *Barron's*. October 27, 2023. See Exh. AEB-16.

<sup>40</sup> Ned Davis Research, "Risk-on leadership closes out 2023," January 4, 2024, at 18. See Exh. AEB-16.

1 measure of the dividend yields for the utility sector and the yield on the 10-year Treasury  
2 bond as the estimate of the yield on long-term government bonds

3 As shown in Figure 5, the recent significant increase in long-term government  
4 bonds yields has resulted in the yield on long-term government bonds exceeding the  
5 dividend yields of utilities. The yield spread as of January 31, 2024 was negative 0.42  
6 percent, meaning that the yield on the 10-year Treasury bond exceeds the dividend yield  
7 for the S&P Utilities Index. However, the long-term average yield spread from 2010 to  
8 2023 is 1.21 percent. Therefore, the current yield spread is well below the long-term  
9 average. Because of the fact that the yield spread is currently well below the long-term  
10 average, and the expectation that interest rates will remain relatively high through at least  
11 the next year, it is reasonable to conclude that the utility sector is likely to underperform  
12 over the near-term. This is because investors that purchased utility stocks as an  
13 alternative to the lower yields on long-term government bonds would otherwise be  
14 inclined to rotate into government bonds given the yields on long-term government bonds  
15 remain elevated and higher than utility dividend yields, thus resulting in a decrease in the  
16 share prices of utilities.

**Figure 5: Spread between the S&P Utilities Index Dividend Yield and the 10-year Treasury Bond Yield, January 2010 – January 2024<sup>41</sup>**



1           **E. Conclusion**

2   **Q.    What are your conclusions regarding the effect of current market conditions on the**  
3   **cost of equity for the Company?**

4   **A.**    Due to their effect on the estimated cost of equity, it is important that current and  
5   projected market conditions be considered in setting the forward-looking ROE in this  
6   proceeding. The combination of persistently high inflation and the Federal Reserve’s  
7   changes in monetary policy that have increased interest rates demonstrate that the cost of  
8   equity has increased since the Company’s last rate proceeding. Additionally, as  
9   demonstrated above, (i) there is a strong historical inverse correlation between interest  
10   rates (*i.e.*, yields on long-term government bonds) and the share prices of utility stocks

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<sup>41</sup> S&P Capital IQ Pro and Bloomberg Professional. *See* AEB WP 4.

1 (i.e., as interest rates increase, utility share prices decline, and thus utility dividend yields  
2 increase); and (ii) the yields on long-term government bonds currently exceed the  
3 dividend yields of utilities, when historically long-term government bond yields have  
4 been lower than the dividend yields of utilities. Given the aforementioned factors, it is  
5 likely that the cost of equity will increase over the near-term for utilities. As a result, cost  
6 of equity estimates based in whole or in part on historical or current market conditions, as  
7 opposed to projected market conditions, may understate the cost of equity during the  
8 future period that the Company's rates will be in effect. Therefore, these current and  
9 expected market conditions support consideration of forward-looking cost of equity  
10 estimation models such as the CAPM and ECAPM, which better reflect expected market  
11 conditions.

## 12 V. PROXY GROUP SELECTION

13 **Q. Please provide a brief profile of Cascade.**

14 A. Cascade is a natural gas distribution company that is a wholly-owned subsidiary of MDU  
15 Resources. The Company distributes natural gas to approximately 314,500 residential,  
16 commercial and industrial customers in Washington and Oregon.<sup>42</sup> As of September 30,  
17 2023, Cascade distributed natural gas to 230,742 residential, commercial and industrial  
18 customers in several non-contiguous service territories in western and central  
19 Washington.<sup>43</sup> Washington accounted for 28.0 percent of the natural gas distribution  
20 operating retail sales revenues of Cascade's parent, MDU Resources, in 2023, while

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<sup>42</sup> Cascade Natural Gas Corporation website, accessed January 13, 2024, available at <https://www.cngc.com/in-the-community/about-us/>.

<sup>43</sup> MDU Resources, Wolfe Research Conference Presentation, December 2023, p. 14, available at [https://s29.q4cdn.com/584607104/files/doc\\_presentations/2023/Dec/2023-Wolfe-Research-Presentation.pdf](https://s29.q4cdn.com/584607104/files/doc_presentations/2023/Dec/2023-Wolfe-Research-Presentation.pdf).

1 Idaho (33.0 percent), North Dakota (12.0 percent), Oregon (9.0 percent), Montana (8.0  
2 percent), South Dakota (5.0 percent), Minnesota (3.0 percent) and Wyoming (2.0 percent)  
3 accounted for the remaining 72.0 percent of the retail gas distribution operating sales  
4 revenue.<sup>44</sup> Cascade currently has an investment grade long-term rating of BBB from S&P  
5 (outlook negative) and BBB+ from Fitch Ratings (“Fitch”) (outlook negative).<sup>45</sup> Cascade  
6 was downgraded by S&P from BBB+ to BBB on November 8, 2023.<sup>46</sup>

7 **Q. Why have you used a group of proxy companies to estimate the cost of equity for the**  
8 **Company?**

9 A. In this proceeding, the cost of equity is being estimated for a natural gas utility company  
10 that is not itself publicly traded. Because the cost of equity is a market-based concept  
11 and Cascade’s operations do not make up the entirety of a publicly-traded entity, it is  
12 necessary to establish a group of companies that are both publicly traded and comparable  
13 to the Company in certain fundamental business and financial respects to serve as its  
14 “proxy” in the cost of equity estimation process.

15 The overall purpose of developing a set of screening criteria is to select a proxy  
16 group of companies that align with the financial and operational characteristics of  
17 Cascade and that investors would view as comparable to the Company. I developed the  
18 screens and thresholds for each screen based on judgment with the intention of balancing

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<sup>44</sup> MDU Resources, 2023 SEC Form 10-K, at p. 15, available at <https://d18m0p25nwr6d.cloudfront.net/CIK-0000067716/0e13009e-610d-4448-95d7-0c6a8f5b1542.pdf>.

<sup>45</sup> Credit rating report from S&P dated November 8, 2023 and Fitch dated August 3, 2023, available at <https://www.fitchratings.com/entity/cascade-natural-gas-corporation-81781067> and <https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3085891>.

<sup>46</sup> S&P Global Ratings, “MDU Resources Group Inc. And Cascade Natural Gas Downgraded to ‘BBB’, Outlooks Negative; Rating Actions On Other Subs,” November 8, 2023, available at <https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3085891>.

1 the need to maintain a proxy group that is of sufficient size with the need to establish a  
2 proxy group of companies that are comparable in business and financial risk to Cascade.

3 Even if Cascade's regulated natural gas distribution business made up the entirety  
4 of a publicly-traded entity, it is possible that transitory events could bias its market value  
5 over a given time period. A significant benefit of using a proxy group is that it mitigates  
6 the effects of anomalous events that may be associated with any one company. The  
7 proxy companies used in my analyses all possess a set of operating and financial risk  
8 characteristics that are substantially comparable to Cascade, and, therefore, provide a  
9 reasonable basis to estimate the appropriate cost of equity for the Company.

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

11 A. I began with the group of 9 U.S. utilities that *Value Line Investment Survey* ("*Value*  
12 *Line*") classifies as "Natural Gas Distribution Companies," and then applied the  
13 following screening criteria to select companies that:

- 14 • pay consistent quarterly cash dividends, since companies that do not pay  
15 dividends cannot be analyzed using the constant growth DCF model;
- 16 • have investment grade long-term issuer ratings from both S&P and Moody's  
17 Investors Service ("Moody's");
- 18 • are covered by more than one utility industry analyst;
- 19 • have positive long-term earnings growth forecasts from at least two equity  
20 analysts;
- 21 • derive more than 70.0 percent of their total operating income from regulated  
22 operations; and,
- 23 • derive more than 60.0 percent of regulated operating income from gas distribution  
24 operations
- 25 • were not parties to a merger or transformative transaction during the analytical  
26 periods relied on.



1 **Q. What is the composition of your proxy group?**

2 A. The screening criteria just discussed results in a proxy group consisting of the companies  
3 shown in Figure 6 (and also in Exhibit AEB-4).

**Figure 6: Proxy Group Composition**

<b>Company</b>	<b>Ticker</b>
Atmos Energy Corporation	ATO
NiSource Inc.	NI
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
Spire, Inc.	SR

4

5 **VI. COST OF EQUITY ESTIMATION**

6 **Q. Please briefly discuss the ROE in the context of the regulated rate of return.**

7 A. The rate of return for a regulated utility is the weighted average cost of capital, in which  
8 the costs of the individual sources of capital are weighted by their respective proportion  
9 (*i.e.*, book values) in the utility's capital structure. The ROE is the cost rate applied to the  
10 equity capital in calculating the rate of return. While the costs of debt and preferred stock  
11 can be directly observed, the cost of equity is market-based and, therefore, must be  
12 estimated based on observable market data.

13 **Q. How is the required cost of equity determined?**

14 A. The required cost of equity is estimated by using analytical techniques that rely on  
15 market-based data to quantify investor expectations regarding equity returns, adjusted for  
16 certain incremental costs and risks. Informed judgment is then applied to determine  
17 where the company's cost of equity falls within the range of results produced by multiple  
18 analytical techniques. The key consideration in determining the cost of equity is to

1 ensure that the methodologies employed reasonably reflect investors' views of the  
2 financial markets in general, as well as the subject company (in the context of the proxy  
3 group), in particular.

4 **Q. What methods have you used to estimate the Company's cost of equity in this**  
5 **proceeding?**

6 A. I consider the results of the constant growth DCF model, the CAPM, the ECAPM, and a  
7 BYRP approach. A reasonable cost of equity estimate appropriately considers alternative  
8 methodologies and the reasonableness of their individual and collective results.

9 **Q. Why is it important to use more than one analytical approach to estimate the cost of**  
10 **equity?**

11 A. Because the cost of equity is not directly observable, it must be estimated based on both  
12 quantitative and qualitative information. When faced with the task of estimating the cost  
13 of equity, analysts and investors are inclined to gather and evaluate as much relevant data  
14 as reasonably can be analyzed. Several models have been developed to estimate the cost  
15 of equity, and I use multiple approaches to estimate the cost of equity. As a practical  
16 matter, however, all of the models available for estimating the cost of equity are subject  
17 to limiting assumptions or other methodological constraints. Consequently, many well-  
18 regarded finance texts recommend using multiple approaches when estimating the cost of  
19 equity. For example, Copeland, Koller, and Murrin<sup>47</sup> suggest using the CAPM and

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<sup>47</sup> Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, New York, McKinsey & Company, Inc., 3rd Ed., 2000, at 214. See Exh. AEB-16.

1 Arbitrage Pricing Theory model, while Brigham and Gapenski<sup>48</sup> recommend the CAPM,  
2 DCF, and BYRP approaches.

