Exhibit No.: _____
Issue(s): Rate of Return/Capital Structure
Witness/Type of Exhibit: Murray/Direct Rebuttal
Sponsoring Party: Public Counsel
Case No.: WR-2024-0320

DIRECT/REBUTTAL TESTIMONY

OF

DAVID MURRAY

Submitted on Behalf of the Office of the Public Counsel

MISSOURI-AMERICAN WATER COMPANY

FILE NO. WR-2024-0320

** _____ **
Denotes Confidential Information that has been redacted.

*** _____ ***
Denotes Highly Confidential Information that has been redacted.

December 6, 2024

PUBLIC

TABLE OF CONTENTS

Definitions/Abbreviations

AFUDC	Allowance for funds used during construction – this is the return that is allowed on CWIP. AFUDC is capitalized based on short-term debt costs until the CWIP balance exceeds short-term debt outstanding. It then accrues a return based on the allowed ROR for long-term capital
Allowed ROE	Regulatory body's determination of how much earnings/profit to allow in the revenue requirement.
Allowed ROR	Regulatory body's decision as to the amount of return allowed for equity capital and debt capital supporting rate base/investment.
AWCC	American Water Capital Corporation – American Water Works Company's financing subsidiary which issues unsecured corporate bonds and commercial paper on behalf of American Water and its operating subsidiaries.
Basis Point	$1/100^{th}$ of a percent 0.01%; 100 basis points = 1%
Beta	Measure of the covariance of the stock and the market dividend by the variance of the market. If Beta is less than one, implies the stock will have lower returns than S&P 500 during bull markets, but higher returns than the S&P 500 during bear markets.
BRP	Business risk profile – S&P Global Ratings assessment of the relative amount of business risk (e.g. exposure to business and economic cycles, price elasticity, demand variations, operating costs, investment risk, regulatory risk, etc.) faced by a company. S&P assigns most utility companies its lowest BRP of "excellent."
BVPS	Book value of common equity per share reflected on balance sheet
BYPRP	Bond yield plus risk premium – in context of this testimony, this means a company's own bond yield plus a generic risk premium of 3% to 4% as identified in the CFA Program curriculum.
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing Model
CFA	Chartered Financial Analyst Program
COE	Investors' minimum required/expected ROE in exchange for providing equity capital. Implied/determined through analyzing stock

	prices in relation to fundamentals, such as estimated cash flows/dividends.
COE	Cost of common equity
Constant/Gordon Growth DCF/DDM	Method used to discount dividends/cash flows that are expected to grow at a constant growth rate into perpetuity.
CWIP	Construction work in progress – plant that is not included in rate base, but accrues a return until the plant is fully operational and used for service.
DCF	Discounted Cash Flow Method – the DCF method can discount various proxies of cash flows, such as estimated dividends, free cash flows to the equity investor or free cash flows to the firm. In utility ratemaking, "the DCF model" is used loosely to identify a DDM analysis, which is a specific type of DCF.
DDM	Dividend Discount Model – a DCF method that discounts expected dividends to determine a fair price to pay for a share of stock.
DPS	Dividends per share
EBITDA	Earnings before interest, taxes, depreciation and amortization
EPS	Earnings per share
Fed	The Federal Reserve Bank
FRP	Financial risk profile – S&P Global Ratings assessment of the degree of default risk due to a company's use of debt to fund its capital structure. A company's FRP is typically assessed through relative evaluation of various financial metrics, such as FFO/debt, debt/EBITDA, debt/total capital, FFO/interest, etc.
FFO	Funds from operations – generally refers to the amount of cash flow generated from operations, net of changes in working capital.
FFO/Debt	The amount of annual FFO as a percentage of average debt for the same year.
Investment Grade	BBB-, Baa3 or better
Leverage	The amount of debt that supports a company's capital structure.
LDC	Local natural gas distribution company
Multi-stage DCF/DDM	Method used to determine the value and/or COE for a firm in which it is expected to have varying cash flows and/or growth rates. May be as few as two stages, with no limit on more stages.
P/E	Price per share divided by earnings per share. A measure of the cost per share of earnings.

	Earnings can be measured based on historical or projected periods
P/LTM EPS	Price to last-twelve-months (LTM) EPS
P/NTM EPS	Price to estimated next-twelve months (NTM) EPS
PEG	P/E divided by equity analysts' consensus estimated long-term CAGR in EPS. Used to assess price levels as related to changes in expected growth or to other companies' PEG ratios
ROE	Return on Common Equity – a function of accounting net income divided by book value of equity on balance sheet.
ROR	Rate of Return
SACP	Stand-alone credit profile – the potential credit profile of a company if it were not affiliated with other companies.
UST	United States Treasury
WACC	Weighted Average Cost of Capital
YTM	Yield-to-maturity – current required return on a bond determined by dividing the bond coupon by the most recent price of the bond.
ZOR	Zone of reasonableness standard as identified by the Missouri Public Service Commission.

DIRECT AND REBUTTAL TESTIMONY

OF

DAVID MURRAY

MISSOURI AMERICAN WATER COMPANY

FILE NO. WR-2024-0320

Q. Please state your name and business address.

A. My name is David Murray and my business address is P.O. Box 2230, Jefferson City, Missouri 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Office of the Public Counsel ("OPC") as a Utility Regulatory Manager.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the OPC.

Q. What is the purpose of your testimony?

A. First, I am sponsoring direct testimony for purposes of recommending a fair and reasonable rate of return ("ROR") for purposes of setting Missouri American Water Company's ("MAWC") revenue requirement. Second, I am sponsoring rebuttal testimony for purposes of responding to the direct testimony of MAWC's ROR witnesses, Ann E. Bulkley and Nicholas F. Furia.

Q. What experience, knowledge and education qualify you to sponsor ROR testimony in this case?

A. Please see the attached Schedule DM-D-1 for my qualifications as well as a summary of the cases in which I have sponsored testimony on ROR and other financial issues.

I. DIRECT TESTIMONY

Q. What aspects of ROR will you address?

A. I will address a fair and reasonable allowed return on common equity ("ROE"), cost of debt and capital structure.

Q. What is your main conclusion after analyzing MAWC's specific financial situation as well as the current state of capital markets?

A. MAWC's allowed ROE should be set at 9.25%, based on my recommended authorized ROE range of 9.00% to 9.50%. My recommended range reflects the following considerations:

- during 2024 the water utility industry's stock valuation levels (as measured by price-to-earnings ratios) traded at an average premium of approximately 38% to electric utilities;
- my multi-stage DCF cost of common equity ("COE") estimates for the water utility industry imply the COE for water utilities may be up to 65 to 100 basis points lower than the COE for the electric utility industry;
- my COE estimates are lower than average authorized ROEs of around 9.50% for water utilities;
- the fact that water utility stocks have generally been trading at higher P/E ratios than in 2015, when the Commission's determined that authorized ROEs of approximately 9.5% were fair and reasonable for Missouri's electric utilities; and
- under the Commission's typical zone of reasonableness ("ZOR") standard, a recommended ROE in the range of 8.50% to 10.50% is generally considered reasonable by the Commission.

My recommended ROE should be applied to a common equity ratio of 45%. This common equity ratio is consistent with American Water's actual common equity ratios since American Water received approximately $1.688 billion in proceeds from a common equity

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offering in the first quarter of 2023.[1] Although I am recommending a 45% common equity ratio, American Water's common equity ratio is likely to gradually decline back to 40% over time because this is consistent with American Water's stated goal of not allowing its common equity ratio to fall below its long-term target of 40%.[2]

Q. Before you discuss the details supporting your analysis, can you summarize the rationale for your conclusions?

A. Yes. Although capital structure and the allowed ROE are interrelated as to the ultimate impact on MAWC's revenue requirement, I will first briefly explain my rationale for each component, separately.

I recommend that the Commission set MAWC's allowed ROE for its Missouri water and sewer operations at 9.25% based on a range of 9.0% to 9.5%. During most of 2020 to 2022, utility stocks had not traded consistent with their typical negative correlation to changes in long-term bond yields. However, since the end of 2022, utility stock valuation levels resumed their typical negative correlation to interest rates. Further, utility stocks have been significantly underperforming the S&P 500 since the end of 2022. Based on my application of several cost of equity methods and corroborating information from investors, I estimate the COE for the water utility industry to be in the 7.25% to 8.25% range, which is lower than my COE estimate of approximately 7.5% to 8.5% for electric utilities in the concurrent Ameren Missouri rate case, Case No. ER-2024-0319.

I further recommend that the Commission set MAWC's ratemaking common equity ratio at 45% rather than American Water's consistent request of the low 50% range for MAWC. American Water manages its operating utility subsidiaries' capital structures through affiliate financing transactions. MAWC does not issue its own debt or equity to third parties. MAWC's capital structure is not optimized to minimize its cost of capital. However, American Water's capital structure is optimized because its capital structure is a

[1] American Water Works Company, Inc. SEC Form 10-Q for March 31, 2023, p. 17.
[2] Julien Dumoulin-Smith, et. al., "Initiating AWK at Underperform: the Wild Water World," Jefferies, October 7, 2024, p. 6.

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function of arms-length financing transactions (whether through American Water's direct common equity issuances or the AWCC debt issuances its credit quality supports).

A. FAIR RETURN ON COMMON EQUITY

Q. What is the most often cited basis for determining a fair and reasonable ROE for purposes of setting utility rates?

A. The following principles of the *Hope*[3] and *Bluefield*[4] Supreme Court of the United States cases are often cited as criteria in setting a fair and reasonable ROE for purposes of utility ratemaking:

1. Comparable returns for similar risk;
2. Financial integrity/maintain credit; and
3. Capital attraction.

The *Hope* (1943) and *Bluefield* (1923) principles were established well before the advent of modern cost of equity methods, such as the discounted cash flow ("DCF") method and the Capital Asset Pricing Model ("CAPM"). Therefore, while setting ROEs based on the COE has generally been considered consistent with the *Hope* and *Bluefield* principles, other factors, such as other jurisdictions' authorized ROEs have been cited by this Commission as a relevant factor it should consider. The authorized ROE is a regulatory ratemaking concept that quantifies the amount of net income allowed in the revenue requirement. The COE is a market-based concept that quantifies an investors' required return on his/her common equity investment. Because ROEs have generally been set in the 9% range, while an overwhelming amount of evidence demonstrates that investors' required returns (*i.e.* COE) on utility equity investments have typically been much lower, I correctly differentiate between allowed ROEs and the COE in my analysis and recommendation.

[3] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1943).
[4] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

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Q. How did you determine the approach you would take to estimate a fair and reasonable allowed ROE for purposes of this case?

A. I reconciled the principles established in *Hope* and *Bluefield* with the modern financial models used to estimate the COE.

Considering these principles, I first estimate MAWC's current COE and then compare my current COE estimates to my historical COE estimates, as well as to my COE estimates for the electric utility industry I provided in my Direct Testimony filed on December 3, 2024, in the Ameren Missouri rate case, Case No. ER-2024-0319.

Q. Based on your analysis, what is your estimate of MAWC's current COE?

A. MAWC's COE is in the range of 7.25% to 8.25% based on recent capital market conditions.

Q. How does your COE estimate for MAWC compare to your COE estimate for Ameren Missouri?

A. It is about 25 basis points lower.

Q. Based on your analysis and awareness of capital market conditions, investor expectations and recent average allowed ROEs for water and sewer utilities, what do you consider to be a fair and reasonable allowed ROE for MAWC?

A. I consider 9.0% to 9.5% to be a reasonable range with my point recommendation at 9.25%. My recommended allowed ROE is within the range of the Commission's typically defined ZOR range of 100 basis points above and below recent average authorized ROEs of 9.53% for the water utility industry for the first nine months of 2024 (14 cases with a range of 9.1% to 9.8%).[5] The average authorized ROE for water utilities is lower than the average authorized ROEs of 9.68% for the electric and natural gas distribution utility industries. After considering my COE estimates in this case and in Ameren Missouri's concurrent rate case, and the Commission's authorized ROE of approximately 9.5% for Missouri's major

[5] Heike Doerr, "2024 Sees Diverging ROE Trends for Water and Energy Utilities," Regulatory Research Associates-Regulatory Focus, November 21, 2024.

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electric utilities for rate cases decided in 2015, I consider a 9.25% ROE to be fair and reasonable.

As I previously mentioned, I recommend an ROE of 9.25%. Of course, the common equity ratio to which my recommended ROE is applied is critical to setting a reasonable overall authorized ROR. As I will explain, if not for American Water's use of more leverage, its COE would be even lower due to the low business risk associated with its water utility assets. My recommended ROE of 9.25% is contingent on the Commission applying such to a 45% common equity ratio. If the Commission authorizes a less leveraged capital structure (*i.e.* more equity than debt), per MAWC's internally managed capital structure, then I recommend an authorized ROE based on the low-end of my range.

Q. Was an ROE and capital structure specified in MAWC's last rate case, Case No. WR-2022-0303?

A. No.

Q. How did you inform yourself for purposes of determining the best methods and approaches to use to estimate MAWC's COE for this case?

A. I reviewed certain investment industry research covering American Water and the utility industry in general since at least September 30, 2022. I also considered information that I had previously reviewed for MAWC's 2020 and 2022 rate cases, Case Numbers WR-2020-0344 and WR-2022-0303, respectively. This information provided me insight as to the types of methods/models typically used by investors to determine fair prices to pay for utility stocks. Consequently, I decided the best approach to estimate MAWC's COE was to perform a COE analysis on its parent company, American Water, in conjunction with a COE analysis on a proxy group of water utility companies.

Q. How did you determine a fair and reasonable allowed ROE to recommend for MAWC?

A. I compared the trends in various valuation ratios to proxy groups for the electric utility industry and the water utility industry. This information is helpful for purposes of comparing and contrasting the characteristics of water utility industry stocks to those of

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the electric utility industry. My analysis shows that water utility industry stocks in general have been valued much higher than the electric utility industry.

Q. What models did you use to estimate MAWC's COE?

A. I used a multi-stage discounted cash flow ("DCF") method, with specific emphasis on consensus analysts' estimated dividends and the modeled growth of dividends. A DCF method that focuses on dividends as the proxy for cash flow is more precisely defined as the dividend discount model ("DDM"). I also applied the Capital Asset Pricing Model ("CAPM") to both American Water and the proxy group. Finally, I performed simple and logical reasonableness checks of my COE estimates. These reasonableness checks recognize the basic characteristics of utility stocks, mainly that the investment community perceives them as yield/income investments, which implies the COE should not be much higher than their own bond yields, which for the water utility industry, are typically based on an 'A' bond rating. One such reasonableness check is a straight-forward bond-yield-plus-risk-premium ("BYPRP") method included in the Chartered Financial Analyst ("CFA") Program curriculum. [6]

Q. Was your approach substantially the same as you employed in MAWC's 2022 rate case, as well as other recent cases involving Missouri's electric and gas utility companies?

A. Yes.

Q. Can you describe current capital market conditions as it relates to the water utility industry in general and Ameren Water specifically before you discuss the details of how you specifically estimated MAWC's COE?

A. Yes. This information should help provide some context as to the current state of utility capital markets. Considering the rapid and steep increase in interest rates from 2022 to 2023, which caused utility debt costs to increase dramatically since 2020 to 2021, it is important to understand the context of authorized ROEs versus the COE over a longer

[6] 2021 CFA Program – Level II Refresher Reading, Equity Valuation, p. 35.

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period than just the last couple of years. It is for this reason that I will analyze and compare utility stock valuations and interest rates for most of the period since the financial crises and recession around 2008/2009.

Q. What was your recommended allowed ROE in MAWC's 2022 rate case, Case Number WR-2022-0303?

A. It was in the range of 8.40% to 9.25%, with a point recommendation of 9.00%.[7]

Q. Was your recommended allowed ROE consistent with your COE estimates at the time?

A. No. I estimated MAWC's COE to be in the range of 6.0% to 6.5% in the 2022 rate case.[8]

Q. Can you describe and illustrate recent and long-term changes in long-term bond yields?

A. Yes, long-term bond yields have increased dramatically over the last couple of years after declining to historically low levels during the Covid-19 pandemic (2020 – 2021). In fact, during the Fall of 2023, investment grade utility bond yields and long-term United States Treasury ("UST") bond yields increased to their highest levels since 2010.

Some considered the early stages of lower long-term interest rates in the first half of the past decade to be anomalous because of the Federal Reserve Bank's ("Fed") quantitative easing ("QE") programs[9] through October 2014. However, for the last half of the past decade, long-term interest rates continued an overall declining trend, until they reached all-time lows in 2020 and 2021. However, as I previously described, long-term rates have since increased dramatically, peaking in October 2023.

The below graph shows long-term bond yields since January 1, 2010.

[7] Case No. WR-2022-0303, Murray Direct, p. 2, lns. 1-9.
[8] *Id.,* p. 5, lns. 1-2.
[9] QE involved three rounds of the Fed's direct intervention in bond markets beyond just lowering the Fed Funds rate. The Fed's QE programs had the express intent of reducing long-term interest rates.

