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Witness:	Ann E. Bulkley
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Case No.:	WR-2024-0320 SR-2024-0321

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2024-0320

CASE NO. SR-2024-0321

DIRECT TESTIMONY

OF

ANN E. BULKLEY

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

AFFIDAVIT

I, Ann E. Bulkley, under penalty of perjury, and pursuant to Section 509.030, RSMo, state that I am a Principal for The Brattle Group, that the accompanying testimony has been prepared by me or under my direction and supervision; that if inquiries were made as to the facts in said testimony, I would respond as therein set forth; and that the aforesaid testimony is true and correct to the best of my knowledge and belief.



Ann E. Bulkley

July 1, 2024
Dated

DIRECT TESTIMONY
ANN E. BULKLEY
MISSOURI-AMERICAN WATER COMPANY
CASE NO.: WR-2024-0320
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DIRECT TESTIMONY

ANN E. BULKLEY

1

I. INTRODUCTION

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

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

5 **Q. On whose behalf are you submitting this Prepared Direct Testimony?**

6 A. I am submitting this testimony before the Missouri Public Service Commission
7 (“Commission”) on behalf of Missouri-American Water Company (“MAWC” or the
8 “Company”), a wholly-owned subsidiary of American Water Works Company, Inc.
9 (“AWK”).

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

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

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

2 A. The purpose of my Direct Testimony is to present evidence and provide a recommendation
3 regarding MAWC's authorized return on equity ("ROE" or "cost of equity") and to assess
4 the reasonableness of its capital structure for ratemaking purposes.

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

6 A. Yes. My analyses and recommendations are supported by the data presented in Schedule
7 AEB-1 through Schedule AEB-12, which were prepared by me or under my direction.

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

10 A. As discussed in more detail in Section VI, in determining a reasonable recommendation
11 for the Company's ROE, it is important to consider the results of several analytical
12 approaches. To develop my ROE recommendation, I first developed a proxy group of
13 utility companies. I did not limit the proxy group to water utilities, but included a broader
14 group of utilities that face similar risk as MAWC because a proxy group composed only of
15 water utilities would result in a small group of companies for which data is limited. To
16 that proxy group, I applied the Constant Growth form of the Discounted Cash Flow
17 ("DCF") model, the Capital Asset Pricing Model ("CAPM"), and the Empirical Capital
18 Asset Pricing Model ("ECAPM"). My recommendation also takes into consideration the
19 following factors:

20 (1) Flotation costs associated with AWK's recent equity issuances;

21 (2) The regulatory risk of MAWC relative to the proxy group; and

1 (3) MAWC's capital structure as compared to the capital structures of the proxy group
2 companies.

3 While I did not make specific adjustments to my recommended ROE for these factors, I
4 did consider them in the aggregate when determining where my recommended ROE falls
5 within the range of the analytical results.¹

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

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

- 8 • Section II provides a summary of my analyses and conclusions.
- 9 • Section III reviews the regulatory guidelines pertinent to the development of the
10 cost of capital.
- 11 • Section IV discusses current and prospective capital market conditions and the
12 effect of those conditions on the Company's cost of equity.
- 13 • Section V explains my selection of a proxy group.
- 14 • Section VI describes my analyses and the basis for my recommendation regarding
15 the appropriate ROE for the Company.
- 16 • Section VII provides a discussion of specific regulatory, business, and financial
17 risks that have a direct bearing on the ROE to be authorized for the Company in
18 this proceeding.
- 19 • Section VIII provides an assessment of the reasonableness of the Company's
20 projected capital structure and long-term cost of debt.

¹ The selection and purpose of developing a group of comparable companies will be discussed in detail in Section V of my direct testimony.

- 1
- Section IX presents my conclusions and recommendations.

2

II. SUMMARY OF ANALYSES AND CONCLUSIONS

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

5 A. In developing my recommended ROE for MAWC, I considered the following:

- 6
- The United States (“U.S.”) Supreme Court’s *Hope* and *Bluefield* decisions,² which
7 established the standards for determining a fair and reasonable authorized ROE for
8 public utilities, including consistency of the authorized return with other businesses
9 having similar risk, adequacy of the return to ensure access to capital and support
10 credit quality, and the necessity for the end result to lead to just and reasonable
11 rates.
 - The effect of current and prospective capital market conditions on the cost of equity
12 estimation models and on investors’ return requirements.
 - The results of several analytical approaches that provide estimates of the
13 Company’s cost of equity. Because the Company’s authorized ROE should be a
14 forward-looking estimate over the period during which the rates will be in effect,
15 these analyses rely on forward-looking inputs and assumptions (*e.g.*, projected
16 analyst growth rates in the DCF model; forecasted risk-free rate and market risk
17 premium in the CAPM analysis).
 - Although the companies in my proxy group are generally comparable to MAWC,
18 each company is unique, and no two companies have the exact same business and
19 financial risk profiles. Accordingly, I considered the Company’s regulatory,
20 business, and financial risks relative to the proxy group of comparable companies
21
22
23

² Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944) (“Hope”); Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) (“Bluefield”).

1 in determining where the Company's ROE should fall within the reasonable range
2 of analytical results to appropriately account for any residual differences in risk.

3 **Q. Please explain how you assessed these factors.**

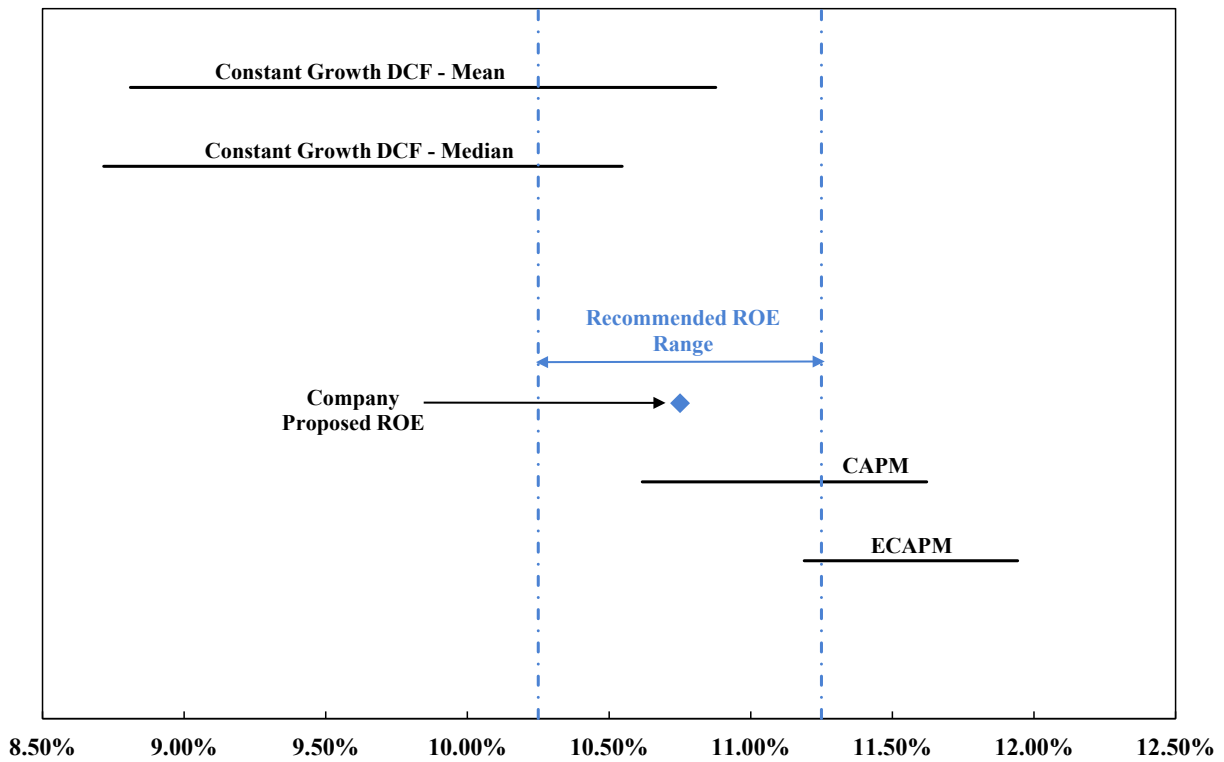
4 A. I relied on the range of results produced by the Constant Growth DCF model, the CAPM
5 analysis, and the ECAPM analysis. As shown in Figure 1, these COE estimation models
6 produce a wide range of results. My conclusion as to the appropriate ROE for MAWC
7 within that range of results is based on Company's business and financial risk relative to
8 the proxy group and my assessment of market conditions. As noted above, although the
9 companies in my proxy group are generally comparable to MAWC, each company is
10 unique. Accordingly, I considered the Company's business, financial and regulatory risk
11 in aggregate relative to that of the proxy group companies when determining where the
12 Company's ROE should fall within the reasonable range of analytical results to
13 appropriately account for any residual differences in risk.

14 **Q. What are the results of the models that you have used to estimate the cost of equity
15 for MAWC?**

16 A. Figure 1 summarizes the range of results produced by the Constant Growth DCF, CAPM,
17 and ECAPM.

1

Figure 1: Summary of the Range of Analytical Results



2

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4

5

As shown, the range of results across all methodologies is wide. While it is common to consider multiple models to estimate the cost of equity, it is particularly important when the range of results varies considerably across methodologies.