3 Further, the recent changes in market conditions discussed previously highlight  
4 the benefit of using multiple models since each model relies on different assumptions,  
5 certain of which better reflect current and projected market conditions at different times.  
6 For example, the CAPM, ECAPM, and BYRP analyses rely directly on interest rates as  
7 an assumption in the models and therefore may more directly reflect the market  
8 conditions expected when the Company's rates are in effect. Accordingly, it is important  
9 to use multiple analytical approaches to ensure that the cost of equity results reflect  
10 market conditions that are expected during the period that the Company's rates will be in  
11 effect.

12 **Q. Has the Commission previously recognized the importance of considering the results**  
13 **of multiple cost of equity estimation models?**

14 A. Yes. It is my understanding that the Commission has repeatedly emphasized that it  
15 “places value on each of the methodologies used to calculate the cost of equity and does  
16 not find it appropriate to select a single method as being the most accurate or  
17 instructive.”<sup>49</sup> The Commission has explained that “[f]inancial circumstances are  
18 constantly shifting and changing, and we welcome a robust and diverse record of  
19 evidence based on a variety of analytics and cost of capital methodologies.”<sup>50</sup> In the  
20 Company's 2020 rate case, the Commission considered multiple models including the

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<sup>48</sup> Eugene Brigham and Louis Gapenski, *Financial Management: Theory and Practice*, Orlando, Dryden Press, 1994, at 341. [Financial Management: Theory & Practice \(Kindle\) \(nibmehub.com\)](#) See Exh. AEB-16.

<sup>49</sup> *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-130043, Order 05, n. 89 (Dec. 4, 2013).

<sup>50</sup> *Wash. Utils. & Transp. Comm'n v. PacifiCorp*, Docket UE-100749, Order 06, ¶ 91 (March 25, 2011).

1 DCF, CAPM, Risk Premium, and Comparable Earnings analyses.<sup>51</sup> However, the  
2 Commission relied on the results of the DCF, Risk Premium, and Comparable Earnings  
3 analyses to develop the range of reasonable returns excluding the results of the CAPM  
4 due to the wide range of results presented.<sup>52</sup>

#### 5 **A. Constant Growth DCF Model**

##### 6 **Q. Please describe the DCF approach.**

7 A. The DCF approach is based on the theory that a stock's current price represents the  
8 present value of all expected future cash flows. In its most general form, the DCF model  
9 is expressed as follows:

$$10 \quad P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

11 Where  $P_0$  represents the current stock price,  $D_1 \dots D_\infty$  are all expected future dividends,  
12 and  $k$  is the discount rate, or required cost of equity. Equation [1] is a standard present  
13 value calculation that can be simplified and rearranged into the following form:

$$14 \quad k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

15 Equation [2] is often referred to as the constant growth DCF model in which the first term  
16 is the expected dividend yield and the second term is the expected long-term growth rate.

---

<sup>51</sup> *Wash. Utils. & Transp. Comm'n v. Cascade Natural Gas Corporation*, Docket No. UG-200568, Order 5, ¶ 122-125 (May 18, 2021).

<sup>52</sup> *Wash. Utils. & Transp. Comm'n v. Cascade Natural Gas Corporation*, Docket UG-200568, Order 5, ¶ 126-130 (May 18, 2021).

1 **Q. What assumptions are required for the constant growth DCF model?**

2 A. The constant growth DCF model requires the following assumptions: (1) a constant  
3 growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant  
4 price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To  
5 the extent that any of these assumptions are violated, considered judgment and/or specific  
6 adjustments should be applied to the results.

7 **Q. What market data do you use to calculate the dividend yield in your constant growth**  
8 **DCF model?**

9 A. The dividend yield in my constant growth DCF model is based on the proxy group  
10 companies' current annual dividend and average closing stock prices over the 30-, 90-,  
11 and 180-trading days ended January 31, 2024.

12 **Q. Why do you use 30-, 90-, and 180-day averaging periods?**

13 A. In my constant growth DCF model, I use an average of recent trading days to calculate  
14 the term  $P_0$  in the DCF model to ensure that the cost of equity is not skewed by  
15 anomalous events that may affect stock prices on any given trading day. The averaging  
16 period should also be reasonably representative of expected capital market conditions  
17 over the long term.

18 **Q. Do you make any adjustments to the dividend yield to account for periodic growth in**  
19 **dividends?**

20 A. Yes. Since utility companies tend to increase their quarterly dividends at different times  
21 throughout the year, it is reasonable to assume that dividend increases will be evenly  
22 distributed over calendar quarters. Given that assumption, it is reasonable to apply one-

1 half of the expected annual dividend growth rate for purposes of calculating the expected  
2 dividend yield component of the DCF model. This adjustment ensures that the expected  
3 first year dividend yield is, on average, representative of the coming twelve-month  
4 period, and does not overstate the aggregated dividends to be paid during that time.

5 **Q. Why is it important to select appropriate measures of long-term growth in applying**  
6 **the DCF model?**

7 A. In its constant growth form, the DCF model (*i.e.*, Equation [2]) assumes a single long-  
8 term growth rate in perpetuity. In order to reduce the long-term growth rate to a single  
9 measure, one must assume that the dividend payout ratio remains constant and that  
10 earnings per share (“EPS”), dividends per share, and book value per share all grow at the  
11 same constant rate. However, over the long run, dividend growth can only be sustained  
12 by earnings growth, meaning earnings are the fundamental driver of a company’s ability  
13 to pay dividends; therefore, projected EPS growth is the appropriate measure of a  
14 company’s long-term growth. In contrast, changes in a company’s dividend payments  
15 are based on management decisions related to cash management and other factors. For  
16 example, a company may decide to retain earnings rather than pay out a portion of those  
17 earnings to shareholders through dividends. Therefore, dividend growth rates are less  
18 likely than earnings growth rates to accurately reflect investor perceptions of a company’s  
19 growth prospects. Accordingly, I have incorporated a number of sources of long-term  
20 EPS growth rates into the constant growth DCF model.

1 **Q. Which sources of long-term earnings growth rates do you use?**

2 A. My constant growth DCF model incorporates three sources of long-term projected EPS  
3 growth rates: (1) *Zacks Investment Research* (“Zacks”); (2) Yahoo! Finance; and (3)  
4 *Value Line*.

5 **Q. How do you calculate the range of results for the constant growth DCF models?**

6 A. I calculate the low-end result for the constant growth DCF model using the minimum  
7 growth rate of the three sources (*i.e.*, the lowest of the *Zacks*, Yahoo! Finance, and *Value*  
8 *Line* projected EPS growth rates) for each of the proxy group companies. I apply a  
9 similar approach to calculate a high-end result, using the maximum growth rate of the  
10 three sources for each proxy group company. Lastly, I also calculate results using the  
11 average EPS growth rate from all three sources for each proxy group company.

12 **Q. What are the results of your constant growth DCF analyses?**

13 A. Figure 7 summarizes the results of my DCF analyses, which can also be found in Exhibit  
14 AEB-5.

**Figure 7: Summary of DCF Results**

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.79%	10.71%	11.92%
90-Day Avg. Stock Price	9.87%	10.78%	11.99%
180-Day Avg. Stock Price	9.70%	10.62%	11.83%
Average	9.79%	10.70%	11.91%
Median Results:			
30-Day Avg. Stock Price	9.90%	10.17%	11.76%
90-Day Avg. Stock Price	9.98%	10.25%	11.85%
180-Day Avg. Stock Price	9.93%	10.20%	11.64%
Average	9.94%	10.21%	11.75%

1 **Q. Have regulatory commissions acknowledged that the DCF model might understate**  
2 **the cost of equity given the current capital market conditions of relatively high**  
3 **inflation and elevated interest rates?**

4 A. Yes. For example, in its May 2022 decision establishing the cost of equity for Aqua  
5 Pennsylvania, Inc., the Pennsylvania Public Utility Commission (“PPUC”) concluded  
6 that the current capital market conditions of high inflation and increased interest rates  
7 have resulted in the DCF model understating the utility cost of equity, and that weight  
8 should be placed on risk premium models, such as the CAPM, in the determination of the  
9 ROE:

10 To help control rising inflation, the Federal Open Market Committee has  
11 signaled that it is ending its policies designed to maintain low interest  
12 rates. Aqua Exc. at 9. Because the DCF model does not directly account  
13 for interest rates, consequently, it is slow to respond to interest rate  
14 changes. However, I&E’s [*the PPUC’s Bureau of Investigation and*  
15 *Enforcement*] CAPM model uses forecasted yields on ten-year Treasury  
16 bonds, and accordingly, its methodology captures forward looking  
17 changes in interest rates.

18 Therefore, our methodology for determining Aqua’s ROE shall utilize  
19 both I&E’s DCF and CAPM methodologies. As noted above, the  
20 Commission recognizes the importance of informed judgment and  
21 information provided by other ROE models. In the 2012 PPL Order, the  
22 Commission considered PPL’s CAPM and RP methods, tempered by  
23 informed judgment, instead of DCF-only results. We conclude that  
24 methodologies other than the DCF can be used as a check upon the  
25 reasonableness of the DCF derived ROE calculation. Historically, we have  
26 relied primarily upon the DCF methodology in arriving at ROE  
27 determinations and have utilized the results of the CAPM as a check upon  
28 the reasonableness of the DCF derived equity return. As such, where  
29 evidence based on other methods suggests that the DCF-only results may  
30 understate the utility’s ROE, we will consider those other methods, to  
31 some degree, in determining the appropriate range of reasonableness for  
32 our equity return determination. In light of the above, we shall determine



1 an appropriate ROE for Aqua using informed judgement based on I&E’s  
2 DCF and CAPM methodologies.<sup>53</sup>

3 Similarly, the Massachusetts Department of Public Utilities in a recent rate case for  
4 NSTAR Electric Company concluded that given the recent increase in interest rates, there  
5 was “greater certainty” that the results of the DCF model were understating the cost of  
6 equity for the utility.<sup>54</sup>

### 7 **B. CAPM Analysis**

#### 8 **Q. Please briefly describe the CAPM.**

9 A. The CAPM is a risk premium approach that estimates the cost of equity for a given  
10 security as a function of a risk-free return plus a risk premium to compensate investors  
11 for the non-diversifiable or “systematic” risk of that security.<sup>55</sup> This second component  
12 is the product of the market risk premium and the beta coefficient, which measures the  
13 relative riskiness of the security being evaluated.

14 The CAPM is defined by four components, each of which must theoretically be a forward-  
15 looking estimate:

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<sup>53</sup> Pennsylvania Public Utility Commission, Docket Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order, May 12, 2022, at 154-155; clarification added. *See* Exh. AEB-16.

<sup>54</sup> Massachusetts Department of Public Utilities, D.P.U. 22-22, November 30, 2022, at 385-386, available at [https://www.eversource.com/content/docs/default-source/investors/nstar-electric-dpu-22-22-final-order-11-30-22.pdf?sfvrsn=c5739f9e\\_1](https://www.eversource.com/content/docs/default-source/investors/nstar-electric-dpu-22-22-final-order-11-30-22.pdf?sfvrsn=c5739f9e_1).