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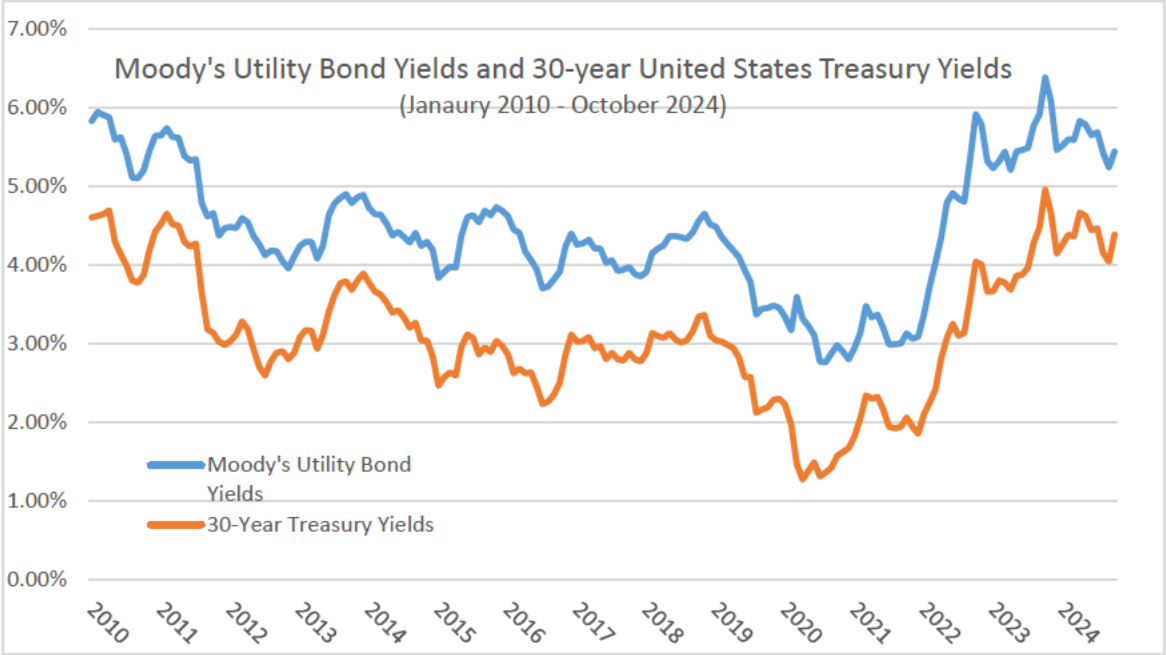

As can be seen in the graph, average utility long-term bond yields had dropped to modern all-time lows in the latter half of 2020 - levels not experienced since the late 1940s and early 1950s. However, the average yield on the Moody's Public Utility Bond index had approximately doubled between early 2022 and October 2023, before declining to around 5.25% to 5.5%. After dropping to an all-time low yield of 1.27% in April 2020, 30-year UST bonds increased to approximately 5% in October 2023 before declining to approximately 4% to 4.25% in recent months.

Although more simplistic COE methods may imply that the COE for utilities whipsawed along with bond yields, utility valuation levels over this period do not support this notion. As I will explain in more detail later in my testimony, the post Covid-19 economic and capital market conditions have been atypical. This is likely a consequence of both the Fed's and U.S. Congress's massive interventions through monetary and fiscal policies during the Covid-19 pandemic.

Q. Why is it typically important to evaluate trends in long-term interest rates when evaluating the utility industry's COE?

A. The investment community typically regards utility stocks as bond proxies/pseudo bonds, meaning that if long-term bond yields decline, that decline typically causes regulated utility

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stock prices to increase. Although investors' total returns in utility stock investments do include some capital gains, because of the slow, steady growth in earnings, utility companies have typically distributed approximately 2/3 of their earnings as dividends to shareholders, causing utility stocks to be characterized as yield investments. Therefore, changes in utility stock valuation levels have historically had a strong inverse correlation to changes in bond yields, *i.e.* as bond yields decline, utility stock prices increase.

Q. From April 2020 through August 2022, did utility stock valuations and bond yields provide traditional and consistent signals about utilities' cost of capital?

A. No. Following drastic and significant intervention by the Fed in monetary policy and the UST in fiscal policy, in reaction to Covid-19 and its associated mitigation measures, the yield-to-maturity ("YTM") on utility and corporate bonds traded at 70-to-80-year lows. However, at the same time, broader utility stocks (mainly local natural gas distribution companies ("LDC") and electric utility stocks) underperformed the S&P 500. The same atypical trading pattern occurred as long-term bond yields began a dramatic increase in 2022. Utility stocks significantly outperformed the S&P 500 on a relative basis, despite long-term yields increasing through much of 2022. The increase in yields caused the S&P 500 to contract significantly, while causing only a slight decline in utility stock prices, allowing them to maintain similar P/E ratios as before the rapid increase in long-term interest rates.

Consequently, while the utility industry's debt costs fluctuated along with the macro changes in interest rates, the same was not true for the utility industry's cost of equity. For example, as I will discuss later in my testimony, use of the CAPM with standard assumptions, implied that the utility industry's COE fluctuated along with long-term bond yields since 2020, but such indications were not corroborated by utility equity market valuations.

Q. What about since August 2022?

A. Starting around mid-September 2022, water utility price-to-earnings ("P/E") ratios resumed their more typical inverse correlation with long-term yields, as illustrated in the following chart:

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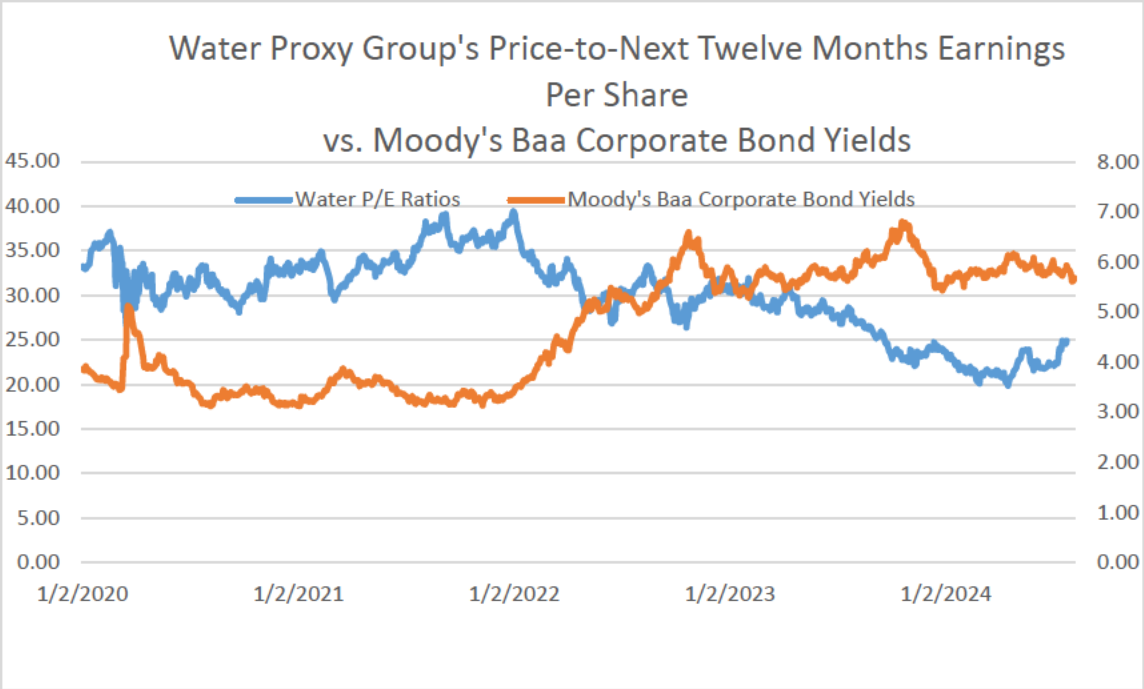


During the all-time low bond yield environment, the utility industry was able to take advantage of these extremely low debt capital costs. For example, on May 14, 2021, American Water, through its financing entity AWCC, issued 10-year, $550 million bonds at an annual coupon rate of only 2.30% and 30-year, $550 million bonds at an annual coupon of 3.25%. However, during this period, utility equity valuation levels did not increase in response to the decline in bond yields, which implied investors did not expect extremely low interest rates to be sustained. Similarly, as bond yields increased significantly in 2022, utility equity valuation levels did not contract as typically expected – perhaps because investors understood that the extremely low cost of debt during 2020 to 2021 was not sustainable. To illustrate the significant increase in utility bond yields, on February 23, 2024, American Water issued 10-year, $700 million bonds at an annual coupon rate of 5.15%, and 30-year, $700 million bonds at an annual coupon rate of 5.45%.[10]

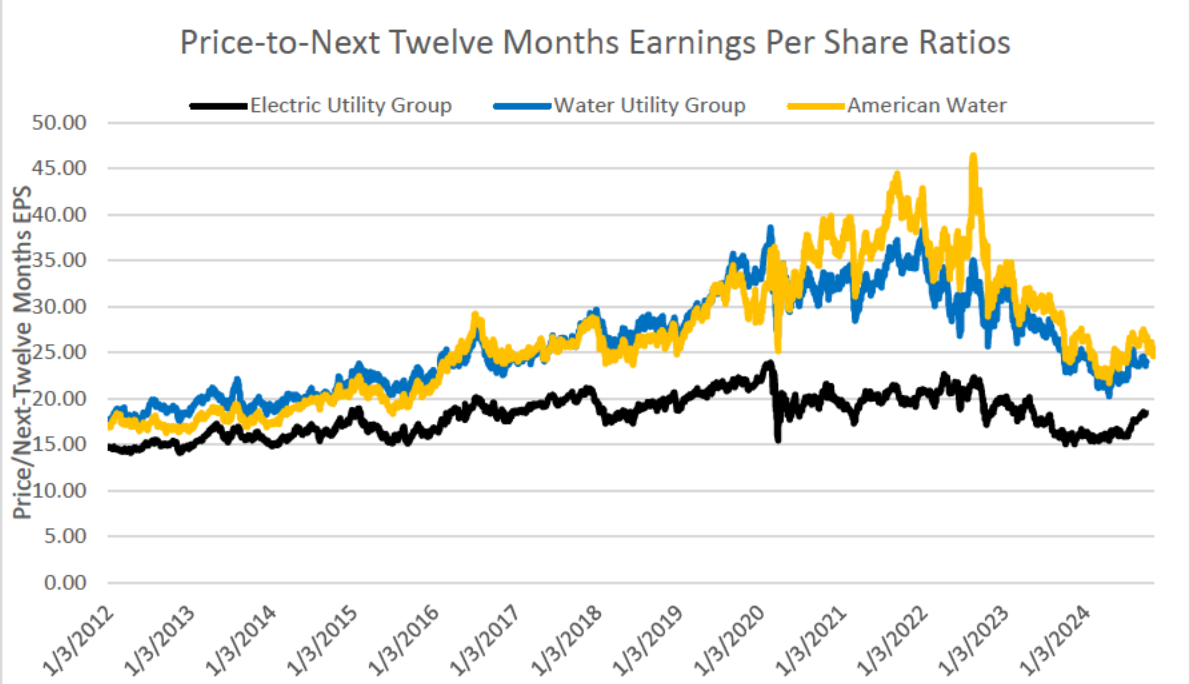
[10] MAWC's Response to Staff Data Request No. 0038.

Q. Considering the Commission will be evaluating an appropriate authorized ROR for MAWC and Ameren Missouri based on very similar periods of market data, is it helpful to compare and contrast the valuation differences between the electric and water utility industries?

A. Yes. Investors in the utility industry typically compare and contrast the valuation differences between the various subsectors of the utility industry. There are many reasons for such valuation differences, with the most relevant for setting a fair and reasonable ROR being the perceived lower business risk associated with water utility operations.

Q. Can you provide a graphic illustration that compares American Water's P/E ratios to the water and electric utility industries?

A. Yes. See the below graph:



As can be seen in the above graph, between 2012 to 2015, American Water's and the water utility peers' P/E ratios traded slightly above the electric utility group's[11] P/E ratios.

[11] Includes the following companies: Alliant Energy, Ameren Corp, American Electric Power, CMS Energy, DTE Energy, Idacorp, OGE Energy, Pinnacle West Capital Corporation, Portland General Electric, Southern Company, WEC Energy and Excel Energy.

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American Water also traded below its water utility peers[12] for most of this period until mid-2014. Between late 2014 and early 2020, American Water and its water utility peers traded at fairly similar P/E ratios, with slight premiums to the electric utility industry between mid-2015 to mid-2018. However, post mid-2018, American Water and its water utility peers traded at significant premiums to the electric utility industry. American Water's P/E ratios peaked at around 45x twice during 2021 and 2022. As long-term bond yields experienced a sustained increase from late 2022 through 2024, the water utility industry's and American Water's P/E ratios gradually declined until reaching approximately 21x in early 2024. They have since expanded back to around 25x in the fall of 2024.

Q. Can you provide corroborating charts from the investment community that demonstrate the premiums at which water utilities trade to electric and gas utilities?

A. Yes. Wells Fargo recently published the following chart demonstrating the varying P/E premiums for water utilities as compared to electric and gas utilities. Wells Fargo used forward earnings estimates two years from now as compared to my use of earnings expectation for the next twelve months. However, both charts are based on consensus earnings estimates provided by equity analysts.

[12] Includes the following companies: American States Water, Essential Utilities and Middlesex Water Company. Excluded California Water Services Group, SJW Group and York Water Company because of lack of continuous P/E data.

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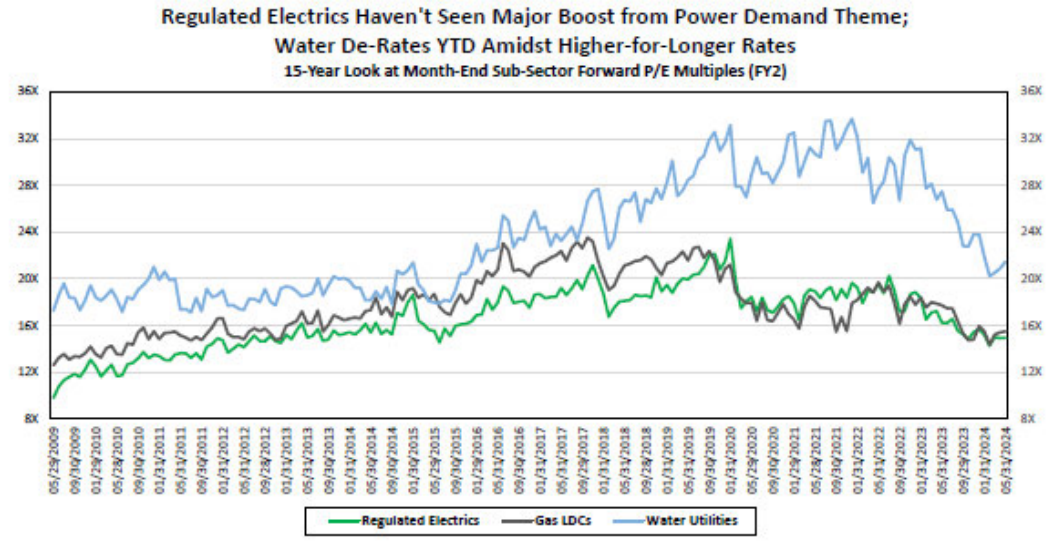
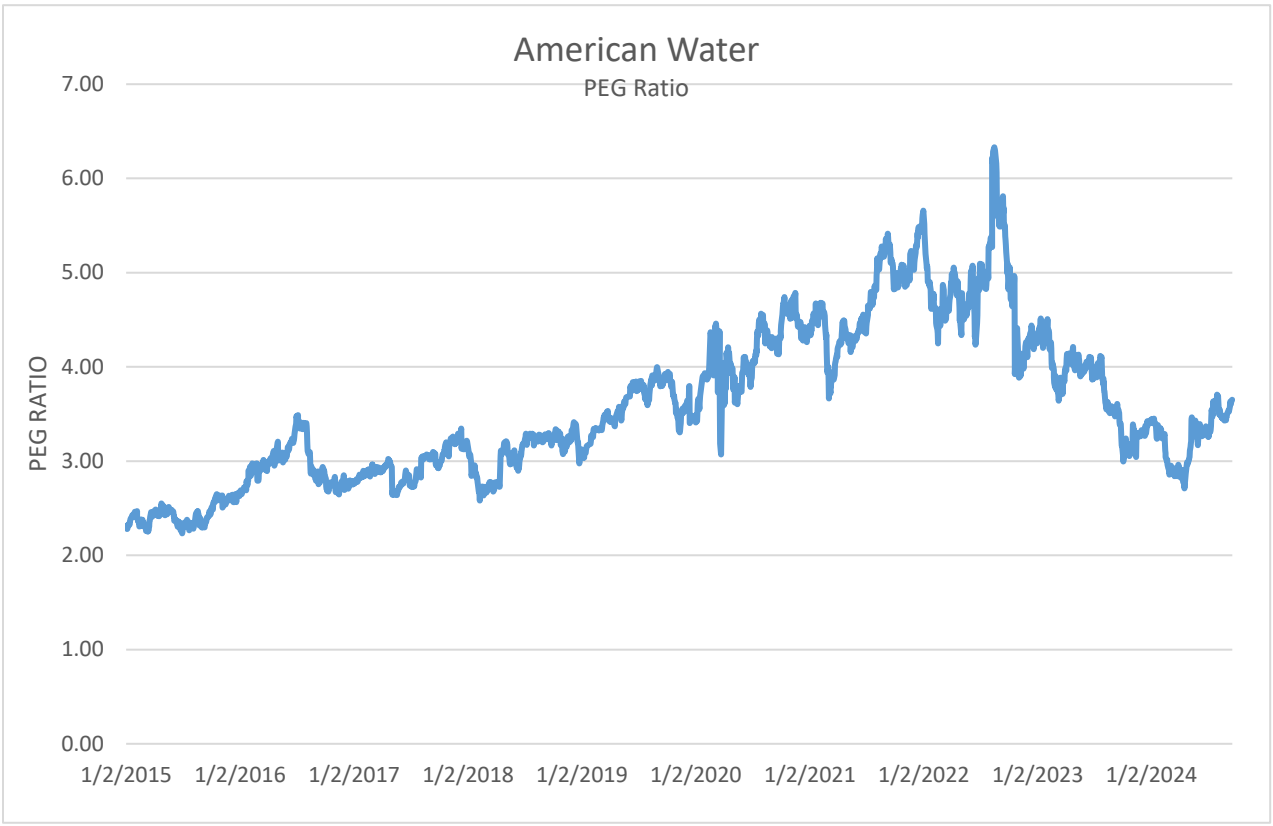


[13]

Q. What appears to be the cause of American Water's consistent and sustained premium as it relates to the electric utility industry?