6

7

8

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

9

10

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

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

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

19 **Q. What is your recommended ROE for the Company in this proceeding?**

20 A. Considering the analytical results presented in Figure 1, the regulatory, business, and
21 financial risk faced by MAWC's water operations relative to the proxy group, and current
22 capital market conditions, I conclude that the cost of equity range is from 10.25 to 11.25
23 percent and within that range an ROE of 10.75 percent is reasonable for MAWC.

1 **Q. Is MAWC's requested capital structure reasonable?**

2 A. Yes. The Company's projected capital structure of 50.54 percent equity is within the range
3 of the actual capital structures of the utility operating subsidiaries of the proxy group
4 companies, and the Company's equity ratio is below the average of the proxy group.
5 Further, the Company's equity ratio is reasonable considering credit rating agencies'
6 continued concern with the negative effect on the cash flows and credit metrics associated
7 relatively high interest rates and inflation, record levels of capital spending, and the need
8 to fund capital spending in a credit supportive manner.

9 **III. REGULATORY GUIDELINES**

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

12 A. The U.S. Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the
13 standards for determining the fairness or reasonableness of a utility's authorized ROE.
14 Among the standards established by the Court in those cases are: (1) consistency with other
15 businesses having similar or comparable risks; (2) adequacy of the return to support credit
16 quality and access to capital; and (3) the principle that the specific means of arriving at a
17 fair return are not important, as long as the end result leads to just and reasonable rates.³

³ *Bluefield*, 262 U.S. at 692-93; *Hope*, 320 U.S. at 603.

1 Based on these standards, the authorized ROE should provide the Company with a fair and
2 reasonable return and should provide access to capital on reasonable terms in a variety of
3 market conditions.

4 **Q. ⁴Why is it important for a utility to be allowed the opportunity to earn a return that**
5 **is adequate to attract capital at reasonable terms?**

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

12 **Q. Is a utility's ability to attract capital also affected by the ROEs that are authorized**
13 **for other utilities?**

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

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

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

10 **Q. Does the fact that the Company is wholly-owned by AWK, a publicly-traded**
11 **company, affect your analysis?**

12 A. No. In this proceeding, consistent with stand-alone ratemaking principles, it is appropriate
13 to establish the cost of equity for MAWC, not its publicly-traded parent, AWK. More
14 importantly, however, it is appropriate to establish a cost of equity and capital structure
15 that provide MAWC the ability to attract capital on reasonable terms, both on a stand-alone
16 basis and within AWK. While MAWC is committed to investing the required capital to
17 provide safe and reliable service, because it is a subsidiary of AWK, MAWC competes
18 with the other state operating company subsidiaries for proactive investment capital. In
19 determining how to allocate its finite proactive capital resources, it would be reasonable
20 for AWK to consider the authorized ROE of each of its subsidiaries.

1 **Q. Is the regulatory framework and the authorized ROE and equity ratio important to**
2 **the financial community?**

3 A. Yes. The regulatory framework is one of the most important factors in investors'
4 assessments of risk. Specifically, the authorized ROE and equity ratio for regulated utilities
5 is very important for determining the degree of regulatory support for supporting a utility's
6 creditworthiness and financial stability in the jurisdiction. To the extent that authorized
7 returns in a jurisdiction are lower than the returns that have been authorized more broadly,
8 such decisions are considered by both debt and equity investors in the overall risk
9 assessment of the regulatory jurisdiction in which the company operates.

10 **Q. Does the ability to earn the return affect a company's overall risk profile?**

11 A. Yes. The ability to earn the return affects the coverage ratios that are reviewed by the credit
12 rating agencies, which can affect a company's overall credit rating.

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

15 A. Yes. There are numerous examples in which utilities have experienced a negative market
16 response related to the financial effects of a rate decision, including credit rating
17 downgrades and material stock price declines. For example, ALLETE, Inc.,⁴ CenterPoint

⁴ Moody's Investors Service, "Credit Opinion: ALLETE, Inc. Update following downgrade," April 3, 2019, at 3.

1 Energy Houston Electric,⁵ and Pinnacle West Capital Corporation (“PNW”)⁶ each
2 received credit rating downgrades following rate case decisions in the past few years for
3 reasons that included below average authorized ROEs. The most recent example is the
4 decision by the Illinois Commerce Commission (“ICC”) in mid-December 2023 that
5 rejected the multiyear grid plan proposals of Ameren Illinois Co. (“Ameren IL”) and
6 Commonwealth Edison Co. (“ComEd”) and authorized lower-than-expected ROEs for
7 both of these electric transmission and distribution utilities. Specifically, the ICC
8 authorized an ROE for Ameren IL of 8.72 percent and 8.905 percent for ComEd, which
9 was a significant reduction from the Administrative Law Judge’s recommendations of 9.24
10 percent and 9.28 percent, respectively.⁷

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

12 A. While the S&P 500 was increasing, the share prices of the parent companies of both
13 Ameren IL and ComEd (*i.e.*, Ameren Corp. and Exelon Corp., respectively) each dropped
14 more than 7 percent on December 14, 2023 after the ICC’s decision, and declined again by
15 more than 4.4 percent and 6.4 percent the following day, respectively.⁸ As of the close on

⁵ FitchRatings, “Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative,” February 19, 2020.

⁶ S&P Capital IQ Pro; FitchRatings, “Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative,” October 12, 2021; and Moody’s Investors Service, “Rating Actions: Moody’s downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative,” November 17, 2021.

⁷ Allison Good, “Ameren, Exelon shares fall after Illinois regulators reject grid plans,” *Platts*, December 15, 2023. Unlike Missouri West, neither Ameren IL or ComEd own electric generation, and credit rating agencies have concluded that, all else equal, vertically-integrated utilities that own generation are more risky than electric transmission and distribution-only utilities.

⁸ Yahoo! Finance.

1 January 5, 2023, Ameren and Exelon’s stock prices were, respectively, 8.9 percent and
2 11.4 percent below where their stock prices closed on December 13, 2023, or the day
3 immediately prior to the ICC’s decisions.⁹

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

- 8 • Barclays characterized the ICC’s ROE authorizations as “draconian” and “one of
9 the lowest awarded in recent memory, especially in an elevated interest rate and
10 cost of capital environment.”¹⁰ Barclays also stated it found it hard to believe
11 utilities “can deploy capital under the same magnitude on the updated grid plans to
12 be filed, especially under the current proposed ROE framework.”
- 13 • In its assessment of the impact on Exelon, the parent of ComEd, UBS stated that
14 “[t]he actions taken by the ICC today call into question, in our view, the regulatory
15 backdrop in which EXC operates.”¹¹
- 16 • Wells Fargo stated that it was not mincing words, and that the ICC’s orders were
17 “onerous” and that:

18 We now view IL as one of the worst regulatory jurisdictions in the
19 U.S. (nipping at CT’s heels). We think the totality of the recent
20 orders suggest that the regulatory balancing act between customers

⁹ Ameren Corp.’s stock price closed at \$81.32 on December 13, 2023 and \$74.05 on January 5, 2023. Exelon Corp.’s stock price closed at \$41.00 on December 13, 2023 and \$36.31 on January 5, 2023.

¹⁰ Barclays, “AEE/EXC: Coal Stocking-Stuffer in Illinois,” December 14, 2023.

¹¹ UBS, First Read Exelon Corp., “Negative Rate Case Outcome – Rating and PT Under Review,” December 14, 2023.

1 and investors is currently heavily skewed toward customers. As a
2 result, we wonder if AEE & EXC will allocate capital away from
3 IL. Keep in mind, IL represents ~25% of both AEE's & EXC's total
4 rate base.”¹²

- 5 • In its evaluation of Ameren IL, BofA Securities characterized the ICC’s decision
6 as “punitive” and stated that it was a surprise based on numerous conversations
7 with investors that believed the ICC may authorize an ROE above the ALJ’s
8 recommendation, not substantially lower, and that the downside surprise was one
9 of the biggest in recent memory for their regulated utility coverage.¹³ While BofA
10 Securities acknowledged that Ameren IL represents less than 20 percent of Ameren
11 Corp.’s consolidated rate base, it will nonetheless need offsets or capital
12 expenditures elsewhere in order to hit its earnings growth rate targets.¹⁴
- 13 • After the decisions, Guggenheim questioned, “Is Illinois Becoming the Next
14 Connecticut?” Guggenheim noted that investors questioned whether Illinois was
15 “slowly becoming a CT-esque jurisdiction,” and that equity and debt holders are
16 going to be wary of Illinois as a jurisdiction going forward and that the ICC is
17 “simply sending a negative message to investors.”¹⁵

18 Also, after the ICC’s decisions, Regulatory Research Associates (“RRA”) lowered its
19 rating of the Illinois regulatory jurisdiction from Average/2 to Average/3 due to the
20 “concerning pattern of restrictive” rate actions in the state.

¹² Wells Fargo, “The ICC Delivers a Lump of Coal for AEE & EXC,” December 14, 2023.

¹³ BofA Securities, Ameren Corporation, “Illinois delivers downside surprise,” December 15, 2023.

¹⁴ *Id.*

¹⁵ Guggenheim, “IL: Is Illinois Becoming the Next Connecticut? To Be Determined, but Taking a Neutral Stance on the State,” December 15, 2023.

1 **Q. What are your conclusions regarding regulatory guidelines?**

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

16 **IV. CAPITAL MARKET CONDITIONS**

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

18 A. The models used to estimate the cost of equity rely on market data and thus the results of
19 those models can be affected by prevailing market conditions at the time the analysis is
20 performed. While the ROE established in a rate proceeding is intended to be forward-
21 looking, the analyst uses current and projected market data, including stock prices,

1 dividends, growth rates, and interest rates in the cost of equity estimation models to
2 estimate the investor-required return for the subject company.