<sup>55</sup> Systematic risk is the risk inherent in the entire market or market segment, which cannot be diversified away using a portfolio of assets. Unsystematic risk is the risk of a specific company that can, theoretically, be mitigated through portfolio diversification.

1 
$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

2 Where:

3  $K_e$  = the required market ROE;

4  $\beta$  = the beta coefficient of an individual security;

5  $r_f$  = the risk-free rate of return; and

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

7 In this specification, the term  $(r_m - r_f)$  represents the market risk premium. According to  
8 the theory underlying the CAPM, because unsystematic risk can be diversified away,  
9 investors should only be concerned with systematic or non-diversifiable risk. Systematic  
10 risk is measured by beta, which is a measure of the volatility of a security as compared to  
11 the market as a whole. Beta is defined as:

12 
$$\beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [4]$$

13  
14 *Variance* ( $r_m$ ) represents the variance of the market return, which is a measure of the  
15 uncertainty of the general market. *Covariance* ( $r_e, r_m$ ) represents the covariance between  
16 the return on a specific security and the general market, which reflects the extent to which  
17 the return on that security will respond to a given change in the general market return.

18 Thus, beta represents the risk of the security relative to the general market.

19 **Q. What risk-free rate do you use in your CAPM analysis?**

20 A. I rely on three sources for my estimate of the risk-free rate: (1) the current 30-day average  
21 yield on 30-year U.S. Treasury bonds;<sup>56</sup> (2) the average projected 30-year Treasury bond

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<sup>56</sup> Bloomberg Professional, as of January 31, 2024. See Exh. AEB-6.

1 yield for the second quarter of 2024 through the second quarter of 2025;<sup>57</sup> and (3) the  
2 average projected 30-year Treasury bond yield for 2025 through 2029.<sup>58</sup>

3 **Q. What beta coefficients do you use in your CAPM analysis?**

4 A. As shown in Exhibit AEB-6, I use the beta coefficients for the proxy group companies as  
5 reported by *Bloomberg Professional* (“*Bloomberg*”) and *Value Line*. The beta  
6 coefficients reported by *Bloomberg* are calculated using ten years of weekly returns  
7 relative to the S&P 500 Index. The beta coefficients reported by *Value Line* are  
8 calculated based on five years of weekly returns relative to the New York Stock  
9 Exchange Composite Index. Additionally, as shown in Exhibits AEB-6 and AEB-7, I  
10 also consider an additional CAPM analysis that relies on the long-term average beta  
11 coefficient reported by *Value Line* for the companies in my proxy group from 2013  
12 through 2023.

13 **Q. How do you estimate the market risk premium in the CAPM?**

14 A. I estimate the market risk premium as the difference between the implied expected equity  
15 market return and the risk-free rate. As shown in Exhibit AEB-8, the expected return on  
16 the S&P 500 Index is calculated using the constant growth DCF model discussed  
17 previously as applied to the companies in the S&P 500 Index. Based on an estimated  
18 market capitalization-weighted dividend yield of 1.63 percent and a weighted long-term  
19 growth rate of 10.51 percent, the estimated required market return for the S&P 500 Index  
20 as of January 31, 2024 is 12.22 percent.

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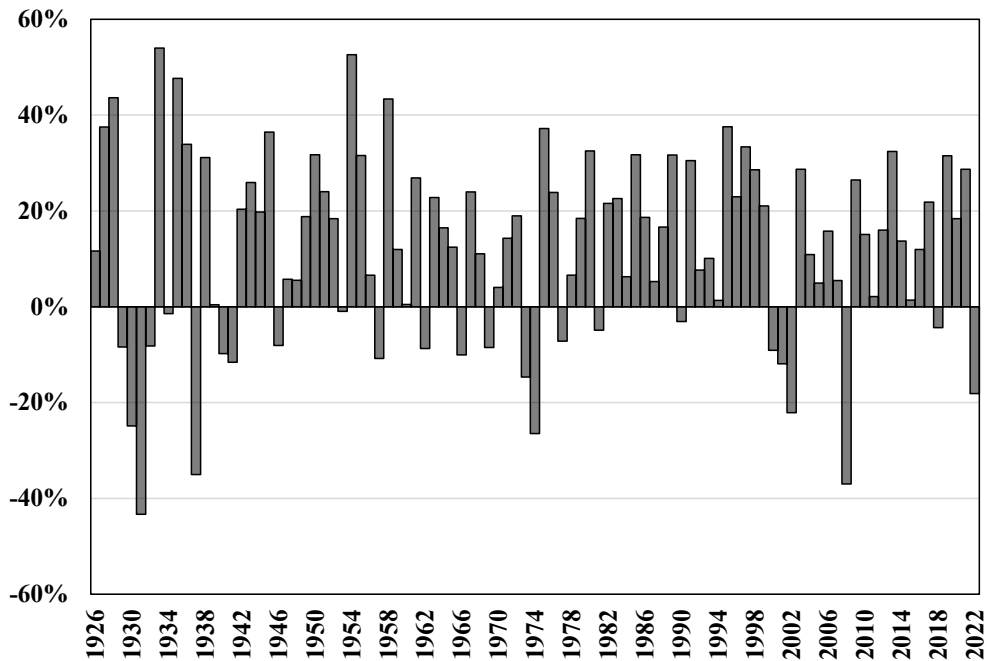
<sup>57</sup> *Blue Chip Financial Forecasts*, Vol. 43, No. 2, February 1, 2024, at 2. See Exh. AEB-16.

<sup>58</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 12, December 1, 2023, at 14. See Exh. AEB-16.

1 **Q. How does the current expected market return you have calculated compare to**  
2 **observed historical market returns?**

3 A. As shown in Figure 8, given the range of annual equity returns that have been observed  
4 over the past century, a current expected return of 12.22 percent is not unreasonable. In  
5 51 out of the past 97 years (or roughly 53 percent of observations), the realized equity  
6 return was at least 12.22 percent or greater.

**Figure 8: Realized U.S. Equity Market Returns (1926-2022)<sup>59</sup>**



7

8 **Q. Do you also consider another form of the CAPM in your analysis?**

9 A. Yes. I have also considered the results of an ECAPM in estimating the cost of equity for  
10 the Company.<sup>60</sup> The ECAPM calculates the product of the adjusted beta coefficient and

<sup>59</sup> Depicts total annual returns on large company stocks, as reported in the 2023 *Kroll S&P 500 Yearbook*. See Exh. AEB-16; AEB WP 5.

<sup>60</sup> See, e.g., Roger A. Morin, *New Regulatory Finance*, Public Utilities Reports, Inc., 2006, at 189. See Exh. AEB-16.

1 the market risk premium and applies a weight of 75.00 percent to that result. The model  
2 then applies a 25.00 percent weight to the market risk premium without any effect from  
3 the beta coefficient. The results of the two calculations are summed, along with the risk-  
4 free rate, to produce the ECAPM result, as noted in Equation [5] below:

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

6 Where:

7  $k_e$  = the required market ROE

8  $\beta$  = the adjusted beta coefficient of an individual security

9  $r_f$  = the risk-free rate of return

10  $r_m$  = the required return on the market as a whole

11 The ECAPM addresses the tendency of the “traditional” CAPM to underestimate  
12 the cost of equity for companies with low beta coefficients such as regulated utilities. In  
13 that regard, the ECAPM is not redundant to the use of adjusted betas in the traditional  
14 CAPM, but rather it recognizes the results of academic research indicating that the risk-  
15 return relationship is different (in essence, flatter) than estimated by the CAPM, and that  
16 the CAPM underestimates the “alpha,” or the constant return term.<sup>61</sup>

17 Consistent with my CAPM, my application of the ECAPM uses the forward-  
18 looking market risk premium estimates, the three yields on the 30-year Treasury bonds  
19 noted earlier as the risk-free rate, and the current *Bloomberg*, current *Value Line*, and  
20 long-term *Value Line* beta coefficients.

---

<sup>61</sup> *Id.* at 191.

1 **Q. What are the results of your CAPM analyses?**

2 A. The results of my CAPM and ECAPM analyses are shown in Figure 9 as well as Exhibit  
3 AEB-6.

**Figure 9: CAPM and ECAPM Results**

	30-Year Treasury Bond Yield		
	Current 30-Day Avg.	Near-Term Projected	Longer-Term Projected
CAPM:			
Current <i>Value Line</i> Beta	11.09%	11.08%	11.08%
Current Bloomberg Beta	10.31%	10.29%	10.29%
Long-term Avg. <i>Value Line</i> Beta	10.12%	10.10%	10.10%
ECAPM:			
Current <i>Value Line</i> Beta	11.38%	11.37%	11.37%
Current Bloomberg Beta	10.79%	10.77%	10.77%
Long-term Avg. <i>Value Line</i> Beta	10.64%	10.63%	10.63%

4

5 **C. BYRP Analysis**

6 **Q. Please describe the BYRP analysis.**

7 A. In general terms, this approach is based on the fundamental principle that equity investors  
8 bear the residual risk associated with equity ownership and therefore require a premium  
9 over the return they would have earned as bondholders. In other words, because returns  
10 to equity holders have greater risk than returns to bondholders, equity holders require a  
11 higher return for that incremental risk. Thus, risk premium approaches estimate the cost  
12 of equity as the sum of the equity risk premium and the yield on a particular class of  
13 bonds. In my analysis, I use actual authorized returns for natural gas utilities as the  
14 historical measure of the cost of equity to determine the risk premium.

1 **Q. What is the fundamental relationship between the equity risk premium and interest**  
2 **rates?**

3 A. It is important to recognize both academic literature and market evidence indicating that  
4 the equity risk premium (as used in this approach) is inversely related to the level of  
5 interest rates (*i.e.*, as interest rates increase, the equity risk premium decreases, and vice  
6 versa). Consequently, it is important to develop an analysis that: (1) reflects the inverse  
7 relationship between interest rates and the equity risk premium; and (2) relies on recent  
8 and expected market conditions. The analysis provided in Exhibit AEB-9 establishes that  
9 relationship using a regression of the risk premium as a function of Treasury bond yields.  
10 When the authorized ROEs serve as the measure of required equity returns and the yield  
11 on the long-term Treasury bond is defined as the relevant measure of interest rates, the  
12 risk premium is the difference between those two points.<sup>62</sup>

13 **Q. Is the BYRP analysis relevant to investors?**

14 A. Yes. Investors are aware of authorized ROEs in other jurisdictions and they consider  
15 those awards as a benchmark for a reasonable level of equity returns for utilities of  
16 comparable risk operating in other jurisdictions. As discussed previously, utilities have  
17 experienced credit rating downgrades and been subject to a negative market reaction  
18 related to the financial effects of a rate case decision that included a below average  
19 authorized ROE. Because my BYRP analysis is based on authorized ROEs for utility

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<sup>62</sup> See *e.g.*, S. Keith Berry, "Interest Rate Risk and Utility Risk Premia during 1982-93," *Managerial and Decision Economics*, Vol. 19, No. 2, March, 1998 (the author used a similar methodology, including using authorized ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates). See also Robert S. Harris, "Using Analysts' Growth Forecasts to Estimate Shareholder Required Rates of Return," *Financial Management*, Spring 1986, at 66. See Exh. AEB-16.