A. While American Water has a long horizon of higher expected long-term growth due to significant projected capital expenditures to replace water distribution infrastructure, it is not reasonable to attribute the expansions and contractions in American Water's P/E ratio to these long-term growth expectations. American Water had been guiding investors to a 7% to 10% long-term compound annual growth rate (""CAGR") in earnings per share ("EPS") for most of the past decade, with guidance narrowed to 7% to 9% on American Water's 2021 earnings conference call for the third quarter.[14] Investors frequently compare a company's P/E ratio to its expected long-term CAGR in EPS to analyze whether an expansion in P/E ratios can be attributed to higher expected long-term growth rates. The below graph shows American Water's P/E-to-expected long-term growth rate in EPS ("PEG") ratio for the period since January 1, 2015:

[13] Neil Kalton, et. al., "Figure of the Week: 15-Year Look at Sub-Sector P/E Multiples," Wells Fargo, June 7, 2024.
[14] American Water, "Fall 2021 Investor Day: Exciting Road Ahead as Pure-Play Regulated Water Utility," November 3, 2021.



As illustrated, American Water's stock price did not increase from 2015 through 2022 due to analysts' expecting higher long-term growth in EPS. Otherwise, the PEG ratio would have remained constant through this period. For the period after 2022, American Water's stock price did not decline due to analysts' expecting lower long-term growth in EPS. Consequently, the changes in American Water's P/E ratio since 2015 can be primarily attributed to changes in American Water's COE. Although American Water's COE has increased since the end of 2022, the increase occurred after American Water's COE dropped as low as in the 5% range. As I will discuss later in my testimony, investors recognize that commissions did not lower authorized ROEs as much as utility stock valuation levels justified. Therefore, they do not expect commissions to increase authorized ROEs because despite the increase in the COE since the 2021 to 2022 period, the COE is still below average authorized ROEs of around 9.5% to 9.7%.

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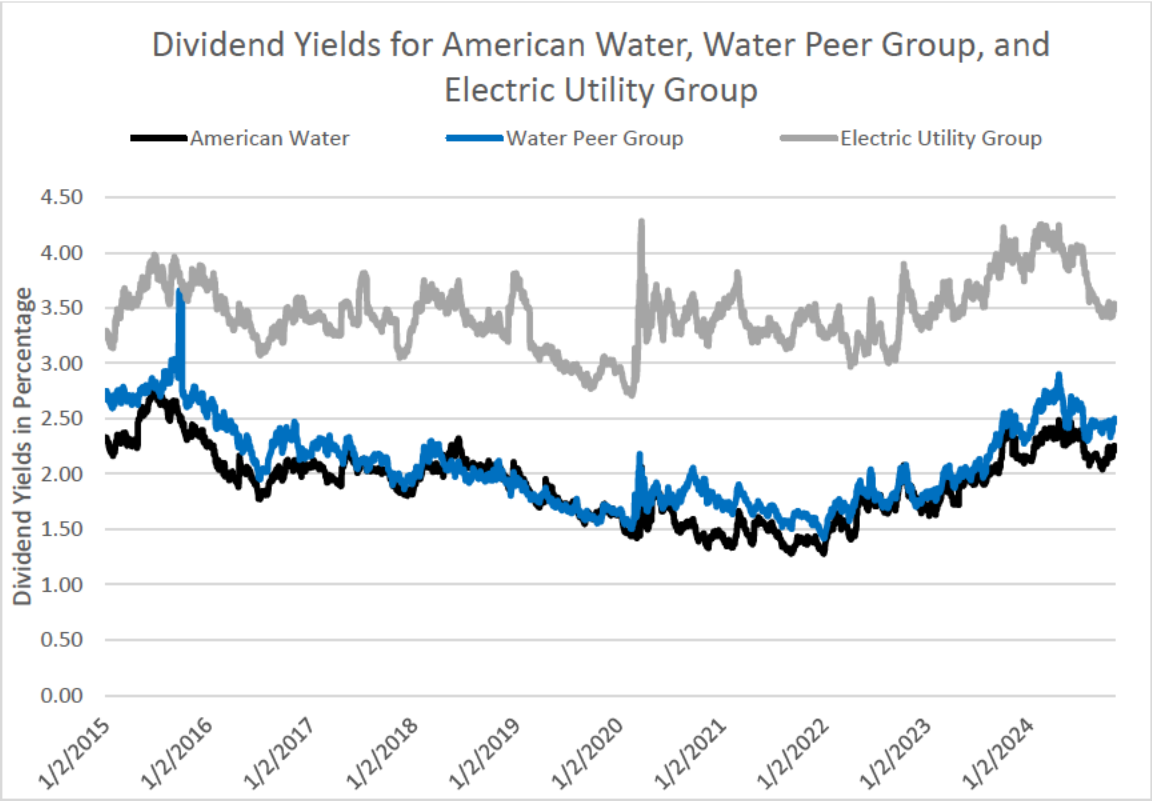
Q. Can this also be illustrated by comparing American Water's dividend yields to that of the water utility peer group[15] and the electric utility group[16]?

A. Yes. See the graphical illustration below:



As can be seen in the chart, American Water's dividend yield was about 100 basis points lower than the electric utility group's dividend yield in early 2015. The water utility peer group's dividend yield was approximately 50 basis points lower than the electric utility group's dividend yield. After 2015, the gap between American Water and the water utility peer group's dividend yields gradually widened with the electric utility groups' dividend yields being approximately 100 basis points higher shortly before the beginning of massive stimulus measures taken by the Fed and the US Congress in March 2020. Subsequent to the extraordinary steps taken by the Fed and the US Congress to mitigate the economic impacts of the Covid-19 pandemic, American Water's dividend yield declined even lower

[15] Added California Water Services to the group because of availability of dividend yield data.
[16] *Id.*

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than its 1.5% dividend yield pre-Covid-19. Because the electric utility group's dividend yields increased subsequent to March 2020, this resulted in a spread of approximately 200 basis points between American Water's and the water utility group's dividend yield compared to those of the electric utility group's dividend yields. The 200-basis point spread continued through early 2022 before it gradually compressed to the 125 to 150 basis point area.

Q. What was American Water's expected long-term CAGR in EPS in 2015?

A. It was 7.34%.[17]

Q. What is it now?

A. 7.87%. Therefore, only a minor proportion of American Water's expanded P/E ratio may be attributed to higher long-term growth rate expectations.

Q. Are there other reasons investment analysts offer to describe why American Water's common stock trades at such lofty valuation levels?

A. Yes. Goldman Sachs had typically assigned a premium to American Water (and other water utilities) because water utility assets have longer useful lives (lower depreciation rates) allowing for a much longer earnings horizon. Goldman Sachs also indicated that American Water has a much larger and prolonged period of capital expenditures as compared to the electric utility industry. This implies that investors in water utilities, such as American Water, may expect higher EPS and DPS growth rates for a longer period than that of electric utilities.[18]

RBC Capital Markets assigned American Water's P/E ratio a 30% premium to the 30x forward P/E ratio it assumed for lower-growth water utilities. In its March 1, 2022, equity research report on American Water, RBC indicated the following rationale for its 30% premium, or 39x P/E ratio, it assigns to American Water:

[17] Staff Cost of Service Report, 2015, Appendix 2, Schedule 11-5.

[18] Insoo Kim, CFA, et. al., "Americas Utilities: Analyzing water utility premiums - Upgrade AWK to Buy, Initiate WTRG at Neutral," Goldman Sachs, April 15, 2020.

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_____
_____ **[19]

Guggenheim offers the following explanation for the higher premiums it assigns to the water utility industry in general as compared to the electric and gas utility industries:

> Water utilities continue to be ascribed higher multiples versus electric/gas utility counterparts given higher growth prospects and less risk around CapEx, which haven't slowed and are not expected to anytime soon, and lower perceived risk vs. electric/gas peers.[20]

Q. Are you aware of other investment analysts that ascribe lower costs of equity to the water utility industry as compared to the electric utility industry?

A. Yes. Evercore ISI indicated the following when it initiated coverage of the water utility industry:

> Unlike electrics and more similar to local distribution gas utilities water utility capex projects are numerous and much smaller so the project risk faced by electrics isn't there especially compared to large generation and transmission projects. Services provided by water utility are ingested and still on relative basis water bills represents a much smaller portion of average household's utility bills. Furthermore the infrastructure is in worse condition than electric and gas (Water is rated D while electric and gas is rated D+ by ASCE so capital expenditure budgets get less scrutiny from regulators). The lower perceived risk also corresponds, however, to lower allowed ROEs, in Exhibit 5 [in the original document] below we show a comparison of water vs electric ROEs for states which have highest percentage of investor owned water systems. On average authorized water ROEs tend to be 40 bps [basis points] lower vs electric.[21]

Evercore ISI went on to further state the following about expected allowed ROEs for the water utility industry:

> In valuing water utilities we assume the authorized ROEs falling to 8.75% from 9.25% which is 50 bps lower than their electric peers but we use the

[19] Shelby Tucker, CFA, "American Water Works Co Inc.: Just Keep Swimming," RBC Capital Markets, March 1. 2022.
[20] Shahriar Pourreza, et. al., "AWK: Clean Roll Reinforces a Well-Cemented 7-9%," Guggenheim Securities LLC, October 31, 2024.
[21] Durgesh Chopra, et. al, "Initiating Coverage On Water Utilities: Top pick AWK (OP); AWR (UP); WTR/CWT/SJW/CTWS (IL)," Evercore ISI, September 17, 2018, p. 10.

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same ultimate 2.25% spread between ROE and cost of equity to account for the water industry's lower risk profile as we articulated above.[22]

Q. Has the cost of capital increased since the above-cited reports were published?

A. Yes.

Q. Despite the absolute increase in the utility industry's cost of capital, do equity analysts still ascribe a relatively lower cost of equity to water utility stocks as compared to the electric utility stocks?

A. Yes. Wells Fargo used a COE of 7.25% to estimate a fair price to pay for American Water Works Company, Inc.'s ("American Water") stock.[23] Wells Fargo's applies a 7.5% COE to value Ameren Corp's stock.[24]

Q. What are utility equity investors' reactions to the current interest rate environment?

A. Based solely on interpreting/evaluating utility stock price changes, as compared to that of the broader market, stronger economic conditions and optimism about potential productivity benefits from artificial intelligence have been causing the S&P 500, especially the constituents in the information technology sector, to significantly outperform the utilities sector. Until 2022, most utility equity analysts had projected that low interest rates justified a continued reduction of authorized ROEs. However, given the fact that long-term bond yields have remained higher since late 2022, now investors expect regulators to at least hold the line on awarded ROEs.

Q. Why would investors expect utility commissions to hold the line on authorized ROEs if the cost of capital has increased?

A. Because investors recognize that utility commissions did not reduce authorized ROEs as much as was justified when the cost of capital was declining. Barclays recently indicated

[22] *Id.,* p. 13.
[23] Jonathan Reeder, et. al., "American Water Works Company, Inc. (AWK): Updated Plan Hits the Mark Though Equity Needs Higher than Expected," Wells Fargo, October 31, 2024.
[24] Neil Kalton, et. al., "Ameren Corporation (AEE): Takeaways from Investor Meetings – Reiterate Overweight," Well Fargo, September 20, 2024.

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the following about authorized returns while the cost of capital was declining from 2010 to the early 2020s:

> **High Returns Unlikely as ROEs Sticky While Rates Were at Decade Lows**
>
> Simplistically, from 2010 to early 2020s long term risk free yields have only declined, while utility ROEs remained steady at an average 9.8% authorized rate on the electric side. Utilities were arguably over-earning during this timeframe in our view. We believe over a long term (10yr+) time horizon there should be a case for higher ROEs if risk free yields remain elevated or move higher, but we see it unlikely that regulated ROEs return to 12%+ levels anytime soon. This likely leads to an extended CoC [cost of capital] crunch for the utility industry, which will pressure management teams' abilities to raise capex budgets materially in the five-year window. Please see our additional work below highlighting the CoC crunch.[25]

Q. Can utilities still create value for their shareholders at a narrower spread between the COE and allowed ROEs?

A. Yes. Even at a narrower spread, as long as a company has the opportunity to earn more than its cost of capital, it will create value above the initial book value investment (*i.e.* investment in rate base for utility companies). The ratemaking principle of setting an authorized ROE at or near parity with the COE is that utility companies will only invest in projects that are expected to be economically efficient based on the merits of the projects rather than simply being authorized a return higher than the cost of capital (or a jurisdiction that authorizes a higher return than another jurisdiction). Morningstar's discounted cash flow analysis recognizes this principle should at least hold over the long-term. Specifically, as it relates to estimating growth in cash flows in the perpetuity stage, Morningstar states the following:

> Once a company's marginal ROIC [Return on Invested Capital] hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline in revenue is an NPV [Net Present Value] = 0 proposition. Stated differently, in the perpetuity period, we assume that any growth or decline or investment in the business neither creates nor

[25] Nicholas Campanella, et. al., "U.S. Power & Utilities: Initiating Coverage: Down but Not Out," Barclays, August 22, 2023, p. 23.

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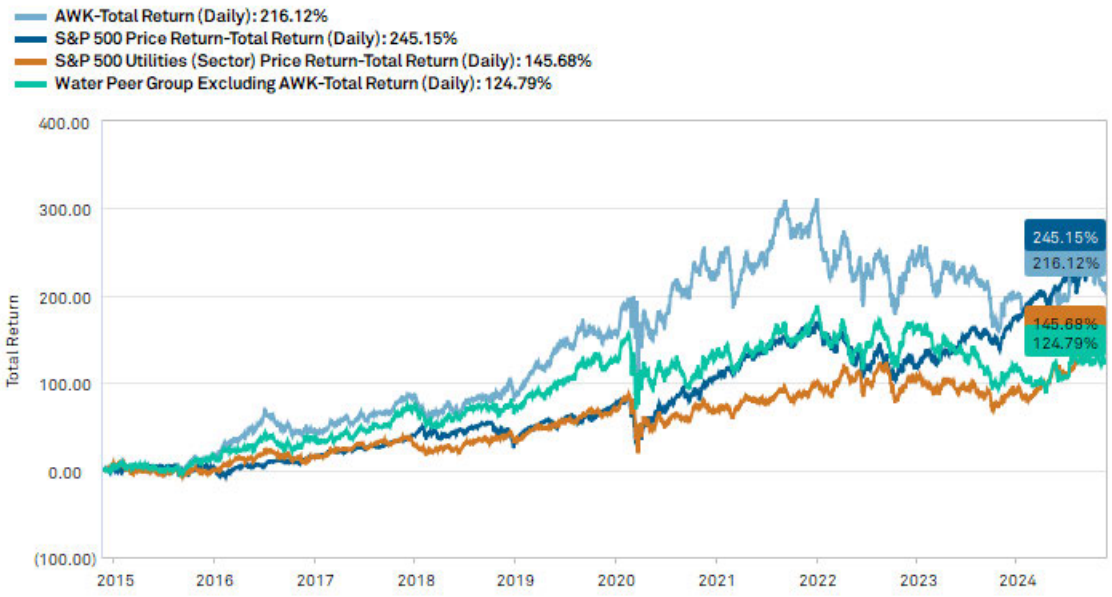
destroys value and that any new investment provides a return in line with estimated WACC.[26]

Q. Would you show how American Water's shareholder returns have compared to the S&P 500, the utilities in the S&P 500, and a representative water utility proxy group for the last ten years?

A. Yes. See the below chart:



One of the most glaring observations from the above chart is the outstanding returns achieved by American Water's shareholders over the past decade. As shown earlier in my testimony, much of American Water's high shareholder returns through the fall of 2022 were due to American Water's expanding P/E ratio, rather than higher growth expectations. Consequently, American Water's shareholder price appreciation can be directly attributed to a very low cost of equity (*i.e.* low required return) for American Water. As investors became more optimistic about the economy avoiding a recession in 2023, the S&P 500's (in particular technology companies) shareholder returns increased and eventually exceeded American Water's in 2024.

[26] "Morningstar Equity Research Methodology," Morningstar Equity Research, September 2022, p. 4.

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All of the utility indices performed fairly well compared to the S&P 500 until the start of the Covid-19 pandemic. Utilities' high total returns over this period were largely due to the sustained long-term decline in interest rates, which also caused higher capital gains for bond investments. Being that bond coupons are typically fixed, this clearly demonstrated that yield investments achieved capital gains mainly due to a decline in long-term yields. However, post the pandemic, and, more importantly, post the response of the Federal Reserve and the U.S. Congress to support the economy during the pandemic, aggressive stimulus measures caused the S&P 500 to significantly outperform utility indices. This is largely attributed to the Fed providing a tremendous amount of capital market support, which caused negative real bond yields during much of this period. This had the impact of reducing the discount rates (*i.e.* COE) for the broader markets, which made potential future profits worth more in present value terms. However, becoming concerned about sustained inflationary pressures, the Fed began to aggressively tighten monetary policy, which caused investors to fear a recession in 2023. This explained utility stocks' stronger performance relative to the S&P 500 for much of 2022, despite increases in long-term bond yields.

B. ESTIMATED COST OF COMMON EQUITY

Q. Having provided context on recent changes in the utility capital market generally and with regard to American Water specifically, would you explain how you approached estimating MAWC's COE in this case?

A. Yes. I performed a multi-stage DCF analysis and a CAPM analysis on American Water and a proxy group of water utility companies. Then, I tested the reasonableness of my estimates by using simple reasonableness checks, such as the BYPRP method discussed in the CFA Program curriculum.

Q. How did you inform yourself as to reasonable and rational inputs for your COE approaches?

A. The objective of a ROR witness is to emulate investors' approaches to analyzing and making investment decisions as it relates to investing in utility stocks. Therefore, I have

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made it a priority to review, analyze, and understand how equity research analysts estimate fair prices for utility stocks. My analysis has allowed me to test the theory of cost of capital estimation in utility ROR testimony, as it compares to practice. I have discovered investment analysts use multi-stage DCF approaches to estimate fundamental values of utility stocks, and/or they use relative valuation techniques that compare a company's P/E ratios to averages for the industry and/or potentially a more tailored subset of peer companies.