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

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

13 A. The cost of equity for regulated utility companies is affected by several factors in the
14 current and prospective capital markets, including: (1) changes in monetary policy; (2)
15 relatively high inflation; and (3) increased interest rates that are expected to remain
16 relatively high over the next few years. These factors affect the assumptions used in the
17 cost of equity estimation models.

18 **Q. What effect do current and prospective market conditions have on the cost of equity**
19 **for the Company?**

20 A. As is discussed in more detail in the remainder of this section, the combination of inflation
21 persistently higher than the Federal Reserve's target level and the Federal Reserve's

1 changes in monetary policy contribute to an expectation of increased market risk and an
2 increase in the cost of the investor-required return. It is important that these factors be
3 considered in setting a forward-looking ROE. Inflation has recently been at some of the
4 highest levels seen in approximately 40 years, and while inflation has declined from these
5 recent peaks, it remains relatively high. Interest rates, which have increased significantly
6 are expected to continue to remain relatively high in direct response to the Federal
7 Reserve's use of monetary policy to combat inflation. There is a strong historical inverse
8 correlation between interest rates (i.e., yields on long-term government bonds) and the
9 share prices of utility stocks (i.e., as utility share prices decline, utility dividend yields
10 increase). Since the yields on long-term government bonds currently exceed the dividend
11 yields of utilities, and historically long-term government bond yields have been lower than
12 the dividend yields of utilities, it is reasonable to expect that utility investors' cost of equity
13 is increasing. Because the cost of equity in this proceeding is being estimated for the future
14 period that the Company's rates will be in effect, and because the cost of equity is expected
15 to increase over the near term for utilities, cost of equity estimates based in whole or in part
16 on historical or current market conditions, as opposed to projected market conditions, will
17 likely understate the cost of equity during the future period that the Company's rates will
18 be in effect.

19 **Inflationary Expectations in Current and Projected Capital Market Conditions**

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

21 A. As shown in Figure 2, core inflation increased steadily beginning in early 2021, rising from
22 1.41 percent in January 2021 to a high of 6.64 percent in September 2022. This was the

1 largest 12-month increase since 1982.¹⁶ While core inflation has declined in response to
2 the Federal Reserve’s monetary policy since September 2022, it continues to remain above
3 the Federal Reserve’s target level of 2.0 percent.

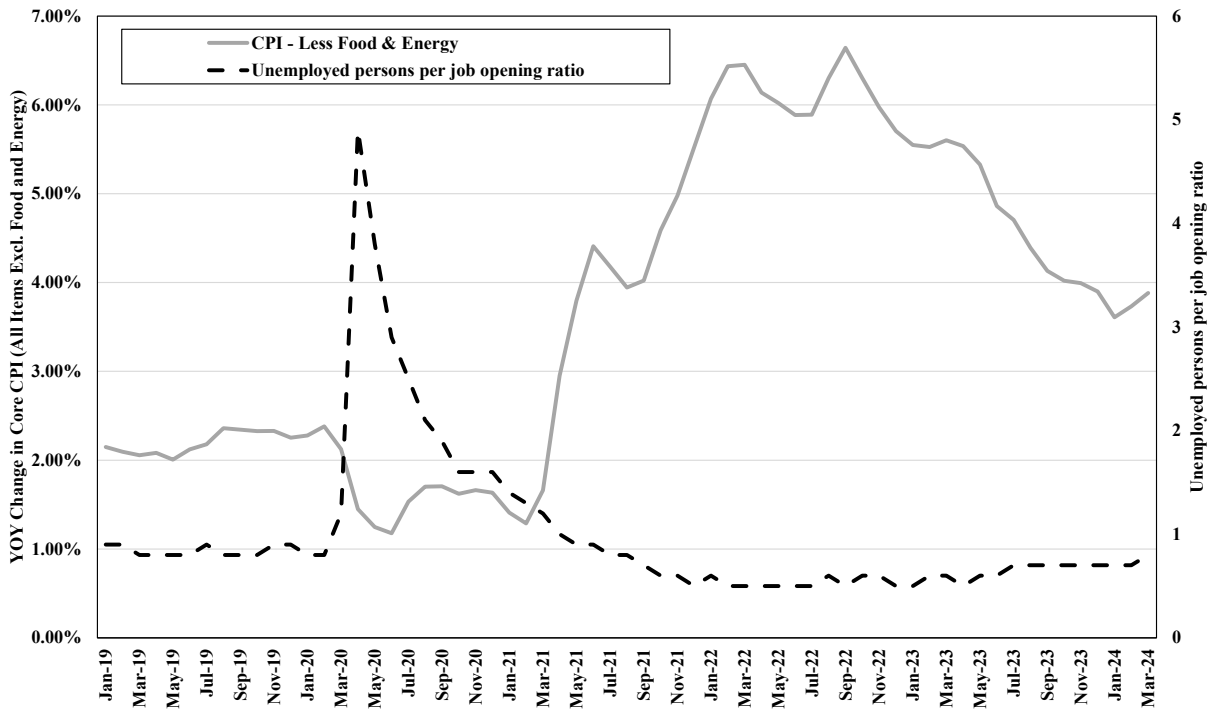
4 In addition, as shown in Figure 2, I also considered the ratio of unemployed persons per
5 job opening, which is currently 0.7 and has been consistently below 1.0 since 2021, despite
6 the Federal Reserve’s accelerated policy normalization. This metric indicates sustained
7 strength in the labor market. Further, the May 2024 jobs report showed that the U.S
8 economy added 272,000 jobs in that month, which was significantly higher than the
9 expectation, demonstrating the strength of the economy.¹⁷ Given the Federal Reserve’s
10 dual mandate of maximum employment and price stability, the continued increased levels
11 of core inflation coupled with the strength in the labor market has resulted in the Federal
12 Reserve’s sustained focus on the priority of reducing inflation.

¹⁶ Figure 2 presents the year-over-year (“YOY”) change in core inflation, as measured by the Consumer Price Index (“CPI”) excluding food and energy prices as published by the Bureau of Labor Statistics. I considered core inflation because it is the preferred inflation indicator of the Federal Reserve for determining the direction of monetary policy. Core inflation is preferred by the Federal Reserve because it removes the effect of food and energy prices, which can be highly volatile and unpredictable.

¹⁷ CNN Business, US Economy Added a Whopping 272,000 Jobs In May (June 7, 2024).

1
2

**Figure 2: Core Inflation and Unemployed Persons-to-Job Openings,
January 2019 to April 2024¹⁸**



3

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

5 A. Over the last several months the Federal Open Market Committee (“FOMC”) has been
6 clear that they intend to rely on market data before making any changes to interest rates.
7 In the FOMC’s meeting on May 1, 2024, Chairman Powell observed that the FOMC will
8 make their decision “meeting by meeting.”¹⁹ Further, Chairman Powell did not state that
9 it may be appropriate to reduce the federal funds rate at some point in 2024 as he has in
10 prior meetings, and indicated that the FOMC is prepared to maintain the current federal

¹⁸ Bureau of Labor Statistics.

¹⁹ Federal Reserve, Transcript of Chair Powell’s Press Conference, May 1, 2024, at 3.

1 funds rate range higher for longer if needed to reduce inflation.²⁰ The following summarize
2 comments from several other Federal Reserve members:

- 3 • Boston Federal Reserve President Susan Collins recently commented that she
4 thought the federal funds rate would need to be kept at its current level until there
5 was greater confidence that inflation was moving sustainably towards 2 percent.²¹
6 Ms. Collins cited improvements in supply chains as the reason inflation declined in
7 2023, but that may not continue in 2024 and that slower economic growth will be
8 needed to reduce demand in order to further reduce inflation.²²
- 9 • New York Federal Reserve President John Williams and Minneapolis Federal
10 Reserve President Neel Kashkari also recently stated that the federal funds rate will
11 need to remain at its current level for longer as more data is collected.²³
- 12 • Atlanta Federal Reserve President Raphael Bostic, who is a voting member of the
13 FOMC in 2024, recently commented that he expects one rate cut in 2024 but would
14 not rule out the possibility of either two or zero rate cuts depending on the direction
15 of the macroeconomic data.²⁴ Mr. Bostic’s expectations of one rate cut is less than
16 the three that were forecast at the recent FOMC meeting in March 2024.
- 17 • Finally, Federal Reserve Governor Michelle Bowman, also a voting member of the
18 FOMC, recently noted that while it is not her baseline forecast, there is the
19 possibility that rates will need to increase in 2024 to control inflation as she still
20 sees “a number of potential upside risks to inflation”.²⁵

²⁰ Id., at 6-7.

²¹ Steve Matthews, “Fed’s Collins Says Reaching 2% Inflation Goal May Take Longer.” Bloomberg, May 8, 2024.

²² Jennifer Schonberger, “Collins Becomes Latest Fed Official to Warn Rates Will Likely Stay Higher for Longer,” Yahoo! Finance, May 8, 2024.

²³ Id.

²⁴ Jennifer Schonberger, Fed’s Bostic still expects 1 rate cut in 2024 but doesn’t rule out 0 or 2, Yahoo! Finance (Apr. 9, 2024).

²⁵ Jeff Cox, Fed Governor Bowman say additional rate hike could be needed if inflation stays high, CNBC (Apr. 5, 2024).