1 companies relative to corresponding Treasury yields, it provides relevant information to  
2 assess the return expectations of investors in the current interest rate environment.

3 **Q. What does your BYRP analysis reveal?**

4 A. As shown in Figure 10, from 1980 through January 2024, there has been a strong  
5 negative relationship between risk premia and interest rates. To estimate that  
6 relationship, I conducted a regression analysis using the following equation:

$$7 \qquad \qquad \qquad RP = a + b(T) \text{ [6]}$$

8 Where:

9  $RP =$  Risk Premium (difference between authorized ROEs and the yield  
10 on 30-year Treasury bonds)

11  $a =$  intercept term

12  $b =$  slope term

13  $T =$  30-year Treasury bond yield

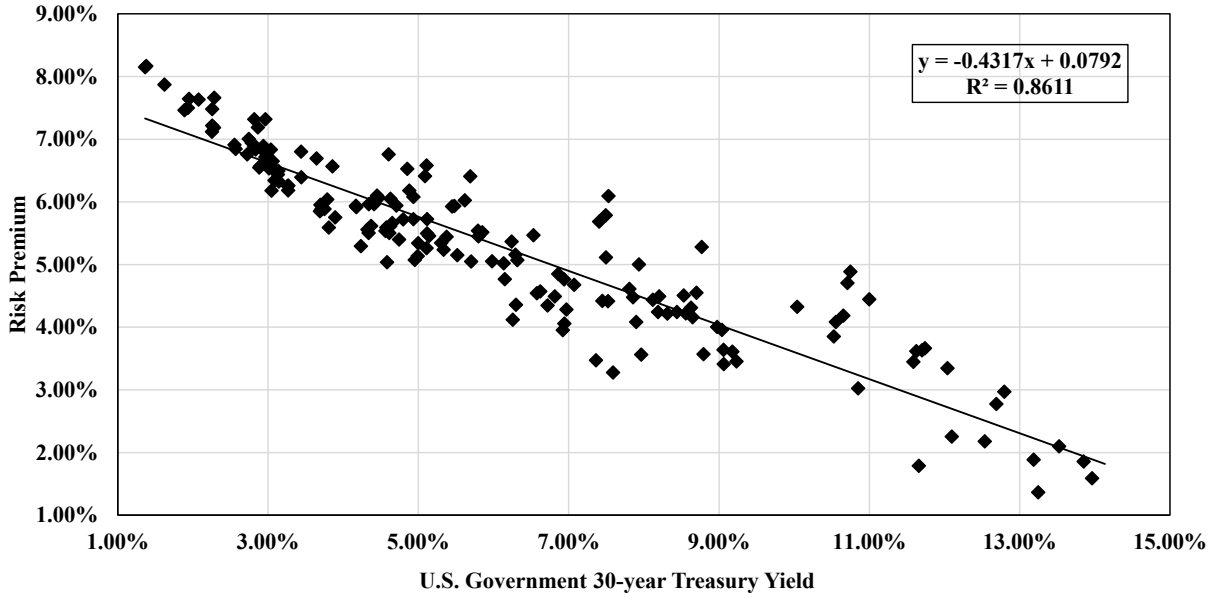
14 Data regarding authorized ROEs were derived from all natural gas utility rate cases over  
15 this time-period as reported by Regulatory Research Associates (“RRA”).<sup>63</sup> This  
16 equation’s coefficients were statistically significant at the 99.00 percent level.

---

<sup>63</sup> This analysis was screened to eliminate limited issue rider cases, pipeline transmission cases, and cases that were silent with respect to the authorized ROE. See AEB WP 6.



**Figure 10: Risk Premium Regression Analysis**



1 **Q. What are the results of your BYRP analysis?**

2 A. Figure 11 presents the results of my BYRP analysis, which are also presented in more  
 3 detail in Exhibit AEB-9.

**Figure 11: Summary of BYRP Results**

	30-Year Treasury Bond Yield		
	Current 30-Day Avg.	Near-Term Projected	Longer-Term Projected
Bond Yield Risk Premium	10.30%	10.25%	10.25%

4

**VII. BUSINESS AND REGULATORY RISKS**

6 **Q. Do the results of the cost of equity analyses alone provide an appropriate estimate of**  
 7 **the cost of equity for the Company?**

8 A. No. The model results provide only a range of the appropriate estimate of the Company's  
 9 cost of equity. Several additional factors must be considered when determining the  
 10 reasonableness of where the Company's cost of equity falls within the range of analytical

1 results. These risk factors, discussed below, should be considered with respect to their  
2 overall effect on the Company’s risk profile relative to the proxy group.

3 **A. Small Size Risk**

4 **Q. Is there a risk to a firm associated with small size?**

5 A. Yes. Both the financial and academic communities have long accepted the proposition  
6 that the cost of equity for small firms is subject to a “size effect.” While empirical  
7 evidence of the size effect often is based on studies of industries other than regulated  
8 utilities, utility analysts also have noted the risk associated with small market  
9 capitalizations. Specifically, an analyst for Ibbotson Associates noted:

10 For small utilities, investors face additional obstacles, such as a smaller  
11 customer base, limited financial resources, and a lack of diversification  
12 across customers, energy sources, and geography. These obstacles imply a  
13 higher investor return.<sup>64</sup>

14 **Q. How does the smaller size of a utility affect its business risk?**

15 A. In general, smaller companies are less able to withstand adverse events that affect their  
16 revenues and expenses. The impact of weather variability, the loss of large customers to  
17 bypass opportunities, or the destruction of demand as a result of general macroeconomic  
18 conditions or fuel price volatility will have a proportionately greater impact on the  
19 earnings and cash flow volatility of smaller utilities. Similarly, capital expenditures for  
20 non-revenue producing investments, such as system maintenance and replacements, will  
21 put proportionately greater pressure on customer costs, potentially leading to customer

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<sup>64</sup> Michael Annin, “Equity and the Small-Stock Effect,” Public Utilities Fortnightly, October 15, 1995, p. 42, available at <https://icc.illinois.gov/downloads/public/edocket/377761.PDF>.

1 attrition or demand reduction. Taken together, these risks affect the return required by  
2 investors for smaller companies.

3 **Q. How do Cascade’s natural gas operations in Washington compare in size to the proxy**  
4 **group companies?**

5 A. Cascade’s natural gas operations in Washington are substantially smaller than the median  
6 of the proxy group companies in terms of market capitalization. In fact, Fitch has stated  
7 that Cascade is one of the smallest regulated utilities under its coverage and has a  
8 relatively weaker business profile than its peers.<sup>65</sup> While Cascade is not publicly traded  
9 on a stand-alone basis, as shown on Exhibit AEB-10, Cascade’s implied common equity  
10 balance based on its proposed test year rate base and equity ratio is substantially smaller  
11 than the median market capitalization of the proxy group companies.

12 **Q. How did you estimate the size premium for Cascade?**

13 A. Given this relative size information, it is possible to estimate the impact of size on the  
14 cost of equity for the Company using *Kroll* Cost of Capital Navigator data that estimates  
15 the stock risk premia based on the size of a company’s market capitalization.<sup>66</sup> As shown  
16 on Exhibit AEB-10, the median market capitalization of the proxy group is  
17 approximately \$3.46 billion, which corresponds to the fifth decile of *Kroll*’s market  
18 capitalization data.<sup>67</sup> Based on *Kroll*’s analysis, that decile corresponds to a size  
19 premium of 0.95 percent (*i.e.*, 95 basis points). In comparison, the Company’s implied

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<sup>65</sup> Fitch Ratings, “Fitch Affirms MDU and Subs.; Centennial’s Outlook to Positive and Cascade’s Outlook to Negative,” August 3, 2023, at 8-9, available at <https://www.fitchratings.com/research/corporate-finance/fitch-affirms-mdu-subs-centennial-outlook-to-positive-cascade-outlook-to-negative-03-08-2023>.

<sup>66</sup> *Kroll* Cost of Capital Navigator – Size Premium; annual data as of December 31, 2023. See Exh. AEB-16.

<sup>67</sup> *Id.*

1 common equity balance of approximately \$311.70 million falls within the ninth decile,  
2 which corresponds to a size premium of 1.99 percent (*i.e.*, 199 basis points). The  
3 difference between the size premium for the Company and the size premium for the  
4 proxy group is 104 basis points (*i.e.*, 1.99 percent minus 0.95 percent).

5 **Q. Were utility companies included in the size premium study conducted by Kroll?**

6 A. Yes. As shown in Exhibit 7.2 of the *Kroll* (formerly *Duff & Phelps*) 2019 Valuation  
7 Handbook, OGE Energy Corp. had the largest market capitalization of the companies  
8 contained in the fourth decile, which indicates that *Kroll* has included utility companies  
9 in its size risk premium study.<sup>68</sup>

10 **Q. Is the size premium applicable to companies in regulated industries such as utilities?**

11 A. Yes. For example, Zepp (2003) provided the results of two studies that showed evidence  
12 of the required risk premium for small water utilities. The first study, which was  
13 conducted by the Staff of the California Public Utilities Commission, computed proxies  
14 for beta risk using accounting data from 1981 through 1991 for 58 water utilities and  
15 concluded that smaller water utilities had greater risk and required higher returns on  
16 equity than larger water utilities.<sup>69</sup> The second study examined the differences in  
17 required returns over the period of 1987 through 1997 for two large and two small water  
18 utilities in California. As Zepp (2003) showed, the required return for the two small  
19 water utilities calculated using the DCF model was on average 99 basis points higher than  
20 the two larger water utilities.<sup>70</sup>

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<sup>68</sup> *Kroll*. Valuation Handbook: Guide to Cost of Capital. 2019, Exhibit 7.2. See Exh. AEB-16.

<sup>69</sup> Thomas M. Zepp, "Utility Stocks and the Size Effect—Revisited," *The Quarterly Review of Economics and Finance*. Vol. 43, No. 3, 2003, at 578–582. See Exh. AEB-16.