In my experience, professional equity ("Wall Street") analysts project long-term CAGR in EPS to determine whether a company's P/E ratio deserves a premium or a discount to its peers. Wall Street analysts DO NOT use these estimated long-term CAGRs in EPS for purposes of projecting a perpetual dividend growth rate, as some ROR witnesses suggest. When performing an absolute valuation analysis, such as a DCF/DDM, Wall Street analysts assume rational perpetual growth rates in the 3.5% to 4.0% range for water utility companies. [27]

Q. Is it important to analyze the information these equity research firms rely on to determine a fair and reasonable ROE for MAWC?

A. Yes.

Q. Why?

A. Analyzing this information is important because these Wall Street analysts are the very individuals that underlie various consensus estimates widely considered by investors. ROR witnesses recognize the influence Wall Street analysts have on utility stock prices by the very fact that they use consensus financial metric forecasts for purposes of estimating the COE.

[27] Neil Kalton, Sarah Akers, and Jonathan Reeder, "DDM Analysis Supports Sector Valuation & Quality/Growth Trade," Wells Fargo, August 19, 2019, p. 2; and Durgesh Chopra, et. al, "Initiating Coverage On Water Utilities: Top pick AWK (OP); AWR (UP); WTR/CWT/SJW/CTWS (IL)," Evercore ISI, September 17, 2018, p. 13.

Q. What equity research firms cover American Water's stock?

A. According to American Water's website, the following firms cover its stock: Bank of America ("BofA"), Edward Jones, Evercore ISI, Guggenheim Securities, J.P. Morgan, Janney Montgomery Scott, Mizuho Securities USA, Morningstar Equity Research, RBC Capital Markets, Seaport Global Securities, UBS Securities, Wells Fargo, and Wolfe Research ("Wolfe").[28]

Q. Did you review all of the firms' research that cover American Water for purposes of performing your cost of equity analysis and preparing your testimony?

A. No. Staff of the Commission ("Staff") Data Request No. 0052 requested copies of all equity research published on American Water since January 1, 2022. MAWC objected to this data request, but still provided a response indicating the following:

> For securities analysts' reports, please see MoPSC 0052_Attachment 1 - CONFIDENTIAL through MoPSC 0052_Attachment 6 – CONFIDENTIAL. These will be provided electronically. Credit rating agency reports are included in the Company's response to MoPSC 0053.

Upon my review of the research reports MAWC provided, I discovered that many research reports were not provided in response to Staff's data request. Therefore, I submitted a follow-up data request requesting a list of all reports published on American Water since January 1, 2022, and copies of reports listed, but not provided in response to Staff's Data Request No. 0052.

Q. Why did MAWC not provide these reports?

A. According to MAWC's response to OPC DR No. 3010, American Water did not provide equity research reports from JP Morgan, Wells Fargo, Jefferies, Bank of America and Wolfe Research because American Water was denied permission from these firms to provide copies of such reports.

[28] https://ir.amwater.com/stock-information/analyst-coverage/default.aspx

Q. Is this explanation consistent with your understanding of the availability of such reports to the investment community at large?

A. No. Over my career, I have established relationships with some firms/analysts who have distributed this material to me directly through their email distribution lists. These relationships were borne from my role as a regulator in which many of these analysts seek information related to Missouri's general and specific regulatory issues. I have also interacted with these analysts through my participation in organizations, such as the Society of Utility and Regulatory Financial Analysts ("SURFA"). My understanding is that the value of this research to each of these firms is its real-time release to clients, not dated research reports, such as those that OPC requested from MAWC.

Q. In MAWC's 2020 rate case, did MAWC provide equity research reports from all analysts following American Water?

A. Yes. MAWC did not withhold reports in the 2020 rate case, Case Number WR-2020-0344.

Q. Were these reports useful and relevant to evaluating the COE for the water utility industry?

A. Yes. In fact, I quoted many of these reports in my testimony in the 2020 rate case. These analysts and their reports are instrumental to understanding, correctly interpreting, and communicating investor expectations influencing stock prices.

Q. Have you encountered this resistance from any of Missouri's other regulated utilities as it relates to providing equity research reports?

A. Not for quite some time. However, in recent rate cases involving Liberty Utilities Co.'s Missouri utilities and the pending Ameren Missouri rate case, OPC has encountered increasing resistance from Missouri's utilities in providing this information or making it more difficult to obtain efficiently.

In an Ameren Missouri rate case in 2010, Case No. ER-2010-0036, I initially encountered significant resistance in obtaining this information. However, after discovering from Ameren Missouri's own witness that this information is typically freely exchanged among

those in the investment community, with no concerns about copyright issues, Ameren Missouri began to cooperate with discovery requesting such information.[29]

I am not aware of any changes in the investment industry that should have caused a change in utility companies' willingness to provide these influential sources of information for investors.

1. *PROXY GROUP*

Q. How did you approach selecting a custom water utility proxy group?

A. Due to the small number of publicly traded water utility companies in the United States, I chose to include most of the companies generally classified as water utility companies by Value Line. My proxy group consisted of the following six companies: American States Water Company, American Water Works Company, California Water Service Group, Essential Utilities,[30] Middlesex Water Company, and SJW Group. Although all of these companies have business risk profiles consistent with water and sewer utility operations, investment analysts do not provide financial metric estimates for Middlesex Water Company. Therefore, because I rely on investment analysts' projections for my multi-stage DDM analysis, I excluded Middlesex Water Company from this analysis. However, I included it in my CAPM analysis.

Q. How does your proxy group's credit ratings compare to the American Water's credit rating?

A. American Water has a S&P issuer credit rating of 'A'. The average S&P issuer credit rating for the water utility proxy group is in the range of 'A-' to 'A'.

[29] Case No. ER-2010-0036, Murray Surrebuttal, pgs. 26-28.

[30] Although I chose not to exclude Essential Utilities from my proxy group, during my analysis I gave consideration to the fact that it is now a combination water and natural gas distribution utility. Before March 2020, Essential Utilities (f/k/a Aqua America) was primarily a regulated water utility company, but it acquired a sizeable amount of gas distribution assets when it bought Peoples Gas Company in March 2020.

Q. What is the average common equity ratio of your proxy group (excluding American Water)?

A. The simple average common equity ratio as a percentage of total capital is 47.47%. The simple average common equity ratio as a percentage of long-term capital is 49.43%.

Q. What methods/models did you use to estimate American Water's and the proxy group's COE?

A. I used the DCF method and the CAPM.

2. *MULTI-STAGE DCF/DDM*

Q. What version of the DCF did you use for your DCF analysis?

A. For my DCF analysis, I used the multi-stage version because it allows for a modeling of changes in dividend growth due to varying capital expenditure cycles occurring within the water utility industry.

For the first stage (October 31, 2024 through June 30, 2028), I used Wall Street analysts' consensus DPS estimates to the extent they were available. For the second stage (June 30, 2028 through June 30, 2038), I allowed for a gradual decline from Wall Street analysts' projected 5-year CAGR in EPS to a perpetual growth rate in the range of 3.75% to 4.25%, starting on June 30, 2038. In order to estimate investors' anticipated annual DPS over the second stage, I determined consensus analysts' estimated dividend payout ratios as of 2028. I then allowed the dividend payout ratios to gradually converge to a sustainable payout ratio in the range of 59.46% (3.75% perpetual growth at 9.25% terminal ROE) to 54.05% (4.25% perpetual growth at 9.25% terminal ROE) starting in 2038. The terminal payout ratios are consistent with the constant/sustainable-growth DCF theory that requires DPS, EPS and book value per share ("BVPS") to grow in perpetuity at the same rate.

As it relates to my assumed timing of investors' receipt of dividends, I assumed investors receive the entire annual DPS estimate at the middle of the year. This discounting convention mitigates the potential under- or over-estimating of the COE based on either end-of-year or beginning-of-year discounting conventions.

My industry COE estimate, based on application of the multi-stage DCF to the proxy group, implies a COE of approximately 7.25% to 7.50% (see Schedules DM-D-2 through DM-D-4).

Q. How did you determine your assumed 3.75% to 4.25% perpetual growth rate for DPS?

A. This growth rate range is generally consistent with the following: (1) potential long-term sustainable growth rate of the U.S. economy,[31] (2) water utility industry fundamentals as it relates to expected ROEs on water utility rate base growth, and (3) commentary/analysis available from the investment community.[32] As it relates to fundamentals, a sustainable growth rate can be determined by multiplying an average long-term industry retention rate by an expected book ROE of approximately 9.25%, which is higher than the terminal ROE used by Wells Fargo and Evercore ISI.[33] Assuming the water utility industry retains sufficient capital to ensure it doesn't have to access external equity markets, then it is reasonable to model an earnings per share ("EPS") retention rate of 43.24%, which applied to a 9.25% ROE, results in a perpetual growth rate of 4%.

Q. What is your basis for an assumed terminal ROE of 9.25%?

A. In recent water utility rate cases, I had assumed a terminal ROE of 9.0%, which was generally consistent with terminal ROE assumptions used by Wells Fargo (9.0%) and Evercore ISI (8.75%). However, due to recent, sustained increases in long-term bond yields, and the fact that average authorized ROEs for water utilities did not decline to 9% when the cost of capital was at all-time lows, I determined a 9.25% terminal ROE is a more reasonable assumption at this time.

[31] www.cbo.gov/publication/59711, https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/spf-q1-2024, https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/livingston-2024-06.
[32] Neil Kalton, Sarah Akers, and Jonathan Reeder, "DDM Analysis Supports Sector Valuation & Quality/Growth Trade," Wells Fargo, August 19, 2019, p. 2; and Durgesh Chopra, et. al, "Initiating Coverage On Water Utilities: Top pick AWK (OP); AWR (UP); WTR/CWT/SJW/CTWS (IL)," Evercore ISI, September 17, 2018, p. 13.
[33] *Id.*

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3. *CAPM*

Q. Did you use any other models to estimate American Water's and the water utility proxies' cost of equity?

A. Yes. In my experience, many Wall Street analysts use the CAPM to determine a discount rate, *i.e.* the COE, to apply to expected cash flows to the equity investor. The CAPM shows the potential impact of changes in interest rates on the cost of capital. Although COE estimates can be manipulated with the CAPM by using unreasonable market risk premium estimates, fortunately there are a variety of authoritative sources that provide equity risk premium estimates that can form the basis for a consensus view of reasonable risk premiums based on current capital market conditions.

Q. What is the underlying theory that supports the use of the CAPM to estimate the cost of equity for utilities?

A. The CAPM is based on capital market theory in which it is recognized that although the total risk of a company and/or industry consists of market ("systematic") risk and asset/business-specific ("unsystematic") risk, investors are only compensated for systematic risk because holding a diversified portfolio allows the investor to avoid unsystematic risk. Systematic risks are unanticipated events in the economy, such as economic growth, changes in interest rates, demographic changes, etc., that affect almost all assets to some degree. The required risk premium for incurring the market risk as it relates to the investment/portfolio is determined by adjusting the market risk premium by the beta of the stock or portfolio. The adjusted risk premium is then added to a risk-free rate to determine the cost of equity. The CAPM is typically expressed in equation form as follows:

$$K_e = Rf + \beta\,(RP_m)$$

Where:
K_e = the cost of equity for a security;
Rf = the risk-free rate;
β = beta;
RP_m = equity risk premium.

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For purposes of my CAPM analysis, I relied on Kroll's recommended equity risk premium of 5.0% provided as of June 6, 2024[34] and a range of realized historical equity risk premiums of 5.14% (geometric historical mean for 1926 through 2023) to 6.56% (arithmetic historical annual mean for the period 1926 through 2023) derived from data provided by Ibbotson Associates' Stocks, Bonds, Bills and Inflation database.

Although each of these equity risk premium estimates use various methods and risk-free rates to arrive at their final estimates, I do not consider any estimate outside these to be consistent with the investment community's "consensus." I specifically used a market risk premium range of 5% to 6% to estimate the COE for the water utility industry. One of the primary drivers causing a higher market-risk premium versus a lower market-risk premium is due to whether this market-risk premium is applied to a normalized risk-free rate or a current risk-free rate (higher market risk premiums applied to lower current low risk-free rates). Long-term-expected nominal market returns for the S&P 500 are as low as 7%.[35] Therefore, market-risk premiums in the 5.0% to 6.0% range may be excessive for purposes of a CAPM analysis.

Q. What does the beta represent in a CAPM analysis?

A. Beta is statistically defined as the covariance of the returns on an asset (in this case an individual stock or group of stocks) with the return on the S&P 500 divided by the variance of the returns on the S&P 500. This statistical measure is intended to provide investors with insight regarding expected volatility of a security (or portfolio of securities) as it relates to market volatility. A beta of less than one implies less expected volatility than the market, with the trade-off of a lower expected return than the market. The reverse is expected for a beta greater than one.

[34] https://www.kroll.com/-/media/kroll-images/pdfs/kroll-lowers-its-recommended-us-equity-risk-premium-effective-june-5-2024.pdf

[35] First Quarter 2024 Survey of Professional Forecasters, Philadelphia Federal Reserve Board (Feb. 9, 2024), https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/spf-q1-2024 and John Bilton et al., *2024 Long-Term Capital Market Assumptions: Time-tested projections to build stronger portfolios,* J.P.Morgan (October 17, 2023), https://am.jpmorgan.com/us/en/asset-management/adv/insights/portfolio-insights/ltcma/

Q. Are stock betas calculated based on historical market prices and relationships?

A. Yes. For example, Value Line's published betas are based on five years of historical weekly returns of a stock or portfolio of stocks as compared to the weekly returns of the market.

Q. Have water utility stock betas exhibited a wide range since the onset of the Covid-19 pandemic?

A. Yes. Prior to the onset of Covid-19, water utility stock betas based on 5-years of historical stock market prices were approximately 0.6. After the market swooned in synchronization at the beginning of the Covid-19 pandemic, water utility betas increased to slightly above 0.8.

Q. What was the primary cause of the increase in utility stock betas?

A. The spike in utility stock betas occurred when the market plummeted at the onset of the pandemic, in March 2020. It is quite common for all securities, both higher-risk and lower-risk securities, to move in tandem during significant market corrections. Because betas measure the relative volatility of a company or a portfolio as it relates to the market, if all securities rapidly decline at the same time, this causes all betas to converge toward one.

Q. How much have the water utility industry's one-year raw betas changed over the last few years due to the market contraction at the onset of the pandemic?

A. Please see the following chart for one-year raw betas since late-2019:

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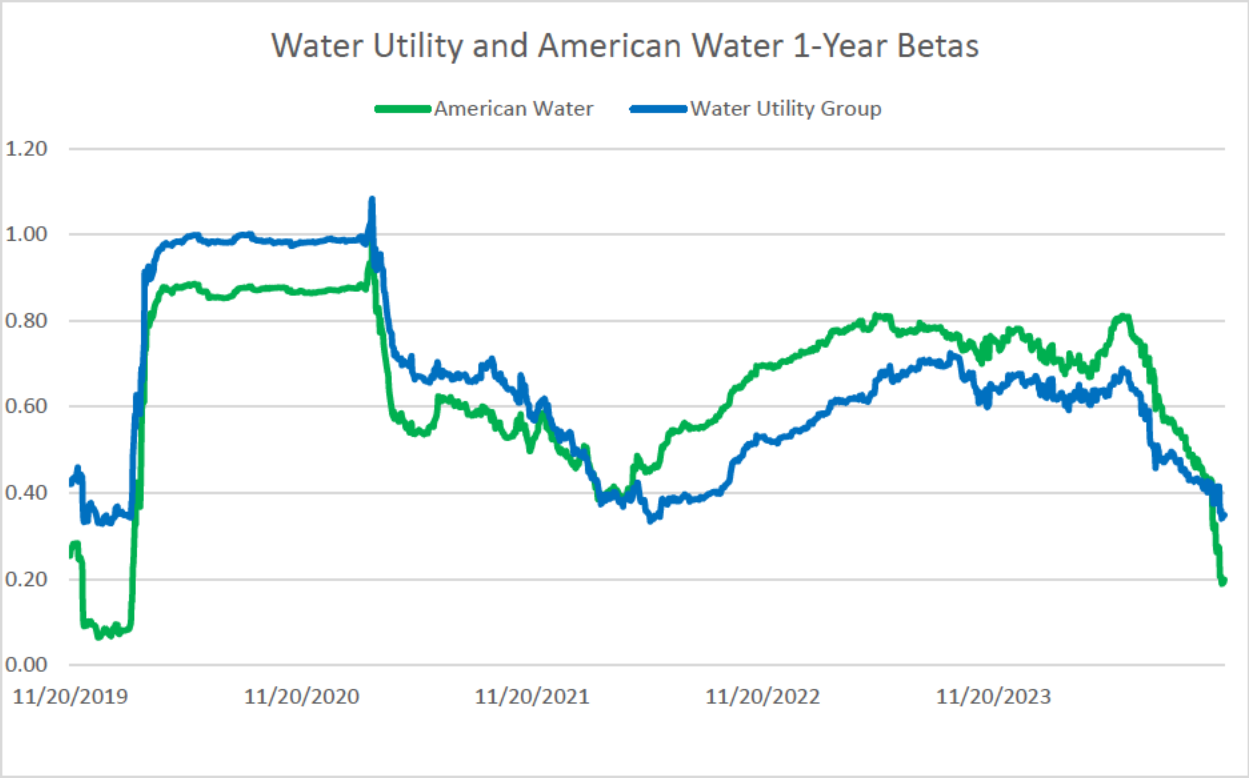

Q. How do you interpret the one-year raw beta data shown in the chart?

A. The steep increase in American Water's and the water utility industry's one-year betas coincided with the markets' synchronized contraction at the onset of market fears related to the Covid-19 pandemic in late March 2020. American Water's and the water utility industry's betas did not return to more typical levels until this data dropped off the one-year beta calculations a year later.

The significant drop in one-year betas since mid-2024 indicates that American Water and the water utility industry's stock prices have been changing inversely to that of the S&P 500.

Q. Did you determine longer-term water utility betas which exclude the abnormal situation that occurred during the broad market decline at the onset of the Covid-19 pandemic?