1 Do recent economic indicators signal strength in the U.S. economy? Yes. The following
2 macroeconomic data has been released demonstrating the unexpected strength in the U.S.
3 economy:

- 4 • U.S. employers added 272,000 jobs in May, far exceeding economists' expectation
5 of 180,000.²⁶
- 6 • The unemployment rate declined from 3.9 percent in February to 3.8 percent in
7 March.²⁷
- 8 • Average hourly earnings increased 0.4 percent in May 2024, up 4.1 percent year-
9 over-year ("YoY").²⁸
- 10 • The YoY change in core inflation as measured by the Consumer Price Index
11 ("CPI") excluding food and energy prices was 3.62 percent in April 2024 which
12 "remains above levels that would suggest a cut in interest rates is imminent".²⁹

13 **Q. What is the market's expectation about interest rate cuts?**

14 A. The market has recognized the strength in the economy and the labor market and has
15 tempered its expectations that regarding how much the FOMC will decrease the federal
16 funds rate in 2024. The CME Group, which publishes a "FedWatch" probability chart of
17 FOMC activity, indicated a 99.4 percent change that interest rates would remain at the
18 current levels in the June 2024 meeting and greater than 90 percent chance that interest
19 rates would remain at current levels in July 2024. The CME group is currently projecting

²⁶ U.S. Bureau of Labor Statistics, Economic News Release, Employment Situation News Release, June 7, 2024.

²⁷ *Id.*

²⁸ *Id.*

²⁹ Jeff Cox, *CPI report shows inflation easing in April, with consumer prices still rising 3.4% from a year ago*, CNBC (May 15, 2024).

1 a greater than 80 percent probability that there is at most one rate cut through November
2 2024.³⁰

3 **The Effect of Inflation and Monetary Policy on Interest Rates and the Investor-**
4 **Required Return**

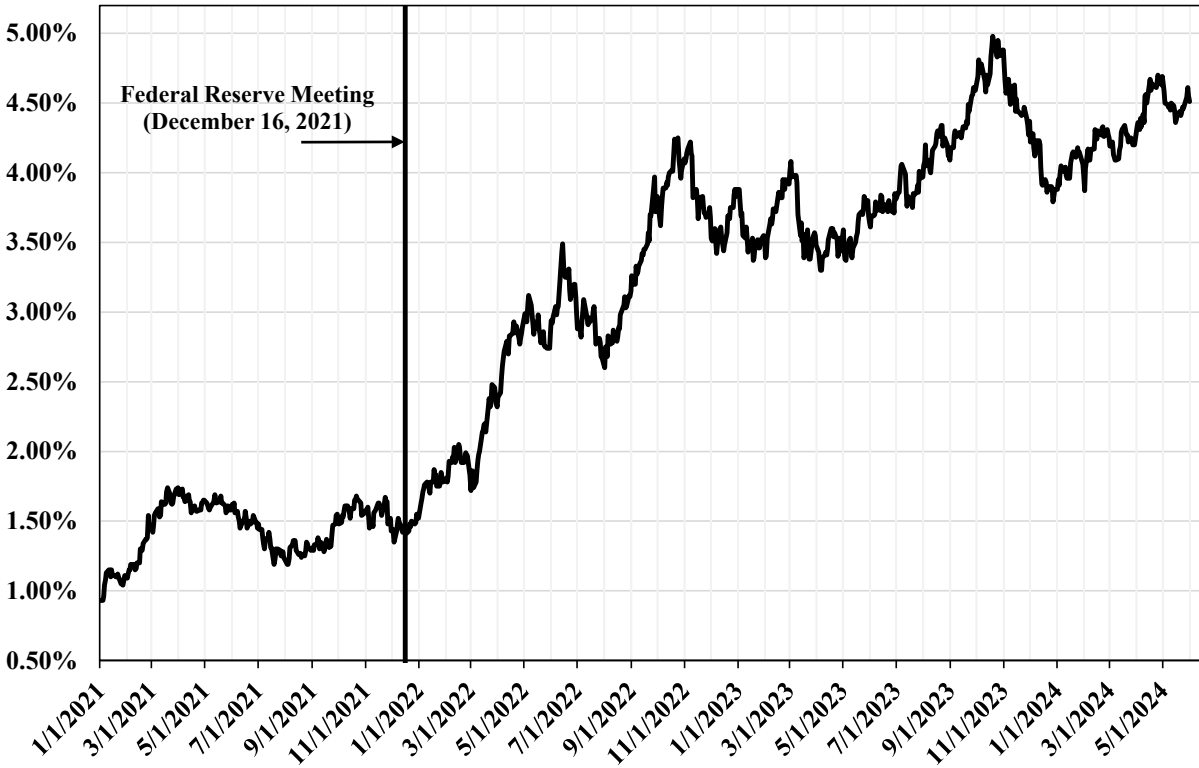
5 **Q. Have yields on long-term government bonds increased in response to inflation and**
6 **the Federal Reserve’s normalization of monetary policy?**

7 A. Yes. As the Federal Reserve has substantially increased the federal funds rate in response
8 to increased levels of inflation that have persisted for longer than originally projected,
9 longer term interest rates have also increased. As shown in Figure 3, since the Federal
10 Reserve’s December 2021 meeting, the yield on 10-year Treasury bonds has more than
11 tripled, increasing from 1.47 percent on December 15, 2021 to 4.50 percent at the end of
12 May 2024.

³⁰ The CME Group FedWatch Tool accessed June 7, 2024.

1

Figure 3: 10-Year Treasury Bond Yield, January 2021– May 2024³¹



2

3

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

5 A. As shown in Figure 4, both short-term and long-term interest rates have increased since
6 both the Company filed and the Commission adopted the settlement in its last rate
7 proceeding in 2023.³² Even though inflation has reduced since the Company’s last rate
8 case, long-term interest rates have increased approximately 81 basis points since the
9 settlement filed and approximately 89 basis points since the Commission adopted the
10 settlement in this proceeding. As discussed, as a result of the Federal Reserve’s monetary

³¹ S&P Capital IQ Pro.

³² In re Missouri-American Water Company, No. WR-2022-0303, In the Matter of Missouri-American Water Company’s Request for Authority to Implement General Rate Increase for Water and Sewer Service Provided in Missouri Service Areas (May 3, 2023) (“2023 Order”).

1 policy of substantially increasing short-term interest rates, core inflation has declined since
 2 the Commission’s decision on the settlements in the last rate proceeding, although inflation
 3 remains above the Federal Reserve’s long-term target value of 2.0 percent.

4 **Figure 4: Change in Market Conditions Since the Company’s Last Rate Case**³³

Docket	Date	Federal Funds Rate	30-Day Avg 30 Year Treasury Bond Yield	Core Inflation Rate	Requested ROE
Settlement filed - WR-2022-0303	3/3/2023	4.57%	3.78%	5.56%	
Order - WR-2022-0303	5/3/2023	4.83%	3.70%	5.33%	10.50%
Current	5/31/2024	5.33%	4.50%	3.62%	10.75%

7 **Q. What have equity analysts said about long-term government bond yields going**
 8 **forward?**

9 A. Leading equity analysts have noted that they expect the yields on long-term government
 10 bonds to remain elevated. For example, the consensus estimate of the average yield on the
 11 30-year Treasury bond reported by *Blue Chip Financial Forecasts* is 4.40 percent through
 12 the third quarter of 2025.³⁴ The *Blue Chip Financial Forecasts* projects the 30-year
 13 Treasury bond yield to decrease slightly in 2025 through 2028, increasing back to 4.40
 14 percent in the out years of the five and ten year forecasts ending in 2035. Therefore,
 15 investors expect interest rates to remain elevated for a significant forward-looking period.
 16 As a result, it is reasonable to expect that if government bond yields remain elevated, the

³³ Note, only a pre-tax rate of return for ratemaking was specified in the settlement approved in the Commission’s 2023 Order, meaning the ROE and capital structure were not specified..

³⁴ *Blue Chip Financial Forecasts*, Vol. 43, No. 6, May 31, 2024, at 2.

1 cost of equity will remain materially higher than at the time of the Company’s last rate
2 proceeding.

3 **Expected Performance of Utility Stocks and the Investor-Required Return on Utility**
4 **Investments**

5 **Q. Are utility share prices correlated to changes in yields on long-term government**
6 **bonds?**

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

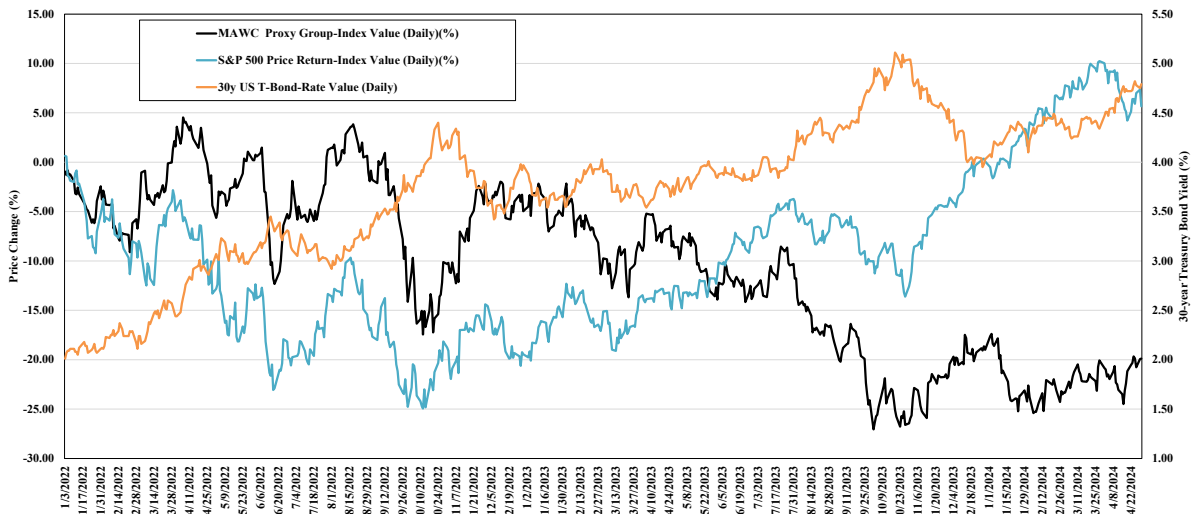
14 **Q. How did the utility sector perform since January 2022?**

15 A. Utility stocks significantly underperformed the broader market, as Treasury bond yields
16 increased to levels greater than the dividend yields of utility stocks. For example, as shown
17 in Figure 5, since January 1, 2022, the yield on the 30-year Treasury bond has increased
18 by 2.78%, while the share prices for the utilities included in my proxy group (discussed in
19 the following section) have declined by 18.94 percent and the S&P 500 Index has increased

³⁵ Justina Lee, “Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks,” Bloomberg.com, March 11, 2021.