<sup>70</sup> *Id.*

1           Additionally, Chrétien and Coggins (2011) studied the CAPM and its ability to estimate  
2           the risk premium for the utility industry, and in particular subgroups of utilities.<sup>71</sup> The  
3           article considered the CAPM, the Fama-French three-factor model, and a model similar  
4           to the ECAPM, which as previously discussed, I have also considered in estimating the  
5           cost of equity for the Company. In the study, the Fama-French three-factor model  
6           explicitly included an adjustment to the CAPM for risk associated with size. As Chrétien  
7           and Coggins (2011) show, the beta coefficient on the size variable for the U.S. natural gas  
8           utility group was positive and statistically significant indicating that small size risk was  
9           relevant for regulated natural gas utilities.<sup>72</sup>

10   **Q.   Have regulators in other jurisdictions made a specific risk adjustment to the cost of**  
11   **equity results based on a company’s small size?**

12   A.   Yes. For example, in Order No. 15, the Regulatory Commission of Alaska (“RCA”)  
13       concluded that Alaska Electric Light and Power Company (“AEL&P”) was riskier than  
14       the proxy group companies due to small size as well as other business risks. The RCA  
15       did “not believe that adopting the upper end of the range of ROE analyses in this case,  
16       without an explicit adjustment, would adequately compensate AEL&P for its greater  
17       risk.”<sup>73</sup> Thus, the RCA awarded AEL&P an ROE of 12.875 percent, which was 108  
18       basis points above the highest cost of equity estimate from any model presented in the  
19       case.<sup>74</sup> Similarly, the RCA has also noted that small size, as well as other business risks

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<sup>71</sup> Stéphane Chrétien and Frank Coggins, “Cost Of Equity For Energy Utilities: Beyond The CAPM,” *Energy Studies Review*, Vol. 18, No. 2, 2011, available at [https://chairesdesjardinsfinanceresponsable.recherche.usherbrooke.ca/cahiers/1\\_09\\_cahier.pdf](https://chairesdesjardinsfinanceresponsable.recherche.usherbrooke.ca/cahiers/1_09_cahier.pdf).

<sup>72</sup> *Id.*

<sup>73</sup> Regulatory Commission of Alaska, Docket No. U-10-29, Order No. 15, September 2, 2011, at 37, available at <https://rca.alaska.gov/RCAWeb/ViewFile.aspx?id=ac4f9692-5ad8-49de-aa5c-e60299d91614>.

<sup>74</sup> *Id.* at 32, 37.

1 such as structural regulatory lag, weather risk, alternative rate mechanisms, gas supply  
2 risk, geographic isolation and economic conditions, increased the risk of ENSTAR  
3 Natural Gas Company.<sup>75</sup> Ultimately, the RCA concluded that:

4 Although we agree that the risk factors identified by ENSTAR increase its  
5 risk, we do not attempt to quantify the amount of that increase. Rather, we  
6 take the factors into consideration when evaluating the remainder of the  
7 record and the recommendations presented by the parties. After applying  
8 our reasoned judgment to the record, we find that 11.875% represents a  
9 fair ROE for ENSTAR.<sup>76</sup>

10 Additionally, the Minnesota Public Utilities Commission (“Minnesota PUC”)  
11 authorized an ROE for Otter Tail Power Company (“Otter Tail”) above the mean DCF  
12 results as a result of multiple factors, including Otter Tail’s small size. The Minnesota PUC  
13 stated:

14 The record in this case establishes a compelling basis for selecting an ROE  
15 above the mean average within the DCF range, given Otter Tail’s unique  
16 characteristics and circumstances relative to other utilities in the proxy  
17 group. These factors include the company’s relatively smaller size,  
18 geographically diffuse customer base, and the scope of the Company’s  
19 planned infrastructure investments.<sup>77</sup>

20 Finally, in Opinion Nos. 569 and 569-A, the Federal Energy Regulatory  
21 Commission (“FERC”) adopted a size premium adjustment in its CAPM estimates for  
22 electric utilities. In those decisions, the FERC noted that “the size adjustment was

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<sup>75</sup> Regulatory Commission of Alaska, Docket No. U-16-066, Order No. 19, September 22, 2017, at 50-52, available at <https://rca.alaska.gov/RCAWeb/ViewFile.aspx?id=6472a4a7-c344-4449-936b-ed28d05a8029>.

<sup>76</sup> *Id.*

<sup>77</sup> Minnesota Public Utilities Commission, Docket No. E017/GR-15-1033, Order, May 1, 2017, at 55, available at <https://www.edockets.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7b776FC84E-287C-46DA-A11B-4F99E48662E9%7d&documentTitle=20175-131511-01>.

1 necessary to correct for the CAPM's inability to fully account for the impact of firm size  
2 when determining the cost of equity."<sup>78</sup>

3 **Q. How have you considered the smaller size of Cascade in your recommendation of the**  
4 **Company's ROE in this proceeding?**

5 A. While I have estimated the effect of the Company's small size of its natural gas  
6 operations in Washington on the cost of equity, I am not proposing that a specific  
7 adjustment for this risk factor be made. Rather, I have considered the small size of the  
8 Company's utility operations in evaluating where within the range of analytical results  
9 that the Company's ROE should fall. All else equal, the additional risk associated with  
10 the Company's small size supports an ROE that is above the average of the range of  
11 results produced by the cost of equity estimation models.

12 **B. Flotation Costs**

13 **Q. What are flotation costs?**

14 A. Flotation costs are the costs associated with the sale of new issues of common stock.  
15 These costs include out-of-pocket expenditures for preparation, filing, underwriting, and  
16 other issuance costs.

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<sup>78</sup> *Ass'n. of Businesses Advocating Tariff Equity, et. al., v. Midcontinent Indep. Sys. Operator, Inc., et. al.*, 171 FERC ¶ 61,154 (2020), at ¶ 75, available at [https://www.ferc.gov/sites/default/files/2020-06/EL14-12-004\\_1.pdf](https://www.ferc.gov/sites/default/files/2020-06/EL14-12-004_1.pdf). The U.S. Court of Appeals recently vacated FERC Order No. 569 decisions that related to its risk premium model and remanded the case to FERC to reopen the proceedings. However, in its decision, the Court did not reject FERC's inclusion of the size premium to estimate the CAPM. (*See* United States Court of Appeals Case No. 16-1325, Decision No. 16-1325, August 9, 2022, at p. 20, available at <https://www.ferc.gov/media/miso-transmission-owners-et-al-v-ferc-1>).

1 **Q. Why is it important to consider flotation costs in the allowed ROE?**

2 A. A regulated utility must have the opportunity to earn an ROE that is both competitive and  
3 compensatory to attract and retain new investors. To the extent that a company is denied  
4 the opportunity to recover prudently incurred flotation costs, actual returns will fall short  
5 of expected (or required) returns, thereby diluting equity share value.

6 **Q. Are flotation costs part of the utility's invested costs or part of the utility's expenses?**

7 A. Flotation costs are part of the invested costs of the utility, which are properly reflected on  
8 the balance sheet under "paid in capital." They are not current expenses, and, therefore,  
9 are not reflected on the income statement. Rather, like investments in rate base or the  
10 issuance costs of long-term debt, flotation costs are incurred over time. As a result, the  
11 great majority of a utility's flotation cost is incurred prior to the test year but remains part  
12 of the cost structure that exists during the test year and beyond, and as such, should be  
13 recognized for ratemaking purposes. Therefore, it is irrelevant whether an issuance  
14 occurs during the test year or is planned for the test year because failure to allow recovery  
15 of past flotation costs may deny the Company the opportunity to earn its required rate of  
16 return in the future.

17 **Q. Please provide an example of why a flotation cost adjustment is necessary to**  
18 **compensate investors for the capital they have invested.**

19 A. Suppose MDU Resources issues stock with a value of \$100, and an equity investor  
20 invests \$100 in MDU Resources in exchange for that stock. Further suppose that after  
21 paying the flotation costs associated with the equity issuance, which include fees paid to  
22 underwriters and attorneys, among others, MDU Resources ends up with only \$97 of



1 issuance proceeds, rather the \$100 the investor contributed. MDU Resources invests that  
2 \$97 in plant used to serve its customers, which becomes part of rate base. Absent a  
3 flotation cost adjustment, the investor will thereafter earn a return on only the \$97  
4 invested in rate base, even though she contributed \$100. Making a small flotation cost  
5 adjustment gives the investor a reasonable opportunity to each the authorized return,  
6 rather than the lower return that results when the authorized return is applied to an  
7 amount less than what the investor contributed.

8 **Q. Is the date of MDU Resources last issued common equity important in the**  
9 **determination of flotation costs?**

10 A. No. It is important to recognize flotation costs for all equity issuances since these costs  
11 reduce the permanent capital structure of the company. Therefore, the vintage of the  
12 issuance is not particularly important because an investor should have a reasonable  
13 opportunity to earn a return on the full amount of capital that she has contributed in every  
14 year of the investment. As noted in my earlier example, the investor contributed \$100,  
15 but due to flotation costs, MDU Resources only ends up with \$97 to invest in rate base.  
16 Without the recognition of flotation costs, the investor will only earn a return on the \$97  
17 invested in rate base in year one as well as every subsequent year of the investment.  
18 Therefore, adjusting the ROE in year one to recognize flotation costs will only award the  
19 opportunity for the investor to earn a return on her full investment in year one, while in  
20 year two and thereafter the investor will still only earn a return on the \$97 invested in rate  
21 base. As a result, the ROE should be adjusted for flotation costs in every year regardless  
22 of the vintage of the issuance, because as long as the \$100 is invested, the investor should  
23 have a reasonable opportunity to earn a return on the entire amount.

1 **Q. Is the need to consider flotation costs eliminated because Cascade is a wholly-owned**  
2 **subsidiary of MDU Resources?**

3 A. No. Although Cascade is a wholly-owned subsidiary of MDU Resources, it is  
4 appropriate to consider flotation costs because wholly-owned subsidiaries receive equity  
5 capital from their parent and provide returns on the capital that roll up to the parent,  
6 which is designated to attract and raise capital based upon the returns of those  
7 subsidiaries. To deny recovery of issuance costs associated with the capital that is  
8 invested in the subsidiaries ultimately penalizes the investors that fund the utility  
9 operations and could inhibit the utility's ability to obtain new equity capital at a  
10 reasonable cost.

11 **Q. Is the need to consider flotation costs recognized by the academic and financial**  
12 **communities?**

13 A. Yes. The academic and financial communities recognize the need to reimburse investors  
14 for equity issuance costs in the same spirit that they recognize that investors should be  
15 reimbursed for the costs of issuing debt. This treatment is consistent with the philosophy  
16 of a fair rate of return. According to Dr. Shannon Pratt:

17 Flotation costs occur when new issues of stock or debt are sold to the  
18 public. The firm usually incurs several kinds of flotation or transaction  
19 costs, which reduce the actual proceeds received by the firm. Some of  
20 these are direct out-of-pocket outlays, such as fees paid to underwriters,  
21 legal expenses, and prospectus preparation costs. Because of this  
22 reduction in proceeds, the firm's required returns on these proceeds equate  
23 to a higher return to compensate for the additional costs. Flotation costs  
24 can be accounted for either by amortizing the cost, thus reducing the cash  
25 flow to discount, or by incorporating the cost into the cost of capital.