A. Yes. I determined water utility betas based on data for the last four years, which captures the market dynamics of the period impacted by monetary and fiscal policies in response to

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Covid-19, but excludes the market swoon in March 2020. The average betas of the water utility proxy group based on the past four years of data is around 0.77.

Q. Based on your CAPM analysis using four-year betas, what is the estimated COE for American Water and its peer group?

A. It is in the 8% area (*see* Schedule DM-D-7).

4. *SIMPLE TESTS OF REASONABLENESS*

Q. Are there any other reasonableness tests to show your COE estimates are rational and logical?

A. Yes. As I indicated earlier in my testimony, a simple rule of thumb the CFA Program curriculum suggests in its curriculum is to estimate the COE by adding a 3% to 4% risk premium to a company's bond yield to provide a fairly simple, but objective cost of equity. Being that the investment community views utility stocks as bond surrogates/substitutes, it is logical and reasonable not to add a risk premium any higher than 3% to the bond.

Simply adding a 3% risk premium to the YTM on American Water's publicly-traded bonds provides a reasonableness check on more detailed COE estimates. American Water's long-term bonds have recently been trading at a YTM of approximately 5.5%, which is similar to the YTM on Ameren Missouri's long-term bonds. Adding 3% to represent the risk premium suggests that American Water's COE is approximately 8.5%.

5. *RECOMMENDED AUTHORIZED ROE*

Q. Based on your analysis and understanding of the utility industry's current COE, investor expectations on allowed ROEs and the COE for water utilities compared to electric utilities, what would be a fair and reasonable allowed ROE in this case?

A. 9.0% to 9.5% would be justified with 9.25% being my point recommendation. I recommend a 9.25% authorized ROE within this range due to the fact that water utility stocks trade at higher P/E ratios than electric utility stocks, justifying lower authorized ROEs. Because my DCF COE estimates for the water utility industry imply a lower COE than for the electric utility industry, a comparatively lower authorized ROE is justified.

However, as I will explain in further detail in the following sections of my testimony, American Water's strategy of using affiliate debt financing from AWCC, to contribute equity to its subsidiaries, including MAWC, allows it to earn an even larger margin over its cost of capital. Therefore, even if the Commission chooses to authorize an ROE of 9.50%, as long as this ROE is applied to the lower common equity ratio consistent with MAWC's debt capacity, I would consider this a reasonable outcome.

B. CAPITAL STRUCTURE

Q. Will you briefly explain capital structure?

A. Capital structure represents how a company finances its assets. The typical capital structure consists of common equity, long-term debt, and short-term debt. Some utilities' capital structures may also include a small portion of preferred stock, but this has become rare in recent years. Although short-term debt is a consistent component of a utility company's capital structure, if the balances of short-term debt are fairly consistent or below construction work in progress ("CWIP") balances, then it is fair to exclude short-term debt from the rate making capital structure. This is due to the expectation that the short-term debt and its corresponding rates are used to calculate the allowance for funds used during construction ("AFUDC") capitalization rate.

Q. What capital structure do you recommend for purposes of setting MAWC's ROR?

A. I recommend a capital structure that consists of 45% common equity and 55% long-term debt (Schedule DM-D-6). The ratios in my capital structure recommendation are consistent with the proportion of debt capacity MAWC's assets support, as demonstrated by American Water's recent actual capital structure ratios.

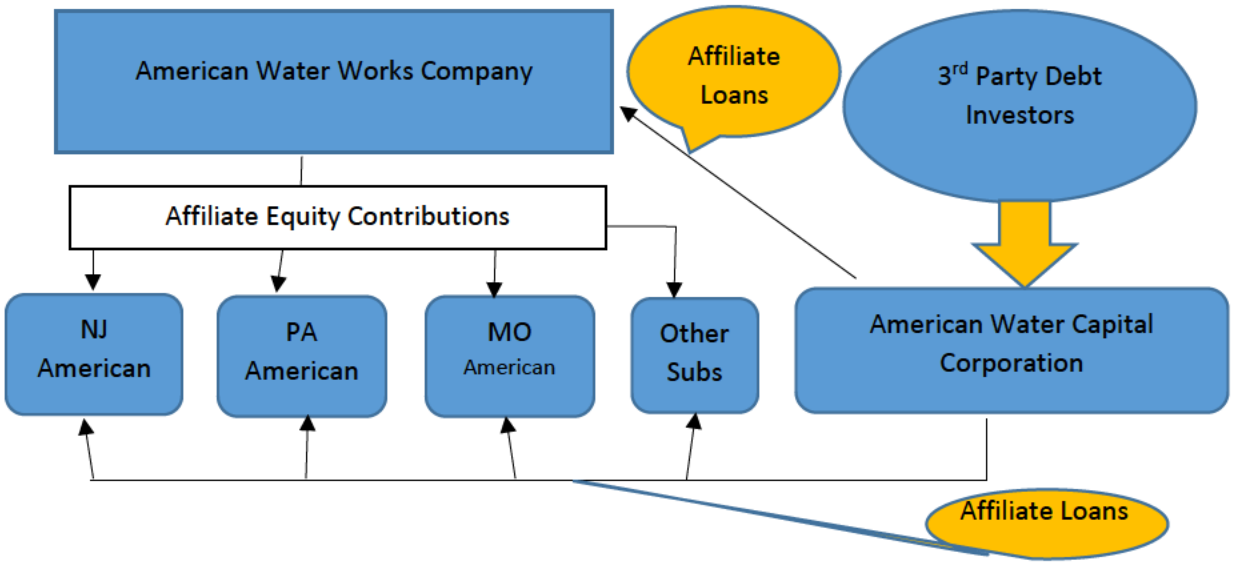
Q. What is the basis for your capital structure recommendation?

A. My recommended capital structure is consistent with American Water's recent actual capital structures. This capital structure best represents the amount of debt capacity American Water considers reasonable and appropriate for its regulated utility assets, including those of MAWC. Use of this capital structure ensures that MAWC's ratepayers

receive credit for their contribution to American Water's debt capacity, which is higher than that reflected on MAWC's internally-managed balance sheet. Although American Water provides most of the debt capital it raises through AWCC at cost to its subsidiaries, including MAWC, approximately 29% of this debt is loaned to American Water, which then uses this debt capital to purchase equity in its subsidiaries. Due to the fact that equity capital is allowed a much higher return than the cost of the debt capital used to purchase subsidiary equity, this allows American Water to achieve a higher ROR than its cost of capital.

Q. Can you provide a graphical illustration of American Water's strategy as it relates to using funds borrowed from AWCC to manage its subsidiaries' per books capital structures?

A. Yes. The following helps with understanding American Water's financing strategy using its financing subsidiary, AWCC:



Q. Does MAWC's capital structure exhibit the same characteristics as Missouri's other major utility subsidiaries, such as Spire Missouri, Ameren Missouri, Evergy Metro and Evergy Missouri West?

A. No. MAWC does not issue its own long-term debt, short-term debt or common equity directly to third-parties. Therefore, there is no commercial benefit to rating MAWC's debt

since it mainly represents affiliate loans from AWCC. AWCC issues long-term and short-term debt directly to third-parties on behalf of American Water and its subsidiaries. AWCC's credit rating and cost of debt is based on American Water' consolidated credit profile, which includes the business risk of its regulated utility subsidiaries and the total amount of debt it issues to finance the subsidiaries (whether it is through direct affiliate loans or indirect investment through loans to American Water to purchase equity in its subsidiaries). Because American Water's subsidiaries are financed by affiliate loans from AWCC, which are backed by American Water's creditworthiness, parental guarantees have no meaning under this arrangement.

Q. What capital structure reflects the debt capacity of American Water's regulated utility subsidiaries' low-risk regulated utility assets?

A. American Water's capital structure on a consolidated basis. During the period of steadily declining long-term bond yields, American Water became even more aggressive with its use of leverage (*i.e.* debt) at the consolidated level. However, at the same time, American Water had maintained a consistent proportion of leverage shown on MAWC's balance sheet via the intercompany loans made to it from AWCC. The delta between American Water's use of leverage and that potentially reflected in MAWC's requested ratemaking capital structure allows American Water to earn a significant margin over its cost of capital from MAWC's ratepayers.

Over the nine-year period from 2014 to 2022, based on year-end capital structures (excluding short-term debt), American Water's common equity ratio declined from 47.18% on December 31, 2014, to 40.70% on December 31, 2022. However, over the same period, based on year-end capital structures (excluding short-term debt), MAWC's common equity ratio stayed in a range of approximately 50% to 53% (*see* Schedule DM-D-8).

Due to American Water's issuance of approximately $1.7 billion in common equity in early 2023, American Water's common equity ratio on December 31, 2023, was 44.55%. This compares to MAWC's per books common equity ratio of 51.52% as of the same date.

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Q. What common equity ratios has MAWC requested in its recommended ratemaking capital structure in past rate cases?

A. In Case No. WR-2022-0303, MAWC requested a common equity ratio of 50.43%. In Case No. WR-2020-0344, MAWC requested a common equity ratio of 53%. In Case No. WR-2017-0285, MAWC requested a common equity ratio of 51.03%. In Case No. WR-2015-0301, MAWC requested a common equity ratio of 52.37%.

Q. How does American Water determine the equity ratios it targets for its operating subsidiaries?

A. As shown in Schedule DM-D-10, American Water ** _____ _____ _____ **

Q. Has the Commission ** _____ ** for MAWC?

A. No.

Q. Is American Water's financing strategy an abuse of MAWC's affiliation with its parent company?

A. Yes. American Water's embedded cost of debt on a stand-alone basis was 3.75% as of December 31, 2023. American Water used a portion of the proceeds from these debt issuances to purchase equity in MAWC. If American Water is authorized an ROE of 9.25% based on a 50.39% equity ratio compared to the 40% to 45% common equity it typically has invested in its subsidiaries, this would allow American Water to earn a 5.50% (9.25 - 3.75) margin over its cost. After considering the tax deduction American Water takes for the interest expense at the holding company, it generates a margin of 8.55% ((9.25*1.33) – 3.78) for its equity investors.

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Q. How much additional revenue requirement would this generate for American Water's shareholders?

A. Based on MAWC's estimate of its December 31, 2023, rate base of $2.687 billion, this generates and additional $15.5 million/year for shareholders through a higher revenue requirement.

Q. Has American Water's credit rating been downgraded due to more aggressive use of leverage in recent years?

A. Yes. Moody's downgraded American Water's credit rating from 'A3' to 'Baa1' on April 1, 2019, stating the following:

> The financial profile of the company has steadily declined since 2014 with free cash flow deficits and debt issuance having outpaced cash flow growth, as the company took on nearly $6.5 billion of capital spending. For example, free cash flow deficits have grown at a compound annual growth rate (CAGR) of around 62%, debt has grown at over 9% CAGR and [funds from operations ("FFO")] at roughly a 6% CAGR. For most of this time, the company was benefitting from bonus depreciation, which resulted in no cash tax payments. However, 2017 federal tax reform undid these benefits, which has also contributed in key ratios declining, such as funds from operations (FFO) to net debt dropping from 18% in 2014 to 16% in 2018 and retained cash flow (RCF) to net debt falling from 15% in 2014 to just above 12% in 2018.

Q. What have American Water's FFO/debt ratios been over the last five years?

A. They have been in the 13% to 14% range, except for 2022, when it dropped to 9.5%.[36]

Q. What are they expected to be for the next few years?

A. Around 12% to 14%.[37]

Q. What have MAWC's FFO/debt ratios been over the last three years?

A. *** _____ ***

[36] William Hernandez and Gerrit W Jepsen, CFA, "American Water Works Co. Inc.," S&P Global Ratings, March 4, 2024.
[37] *Id.,* and Ryan Wobbrock, et. al., "American Water Works Company, Inc.," Moody's Investors Service, November 9, 2021.

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Q. What are they expected to be in future years?

A. In the range of *** _____ ***

Q. How much lower would MAWC's FFO be if the Commission adopted your more leveraged capital structure recommendation as compared to MAWC's per books capital structure?

A. It would be approximately $15.5 million lower. This difference also incorporates my recommended lower cost of debt, but holds the allowed ROE constant.

Q. Would this reduced FFO cause MAWC's FFO/debt ratio to fall below those currently being targeted at American Water?

A. No. The pro forma impact of the $15.5 million reduction in FFO and increased debt levels to be consistent with a 55% debt ratio would result in MAWC's FFO/debt ratio being approximately 13.36%.

Q. Is it fair to MAWC ratepayers to ask them to pay for a higher-cost capital structure than American Water considers appropriate for managing its market-based consolidated capital structure?

A. No. It is the lower risk profile of American Water's regulated utility subsidiaries that allow it to access significant amounts of debt at low costs and still be able to maintain a solid investment-grade credit rating. American Water has consistently been charging MAWC for a more equity-rich capital structure than it considers optimal for raising third-party capital. It is fundamentally unfair to MAWC's ratepayers to request they pay a return on an equity ratio that is higher than that which American Water considers cost efficient.

Q. Do rating agencies typically allow water utility companies to carry more leverage due to the lower business risk associated with water utility assets?

A. Yes. Rating agencies, such as S&P Global Ratings, allow the water utility industry to carry more leverage due to applying less stringent credit metrics as it relates to financial risk. S&P Global Ratings applies "low volatility" benchmarks to the water utility industry as compared to "medial volatility" benchmarks to the electric utility industry. For example,

S&P allows water utility companies to have funds from operations-to-debt (FFO/debt) ratios of as low 9% to 13% and still maintain an 'A' credit rating. However, most integrated electric utility companies have to achieve FFO/debt ratios of 13% to 23% in order to maintain an 'A' credit rating. Therefore, while it may be reasonable to authorize an ROE for MAWC that is similar to other Missouri utilities, this only holds true if the ROE is applied to a lower common equity ratio.

Q. What is your recommended cost of debt in this case?

A. My recommended cost of debt is 4.13%. My cost of debt recommendation is based on an assignment of 97.86% weight to AWCC's embedded cost of debt of 4.07% and 2.14% weight to the 5.61% embedded cost of MAWC's four 3rd party debt issuances. These debt issuances include MAWC's recent loan from the State Revolving Fund as well as three debt issuances from the 1990s. I applied the 4.13% embedded cost of debt to the 55% debt capitalization ratio in my recommended capital structure.[38]

Q. What does MAWC claim as its embedded cost of debt as of December 31, 2023, in this case?

A. 4.41%.[39]

Q. Has American Water communicated to investors its targeted common equity ratio?

A. Yes. American Water consistently communicates that should its common equity ratio fall below 40%, it would issue new common equity to investors, which it did in early 2023. This increased American Water's common equity ratio to around 45%. Therefore, American Water targets a 40% to 45% common equity ratio. In reviewing various rating agency and equity analysts' reports, it is clear that American Water considers this amount of financial risk to be compatible with the lower amount of business risk of its regulated utility subsidiaries, including MAWC.[40]

[38] I relied on information MAWC provided in response to Staff DR No. 41 and in response to OPC DR No. 3008.
[39] Furia Direct Testimony, Schedule NFF-1, p. 2.
[40] Durgesh Chopra, et. al, "American Water Works Company – Speed Bump On The High Road," Evercore ISI, December 11, 2019

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Q. How can the Commission determine an equitable, market-tested and objective capital structure that more closely captures the amount of debt capacity that is consistent with MAWC's business risks?

A. The Commission can more closely capture debt capacity consistent with MAWC's business risks by authorizing capital structure ratios consistent with American Water's consolidated capital structure.

C. SUMMARY AND CONCLUSIONS

Q. Can you summarize your main conclusions and views as it relates to an authorized ROR in this case?

A. Yes. I recommend an ROE of 9.25% be applied to a 45% common equity ratio for purposes of setting MAWC's authorized ROR. My cost of debt recommendation of 4.13% properly considers all debt issued by AWCC, which captures a market-based portfolio of third-party debt issuances rather than internally-assigned debt to MAWC.

While there is significant evidence that suggests that American Water's water utility subsidiaries, including MAWC, have lower business risk than that of electric utilities, American Water largely offsets these lower business risks by incurring more financial risk (i.e. the use of debt). However, American Water does not directly loan all the debt it issues through AWCC to its operating subsidiaries. Instead, AWCC makes affiliate loans to American Water, which in turn infuses these funds in its subsidiaries as equity capital. Although the affiliate transaction rules do not apply to water utility companies, this affiliate financing transaction is an attempt by American Water to charge MAWC an equity return on much lower costs associated with American Water's arms-length debt financing transactions. The Commission can protect MAWC's ratepayers from this unfair and unreasonable financing practice by appropriately setting MAWC's ratemaking capital structure consistent with American Water's recent common equity ratio of approximately 45%.

Q. Does this conclude your direct testimony?

A. Yes.

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II. REBUTTAL TESTIMONY

Q. What it the purpose of your rebuttal testimony?

A. I will respond to the direct testimonies of Missouri American Water Company's ("MAWC") witnesses, Anne L. Bulkley and Nicholas F. Furia.

Q. What issues does Ms. Bulkley address in her direct testimony?

A. Ms. Bulkley sponsors MAWC's return on common equity ("ROE") recommendation and the reasonableness and appropriateness of Mr. Furia's capital structure and cost of debt recommendation.

Q. What issues does Mr. Furia address in his direct testimony?

A. Mr. Furia addresses his view as to the appropriateness of using MAWC's per books capital structure for ratemaking.

Q. How will you address the issues sponsored by these witnesses?

A. First, I will address capital structure and cost of debt. Then I will address MAWC's requested ROE.

A. CAPITAL STRUCTURE AND COST OF DEBT

Q. What capital structure does MAWC recommend for purposes of setting its allowed ROR?

A. According to Brian Lagrand's Supplemental Direct Testimony, MAWC is requesting a ratemaking capital structure that is expected to consist of 50.39% common equity and 49.61% long-term debt as of May 31, 2025.

Q. How does Mr. Lagrand's sponsored capital structure compare to MAWC's capital structure witness, Nicholas F. Furia's, original capital structure recommendation?