1 by 5.02 percent. In fact, on October 2, 2023, the utilities sector dropped by 4.7 percent, its
 2 single highest one-day percentage decline since April 2020.³⁶ The stock price under-
 3 performance for the utility sector indicates that the cost of equity has increased since the
 4 Company's last rate proceeding.

5 **Figure 5: Relative Performance of the Proxy Group and the S&P 500 Index, January 2022**
 6 **through April 2024³⁷**



7
 8 **Q. How do equity analysts expect the utilities sector to perform in 2024?**

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

- 11 • Fidelity Investments classifies the utility sector as underweight;³⁸

³⁶ Caroline Valetkevich, "S&P 500 ends near flat; utilities drop, focus on rate outlook," Reuters, October 2, 2023.

³⁷ S&P Capital IQ Pro.

³⁸ Fidelity Investments, Fourth Quarter 2023 Investment Research Update (Oct. 19, 2023).

- 1 • CFRA Research recently classified the utility sector as underweight, stating that the
2 10-year Treasury yield, which CFRA noted is the “benchmark for gauging the
3 attractiveness of utility valuations and yields,” exceeded the dividend yield of the
4 utilities included in the S&P Composite 1500.³⁹
- 5 • UBS classified the 11 sectors of the S&P 500 for 2024 as either most preferred,
6 neutral, or least preferred with the utility sector being classified as one of UBS’s
7 three least preferred sectors (i.e., utilities, materials and real estate).⁴⁰
- 8 • Professional investors surveyed by Barron’s in its most recent Big Money poll
9 published in May 2024 selected the utility sector as one of the five equity sectors
10 that they liked the least over the next twelve months, indicating they are projecting
11 that utilities will underperform the broader market over the next twelve months.⁴¹

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

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

20 Indicators to watch: Utilities saw slight sector model score deterioration in
21 December, as one of its relative overbought/oversold indicators flipped
22 from bullish to neutral during the month. Utilities starts 2024 tied with

³⁹ Daniel Rich, “U.S. Utilities – Cherry-picking Quality in an Underperforming Sector,” CFRA, January 26, 2024,

⁴⁰ Jason Capul, “UBS Prefers Info Tech, Consumer Staples and Energy in 2024,” Seeking Alpha, December 12, 2023.

⁴¹ Paul La Monica, “The Stock Market Will Rise Nearly 10% More This Year, Money Managers Predict in Barron’s Latest Poll,” Barron’s, May 3, 2024.

1 Consumer Staples and Financials for the lowest composite scores among all
2 sectors. We see the possibility for more defensive leadership in the new
3 year, but the sector model has us much closer to a downgrade of the sector
4 than an upgrade.⁴²

5 **Q. Why do equity analysts expect the utilities sector to underperform over the near**
6 **term?**

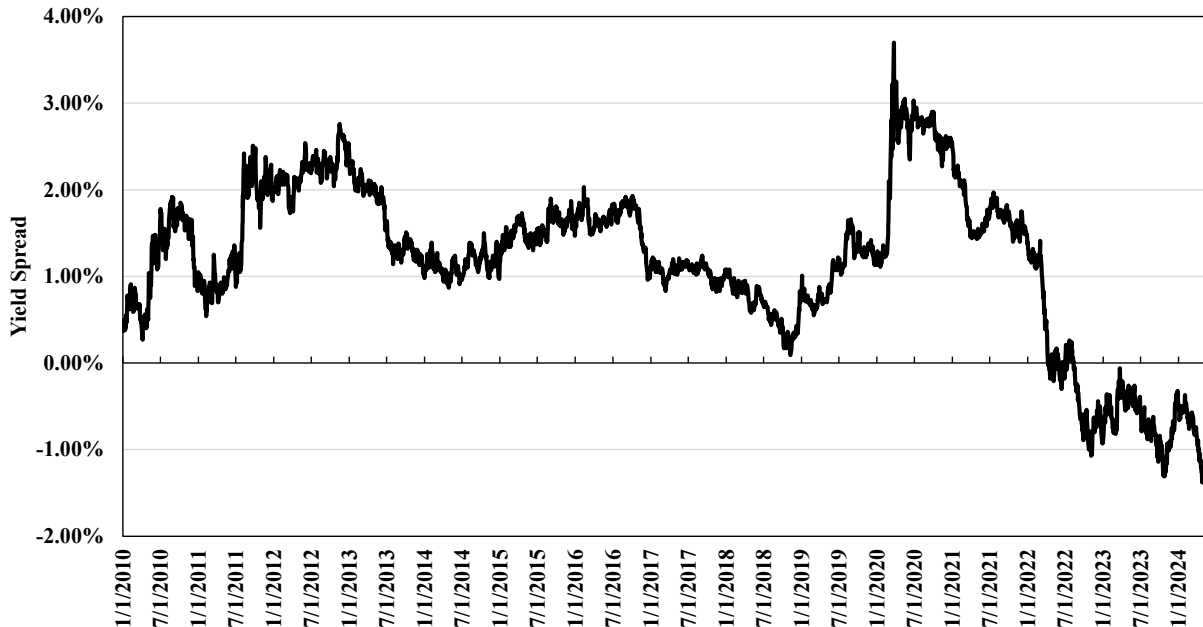
7 A. Equity analysts expect the utility sector to continue to underperform given that, on average,
8 the yields for the utility sector remain lower than the yields on long-term government
9 bonds. To illustrate this point, I examined the difference between the dividend yields of
10 utility stocks and the yields on long-term government bonds from January 2010 through
11 May 2024 (i.e., yield spread). I selected the dividend yield on the S&P Utilities Index as
12 the measure of the dividend yields for the utility sector and the yield on the 10-year
13 Treasury bond as the estimate of the yield on long-term government bonds.

14 As shown in Figure 6, the recent significant increase in long-term government bonds yields
15 has resulted in the yield on long-term government bonds exceeding the dividend yields of
16 utilities. The yield spread as of May 31, 2024 was negative 1.47 percent, meaning that the
17 yield on the 10-year Treasury bond exceeds the dividend yield for the S&P Utilities Index.
18 However, the long-term average yield spread from 2010 to 2024 is 1.16 percent. Therefore,
19 the current yield spread is well below the long-term average. Because of the fact that the
20 yield spread is currently well below the long-term average, and the expectation that interest
21 rates will remain relatively high through at least the next year, it is reasonable to conclude

⁴² Ned Davis Research, *Risk-on leadership closes out 2023*, at 18 (Jan. 4, 2024).

1 that the utility sector stock prices will most likely underperform over the near-term. This
2 is because investors that purchased utility stocks as an alternative to the lower yields on
3 long-term government bonds would otherwise be inclined to rotate back into government
4 bonds, particularly as the yields on long-term government bonds remain elevated, thus
5 resulting in a decrease in the share prices of utilities.

6 **Figure 6: Spread between the S&P Utilities Index Dividend Yield and the 10-year**
7 **Treasury Bond Yield, January 2010 – May 2024⁴³**



8
9

10 **Conclusion**

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

13 **A.** As shown in Figure 4, currently interest rates are 89 basis points higher than when the
14 decision was issued in the Company's last rate proceeding. Further, as shown in Figure 5,

⁴³ S&P Capital IQ Pro and Bloomberg Professional.

1 the utilities sector has continued to underperform the broader market. In addition,
2 macroeconomic indicators demonstrate that the economy is strong, which has caused the
3 FOMC to maintain its current stance on monetary policy. Therefore, at this time, the
4 market is not expecting a near term rate cut. Given the aforementioned factors, the cost of
5 equity is directionally higher than at the time of the Company's last rate proceeding in
6 2022.

7 **V. PROXY GROUP SELECTION**

8 **Q. Please provide a brief profile of MAWC.**

9 A. MAWC, a wholly-owned subsidiary of AWK, provides water and wastewater service to
10 approximately 507,000 customers in Missouri. As of December 31, 2023, MAWC earned
11 total annual operating revenues of approximately \$450 million, which represented
12 approximately 11.5% of AWK's total operating revenue in 2023.⁴⁴ MAWC generally
13 accesses debt markets through American Water Capital Corp. ("AWCC"). The current
14 credit ratings on senior unsecured debt for AWK and AWCC are as follows: (1) S&P – A
15 (Outlook: Stable); and (2) Moody's – Baa1 (Outlook: Stable). MAWC is not separately
16 rated from AWK.⁴⁵

⁴⁴ American Water Works Company, Inc. SEC Form 10-K, December 31, 2023, at 4.