1 Because flotation costs are not typically applied to operating cash flow,  
2 one must incorporate them into the cost of capital.<sup>79</sup>

3 **Q. Have you estimated what a reasonable flotation cost adjustment would be for**  
4 **Cascade?**

5 A. Yes. My flotation cost calculation is based on the costs incurred by MDU Resources in  
6 that company's two most recent equity offerings. That flotation cost percentage is then  
7 applied to the expected dividend yields for the proxy group companies. As shown in  
8 Exhibit AEB-11, the impact on the proxy group's cost of equity amounts to 11 basis  
9 points (i.e., 0.11 percent) based on the median and 16 basis points (i.e., 0.16 percent)  
10 based on the mean.

11 **Q. Do your cost of equity model results reflect an adjustment for flotation cost recovery?**

12 A. No, I do not make an explicit adjustment for flotation costs to any of the quantitative  
13 results of my cost of equity models. Rather, I have considered the incremental cost  
14 associated with stock issuance as part of my overall recommendation regarding the range  
15 of a reasonable ROE for the Company and the reasonableness of the Company's  
16 proposed ROE.

17 **C. Impact of Washington's Greenhouse Gas Reduction Initiatives**

18 **Q. Has Washington enacted legislation that increases the business risk of the Company's**  
19 **natural gas operations going forward?**

20 A. Yes. The Climate Commitment Act was signed into law in Washington in May 2021 and  
21 requires natural gas distribution utilities such as Cascade to reduce overall greenhouse

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<sup>79</sup> Shannon P. Pratt, *Cost of Capital Estimation and Applications*, Second Edition, at 220-21. See Exh. AEB-16.

1 gas (“GHG”) emissions 45 percent below 1990 levels by 2030, 70 percent below 1990  
2 levels by 2040, and 95 percent below 1990 levels by 2050. Reductions may be achieved  
3 through increased energy efficiency and conservation measures, purchased emission  
4 allowances and offsets, and purchases of low carbon fuels. Emissions compliance under  
5 the law began January 1, 2023.

6 In addition, in April 2022 the Washington State Building Code Council  
7 (“WSBCC”) revised the state's commercial energy code that significantly limits the use  
8 of natural gas for space and water heating in new and retrofitted commercial and  
9 multifamily buildings. While the WSBCC has not mandated the use of electric heat  
10 pumps for new residential buildings, it has approved revised building codes that  
11 incentivize builders to choose electric heat pumps by requiring emissions offsets if  
12 natural gas is installed in new residential construction.<sup>80</sup>

13 Furthermore, while it would not apply to Cascade in its current form, a revised  
14 version of House Bill (“HB”) 1589 recently passed the Washington House of  
15 Representatives. In its current form, the bill would ban a natural gas utility serving more  
16 than 500,000 customers from connecting new natural gas lines to new residential or  
17 commercial buildings, with limited exceptions (certain manufacturing, medical care,  
18 correctional, and military facilities). In addition, HB 1589 would also no longer require

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<sup>80</sup> See, e.g., Ysabelle Kempe, “Legal threats to city, state natural gas bans: A timeline,” Smart Cities Dive, January 2, 2024, available at <https://www.smartcitiesdive.com/news/biggest-gas-ban-new-building-electrification-news-2023-timeline/702944/>; Jerry Cornfield, “Washington makes another run at heat pump rules,” Washington State Standard, November 28, 2023, available at <https://washingtonstatestandard.com/2023/11/28/washington-makes-another-run-at-heat-pump-rules/> - :~:text=Under%20the%20new%20rules%2C%20a,eight%20credits%2C%20up%20from%20five..

1 the utility to provide natural gas service to existing customers as the utility could replace  
2 natural gas with any approved “non-emitting energy” source.<sup>81</sup>

3 **Q. Are you aware of other risk factors that could affect Cascade’s business operations?**

4 A. Yes. Cascade is also in direct competition with other sources of energy to serve its  
5 customers, and depending on how competitive the price of natural gas is to other sources  
6 of energy, there is the risk that customers could switch to an alternative energy source. In  
7 addition, a material portion of Cascade’s distribution load is derived from sales to natural  
8 gas-fired generation (i.e., approximately 33 percent of Cascade’s 2022 total company  
9 utility gas sales in Washington were derived from electric power sales volume, a  
10 percentage that was significantly higher than each of the proxy group companies).<sup>82</sup>  
11 However, decarbonization efforts in Washington have placed pressure on natural gas-  
12 fired generation and the need to transition away from the use of fossil fuels. For  
13 example, the Clean Energy Transformation Act (“CETA”), which was enacted in 2019,  
14 requires that 100 percent of electric load be met from carbon-neutral resources by 2030,  
15 and that 100 percent of electric load be served with carbon-free (renewable or non-  
16 emitting) resources in 2045. Thus, the fact that Cascade has material natural gas  
17 generation load increases the utility’s risk with respect to future sales, earnings, and cash  
18 flow.

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<sup>81</sup> See, e.g., “Washington Senate committee advances natural gas bill,” The Black Chronicle, February 17, 2024, available at <https://blackchronicle.com/west-coast-pacific/washington/washington-senate-committee-advances-natural-gas-bill/>.

<sup>82</sup> Source: EIA FORM 176, available at <https://www.eia.gov/naturalgas/ngqs/-?year1=2019&year2=2022&company=Name>.

1 **Q. Do these climate-related initiatives in Washington increase the Company's business**  
2 **risk going forward?**

3 A. Yes. Regardless of the ultimate end state in 2050 of the Company's natural gas utility  
4 operations, a few factors are clear: (1) there is currently significant uncertainty  
5 associated with the future of the Company's natural gas system and how or to what extent  
6 the various climate initiatives will affect the Company's operations going forward; (2) as  
7 a result of Washington's significant climate initiatives to reduce GHGs, the Company's  
8 natural gas operations are expected to be smaller regardless of the ultimate end state in  
9 2050; and (3) the risk exists that the Company's natural gas utility operations may be  
10 eliminated entirely.

11 **Q. How do the risks faced by the Company going forward associated with Washington's**  
12 **climate-related initiatives compare to other states in which the operating utility**  
13 **subsidiaries of the proxy group operate?**

14 A. Comparatively, Washington has implemented more aggressive decarbonization programs  
15 that create greater business risk to natural gas utility service than the proxy group  
16 companies overall face with respect to decarbonization.<sup>83</sup> Specifically, the utility  
17 operating subsidiaries of the proxy group companies operate in 17 distinct states, 11 of  
18 which have expressly prohibited natural gas bans and 4 that have proposed legislation to  
19 prohibit natural gas bans.<sup>84</sup> In contrast, Washington has not expressly prohibited natural

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<sup>83</sup> Northwest Natural Gas Company, which is included in the proxy group, also has operations in Washington; however, none of the other proxy group companies have natural gas operations in Washington.

<sup>84</sup> Tom DiChristopher, "Gas Ban Monitor: 1<sup>st</sup> Mass. Bans advance amid broader New England push," S&P Global Market Intelligence, November 8, 2023, available at <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/gas-ban-monitor-1st-mass-bans-advance-amid-broader-new-england-push-78205323>.

1 gas bans nor proposed such legislation; rather, as noted, for a natural gas utility serving  
2 more than 500,000 customers, Washington has proposed to eliminate new natural gas  
3 service, as well as the requirement to continue to provide natural gas service to existing  
4 customers. Likewise, 11 of the 17 states do not have statutory GHG reduction targets or  
5 requirements.<sup>85</sup> Therefore, Washington has greater operating risk for natural gas utilities  
6 than the regulatory jurisdictions in which the natural gas proxy group companies operate.

#### 7 **D. Regulatory Risk**

##### 8 **Q. How does the regulatory environment affect investors' risk assessments?**

9 A. The ratemaking process is premised on the principle that, for investors and companies to  
10 commit the capital needed to provide safe and reliable utility services, the subject utility  
11 must have the opportunity to recover invested capital and the market-required return on  
12 such capital. Regulatory commissions recognize that because utility operations are  
13 capital intensive, regulatory decisions should enable the utility to attract capital at  
14 reasonable terms, which balances the long-term interests of investors and customers. In  
15 that respect, the regulatory framework in which a utility operates is one of the most  
16 important factors considered in both debt and equity investors' risk assessments.

17 From the perspective of debt investors, the authorized return should enable the  
18 utility to generate the cash flow needed to meet its near-term financial obligations, make  
19 the capital investments needed to maintain and expand its systems, and maintain the  
20 necessary levels of liquidity to fund unexpected events. This financial liquidity must be

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<sup>85</sup> National Conference of State Legislatures, Greenhouse Gas Emissions Reduction Targets and Market-based Policies <https://www.ncsl.org/research/energy/greenhouse-gas-emissions-reduction-targets-and-market-based-policies.aspx>; updated as of September 5, 2023.

1 derived not only from internally generated funds, but also by efficient access to capital  
2 markets. Moreover, because fixed income investors have many investment alternatives,  
3 even within a given market sector, a utility's financial profile must be adequate on a  
4 relative basis to ensure its ability to attract capital under a variety of economic and  
5 financial market conditions.

6 Equity investors require that the authorized return be adequate to provide a risk-  
7 comparable return on the equity portion of the utility's capital investments. Because  
8 equity investors are the residual claimants on the utility's cash flows (*i.e.*, the equity  
9 return is subordinate to interest payments), they are particularly concerned with the  
10 strength of regulatory support and its effect on future cash flows.

11 **Q. Do credit rating agencies consider regulatory risk in establishing a company's credit**  
12 **rating?**

13 A. Yes. Both S&P and Moody's consider the overall regulatory framework in establishing  
14 credit ratings. Moody's establishes credit ratings based on four key factors: (1)  
15 regulatory framework; (2) the ability to recover costs and earn returns; (3) diversification;  
16 and (4) financial strength, liquidity and key financial metrics. Of these criteria,  
17 regulatory framework and the ability to recover costs and earn returns are each given a  
18 broad rating factor of 25.00 percent. Therefore, Moody's assigns regulatory risk a 50.00  
19 percent weighting in the overall assessment of business and financial risk for regulated  
20 utilities.<sup>86</sup>

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<sup>86</sup> Moody's Investors Service. Rating Methodology: Regulated Electric and Gas Utilities. June 23, 2017, at 4. See Exh. AEB-16.