A. It is quite similar. Mr. Furia had recommended a projected capital structure of 50.54% common equity and 49.46% long-term debt based on an average of forecasted capital balances for the 13-months ended, May 31, 2026.

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Q. How is it possible for MAWC to maintain higher common equity ratios if its parent company, American Water, is not consistently issuing third-party common equity?

A. It is actually relatively easy for American Water to manage MAWC's capital structure to specific ratios. This is achieved through the management and classification of capital flows among American Water's family of companies. American Water achieves higher common equity ratios (approximately 50% or above) at its subsidiaries compared to its typical consolidated common equity ratio of 40% to 45% by using debt capital American Water receives from AWCC for equity infusions into its subsidiaries. If American Water's subsidiaries received all of the debt issued by AWCC through affiliate loans, then American Water's subsidiaries' average capital structures would approximate American Water's consolidated capital structure.

Q. Does American Water memorialize its internal capital structure strategies in an internal procedure?

A. Yes. I attached American Water's internal procedure as Schedule DM-D-10 to my direct testimony. However, for convenience and emphasis, the most pertinent part of this policy is recited as follows:

** _____
_____
_____
_____ **

Q. Why does it appear that American Water is managing MAWC's capital structure to a little over 50% for purposes of its requested ratemaking capital structure as of May 31, 2025?

A. Because this equity ratio is consistent with American Water's view of the equity ratio underlying the settlement in MAWC's 2022 rate case, Case No. WR-2022-0303.[41]

[41] American Water's Investor Presentation, "2024 Third Quarter Earnings & 2025 Outlook Conference Call," October 31, 2024, p. 40.

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Q. Has the Commission independently identified a capital structure it ** _____ ** for MAWC?

A. No.

Q. If the Commission set MAWC's ratemaking common equity ratio at 50.39%, are you aware of any benefit MAWC's ratepayers would receive in return for paying for this higher-cost capital structure as compared American Water's more cost-efficient capital structure?

A. No.

Q. Does MAWC have any third-party debt outstanding on its December 31, 2023, balance sheet?

A. Yes. MAWC still has $23.5 million of third-party debt outstanding that it issued in the 1990s. It also has approximately $9.8 million outstanding from the Missouri Department of Natural Resources through Drinking Water Revenue Bonds ("State Revolving Fund"). The other debt outstanding on MAWC's books represent affiliate notes MAWC issued to AWCC.

Q. What percentage of MAWC's capital structure is supported by third-party debt?

A. Approximately 1.25% of MAWC's total capital structure as of December 31, 2023.

Q. How did MAWC raise the other ~98.75% of capital in its capital structure?

A. Approximately 15.64% is from retained earnings ($422.5 million/$2.701 billion) with the remaining proportion from affiliate financing transactions – either affiliate loans from AWCC or paid in capital (*i.e.* equity infusions) from American Water.

Q. Does MAWC have a formal agreement with AWCC that governs the terms and conditions of the financing proceeds it receives from AWCC?

A. Yes. MAWC executed a Financial Services Agreement ("FSA") with AWCC on June 20, 2000.[42]

Q. What was the objective of this FSA?

A. As stated in Paragraph 13 of Missouri-American's application filed in Case No. WF-2002-1096:

> Applicant [MAWC] proposes to implement some or all of the long-term debt portion of its financing program primarily through an affiliate, American Water Capital Corp. ("AWCC"). AWCC is a wholly-owned subsidiary of American Water Works Company, Inc., ("AWW") established for the purpose of providing financial services to AWW and its water and wastewater utility subsidiaries (including Applicant) by pooling the financing requirements of such companies (the "Participants"), thereby creating larger and more cost efficient debt issues at more attractive interest rates and lower transaction costs than would otherwise be available.

The Application goes on further to state in Paragraph 14:

> In the past, Applicant, and its constituent predecessors in interest, provided for debt financing needs primarily through short-term bank borrowings and the sale by private placement of long-term bonds issued pursuant to mortgages on plant and property in this State including the Indenture of Mortgage and, when available, tax exempt bond issues. Changes in financial markets and federal securities regulation have made the public securities market an attractive alternative to the traditional, secured, privately placed bonds and bank borrowings upon which Applicant has traditionally relied. However, borrowers can derive the benefits of the public market only if the amounts they borrow are large enough, and their credit rating high enough, to meet that market's significant entry level requirements. Standing alone, Applicant does not have the borrowing requirements large enough to finance in the public markets. However, by financing through AWCC, Applicant and its sister companies in other states have sufficient borrowing power to finance in the public market and thereby obtain the advantageous terms available therein.

The Application goes on further to state in Paragraph 14:

> Generally, each year the Participants provide AWCC with an estimate of the borrowing requirements which they propose to finance through AWCC for the coming year and for one (1) to three (3) years in advance. On the

[42] Appendix 2 attached to MAWC's Application in Case No. WF-2002-1096.

> basis of this information, AWCC arranges borrowing commitments and programs to provide the funds necessary to meet these requirements. All long term debt incurred by AWCC and the corresponding long-term indebtedness of each Participant will be match-funded. That is to say, AWCC borrows long term funds only to meet specific borrowing needs of one or more participants.

Q. Is MAWC restricted from issuing third-party debt pursuant to the FSA it has with AWCC?

A. No. The "Non-exclusivity" clause states the following:

> Nothing in this Agreement prohibits or restricts the Company from borrowing from third parties, or obtaining services described in this Agreement from third parties, whenever and on whatever terms it deems appropriate.

Q. Does MAWC anticipate issuing any traditional independent corporate debt, as it had prior to its execution of the FSA?

A. No. MAWC has not issued any traditional third-party corporate debt since at least 2002, and Mr. Furia's projected capital structure information does not show MAWC issuing its own third-party corporate debt at least through May 31, 2026.

Q. Mr. Furia testifies that MAWC's authorized ratemaking capital structure should be set based on a "stand-alone" principle. Is MAWC a stand-alone company from a financial perspective?

A. No. Attached as Schedules DR-R-1 and DM-R-2 are *** _____
_____
_____
_____
_____
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[redacted]

***

Q. Mr. Furia claims that MAWC has achieved 35 basis points in interest cost savings due to MAWC's borrowing from AWCC rather than issuing its own bonds directly to third-party investors.[43] What is the basis for Mr. Furia's estimated interest savings?

A. Mr. Furia compares yields for "NAIC-1" private placement bond yields and "A" rated utility bond yields.

[43] Furia Direct, p. 9, lns. 19-21.

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Q. What does an "NAIC-1" private placement bond represent?

A. Apparently it represents a rating the National Association of Insurance Commissioners ("NAIC") considers in determining allowable investments for insurance companies. An NAIC-1 rating captures bonds rated A-/A3 and above. An NAIC-2 rating captures bonds rated BBB/Baa.

Q. Do you have access to NAIC-1 and NAIC-2 bond yield data?

A. No.

Q. What rating is assigned to AWCC's bonds?

A. Moody's assigns AWCC bonds a 'Baa1' rating.[44] S&P assigns AWCC bonds an 'A' rating.[45]

Q. What rating did S&P and Moody's assign MAWC as shown in Schedules DM-R-1 and DM-R-2?

A. *** _____
_____ ***

Q. In your opinion, what rating would be assigned to MAWC debt if it issued first mortgage bonds?

A. ** _____ **

Q. Are these ratings of higher quality than the ratings assigned to AWCC's bonds?

A. **_____
_____ **

Q. What is the basis for your estimate of MAWC's potential first mortgage bond ratings?

A. Moody's assigned secured ratings to MAWC's sister subsidiaries, Pennsylvania-American Water Company ("PA American") and New-Jersey American Water Company, Inc. ("NJ

[44] Moody's Investor Service, Credit Opinion, American Water Works Company, Inc., February 23, 2024.
[45] S&P Global Ratings, American Water Works Co. Inc., March 4, 2024.

American"). Additionally, I reviewed secured ratings for other Missouri utility companies' third-party bond issuances. It is standard for Moody's to assign first mortgage bonds ratings that are two notches higher than a company's unsecured rating.

S&P does not assign secured ratings to PA American or NJ American. S&P assigns the secured bonds of Ameren Missouri, Spire Missouri and Evergy Missouri West a two-notch higher rating than its unsecured rating. S&P assigned Evergy Metro's secured debt a one-notch higher rating than its unsecured rating.[46]

Q. Did Mr. Furia analyze other privately placed bonds as a proxy for MAWC's potential cost of long-term debt if it directly accessed third-party debt markets?

A. Yes.

Q. What did he infer from analyzing these other privately placed bonds?

A. That if MAWC issued its own long-term debt through private placements, it would cost an average of 60 basis points higher than the debt MAWC receives through loans from AWCC.

Q. Did Mr. Furia identify the potential credit ratings assigned to each of privately placed secured bonds?

A. No.

Q. Is information, such as possible assigned credit ratings to private placements, typically available to the public?

A. Not that I am aware.

Q. Did Mr. Furia compare the cost of bonds rated 'A1' or better by Moody's to the cost of bonds AWCC recently issued?

A. Yes. Mr. Furia compared AWCC's $700 million 10-year unsecured bonds issued on February 23, 2024, to DTE Electric Company's $500 million 10-year secured bonds rated

[46] S&P Capital IQ Pro as of December 3, 2024.

Aa3 by Moody's, which is a stronger credit rating than 'A1'. As Mr. Furia testified, AWCC's bonds were priced at similar spreads over 10-year UST notes to the DTE Electric Company's secured bonds.

Q. Does this data provide assurance that the cost of recent AWCC debt issuances are fair and reasonable for purposes of setting a reasonable debt return for MAWC's authorized ROR?

A. Yes. However, its also important to compare AWCC's and MAWC's embedded cost of long-term debt to other large Missouri utility companies.

Q. What was the embedded cost of long-term debt for Missouri's other major utilities in their recent rate cases?

A. The embedded cost of long-term debt for Ameren Missouri at December 31, 2023 was 4.05%; Evergy Missouri West had an embedded cost of long-term debt of 4.01% as of December 31, 2023, and Evergy Metro had an embedded cost of long-term debt of 4.35% as of December 31, 2023.

As of June 30, 2024, the embedded cost of long-term debt for Ameren Missouri, EMW and Evergy Metro were as follows: 4.24%, 4.34% and 4.45%, respectively.

As of September 30, 2024, Spire Missouri's embedded cost of long-term debt was 4.25%.[47]

Q. What was the embedded cost of long-term debt for the AWCC debt assigned to MAWC as of December 31, 2023?

A. 4.35%.

Q. What was AWCC's consolidated embedded cost of long-term debt at the same date?

A. 4.07%.

[47] Case No. GR-2025-0107, Adam W. Woodard Direct Testimony, p. 35, lns. 1-6.

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Q. What was the embedded cost of long-term debt for the AWCC debt assigned to MAWC as of June 30, 2024?

A. 4.53%.

Q. What was AWCC's consolidated embedded cost of long-term debt as of June 30, 2024?

A. 4.22%.

Q. Considering that AWCC's embedded cost of debt is lower than Missouri's other major utilities that issue their own long-term debt, what is your main dispute with MAWC's requested debt return?

A. The fact that MAWC's assigned cost of long-term debt from AWCC is higher than AWCC's consolidated cost of all third-party debt outstanding.

Q. Do MAWC and its sister subsidiaries borrow from the same pool of funds that American Water borrows from?

A. Yes. In fact, in certain circumstances, they receive loans from the same debt issuance. If the debt is loaned to MAWC, then MAWC is charged based on the underlying cost of the debt. However, if the debt is loaned to American Water and infused as equity into MAWC, then MAWC is charged an equity return, as I already described.

Q. Are there any other issues you can identify that show the problems with accepting the cost of debt assigned to MAWC?

A. Yes. American Water's internal affiliate loan assignment process systematically assigns shorter-tenor loans to American Water as compared to its operating subsidiary companies. Because shorter-tenor loans are typically cheaper than longer-tenor loans, this causes American Water to have a lower embedded cost of long-term debt of 3.75% based on a weighted-average maturity of 7.55 years. In contrast, MAWC's embedded cost of long-term debt is 4.41% based on a weighted-average maturity of 14.84 years. Further, AWCC's embedded cost of long-term debt is 4.07% based on a weighted-average maturity of 12.62 years.

Because AWCC's embedded cost of debt is a function of all third-party debt issuances, and its weighted-average maturity is managed to achieve a cost-efficient cost of debt capital, this cost should be combined with MAWC's outstanding debt from the 1990s, to determine the allowed debt cost for MAWC. This forms the basis for my 4.13% recommended cost of debt in my direct testimony.

Q. Are there any financial covenants in MAWC's debt agreements that require it to maintain less financial risk than its parent company, American Water?

A. Not to my knowledge. The only financial covenant I am aware of in MAWC's Indenture of Mortgage for bonds issued in the 1990s is that MAWC's indebtedness shall not exceed 65% of its total capitalization.[48]

Q. Before the first quarter of 2023, had American Water issued new common equity to fund its equity infusions into its subsidiaries?

A. No. Although American Water had received minor amounts of equity proceeds from its employees through stock incentive plans as well as dividend reinvestment plans (~$279.4 million since 2010), American Water receives most of its capital by means of loans from AWCC.

Q. Do you know the amount of debt American Water had outstanding to AWCC as of December 31, 2023?

A. Yes. According to MAWC's supplemental response to OPC DR No. 3002, American Water has $3.2 billion in loans outstanding to AWCC as of December 31, 2023, which is approximately 29% of AWCC's total outstanding debt.

Q. How much equity has American Water infused into MAWC since 2010?

A. $729 million.

[48] MAWC Application in Case No. WF-2002-359.

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Q. Did American Water issue new equity recently to reduce the proportion of debt in its capital structure?

A. Yes. As I previously discussed, American Water issued approximately $1.7 billion of new common equity in early 2023. Before this block equity issuance, American Water had not issued new common equity for over ten years.

Q. If American Water had not issued equity to finance its equity infusions in its subsidiaries, such as MAWC, how did it fund its equity infusions?

A. By inter-company borrowings from AWCC.

Q. What do these internal accounting and debt assignments demonstrate as it relates to an appropriate capital structure and cost of debt?

A. The only true market-tested and objective capital structure and capital costs are those based on American Water's third-party market transactions. The weighted-average maturity of AWCC's bonds are the most consequential as it relates to American Water's management of its capital costs and its refinancing risks. American Water's consolidated debt ratio (currently approximately 55%) reflects the amount of debt capacity generated by American Water's regulated utility subsidiaries, which includes MAWC.

Q. What aspects of MAWC's recommended capital structure does Ms. Bulkley address?

A. Ms. Bulkley's testimony primarily focuses on her opinion that MAWC's requested common equity ratio is reasonable because she finds it is within the range of the equity ratios of the operating companies owned by the publicly-traded holding companies in her proxy group. Consistent with her comparison of MAWC's proposed common equity ratio to other operating companies' capital structures, it is her position that it is inappropriate to use American Water's capital structure for purposes of determining MAWC's authorized ROR because MAWC should be evaluated based on the "stand-alone" principle.[49] Ms. Bulkley testifies that an assessment of the reasonableness of MAWC's capital structure

[49] Bulkley Direct, p. 11, lns. 12-20.

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should be based on "compar[ing] the Company's financial risk, as established based on the capital structure, with the proxy group companies."[50]

Q. Does Ms. Bulkley compare MAWC's capital structure to those of her proxy group companies?

A. No.

Q. Then what's the basis for her comparison?

A. Ms. Bulkley compared MAWC's requested ratemaking capital structure to those of the operating subsidiaries owned by her proxy companies.

Q. Did Ms. Bulkley perform a cost of equity analysis on the publicly-traded parent companies of the operating companies or on the operating companies themselves?

A. The publicly-traded parent companies.

Q. Why?

A. Because the operating companies are not publicly-traded. In fact, in some cases, the operating companies are not even separate subsidiary corporations, but rather operating divisions.

Q. Following Ms. Bulkley's logic that the ROE estimates from the proxy group should be consistent with the financial risk of the proxy group, is she consistent when she applies her publicly-traded parent company cost of equity estimates to a less levered operating company capital structure?

A. No. Ms. Bulkley violates her own expressed matching principle. The stock price of each of Ms. Bulkley's proxy companies reflects the risk profile of the consolidated entity, which includes the consolidated business risk of all of its investments as well as the consolidated financial risk (i.e. consolidated debt ratio) supporting these investments, which includes all subsidiary debt and holding company debt. Therefore, while I disagree with Ms. Bulkley's cost of equity estimates, I do agree with her principle that the COE should be matched to

[50] Bulkley Direct, p. 70, lns. 15-16.

the consolidated capital structure of the proxy company. This principle supports my position of setting MAWC's authorized capital structure consistent with that of its publicly-traded parent company, American Water.

Q. What period did Ms. Bulkley analyze for purposes of determining the capital structures of the operating subsidiaries owned by her proxy companies?

A. She analyzed the operating companies' year-end capital structures for the three-year period, 2020 through 2022.

Q. Does Ms. Bulkley indicate why she didn't perform this analysis through 2023?

A. No.

Q. Did you analyze the consolidated capital structures of the water utilities in Ms. Bulkley's proxy group?

A. Yes. I reviewed the capital structures of the water utilities in Ms. Bulkley's proxy group, as well as two additional companies, American Water and The York Water Company ("York Water") Ms. Bulkley did not include in her proxy group.

Q. What periods did you analyze?

A. I analyzed capital structure data for the 5-quarter period ended September 30, 2024, as well as capital structure data at December 31, 2022, which is the most recent data Ms. Bulkley analyzed.

Q. For the 5-quarter period ended through September 30, 2024, what was the range of common equity ratios for the water utilities in Ms. Bulkley's proxy group as well as the expanded group?

A. 42.61% to 58.71% without short-term debt included (*see* Schedule DM-R-3). The range is the same after I included American Water and York Water.

Q. What was the range as of December 31, 2022?

A. The range was 42.61% to 56.37%. The range expands to 40.70% to 59.65% when I expanded the group to include American Water and York Water (*see* Schedule DM-R-3) .