⁴⁵ S&P Global Ratings and Moody's Investors Service, accessed April 30, 2024.

1 **Q. Why have you used a group of proxy companies to estimate the cost of equity for**
2 **MAWC?**

3 A. In this proceeding, I am estimating the cost of equity for MAWC, a rate-regulated
4 subsidiary of AWK. Since the cost of equity is a market-based concept and given the fact
5 that MAWC does not make up the entirety of a publicly-traded entity, it is necessary to
6 establish a group of companies that is both publicly traded and comparable to MAWC in
7 certain fundamental business and financial respects to serve as its “proxy” for purposes of
8 estimating the cost of equity.

9 The overall purpose of developing a set of screening criteria is to select a proxy group of
10 companies that aligns with the financial and operational characteristics of MAWC and that
11 investors would view as comparable to the Company. I developed the screens and
12 thresholds for each screen based on judgment with the intention of balancing the need to
13 maintain a proxy group that is of sufficient size with the need to establish a proxy group of
14 companies that are comparable in business and financial risk to MAWC.

15 Even if MAWC’s regulated utility business made up the entirety of a publicly-traded entity,
16 it is possible that transitory events could bias its market value over a given time period. A
17 significant benefit of using a proxy group is that it mitigates the effects of anomalous events
18 that may be associated with any one company. The proxy companies used in my analyses
19 all possess a set of operating and financial risk characteristics that are substantially
20 comparable to MAWC, and, therefore, provide a reasonable basis to estimate the
21 appropriate cost of equity for the Company.

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

2 A. I began with the group of 16 companies that Value Line Investment Survey (“Value Line”)
3 classifies as Water Utilities and Natural Gas Distribution Utilities and applied the following
4 screening criteria to select companies that:

- 5 • pay consistent quarterly cash dividends, because companies that do not cannot be
6 analyzed using the Constant Growth DCF model;
- 7 • have investment grade long-term issuer ratings from S&P and/or Moody’s;
- 8 • are covered by more than one utility industry analyst;
- 9 • have positive long-term earnings growth forecasts from at least two utility industry
10 equity analysts;
- 11 • derive more than 70.00 percent of their total operating income from regulated
12 operations; and
- 13 • were not parties to a merger or transformative transaction during the analytical
14 periods relied on.

15 **Q. Did you consider any additional companies for inclusion in your proxy group?**

16 A. Yes. I also considered the group of 36 companies that *Value Line* classifies as Electric
17 Utilities. In determining which electric utilities would qualify for inclusion in my proxy
18 group, I started by relying on the criteria used to screen the water and natural gas utilities.
19 I then applied two additional screening criteria to only include electric utilities that would
20 be considered risk comparable to MAWC:

- 21 • have owned generation comprising less than 10 percent of the Company’s MWh
22 sales to ultimate customers to ensure that the electric utilities included did not own
23 a substantial amount of generation and therefore had operations that were primarily
24 transmission and distribution; and

- own water and wastewater operations.

Q. Did you include AWK in your analysis?

A. No. Consistent with my general practice of excluding the subject company, or its parent holding company, from the proxy group, I have excluded AWK from my proxy group for MAWC.

Q. What is the composition of your proxy group?

A. The screening criteria just discussed results in a proxy group consisting of the companies shown in Figure 7 (as well as in Schedule AEB-2).

Figure 7: Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
NiSource Inc.	NI
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
Spire, Inc.	SR
Eversource Energy	ES
American States Water Company	AWR
California Water Service Group	CWT
Middlesex Water Company	MSEX
SJW Group	SJW
Essential Utilities, Inc.	WTRG

Q. Why did you include electric utilities and natural gas distribution companies in the proxy group?

A. *Value Line* currently classifies only seven companies as water utilities. Therefore, the universe of water utilities is already small before a set of screening criteria are applied. Additionally, there has been a recent trend towards consolidation in the utility industry,

1 which reduces the number of available proxy companies.⁴⁶ Because there are a small
2 number of companies that are available for inclusion in the proxy group, I also consider
3 electric utilities and natural gas distribution companies that meet the screening criteria,
4 such as Eversource Energy, which has electric distribution, natural gas distribution and
5 water utility operations.

6 **Q. Are electric utilities and natural gas distribution companies reasonably comparable**
7 **to water utilities to be included in a proxy group used to estimate the cost of equity**
8 **for a water utility?**

9 A. Yes, I believe that it is reasonable to rely on a combined proxy group. As noted above, due
10 to consolidation in the water utility industry, there is only a small group of water companies
11 that can be included in the proxy group. In addition, the screening criteria relied on for my
12 proxy group require that a company derive more than 70 percent of their operating income
13 from regulated operations. Therefore, the electric utilities and natural gas distribution
14 companies included in my proxy group generate a large portion of their operating income
15 from regulated operations, similar to MAWC and the water utilities that are included in the
16 proxy group. As a result, I believe that it is appropriate to include relevant natural gas and
17 electricity distribution companies in my proxy group.

⁴⁶ Chediak, Mark, et al. “*Utility M&A Is So Hot Not Even Berkshire's Billions Won a Bid.*” Bloomberg.com, Bloomberg, January 3, 2018, www.bloomberg.com/news/articles/2018-01-03/utility-m-a-is-so-hot-not-even-berkshire-s-billions-won-a-bid.

1 **VI. COST OF EQUITY ESTIMATION**

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

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

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

10 A. The required cost of equity is estimated by using analytical techniques that rely on market-
11 based data to quantify investor expectations regarding equity returns, adjusted for certain
12 incremental costs and risks. Informed judgment is then applied to determine where the
13 company's cost of equity falls within the range of results produced by multiple analytical
14 techniques. The key consideration in determining the cost of equity is to ensure that the
15 methodologies employed reasonably reflect investors' views of the financial markets in
16 general, as well as the subject company (in the context of the proxy group), in particular.

17 **Q. What methods have you used to estimate MAWC's cost of equity?**

18 A. I consider the results of the constant growth DCF model, the CAPM, and the ECAPM. A
19 reasonable cost of equity estimate appropriately considers alternative methodologies and
20 the reasonableness of their individual and collective results.

1 **Q. Why is it important to use more than one analytical approach?**

2 A. Because the cost of equity is not directly observable, it must be estimated based on both
3 quantitative and qualitative information. When faced with the task of estimating the cost
4 of equity, analysts and investors are inclined to gather and evaluate as much relevant data
5 as reasonably can be analyzed. Several models have been developed to estimate the cost
6 of equity, and I use multiple approaches to estimate the cost of equity. As a practical
7 matter, however, all of the models available for estimating the cost of equity are subject to
8 limiting assumptions or other methodological constraints. Consequently, many well-
9 regarded finance texts recommend using multiple approaches when estimating the cost of
10 equity. For example, Copeland, Koller, and Murrin⁴⁷ suggest using the CAPM and
11 Arbitrage Pricing Theory model, while Brigham and Gapenski⁴⁸ recommend the CAPM,
12 DCF, and Bond Yield Plus Risk Premium approaches.

13 Further, the recent changes in market conditions discussed previously highlight the benefit
14 of using multiple models since each model relies on different assumptions, certain of which
15 better reflect current and projected market conditions at different times. For example, the
16 CAPM, and ECAPM analyses rely directly on interest rates as an assumption in the models
17 and therefore may more directly reflect the market conditions expected when the
18 Company's rates are in effect. Accordingly, it is important to use multiple analytical

⁴⁷ Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, New York, McKinsey & Company, Inc., 3rd Ed., 2000, at 214.

⁴⁸ Eugene Brigham and Louis Gapenski, *Financial Management: Theory and Practice*, Orlando, Dryden Press, 1994, at 341.

1 approaches to ensure that the cost of equity results reflect market conditions that are
2 expected during the period that the Company's rates will be in effect.

3 **Q. Has the Commission recognized that it is important to consider the results of**
4 **multiple cost of equity estimation models?**

5 A. Yes. For example, in 2018 the Commission stated:

6 In order to set a fair rate of return for Spire, the Commission must determine
7 the weighted cost of each component of the utility's capital structure. One
8 component at issue in this case is the estimated cost of common equity, or
9 the return on equity. Based on the competent and substantial evidence in
10 the record, on its analysis of the expert testimony offered by the parties, and
11 on its balancing of the interests of the company's ratepayers and
12 shareholders, as fully explained in its findings of fact and conclusions of
13 law, the Commission finds that 9.8 percent is a fair and reasonable return
14 on equity for Spire Missouri. That rate is nearly the midpoint of all the
15 experts' recommendations and is consistent with the national average, the
16 growing economy, and the anticipated increasing interest rates. The
17 Commission finds that this rate of return will allow Spire Missouri to
18 compete in the capital market for the funds needed to maintain its financial
19 health.⁴⁹

20 Thus, the Commission recognized the importance of considering: (1) the results of each
21 model presented in the rate case, which included the DCF, CAPM and Risk Premium
22 analyses; (2) capital market conditions since changes in market conditions can affect the

⁴⁹ In re Laclede Gas Co., No. GR-2017-0215, Report and Order at 35 (March 7, 2018).

1 model results; and (3) the returns awarded to comparable utilities in other jurisdictions
2 across the United States.