1 S&P also identifies the regulatory framework as an important factor in credit ratings for  
2 regulated utilities, stating: “One significant aspect of regulatory risk that influences credit  
3 quality is the regulatory environment in the jurisdictions in which a utility operates.”<sup>87</sup>

4 S&P identifies four specific factors that it uses to assess the credit implications of the  
5 regulatory jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2)  
6 tariff-setting procedures and design; (3) financial stability; and (4) regulatory  
7 independence and insulation.<sup>88</sup>

8 **Q. How does the regulatory environment in which a utility operates affect its access to**  
9 **and cost of capital?**

10 A. The regulatory environment can significantly affect both the access to and cost of capital  
11 in several ways. First, the proportion and cost of debt capital available to utility  
12 companies are influenced by the rating agencies’ assessment of the regulatory  
13 environment. As noted by Moody’s, “[f]or rate regulated utilities, which typically  
14 operate as a monopoly, the regulatory environment and how the utility adapts to that  
15 environment are the most important credit considerations.”<sup>89</sup> Moody’s further  
16 highlighted the relevance of a stable and predictable regulatory environment to a utility’s  
17 credit quality, noting: “[b]roadly speaking, the Regulatory Framework is the foundation  
18 for how all the decisions that affect utilities are made (including the setting of rates), as

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<sup>87</sup> Standard & Poor’s Global Ratings. Ratings Direct. “Assessing U.S. Investor-Owned Utility Regulatory Environments.” August 10, 2016, at 2. See Exh. AEB-17C.

<sup>88</sup> *Id.*

<sup>89</sup> Moody’s Investors Service. Rating Methodology: Regulated Electric and Gas Utilities. June 23, 2017, at 6. See Exh. AEB-16.

1 well as the predictability and consistency of decision-making provided by that  
2 foundation.”<sup>90</sup>

3 **Q. What have the credit rating agencies stated regarding the Washington regulatory**  
4 **jurisdiction?**

5 A. In Fitch’s most recent rating action in August 2023 in which it revised the outlook on  
6 Cascade to “negative,” the credit rating agency noted:

7 Fitch believes the Washington regulatory compact remains somewhat  
8 challenging; authorized ROE's tend to be at or below prevailing industry  
9 averages and the use of average rate base valuations and historical test  
10 years exacerbates regulatory lag. This hinders Cascade's ability to  
11 materially improve its earned ROE and Fitch notes the utility has been  
12 earning below its authorized return for several years. A timely cadence of  
13 future rate case filings coupled with expectations for balanced regulatory  
14 outcomes should help improve earned returns and alleviate persistent  
15 regulatory lag.<sup>91</sup>

16 In S&P’s October 2023 rating action in which the Company’s stand-alone credit profile  
17 was revised downward, S&P highlighted the persistent regulatory lag to which the  
18 Company has been subject and its impact on its earned ROE:

19 Cascade Natural Gas Corp.'s stand-alone financial measures have  
20 remained weak for its stand-alone credit profile (SACP), reflecting higher  
21 debt leverage because of an extended recovery of elevated natural gas  
22 costs. The company has also suffered from significant regulatory lag, with  
23 earned returns consistently lagging authorized levels for several years.

24 .....

25 **The company's earned returns have consistently lagged authorized**  
26 **levels.** Cascade's financial performance has suffered from weaker  
27 regulatory outcomes and significant regulatory lag. In August 2022,  
28 Cascade was authorized a \$7.2 million rate increase by the Washington  
29 Utilities and Transportation Commission (WUTC) based on a 2020 year-  
30 end test period. This reflects about 20 months of regulatory lag. Before

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<sup>90</sup> *Id.*

<sup>91</sup> Fitch Ratings, “Fitch Affirms MDU and Subs.; Centennial's Outlook to Positive and Cascade’s Outlook to Negative,” August 3, 2023, at 9, available at <https://www.fitchratings.com/research/corporate-finance/fitch-affirms-mdu-subs-centennial-outlook-to-positive-cascade-outlook-to-negative-03-08-2023>.

1 this, in May 2021, the WUTC ordered Cascade to reduce rates by about  
2 \$400,000, determining that the company had failed to demonstrate the  
3 need for higher rates and negating the \$7.4 million revenue increase  
4 sought initially. Weaker regulatory outcomes and consistent regulatory lag  
5 have resulted in financial performance that has lagged peers in the state, as  
6 demonstrated by stand-alone FFO to debt of about 12.5% for 2020-2022.  
7 Our revised base case incorporates FFO to debt of 10%-12% through  
8 2024.<sup>92</sup>

9 Further, as discussed in the testimony of Company witness Ms. Kivisto, in November  
10 2023, S&P lowered their issuer credit ratings on Cascade by one notch from BBB+ to  
11 BBB with a Negative Outlook.<sup>93</sup>

12 **Q. Have you conducted an analysis of the regulatory framework in Washington relative**  
13 **to the jurisdictions in which the companies in the proxy group operate?**

14 A. Yes. I have evaluated the regulatory framework in Washington on three factors that are  
15 important in terms of providing a regulated utility a reasonable opportunity to earn its  
16 authorized ROE: (1) test year convention (*i.e.*, forecast vs. historical); (2) use of rate  
17 design or other mechanisms that mitigate volumetric risk and stabilize revenue; and (3)  
18 prevalence of capital cost recovery between rate cases.

19 Test Year Convention: Cascade is proposing a forward-looking multi-year rate  
20 plan; however, the Commission has previously authorized a modified historical  
21 test year adjusted for known and measurable changes in Washington. As shown  
22 on Exhibit AEB-12, approximately 46 percent of the operating utility subsidiaries  
23 of the proxy group companies provide service in jurisdictions that use a partially  
24 or fully forecast test year. Forecast test years result in more prompt recovery of  
25 incurred costs and thus mitigates the regulatory lag associated with historical test  
26 years. As Lowry, Hovde, Getachew, and Makos (2010) explain:

27 This report provides an in depth discussion of the test year issue. It  
28 includes the results of empirical research which explores why the  
29 unit costs of electric IOUs are rising and shows that utilities

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<sup>92</sup> S&P Global Ratings, “Cascade Natural Gas 'BBB+' Ratings Affirmed, Outlook Developing; SACP Revised Downward On Weaker Financial Measures,” October 10, 2023, at 1-2 (emphasis added), available at <https://disclosure.spglobal.com/ratings/es/regulatory/article/-/view/type/HTML/id/3068665>.

<sup>93</sup> See Exh. NAK-3.

1 operating under forward test years realize higher returns on capital  
2 and have credit ratings that are materially better than those of  
3 utilities operating under historical test years. The research  
4 suggests that shifting to a future test year is a prime strategy for  
5 rebuilding utility credit ratings as insurance against an uncertain  
6 future.<sup>94</sup>

7 Revenue Stabilization/Volumetric Risk: Cascade has partial protection against  
8 volumetric risk in Washington through its revenue decoupling mechanism  
9 (“RDM”). Specifically, Cascade’s RDM provides a deferral account to track the  
10 difference between the authorized margin revenue per customer and the actual  
11 margin revenue per customer for each rate class; however, it excludes revenue  
12 variations associated with transportation customers. In addition, while Cascade is  
13 allowed to recover under-collections in subsequent years, such recovery is subject  
14 to an annual rate adjustment cap of 3.00 percent, and any amount that exceeds the  
15 cap is deferred for recovery in a subsequent year. As shown on Exhibit AEB-12,  
16 this is consistent with the proxy group where approximately 88 percent of the  
17 operating companies held by the proxy group companies also have some form of  
18 protection against volumetric risk either through revenue decoupling, formula-  
19 based rates, or straight fixed-variable rate design.

20 Capital Cost Recovery: Currently, Cascade has an annual pipeline Cost Recovery  
21 Mechanism (“CRM”), which allows the recovery between rate cases of  
22 investment associated with qualifying gas infrastructure that improves safety and  
23 reliability. The CRM does not, however, provide for the recovery of the  
24 Company’s other capital investments between rate proceedings. However, in this  
25 proceeding, the Company is proposing to eliminate the CRM and implement a  
26 multi-year rate plan (“MYRP”) that covers the period 2024 and 2025 and would  
27 provide for the recovery of the Company’s projected capital investment during  
28 this period. The MYRP is expected to mitigate some of the risk related to  
29 regulatory lag associated with the recovery of the Company’s capital investments,  
30 which, as noted, the credit rating agencies have highlighted as a concern for the  
31 Company, as well as mitigate cash flow volatility and thus provide greater  
32 predictability in the revenue requirement over the term of the MYRP. As shown  
33 on Exhibit AEB-12, approximately 71 percent of the operating utility subsidiaries  
34 of the proxy group companies also have some form of cost recovery for capital  
35 investments placed into service between rate cases. To the extent that the  
36 Company’s rates going forward do not permit the opportunity to recover its  
37 capital investments on a regular and timely basis, it will face increased recovery  
38 risk and thus increased pressure on its credit metrics relative to the proxy group.

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<sup>94</sup> Mark Newton Lowry, David Hovde, Lullit Getachew, and Matt Makos, “Forward Test Years for US Electric Utilities,” Prepared for the Edison Electric Institute, August 2010, at 1. See Exh. AEB-16.

1 **Q. Has the Company failed to earn its authorized ROR in the past few years?**

2 A. Yes. As discussed in the testimonies of Company witnesses Ms. Kivisto and Ms.  
3 Blattner, the Company has failed to earn its authorized ROR in each year since 2015.

4 **Q. Have you developed any additional analyses to evaluate the regulatory environment**  
5 **in Washington as compared to the jurisdictions in which the companies in your proxy**  
6 **group operate?**

7 A. Yes. I have conducted two additional analyses to compare the regulatory framework of  
8 Washington to the jurisdictions in which the companies in the proxy group operate.  
9 Specifically, I considered two different rankings: (1) the RRA ranking of regulatory  
10 jurisdictions; and (2) S&P's ranking of the credit supportiveness of regulatory  
11 jurisdictions.

12 **Q. How does RRA evaluate the regulatory environment in each jurisdiction?**

13 A. RRA evaluates the regulatory environment from an investor perspective, considering the  
14 relative regulatory risk associated with ownership of securities issued by the companies  
15 that are regulated in each jurisdiction. RRA considers several factors that affect the  
16 regulatory process including gubernatorial, legislative and court activity, rate case  
17 decisions and other regulatory decisions, and information obtained through contact with  
18 commissioners, staff, company and government outreach.

19 **Q. How do you use the RRA ratings to compare the regulatory jurisdictions of the proxy**  
20 **group companies with the Company's regulatory jurisdiction?**

21 A. RRA assigns a ranking for each regulatory jurisdiction between "Above Average/1" to  
22 "Below Average/3," with nine total rankings between these categories. I applied a

1 numeric ranking system to the RRA rankings with “Above Average/1” assigned the  
2 highest ranking (“1”) and “Below Average/3” assigned the lowest ranking (“9”). As  
3 shown on Exhibit AEB-13, the Washington jurisdictional ranking is “Average/3” (*i.e.*, a  
4 “6”), which is lower than the proxy group average ranking, which is classified between  
5 “Average/1” and “Average/2” (*i.e.*, “4.7”).