Q. Does your recommended common equity ratio for MAWC fall within the ranges of the water utilities in Ms. Bulkley's proxy group?

A. Yes.

Q. Does it fall within the ranges in her proxy group when you expanded the proxy group to include American Water and York Water?

A. Yes.

Q. Based on the information you reviewed, do you believe there is a more reasonable proxy for MAWC's authorized capital structure other than that of American Water's on a consolidated basis?

A. No.

Q. Considering MAWC's cost of long-term debt is not that much higher than Missouri's other major utility companies, what are your primary disputes regarding MAWC's proposed cost of debt and capital structure?

A. I am disputing the proportion of debt assigned to MAWC and American Water's procedure for determining which underlying debt terms/interest rates to assign to inter-affiliate promissory notes executed between AWCC and MAWC.

American Water's debt assignment process shows a bias toward assigning lower-cost, shorter-tenor debt to American Water as compared to MAWC. The most appropriate method to ensure MAWC is charged a fair and reasonable cost of debt is to allow MAWC a debt return that is based on AWCC's consolidated cost of debt, not just the debt assigned through American Water's internal debt-assignment process.

B. ANN E. BULKLEY'S ROE TESTIMONY

Q. What is Ms. Bulkley's recommended allowed ROE for MAWC?

A. Ms. Bulkley recommends the Commission allow MAWC an ROE of 10.75% based on her view that a range of 10.25% to 11.25% is fair and reasonable.[51]

Q. What is the premise underlying Ms. Bulkley's recommended allowed ROE?

A. Ms. Bulkley estimates MAWC's cost of equity ("COE") to be in the range of 10.25% to 11.25% based on her application of three primary COE methodologies: (1) the constant-growth discounted cash flow ("DCF") method, (2) a standard Capital Asset Pricing Model ("CAPM"), and (3) an empirical CAPM ("ECAPM").

Q. What is your general reaction to Ms. Bulkley's testimony regarding estimating the utility industry's COE?

A. First, I disagree with her that the utility industry's COE is in the double digits. While estimating a COE for the utility industry this high may be consistent with the utility industry's attempt to increase authorized ROEs, they are not consistent with the discount rates, *i.e.* the COE, that investors use for purposes of estimating the intrinsic value of utility common equity. The Commission need look no further than the COE actually used by investors to dismiss the reliability of Ms. Bulkley's COE estimates.

Second, Ms. Bulkley has been filing ROR testimony in Missouri since 2020. The constant theme in her testimony has been that utility industry's COE will increase in future periods when utility rates are in effect. Although the COE has increased since MAWC's 2022 rate case, due to a contraction in utility stocks during 2023, Ms. Bulkley still projects the utility industry's COE will increase further. I am not sure utility stocks could do any worse than they did in 2023, but Ms. Bulkley continues to warn the Commission that methods such as the DCF are still underestimating the COE because utility stock prices may continue to decline after MAWC's rates are changed in this case.[52]

[51] Bulkley Direct, p. 8, lns. 19-23.
[52] *Id.*, lns. 13-16.

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Finally, Ms. Bulkley is also sponsoring ROR testimony in the concurrent Ameren Missouri rate case. Ms. Bulkley is supporting a 10.25% recommended ROE in that case, based on a range of 10.25% to 11.25%.[53] In this case she is supporting a 10.75% recommended ROE, based on the same range. Ms. Bulkley's analysis and testimony does not justify authorizing MAWC a higher ROE than Ameren Missouri. In fact, as I discuss extensively in my direct testimony, MAWC should be authorized a lower ROE considering market data and commentary support my position that the water utility industry has a lower risk profile than the electric utility industry.

Q. In attempting to encourage the Commission to authorize a ROR consistent with her recommendation, Ms. Bulkley provides examples of negative capital market reactions to other state commission decisions. Do any of these decisions involve the parent company of a Missouri utility?

A. Yes. Ms. Bulkley discusses the Illinois Commerce Commission's ("ICC") decision to reject Ameren Illinois Co.'s ("AIC") multi-year rate plan proposal and authorize AIC an ROE of 8.72%.

Q. Does her example support the reasonableness of your recommended ROR?

A. Yes. As Ms. Bulkley testified, the ICC decision prompted investors to suggest/encourage Ameren Corp to reallocate capital from AIC to Ameren Corp's other jurisdictions, which are Missouri and the United States' Federal Energy Regulatory Commission ("FERC"). Consequently, if anything, this example suggests the Commission should be careful not to over-incentivize investment in Missouri. Based on recent investor commentary/analysis, Missouri is currently considered a more investor-friendly jurisdiction than Kansas and Illinois.[54]

[53] Case No. ER-2024-0319
[54] Neil Kalton, et. al., "Figure of the Week: State Regulatory & Political Ratings," Wells Fargo, January 12, 2024.

Q. Did equity analysts lower their expectations for Ameren's EPS as a result of the ICC decision?

A. Yes. For example, Wells Fargo lowered its forward annual EPS expectations for Ameren by approximately $0.20/year for each year from 2024 to 2027. Based on Ameren's P/E ratio of around 16.5x in the week prior to the ICC's decision in the AIC electric rate case, a 20-cent reduction in EPS accounts for a $3.30 decline in Ameren's share price. This compares to Ameren's actual stock price decline of around $6. Additionally, Wells Fargo lowered its projected long-term CAGR in EPS for Ameren from 7% to 6%, which also caused assignment of a lower value to Ameren's stock.

Q. Did any other analysts express concern about Ameren's ability to achieve its long-term CAGR in EPS guidance of 6% to 8% after the ICC decision?

A. Yes. Bank of America estimated that Ameren's long-term CAGR in EPS would trend down to 5% as a consequence of the ICC's decision.[55]

Q. Did Ameren lower its guidance for its long-term CAGR in EPS?

A. No. Ameren renewed its guidance of 6% to 8% long-term CAGR in EPS during its earnings conference call for the fourth quarter of 2023.[56]

Q. How is this possible?

A. Ameren Corp reallocated capital expenditures it had intended to spend on its AIC systems to Ameren Missouri and Ameren Transmission. AIC's projected 5-year CAGR in its electric rate base declined from 7.4% to 2.3% and its projected 5-year CAGR in natural gas distribution rate base growth declined from 6.7% to 3.3%. Ameren Missouri's projected 5-year CAGR in rate base increased to 9.8% from 8.4%. Ameren Transmission Company's 5-year CAGR in rate base increase to 10.8% from 10.0%.[57]

[55] Julien Dumoulin-Smith, "Ameren Corporation – Downgrade to Neutral: Lower capital coming post Illinois decision," Bank of America, January 4, 2024.
[56] Ameren Corporation FQ4 2023 Earnings Call, February 23, 2024.
[57] "Transforming for Our Future," Ameren Third Quarter 2023 Earnings Investor Presentation, November 9, 2023; and "Powering a Reliable, Sustainable Tomorrow," Ameren Fourth Quarter 2023 Earnings Investor Presentation, February 23, 2024.

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Q. Do you and Ms. Bulkley agree on any fundamental issues in this case?

A. Yes. We both agree that, over the long-term, utility stock prices typically have an inverse correlation to changes in long-term interest rates, which causes changes to utility companies' COE.

Q. Where do you diverge with Ms. Bulkley as it relates to fundamentals associated with estimating the COE?

A. Ms. Bulkley is of the opinion that ROR witnesses should consider market prognostications, such as projected long-term bond yields. She maintains that current utility stock prices may not reflect these expectations. Consequently, she believes such dynamics should cause a ROR witness to give less weight to cost of equity methods, such as the DCF/DDM, in setting a fair and reasonable authorized ROE.

Q. What basic market fundamental does Ms. Bulkley's view violate?

A. The Efficient Market Hypothesis ("EMH"), which recognizes that current security prices already reflect investors' expectations not only for company-specific factors and industry-specific factors, but also macroeconomic issues, such as expected changes in long-term interest rates. If long-term bond yields are expected to increase further, these forward bond yield expectations are already embedded in current stock prices, which is consistent with the EMH.

Q. Has Ms. Bulkley consistently been predicting the cost of equity will be higher in the future?

A. Yes. Based on Ms. Bulkley's testimonies since at least 2020, she has been predicting a decline in utility valuation levels. She initially reasoned that this would occur because low long-term interest rates were not sustainable. At the beginning of the last decade, company ROR witnesses consistently testified that long-term rates could not remain low for long. Of course, by the end of the last decade, they declined to levels that hadn't been experienced for at least 50 years. This gradual decline caused utility valuation ratios to reach all-time highs as recently as February 2020.

1. *PROXY GROUP*

Q. Does Ms. Bulkley include companies other than water utility companies in her proxy group?

A. Yes. Ms. Bulkley includes one electric utility company (Eversource Energy), five natural gas distribution utility companies (Atmos Energy Corporation, New Jersey Resources Corporation, Northwest Natural Gas Company, ONE Gas Inc. and Spire Inc.) and two combination gas and electric utilities (Essential Utilities Inc. and NiSource Inc.) in her proxy group.

Q. Does Ms. Bulkley's inclusion of these other companies in her proxy group cause an additional upward bias in her recommended ROE?

A. Yes, specifically as it relates to her CAPM estimates using Value Line betas. Ms. Bulkley's CAPM results are the primary COE indications supporting her 10.75% ROE recommendation. Her mean high constant-growth DCF COE estimate is higher than 10.75%, but her DCF COE estimates rely on irrational growth assumptions so they do not support a 10.75% ROE. The average Value Line beta for Ms. Bulkley's water utility companies compared to the other non-water companies are 0.76 and 0.89, respectively. The bias is not nearly as consequential for the average Bloomberg betas. Ms. Bulkley's water utility companies and non-water utility companies have Bloomberg betas of 0.73 and 0.78, respectively. Ms. Bulkley's average of her proxy group company's Value Line betas over the last nine years indicate a beta of 0.72 for water utility companies and 0.75 for non-water utility companies.

Q. Considering Ms. Bulkley's information on betas along with the beta data you provided in your direct testimony, what is a reasonable beta to use in a CAPM analysis?

A. 0.70 to 0.75.

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Q. Why did you not include any other utility subsectors in your proxy group other than water utility companies?

A. As I explained in my direct testimony, water utility companies have higher growth expectations over a longer period of time than the regulated electric and natural gas utility subsectors of the utility industry. For example, over approximately the last decade, American Water has consistently guided investors to a projected 5-year CAGR in EPS in the high single-digits (7%-10%), with American Water recently narrowing its guidance on long-term CAGR in EPS to between 7% and 9%. The higher growth in quality EPS (cash flows produced from earnings) has also allowed American Water to grow DPS at a consistently higher rate than regulated electric and natural gas utility companies. Furthermore, because the water utility industry has higher growth expectations due to significant capital expenditure programs, its dividend yields have typically been lower than that of regulated natural gas and electric utility companies.

Q. Is it helpful to compare and contrast the water utility industry to other subsectors in the utility industry?

A. Yes. Although I did not directly incorporate electric utility or natural gas utility companies into my proxy group for purposes of my direct testimony, I compared electric utility to water utility valuation information in order to provide as much insight as possible to determine if MAWC should be authorized an ROE different from Ameren Missouri in its current rate case. Based on my analysis in this case and my analysis in the concurrent Ameren Missouri rate case, Case No. ER-2024-0319, MAWC should be authorized a lower ROE than that deemed reasonable for Ameren Missouri. I will further support my opinion by comparing and contrasting the eight non-water utility companies to the five water utility companies in Ms. Bulkley's proxy group.

Q. Can you compare the P/E ratios of Ms. Bulkley's water utility companies to the non-water utility companies in her proxy group?

A. Yes.

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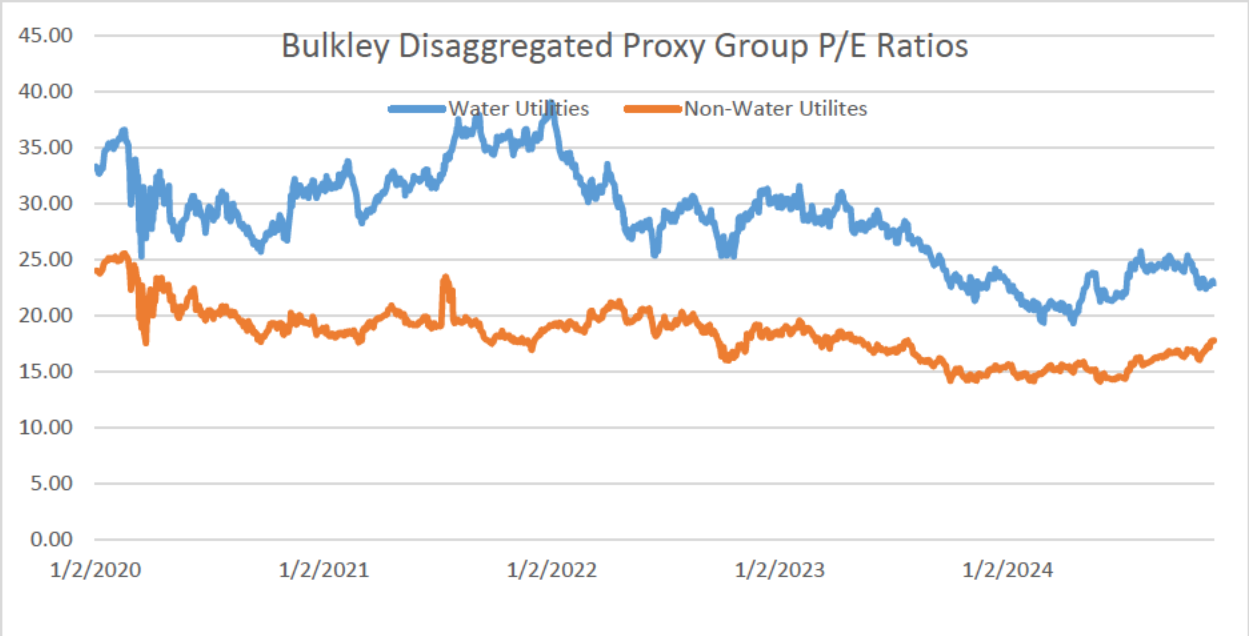

As can be seen, the water utility companies in Ms. Bulkley's proxy group consistently trade at premiums to the non-water utility companies in Ms. Bulkley's proxy group. The average premium for the period January 1, 2020, through November 27, 2024, was around 57%, with a range of around 30% to 100%. There are two primary reasons to explain the water utility industry's higher P/E ratios. First, investors expected higher growth in EPS for water utility companies over a longer time horizon as compared to the other utility subsectors. Second, investors require a lower return (i.e. lower COE) on their stock investment to invest in water utilities. Based on the logic underlying Ms. Bulkley's constant-growth DCF COE estimates, the primary cause would be a lower COE. Ms. Bulkley's constant-growth DCF analysis assumes investors' expected growth over an infinite holding period is consistent with the projected 5-year CAGR in EPS. According to Ms. Bulkley's constant-growth DCF COE estimates, investors in water stocks expect constant annual capital gains of 6.78% per year, whereas investors in the non-water companies expect constant annual capital gains of 5.61%. Using Ms. Bulkley's water and non-water P/E ratios for the three-months ended April 30, 2024, the water companies' PEG (price-to-earnings/long-term growth) ratio was 3.03x (20.56x/6.78) compared to the non-water companies' PEG ratio of 2.69x (15.10x/5.61). Of course, as I explained and supported in my direct testimony, although I think the higher P/E ratios can be partly

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attributed to a relatively lower COE for the water utility subsector, much can also be attributed to the long runway (multiple decades) of higher projected CAGR in EPS as compared to the electric and gas utility subsectors.

2. *RELEVANCE OF AMERICAN WATER*

Q. Ms. Bulkley maintains that it is inappropriate to analyze American Water to estimate MAWC's COE, capital structure and ultimate cost of capital.[58] Do you agree with Ms. Bulkley?

A. No. MAWC is inextricably linked to its parent company, American Water, due to American Water's financing strategies to achieve a low cost of capital while still maintaining a strong investment-grade credit rating. American Water created AWCC in 2000 to consolidate access to debt financing (both long-term and short-term) at one company. In fact, other than MAWC issuing an occasional bond through the State of Missouri's Energy and Environmental Improvement Energy Resource Authority ("EIERA"), such as MAWC's recent $10.7 million loan from the Missouri Department of Natural Resources, MAWC has relied on American Water entirely for its access to debt and equity. At December 31, 2023, 2.14% of the long-term debt recorded on MAWC's balance sheet represented third-party debt. The rest were affiliate loans from AWCC.

While the consolidation of American Water's financing needs at AWCC has allowed for economies of scale (larger debt issuances that can be more widely marketed to investors), it has also created a disconnect between MAWC's internally managed capital structure and its cost of capital. The debt investors purchasing the AWCC bonds determine the price they are willing to pay based on American Water's capital structure and business risks. This fact should not be ignored when estimating a fair and reasonable allowed ROR for MAWC. Although the debt loaned to MAWC from AWCC is typically based on the cost of the underlying arms-length transaction, the same is not true as it relates to American Water's equity infusions into MAWC. In this case, MAWC is requesting the Commission allow American Water a margin of 7% over American Water's cost of funds as of

[58] Bulkley Direct, p. 11, lns. 10-23.

December 31, 2023 (10.75% - 3.75%). American Water's requested margin over its cost of debt has expanded by 23 basis points due to the 25 basis points increase in MAWC's requested ROE in this case compared to its 2022 rate case.

If American Water managed its consolidated capital structure to a proportion of debt similar to that it assigns MAWC, then its financial risk would be much lower. This would allow AWCC to issue debt at a lower cost, and therefore, the cost of debt assigned to MAWC would be lower. In this situation, although it would be reasonable to charge MAWC for the higher common equity ratio in American Water's capital structure, the cost of the equity would be lower because of the reduced financial risk to equity investors. MAWC ratepayers would benefit from paying for this more equity-rich capital structure because American Water would have a stronger financial risk-profile, allowing for more financial flexibility and a lower cost of debt, especially during uncertain periods such as were experienced at the onset of the Covid-19 pandemic.