3 **A. Constant Growth DCF Model**

4 **Q. Please describe the DCF approach.**

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

$$8 \quad P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

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

$$12 \quad k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

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

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

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

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

3 A. The dividend yield in my constant growth DCF model is based on the proxy group
4 companies' current annual dividend and average closing stock prices over the 30-, 90-, and
5 180-trading days ended April 30, 2024.

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

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

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

13 A. Yes. Because utility companies tend to increase their quarterly dividends at different times
14 throughout the year, it is reasonable to assume that dividend increases will be evenly
15 distributed over calendar quarters. Given that assumption, it is reasonable to apply one-
16 half of the expected annual dividend growth rate for purposes of calculating the expected
17 dividend yield component of the DCF model. This adjustment ensures that the expected
18 first-year dividend yield is, on average, representative of the coming twelve-month period,
19 and does not overstate the aggregated dividends to be paid during that time.

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

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

17 **Q. What sources of long-term EPS growth rates do you use?**

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

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

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

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

9 A. Figure 8 (see also Schedule AEB-3) summarizes the results of my DCF analyses. While I
10 also summarize the DCF results using the minimum growth rates, given the market
11 response to the recent ICC decisions for Ameren IL and ComEd as discussed previously,
12 it is evident that the market would not consider these DCF results reflective of the investor-
13 required return, and thus I do not give these DCF results any material weight at this time.

14 **Figure 8: Summary of DCF Results**

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	8.84%	9.88%	10.91%
90-Day Avg. Stock Price	8.81%	9.86%	10.88%
180-Day Avg. Stock Price	8.77%	9.82%	10.84%
Average	8.81%	9.85%	10.88%
Median Results:			
30-Day Avg. Stock Price	8.71%	10.03%	10.54%
90-Day Avg. Stock Price	8.69%	10.00%	10.52%
180-Day Avg. Stock Price	8.75%	9.90%	10.58%
Average	8.72%	9.98%	10.55%

15

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

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

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

18 Therefore, our methodology for determining Aqua’s ROE shall utilize both
19 I&E’s DCF and CAPM methodologies. As noted above, the Commission
20 recognizes the importance of informed judgment and information provided
21 by other ROE models. In the 2012 PPL Order, the Commission considered
22 PPL’s CAPM and RP methods, tempered by informed judgment, instead of
23 DCF-only results. We conclude that methodologies other than the DCF can
24 be used as a check upon the reasonableness of the DCF derived ROE
25 calculation. Historically, we have relied primarily upon the DCF
26 methodology in arriving at ROE determinations and have utilized the results

1 of the CAPM as a check upon the reasonableness of the DCF derived equity
2 return. As such, where evidence based on other methods suggests that the
3 DCF-only results may understate the utility’s ROE, we will consider those
4 other methods, to some degree, in determining the appropriate range of
5 reasonableness for our equity return determination. In light of the above, we
6 shall determine an appropriate ROE for Aqua using informed judgement
7 based on I&E’s DCF and CAPM methodologies.⁵⁰

8
9

10 We have previously determined, above, that we shall utilize I&E’s DCF and
11 CAPM methodologies. I&E’s DCF and CAPM produce a range of
12 reasonableness for the ROE in this proceeding from 8.90% [DCF] to 9.89%
13 [CAPM]. Based upon our informed judgment, which includes
14 consideration of a variety of factors, including increasing inflation leading
15 to increases in interest rates and capital costs since the rate filing, we
16 determine that a base ROE of 9.75% is reasonable and appropriate for
Aqua.⁵¹

17 Similarly, the Massachusetts Department of Public Utilities in a recent rate case for
18 NSTAR Electric Company concluded that given the recent increase in interest rates there
19 was “greater certainty” that the results of the DCF model were understating the cost of
20 equity for the utility.⁵²

⁵⁰ In re Aqua Pennsylvania Inc., Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order at 154-155 (Pa. PUC, May 12, 2022); clarification added.

⁵¹ *Id.*, at 177-178.

⁵² In re NSTAR Electric Co., D.P.U. 22-22, Order at 385-386 (Mass. D.P.U., November 30, 2022).

1 **E. CAPM and ECAPM Analysis**

2 **Q. Please briefly describe the CAPM.**

3 A. The CAPM is a risk premium approach that estimates the cost of equity for a given security
4 as a function of a risk-free return plus a risk premium to compensate investors for the non-
5 diversifiable or “systematic” risk of that security.⁵³ This second component is the product
6 of the market risk premium and the beta coefficient, which measures the relative riskiness
7 of the security being evaluated.

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

10
$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

11 Where:

12 K_e = the required market ROE;

13 β = the beta coefficient of an individual security;

14 r_f = the risk-free rate of return; and

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

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

⁵³ Systematic risk is the risk inherent in the entire market or market segment, which cannot be diversified away using a portfolio of assets. Unsystematic risk is the risk of a specific company that can, theoretically, be mitigated through portfolio diversification.

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

1 *Variance* (r_m) represents the variance of the market return, which is a measure of the
2 uncertainty of the general market. *Covariance* (r_e, r_m) represents the covariance between
3 the return on a specific security and the general market, which reflects the extent to which
4 the return on that security will respond to a given change in the general market return.
5 Thus, beta represents the risk of the security relative to the general market.

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

7 A. I rely on three sources for my estimate of the risk-free rate: (1) the current 30-day average
8 yield on 30-year Treasury bonds, which is 4.59 percent;⁵⁴ (2) the average projected 30-year
9 Treasury bond yield for the third quarter of 2024 through the third quarter of 2025, which
10 is 4.32 percent;⁵⁵ and (3) the average projected 30-year Treasury bond yield for 2025
11 through 2029, which is 4.10 percent.⁵⁶

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

13 A. As shown on Schedule AEB-4, I use the beta coefficients for the proxy group companies
14 as reported by *Bloomberg Professional* (“*Bloomberg*”) and *Value Line*. The beta
15 coefficients reported by *Bloomberg* are calculated using ten years of weekly returns relative
16 to the S&P 500 Index. The beta coefficients reported by *Value Line* are calculated based
17 on five years of weekly returns relative to the New York Stock Exchange Composite Index.

⁵⁴ *Bloomberg Professional* 30-day average, as of April 30, 2024.

⁵⁵ *Blue Chip Financial Forecasts*, Vol. 43, No. 5, May 1, 2024, at 2.

⁵⁶ *Blue Chip Financial Forecasts*, Vol. 42, No. 12, December 1, 2023, at 14.

1 Additionally, as shown in Schedules AEB-4 and AEB-5, I also consider an additional
2 CAPM analysis that relies on the long-term average beta coefficient reported by *Value Line*
3 for the companies in my proxy group from 2013 through 2023.

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

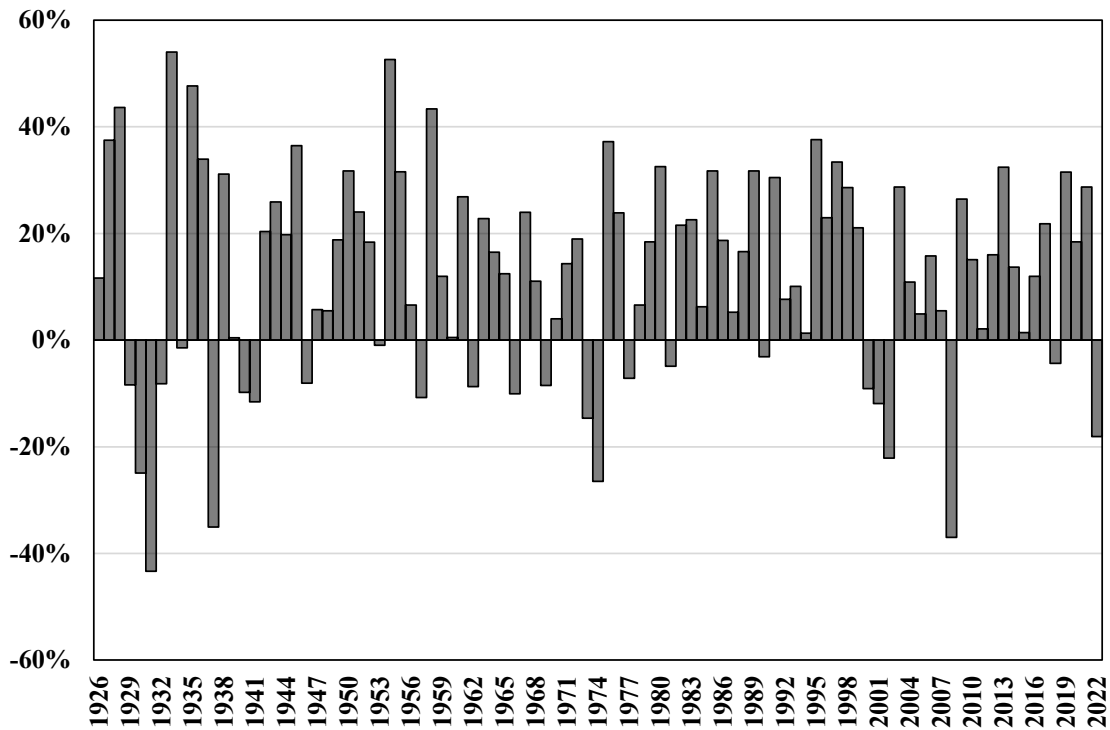
5 A. I estimate the market risk premium as the difference between the implied expected equity
6 market return and the risk-free rate. As shown on Schedule AEB-6, the expected return on
7 the S&P 500 Index is calculated using the constant growth DCF model discussed
8 previously as applied to the companies in the S&P 500 Index. Based on an estimated
9 market capitalization-weighted dividend yield of 1.72 percent and a weighted long-term
10 growth rate of 11.09 percent, the estimated required market return for the S&P 500 Index
11 as of April 30, 2024 is 12.91 percent.