6 **Q. How do you conduct your analysis of the S&P credit supportiveness?**

7 A. For credit supportiveness, S&P classifies each regulatory jurisdiction into five categories  
8 that range from “Most Credit Supportive” down to “Credit Supportive.” My analysis of  
9 the credit supportiveness of the regulatory jurisdictions in which the proxy companies  
10 operate as compared to the Company’s regulatory jurisdiction is similar to the analysis of  
11 the RRA overall regulatory ranking discussed above. Specifically, I have assigned a  
12 numerical ranking to each category, from Most Credit Supportive (*i.e.*, a “1”) to Credit  
13 Supportive (*i.e.*, a “5”). As shown on Exhibit AEB-14, similar to the RRA regulatory  
14 rankings just discussed, the Washington jurisdictional classification of “Very Credit  
15 Supportive” (*i.e.*, a “3”) is below the proxy group average ranking, which is classified as  
16 between “Highly Credit Supportive” and “Very Credit Supportive” (*i.e.*, a “2.32”).

17 **Q. What are your conclusions regarding the business and regulatory risks of the**  
18 **company?**

19 A. Based on my analysis, the Company’s small size, Washington’s aggressive GHG  
20 reduction requirements, and the comparative regulatory rankings, including the  
21 regulatory lag to which the Company has been subject that has been highlighted by the  
22 credit rating agencies indicate that the Company’s business risks are higher than the  
23 proxy group. Further, although the ultimate future effect on the Company’s natural gas

1 utility operations is not yet known as a result of Washington's initiatives to achieve GHG  
2 reduction requirements, the Company's natural gas distribution business is nonetheless  
3 exposed to significant uncertainty regarding the energy transition in Washington,  
4 including the timing of and financial ramifications to the Company of such a transition.  
5 Likewise, while the Company's regulatory mechanisms and the ability to timely recover  
6 its prudently incurred costs are generally consistent with the operating utilities of the  
7 proxy group, both the RRA and S&P rankings for Washington indicate a greater  
8 regulatory risk than the average for the proxy group. Furthermore, despite the regulatory  
9 mechanisms in place, and five general rate cases, the Company has failed to earn its  
10 authorized ROR for the last eight years. As a result of all of these factors, and considered  
11 in total, I conclude that the Company has greater than average business and regulatory  
12 risk when compared to the proxy group.

## 13 VIII. CAPITAL STRUCTURE

14 **Q. Is the capital structure of the Company an important consideration in the**  
15 **determination of the appropriate ROE?**

16 A. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility. All  
17 else equal, a higher debt ratio increases the risk to investors. For debt holders, higher  
18 debt ratios result in a greater portion of the available cash flow being required to meet  
19 debt service, thereby increasing the risk associated with the payments on debt. The result  
20 of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is  
21 more significant for common equity shareholders, whose claim on the cash flow of the  
22 Company is secondary to debt holders. Therefore, the greater the debt service  
23 requirement, the less cash flow is available for common equity holders.

1 **Q. What is Cascade's proposed capital structure?**

2 A. The Company proposes to establish a projected capital structure consisting of 50.285  
3 percent common equity, 5.501 percent short-term, and 44.214 percent long-term debt for  
4 the duration of the MYRP.

5 **Q. Have you conducted an analysis to assess the reasonableness of the company's capital**  
6 **structure?**

7 A. Yes. I have compared the Company's proposed capital structure relative to the actual  
8 capital structures of the utility operating subsidiaries of the companies in the proxy group.  
9 The cost of equity is estimated based on the return that is derived from companies in the  
10 proxy group that are deemed to be comparable in risk to the Company; however, those  
11 companies must be publicly-traded in order to apply the cost of equity models. The  
12 operating utility subsidiaries of the proxy group companies are most risk-comparable to  
13 the Company, and thus it is reasonable to look to the average capital structure of the  
14 operating utilities of the proxy group to benchmark the equity ratios for the Company.  
15 Specifically, I have calculated the average proportion of common equity, long-term debt,  
16 preferred equity, and short-term debt for the most recent three years for each of the utility  
17 operating subsidiaries of the proxy group companies. As shown in Exhibit AEB-15, the  
18 average equity ratios for the utility operating subsidiaries of the proxy group over the past  
19 three years range from 44.57 percent to 59.79 percent, with an average of 53.59 percent.  
20 The Company's proposed equity ratio of 50.285 percent is well within the range of the  
21 equity ratios of the proxy group, and well below the average actual equity ratio of the  
22 proxy group companies.



1 **Q. Are there other factors to be considered in setting the Company’s capital structure?**

2 A. Yes, there are other factors that should be considered in setting the Company’s capital  
3 structure, namely the challenges that the credit rating agencies have highlighted as  
4 placing pressure on the credit metrics for utilities.

5 For example, while Moody’s recently revised its outlook for the utility sector  
6 from “negative” to “stable”, Moody’s continues to note that high interest rates and  
7 increased capital spending will place pressure on credit metrics. Thus, Moody’s  
8 highlights constructive regulatory outcomes that promote timely cost recovery as a key  
9 factor in supporting utility credit quality.<sup>95</sup>

10 S&P also recently revised its outlook for the industry; however, S&P downgraded  
11 its outlook from stable to negative.<sup>96</sup> S&P noted that for the fifth consecutive year it  
12 expects downgrades will exceed upgrades with the industry facing significant risks over  
13 the near-term as a result of physical risks due to climate change, increased levels of  
14 capital spending and cash-flow deficits that are not being “funded in a sufficiently credit  
15 supportive manner”.<sup>97</sup> In regard to the effect of increased capital spending, S&P noted:

16 The industry's capital spending remains at record levels, supporting  
17 initiatives for safety, reliability, energy transition, and growth. We  
18 consider these trends long term and expect that capital spending will only  
19 continue to increase over this decade.

20 Accordingly, cash flow deficits have increased, pressuring the industry's  
21 credit quality. For 2024, our base case assumes that the industry will fund

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<sup>95</sup> Moody’s Investors Service, Outlook. “Outlook turns stable on low prices and credit-supportive regulation.” September 7, 2023. *See* Exh. AEB-17C.

<sup>96</sup> S&P Global Ratings, “Rising Risks: Outlook For North American Investor-Owned Regulated Utilities Weakens, February 14, 2024. *See* Exh. AEB-17C.

<sup>97</sup> *Id.*

1 its approximate \$85 billion of cash flow deficits with about \$40 billion in  
2 asset sales and equity issuance.

3 For 2023, the industry's actual equity issuance was considerably below our  
4 expectations, resulting in a weakening of financial performance and credit  
5 quality. If this trend persists, credit quality will again likely experience  
6 pressure in 2024.<sup>98</sup>

7 Fitch has stated that it is maintaining a “deteriorating outlook” on the U.S. utility sector  
8 in 2024 based on elevated capital spending and continuing higher interest rates that place  
9 pressure on credit metrics. Fitch notes that bill affordability will remain a major issue for  
10 the industry that could affect future regulatory outcomes, and that while it expects  
11 authorized ROEs to start trending up with the increase in interest rates, albeit with a lag,  
12 given the uncertain macroeconomic environment and bill pressure on customers, the lag  
13 could be longer than in previous cycles.<sup>99</sup>

14 The credit ratings agencies’ continued concerns over the negative effects of  
15 inflation, higher interest rates, and increased capital expenditures underscore the  
16 importance of maintaining adequate cash flow metrics for Cascade in the context of this  
17 proceeding.

18 **Q. Will the capital structure and ROE authorized in this proceeding affect the**  
19 **Company’s access to capital at reasonable rates?**

20 **A.** Yes. The level of earnings authorized by the Commission directly affects the Company’s  
21 ability to fund its operations with internally-generated funds. Both bond investors and  
22 rating agencies expect a significant portion of ongoing capital investments to be financed

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<sup>98</sup> *Id.* at 6-8.

<sup>99</sup> Fitch Ratings. “North American Utilities, Power & Gas Outlook.” *See* Exh. AEB-17C.

1 with internally-generated funds. In addition, it is important to recognize that because a  
2 utility's investment horizon is very long, investors require the assurance of a sufficiently  
3 high return to satisfy the long-term financing requirements of the assets placed into  
4 service. Those assurances, which often are measured by the relationship between  
5 internally-generated cash flows and debt (or interest expense), depend quite heavily on  
6 the capital structure. As a consequence, both the ROE and capital structure are very  
7 important to debt and equity investors, particularly given the capital market conditions  
8 discussed previously and the credit rating agencies' recently stated concerns about the  
9 Company's financial metrics.

## 10 IX. CONCLUSIONS AND RECOMMENDATION

### 11 **Q. What is your conclusion regarding a fair ROE for the Company?**

12 A. Based on the various quantitative analyses summarized in Figure 12, a reasonable range  
13 of ROE results for Cascade is from 10.25 percent to 11.25 percent. Considering the  
14 qualitative analyses presented in my direct testimony, current and prospective capital  
15 market conditions and the Company's specific risk factors, it would be reasonable to  
16 conclude that the ROE should be set at or above the midpoint of my recommended range.  
17 However, the Company is requesting an ROE of 10.50 percent which is towards the low-  
18 end of my range and therefore is reasonable if not conservative.

**Figure 12: Summary of Analytical Results**

***Constant Growth DCF***

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	9.79%	10.71%	11.92%
90-Day Avg. Stock Price	9.87%	10.78%	11.99%
180-Day Avg. Stock Price	9.70%	10.62%	11.83%
Average	9.79%	10.70%	11.91%
Median Results:			
30-Day Avg. Stock Price	9.90%	10.17%	11.76%
90-Day Avg. Stock Price	9.98%	10.25%	11.85%
180-Day Avg. Stock Price	9.93%	10.20%	11.64%
Average	9.94%	10.21%	11.75%

***CAPM / ECAPM / Bond Yield Risk Premium***

	30-Year Treasury Bond Yield		
	Current 30-Day Avg.	Near-Term Projected	Longer-Term Projected
CAPM:			
Current <i>Value Line</i> Beta	11.09%	11.08%	11.08%
Current Bloomberg Beta	10.31%	10.29%	10.29%
Long-term Avg. <i>Value Line</i> Beta	10.12%	10.10%	10.10%
ECAPM:			
Current <i>Value Line</i> Beta	11.38%	11.37%	11.37%
Current Bloomberg Beta	10.79%	10.77%	10.77%
Long-term Avg. <i>Value Line</i> Beta	10.64%	10.63%	10.63%
Bond Yield Risk Premium	10.30%	10.25%	10.25%

1

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

3 A. The Company's proposed capital structure for ratemaking purposes consisting of 50.285  
4 percent common equity, 5.501 percent short-term debt, and 44.214 percent long-term  
5 debt is reasonable given that it is well with the range of the actual capital structures of the

1 operating utilities of the proxy group companies, and is actually well below the average.  
2 Further, while the Company has greater business and regulatory risk relative to the proxy  
3 group, the Company is requesting an ROE that is below the midpoint of my  
4 recommended range. Finally, the impact of current and projected market conditions on  
5 the cash flows of utilities as raised by the credit rating agencies, also supports the  
6 reasonableness of the Company's proposed ratemaking capital structure.

7 **Q. Does this conclude your direct testimony?**

8 A. Yes, it does.