American Water's cost of equity is based on the collective business risks of its various subsidiaries, which includes MAWC, as well as the financial risk it incurs at the consolidated level. Because American Water's business operations are predominately regulated water and wastewater utilities, its capital structure and cost of equity are appropriate proxies for estimating MAWC's cost of capital.

Q. Ms. Bulkley maintains that it is important for the Commission to authorize MAWC a ROR based on an ROE and capital structure that will allow it to attract capital on a stand-alone basis and within the American Water system.[59] Did Ms. Bulkley compare her recommended ROR for MAWC to American Water's other subsidiaries?

A. If she did, she did not testify to such in her direct testimony.

[59] *Id.*

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Q. Based on the factual circumstances caused by American Water's financial management of its subsidiaries, is it reasonable and appropriate to use information related to American Water's cost of capital (both debt and equity) in determining a fair and reasonable allowed ROR for MAWC?

A. Yes. Therefore, this includes estimating American Water's cost of equity, which most directly impacts MAWC's cost of capital.

3. *INTERPRETATION OF MARKET CONDITIONS*

Q. What is Ms. Bulkley's opinion related to consideration of current market conditions as it relates to setting a fair and reasonable authorized ROR?

A. Mr. Bulkley testifies as follows:

> …analysts and regulatory commissions recognize that current market conditions affect the results of the cost of equity estimation models. As a result, it is important to consider the effect of the market conditions on these models when determining an appropriate range for the ROE, and the ROE to be used for ratemaking purposes for a future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the cost of equity estimation models will not provide an accurate estimate of investors' required return during that period. Therefore, it is important to consider projected market data to estimate the return for that forward-looking period.[60]

Q. Does Ms. Bulkley's opinion violate basic tenets of efficient market prices?

A. Yes. Apparently Ms. Bulkley believes MAWC's ROE should be set based on market prognostications that long-term rates will remain high or increase, which may cause utility stocks to decrease. Ms. Bulkley surmises that if such prognostications materialize, this will cause MAWC's cost of equity to be higher in future periods.

Q. Does Ms. Bulkley's logic immediately prove that her COE estimates are too high?

A. Yes. Because Ms. Bulkley relies on projected market data she claims may occur in the future, she is already admitting that the current COE is lower than her projected COE

[60] Bulkley Direct, p. 17, lns. 3-10.

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estimates. Of course, even her COE estimates using current market prices are too high because of irrational inputs. I will discuss those later.

Q. Ms. Bulkley testifies that equity analysts expect the utility sector to underperform in 2024.[61] Does Ms. Bulkley imply this is a consensus view?

A. Yes.

Q. Is it?

A. No.

Q. Can you provide some examples of differing views?

A. Yes. Guggenheim Securities, LLC stated the following about its outlook for the utility sector in 2024:

> The sector oversold going into '24 vs. '23 as valuation decline outpaced broad markets while interest rates rose; after a period of normalization into year-end, we see opportunity to revert. As stated above, we see the sector as 20%+ cheap, and we are making a case for a sector-wide upside call (i.e., no Sell ratings going into 24', with several Neutrals we highlight with upside bias should a catalyst bear fruit). [62]

Also, contrary to Ms. Bulkley's opinion that utility stock prices do not already reflect investors' expectations regarding changes in interest rates, Guggenheim also states the following regarding forward rates underlying current fair value stock price estimates:

> **How do we arrive at our target utility multiple? Incorporating the forward yield outlook for corporate bonds of 5.3% for 2026 (see Figure 15) and the PEG ratio approach, we incorporate a blended valuation resulting in a 16x P/E for 2026E**; we believe the group should trade higher than what our bond regression shows in isolation (~3x premium vs. where the group currently trades) in light of a differentiated "growth" outlook based on a reversion to the mean PEG ratio in the LT, especially as utilities have demonstrated the ability to navigate 2023 headwinds with cost efficiencies, increased capex and modest programmatic equity issuance – **"Growth" continues to be a material driver with longer-term utility valuation levels vs. "Yield".** (bold in original).

[61] *Id.,* p. 25, ln. 4 – p. 26, ln. 2.
[62] Shahriar Pourreza, CFA, et. al., "24 Utilities Outlook: Utility Valuations Finally 'NSYNC' with Fundamentals? Buy Buy Buy…" Guggenheim Securities, LLC, January 22, 2024, p. 10.

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Well Fargo's 2024 outlook for the utility sector was neutral. It stated the following:

> **Valuation - It's Mixed**
>
> *Bottom line: we do not view utilities as either overly expensive nor overly cheap.*
>
> Relative to long-term interest rates the group continues to screen expensive (Exhibit 4 depicts the group's valuation relative to the 10-Yr Treasury yield). Based on the historical relationship, the 10-Yr yield would need to decline to 2.5% in order to bring the valuation into alignment with the median. At the current 10-Yr yield, the P/E multiple that would bring the relationship back in line is 9.2x, or ~40% below the current P/E multiple of 15.5x. That being said, we point out that the sector's current P/E multiple is not out of bounds with how the group traded the last time the 10-Yr yield was between 4.0-5.0% (Exhibit 5). And during that period (2004-2007) the group's EPS growth outlook was lower (4-6% vs. 5-7% now)…
>
> …Relative to the S&P 500, utilities continue to screen attractive. The current relative P/E multiple of ~80% is well below the 15-yr average of 100-105%. We point out that prior to 2000, utilities traded at a relative P/E multiple of 70-80%. However, the EPS growth outlooks (~4%) were far lower than the current target growth rates of ~6%.[63]

Finally, Wolfe Research stated the following about its 2024 outlook for utilities:

> **Bullish for 2024.** Utilities typically bounce after worst years. Valuations are at buy levels. The Fed cycle looks timely – utilities o/p after tightenings and heading into easings. We see 10% total return intact. Risks are regulation, elections/IRA and an extended bull market.[64]

Q. Regardless of the variety of equity analysts' views, do current utility stock prices already reflect investors' expectations of macro, industry and company-specific factors?

A. Yes. COE estimation methods assume efficient capital markets, meaning utility share prices, and for that matter utility bond prices, reflect potential economic and business cycles over the long-term. Ms. Bulkley's attempt to overemphasize short-term sentiments is misguided. Utility investors already factor in the potential consequences of macro factors in the price they are willing to pay today. As many equity analysts also emphasize, despite business cycle swings, utility companies typically maintain capital expenditure

[63] Neil Kalton, et. al., "2024 Utility Outlook: Back to Square One," Wells Fargo, November 30, 2022
[64] Steve Fleishman, et. al, "Utilities & Power – Top 10 Things to Watch for 2024," Wolfe Research, January 15, 2024, p. 1.

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plans that allow them to meet their guidance for long-term CAGR in EPS. The utility industry is the rare sector, and one of the reasons it is one of safest sectors, which is fairly immune to moderating capital expenditures during periods of slower economic growth.

Q. But do you not rely on equity analyst information for your own analysis of the cost of capital?

A. Yes, but not for purposes of "predicting" future stock prices. I analyze the information equity analysts include in their reports to ensure my inputs and assumptions for variables, such as intermediate to perpetual growth rates in my application of the DCF, are consistent with the methodologies employed by Wall Street analysts.

4. *DISCOUNTED CASH FLOW ASSUMPTIONS*

Q. Do you agree with the assumptions Ms. Bulkley used in her DCF analysis?

A. No. Ms. Bulkley argues that her constant-growth DCF results under-estimate the water utility industry's COE because she believes utility stock prices will decline. As I testified previously, it is not the role of a ROR witness to predict changes in stock prices. Ms. Bulkley's DCF analysis assumes her proxy groups' DPS can grow in perpetuity at the same rate as equity analysts' consensus projected 5-year CAGR in EPS. This is not how equity analysts determine fair prices to pay for utility stocks. When equity analysts perform a DCF analysis to estimate a fair price to pay for utility stocks, they typically use the multi-stage version rather than the constant-growth version. They also typically assume a lower growth rate for the constant/perpetual growth rate.

5. *CAPM ASSUMPTIONS*

Q. Why are Ms. Bulkley's CAPM cost of equity estimates so high?

A. Because she uses irrational expected market returns. Ms. Bulkley estimates a total compound annual market return for the S&P 500 of 12.91% for the foreseeable future (perpetually based on her use of a constant-growth DCF to estimate S&P 500 returns).

Subtracting long-term risk-free rates from Ms. Bulkley's estimated market return results in her equity risk premium estimates of 8.31% to 8.81%.[65]

Q. How is Ms. Bulkley able to achieve such high equity risk premium estimates?

A. Because she assumes that the S&P 500 can grow its earnings at a compound annual rate of 11.09% in perpetuity.

Q. Are you aware of any authoritative sources, academic or actual investors, that use Ms. Bulkley's approach for estimating market returns?

A. No. I know of no authoritative source that suggests this is a rational or reasonable approach for purposes of estimating market returns. In fact, I know of several authoritative sources that recommend against using a growth rate higher than GDP for purposes of determining the expected return for a broad index, such as the S&P 500.

Q. What academic support are you aware of?

A. The 2010 curriculum for Level III of the Chartered Financial Analyst ("CFA") Program discusses how analysts often use the Gordon growth model (synonymous with the constant growth DCF model used in utility ratemaking) to formulate the long-term expected return for the broader equity markets. In the case of a broad-based equity index, such as the S&P 500, it is reasonable to estimate the long-term potential capital gains for the index by using estimated nominal GDP over a long-term period. The curriculum specifically provides the following formula for estimating the constant growth rate with an explanation that follows:

> Earnings growth rate = GDP growth rate + Excess corporate growth (for the index companies)
>
> where the term *excess corporate growth* may be positive or negative depending on whether the sectoral composition of the index companies is viewed as higher or lower growth than that of the overall economy. If the analyst has chosen a broad-based equity index, the excess corporate growth adjustment, if any, should be small.[66]

[65] Bulkley Direct, Schedule AEB-4.
[66] 2010 CFA® Program Curriculum, Level III, Volume 3, p. 34.

Combining Ms. Bulkley's S&P 500 dividend yield of 1.72% and projected growth in U.S. nominal GDP of approximately 4.0%, implies a much lower expected long-term return for the S&P 500.

Q. Are you aware of any common valuation metrics that dispute Ms. Bulkley's market growth rate expectations?

A. Yes. A comparison of a broad equity market capitalization amount to that of the total size of the U.S. economy. This valuation metric provides a sanity check on potential growth for capital markets. Warren Buffett made it popular when he provided insight on how high the market, as measured by the Wilshire 5000, became valued as compared to U.S. GDP at the time of the "dot com" bubble around March 2000. At that time, the Wilshire 5000 was around 1.4x that of GDP. As of September 30, 2024, it was around 1.96x, which demonstrates investors are currently requiring lower market risk premiums than usual.

Q. What would this ratio be in 50 years if the market grew at the 11.09% compound annual growth rate Ms. Bulkley suggests is appropriate?

A. The Wilshire 5000 index would be approximately 53x times the GDP level. Based on the market capitalization of the Wilshire 5000 of approximately $57.64 trillion as of September 30, 2024, the Wilshire 5000 would have a market capitalization of $11.08 quadrillion in 50 years. U.S. GDP was $29.35 trillion as of the same date. Based on a 4.0% long-term growth rate for the U.S. economy, GDP would be approximately $208.61 trillion in 50 years. It is not rational to assume corporate wealth will become much larger than the economy in which it operates, let alone 53x the size of the economy. This explains why the CFA Program advises not using a perpetual growth rate much, if any, higher than the GDP growth rate of the economy(ies) in which a company operates.

Q. Why are Ms. Bulkley's empirical CAPM ("ECAPM") results higher than her standard CAPM results?

A. The results are higher because Ms. Bulkley's ECAPM gives 25% weight to the unadjusted market risk premium and 75% weight to the utility beta adjusted market risk premium. Being that Ms. Bulkley's utility betas at least reduce her high equity risk premium estimates

by 25%, because her ECAPM allows for a 25% weighting to an unadjusted risk premium, this amplifies the bias inherent in Mr. Bulkley's high risk premiums.

Q. Does this mean that the larger the market risk premium estimate, the more widely divergent the ECAPM results will be compared to the standard CAPM?

A. Yes.

Q. Can you provide an example?

A. Yes. Ms. Bulkley assumes a market risk premium of approximately 8.31% to 8.81% compared to the more rational Kroll estimate of 5%. If Ms. Bulkley had used a more reasonable market risk premium of 5%, her ECAPM would have only been approximately 20 to 32 basis points higher than her standard CAPM. Because Ms. Bulkley uses extremely high market risk premiums, and these market risk premiums received more weight in her ECAPM, this causes her ECAPM results to be approximately 32 to 57 basis points higher than her standard CAPM.

Q. Ms. Bulkley suggests the Commission should consider flotation costs in determining a fair and reasonable authorized ROR in this case.[67] What does Ms. Bulkley define as "flotation costs?"

A. Ms. Bulkley defines flotation costs as hard costs, such as preparation, filing, underwriting, etc. incurred in conjunction with American Water's recent issuance of common equity.

Q. Did Ms. Bulkley recommend the Commission consider flotation costs in MAWC's 2022 rate case?

A. No.

[67] Bulkley Direct, p. 65, ln. 15 – p. 68, ln. 22.

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Q. What happened between the two rate cases which prompted Ms. Bulkley to address flotation costs?

A. American Water issued $1.7 billion of common equity. Before February 2023, American Water had not issued a significant amount of common equity in over a decade.

Q. Has MAWC received capital classified as common equity on its books even when American Water had not been accessing the common equity markets?

A. Yes. For the period 2010 through 2022, American Water contributed $564 million of common equity into MAWC.

Q. What costs did American Water incur for these common equity contributions?

A. 3.79% based on the cost of the AWCC debt issued between 2010 through 2022. This cost includes not only the coupon rates for debt issued by AWCC, but also the "flotation costs" associated with issuing this debt.

Q. Was American Water compensated for flotation costs for these past common equity contributions?

A. Yes. As I testified in my direct testimony, American Water received a margin of 8.55% over the cost it incurred for this "equity" investment. Therefore, American Water has been over-compensated for its "equity" infusions.

Q. Under what circumstance would you consider recommending recovery of equity flotation costs?

A. Only if the Commission adopts American Water's consolidated capital structure ratios, which matches flotation costs to the capital structure which causes them.

Q. If allowed, how have Missouri's utility companies traditionally recovered common equity flotation costs?

A. If third-party common equity proceeds can be specifically reconciled to beneficial investments in their Missouri utility systems, then assuming the common equity was issued

within the test year, or any updates to the test year, then issuance costs have been allowed to be recovered through an amortization over a reasonable period.

C. ROR CONSIDERATION FOR PROPOSED MECHANISMS

Q. If the Commission allows MAWC to implement its requested revenue stabilization mechanism ("RSM") and its proposed production cost tracker, should there be an adjustment to the allowed ROR?

A. Yes. This can be accomplished either of two ways – (1) adjust the equity ratio in the authorized capital structure to recognize the additional debt capacity this implies MAWC would realize if it were a stand-alone entity or (2) lower the allowed ROE by an amount consistent with an improvement in MAWC's assumed credit rating.

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However, in the likely circumstance in which, like American Water, MAWC were to use more leverage, i.e. debt, in its capital structure to offset the reduced business risk, then it would only need to maintain an FFO/debt ratio of 9% to 13% in order to maintain its current SACP of 'A'. I used the midpoint of this FFO/debt benchmark, or 11% to determine how much additional debt MAWC could have in its capital structure. Using an average of MAWC's 2022 and 2023 FFO of approximately $186 million, this implies MAWC could substitute $307.6 million of long-term debt for common equity and be able to meet an FFO/debt threshold of 11%. This would cause MAWC's capital structure to be comprised of 40.14% common equity and 59.86% long-term debt.

Q. If MAWC's revenue requirement were set based on this capital structure, would this cause a decline in MAWC's FFO?

A. Yes. This would reduce MAWC's FFO by approximately $22.2 million. Factoring in a reduction to the FFO with no change in assumed debt would cause an FFO/debt ratio of 10.14%.

Q. What capital structure, if used to set MAWC's authorized ROR, would allow MAWC's FFO/debt ratio to be at the 11% threshold?

A. I determined that MAWC's capital structure could consist of 42.85% common equity and 57.15% long-term debt and achieve a pro forma FFO/debt of 11%.

Q. Applying your same recommended ROE of 9.25% to this more leveraged capital structure, what is the resulting ROR?

A. 6.32% as compared to my recommendation of 6.43% if no RSM and plant in service accounting mechanisms are approved. This lower ROR would reduce MAWC's annual revenue requirement by approximately $4.6 million.

D. SUMMARY AND CONCLUSIONS

Q. Can you summarize the main points of your rebuttal testimony?

A. Yes. MAWC's capital structure represents a targeted internal capital structure managed through affiliate financing transactions and bookkeeping entries. AWCC's embedded cost of long-term debt is more similar to Missouri's other utilities' costs of debt. Because AWCC's embedded cost of long-term debt is a function of all third-party debt, it is the most objective and market-based. For the same reasons, American Water's capital structure should be used for purposes of setting MAWC's ROR.

MAWC should not be authorized an ROE higher than that of Missouri's gas and electric utilities. Consistent with her past testimonies, Ms. Bulkley suggests the Commission should set authorized ROEs based on market prognostications. Almost always, Ms. Bulkley has predicted the utility industry's COE will be higher in future periods. Current market prices reflect investors' expectations of future economic and capital market conditions. ROR witnesses should simply report on the current market cost of capital and not make predictions.

Q. Does this conclude your testimony?

A. Yes.

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Missouri-American Water Company's Request for Authority to Implement a General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas	))))	Case No. WR-2024-0320

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

David Murray, of lawful age and being first duly sworn, deposes and states:

1. My name is David Murray. I am a Utility Regulatory Manager for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my direct/rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

David Murray
Utility Regulatory Manager

Subscribed and sworn to me this 5th day of December 2024.

TIFFANY HILDEBRAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES AUGUST 8, 2027
COLE COUNTY
COMMISSION #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.