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

14 A. As shown in Figure 9, given the range of annual equity returns that have been observed
15 over the past century, a current expected return of 12.91 percent is not unreasonable. In 50
16 out of the past 97 years (or roughly 52 percent of observations), the realized equity return
17 was at least 12.91 percent or greater.

1

Figure 9: Realized U.S. equity market returns (1926-2022)⁵⁷



2

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

4 A. Yes. I have also considered the results of an ECAPM in estimating the cost of equity for
5 the Company.⁵⁸ The ECAPM calculates the product of the adjusted beta coefficient and
6 the market risk premium and applies a weight of 75.00 percent to that result. The model
7 then applies a 25.00 percent weight to the market risk premium without any effect from the
8 beta coefficient. The results of the two calculations are summed, along with the risk-free
9 rate, to produce the ECAPM result, as noted in Equation [5] below:

⁵⁷ Depicts total annual returns on large company stocks, as reported in the 2022 *Kroll S&P 500* Yearbook.

⁵⁸ See, e.g., Roger A. Morin, *New Regulatory Finance*. Public Utilities Reports, Inc., 2006, at 189.

1
$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

2 Where:

- 3 k_e = the required market ROE;
4 β = the adjusted beta coefficient of an individual security;
5 r_f = the risk-free rate of return; and
6 r_m = the required return on the market as a whole.

7 The ECAPM addresses the tendency of the “traditional” CAPM to underestimate the cost
8 of equity for companies with low beta coefficients such as regulated utilities. In that regard,
9 the ECAPM is not redundant to the use of adjusted betas in the traditional CAPM, but
10 rather it recognizes the results of academic research indicating that the risk-return
11 relationship is different (in essence, flatter) than estimated by the CAPM, meaning that the
12 CAPM underestimates the “alpha,” or the constant return term.⁵⁹

13 Consistent with my CAPM, my application of the ECAPM uses the same three yields on
14 the 30-year Treasury bonds as the risk-free rate, forward-looking market risk premium
15 estimates, and beta coefficients.

16 **Q. What are the results of your CAPM and ECAPM analyses?**

17 A. The results of my CAPM and ECAPM analyses are summarized in Figure 10, as well as
18 presented in Schedule AEB-4.

⁵⁹ *Id.* at 191.

1 **Figure 10: Summary of CAPM and ECAPM Results**

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Current <i>Value Line</i> Beta	11.62%	11.58%	11.55%
Current Bloomberg Beta	10.90%	10.83%	10.78%
Long-term Avg. <i>Value Line</i> Beta	10.74%	10.67%	10.62%
ECAPM:			
Current <i>Value Line</i> Beta	11.94%	11.91%	11.89%
Current Bloomberg Beta	11.40%	11.35%	11.31%
Long-term Avg. <i>Value Line</i> Beta	11.28%	11.23%	11.19%

2
3 **VII. BUSINESS AND REGULATORY RISKS**

4 **Q. Do the DCF, CAPM, and ECAPM results of the cost of equity analyses alone**
5 **provide an appropriate estimate of the cost of equity for the Company?**

6 A. No. The model results provide only a range of the appropriate estimate of MAWC'S cost
7 of equity. Several additional factors must be considered when determining where the
8 Company's cost of equity falls within the range of analytical results. These risk factors,
9 discussed below, should be considered with respect to their overall effect on the
10 Company's risk profile relative to the proxy group.

11 **Capital Expenditures**

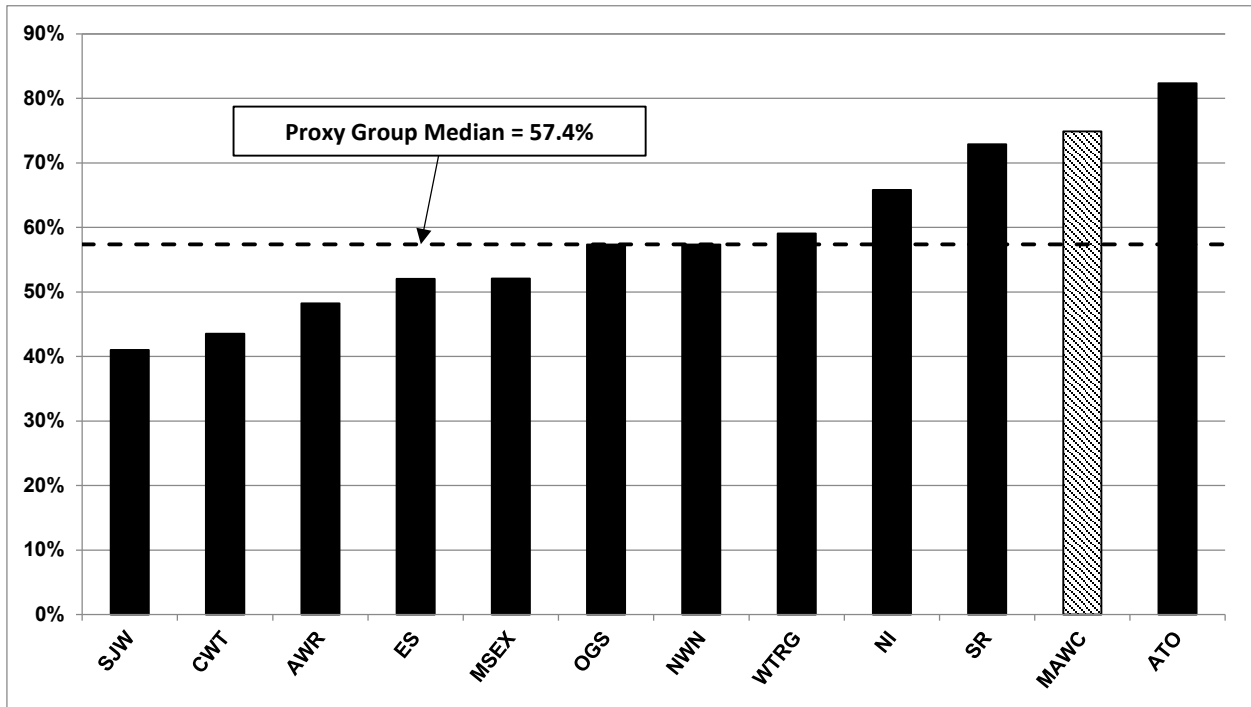
12 **Q. Please summarize the Company's capital expenditure requirements.**

13 A. As of December 31, 2023, the Company had net utility plant of approximately \$3.51
14 billion, and the Company currently projects capital expenditures for 2024 through 2028 of
15 approximately \$2.63 billion. Therefore, the Company's projected capital expenditures
16 represent approximately 75 percent of its net utility plant as of December 31, 2023.

1 **Q. How do the Company’s capital expenditure requirements compare to those of the**
2 **proxy group companies?**

3 A. As shown on Schedule AEB-8, I have calculated the ratio of expected capital expenditures
4 to net utility plant for MAWC and each of the companies in the proxy group by dividing
5 each company’s projected capital expenditures for the period from 2024 through 2028 by
6 its total net utility plant as of December 31, 2022. As shown in Schedule AEB-8 (*see also*
7 Figure 11 below), MAWC’s ratio of capital expenditures as a percentage of net utility plant
8 is 1.31 times the median for the proxy group companies of 57.40 percent, which is
9 significantly higher when compared to the proxy group companies.

10 **Figure 11: Comparison of Capital Expenditures—Proxy Group Companies**



11

1 **Q. How is the Company's risk profile affected by its substantial capital expenditure**
2 **requirements?**

3 A. As with any utility faced with substantial capital expenditure requirements, the Company's
4 risk profile may be adversely affected in two significant and related ways: (1) the
5 heightened level of investment increases the risk of under-recovery or delayed recovery of
6 the invested capital; and (2) an inadequate return would put downward pressure on key
7 credit metrics.

8 **Q. Do credit rating agencies recognize the risks associated with elevated levels of**
9 **capital expenditures?**

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

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

1 credit quality through the spending program. Even more favorable are those
2 jurisdictions that present an opportunity for a higher return on capital
3 projects as an incentive to investors.⁶⁰

4 Recently, S&P evaluated the capital expenditure trends in the utility sector, noting that the
5 balance between operating with negative discretionary cash flow from operations offset by
6 reliable access to capital markets for financing may be tested through ever-increasing
7 capital expenditure requirements as a result of the transformation of the energy sector
8 through the focus on low/no carbon generation, electrification, and the replacement of
9 aging infrastructure:

10 Some companies have been unable to support financial metrics consistent
11 with former ratings as their discretionary cash flow deteriorated. This trend
12 was a significant contributor to the sector seeing the median rating decline
13 to 'BBB+' from 'A-' for the first time in 2022. What is less clear is whether
14 or not management teams will take steps to forestall another step down in
15 credit quality as high capital outlays persist. So far in 2023, we have not
16 seen evidence that equity issuance is keeping pace with debt issuance to fill
17 ever-deepening discretionary cash flow shortfalls, but time will tell.

18

19 Despite the improvement in the economic outlook, we expect inflation, high
20 interest rates, higher capital spending, and the strategic decision by many
21 companies to operate with only minimal financial cushion from their
22 downgrade thresholds to continue to pressure the industry's credit quality.
23 We are cautious about the durability of the current stable ratings outlook
24 given persistently high capital spending that now supports a trend of
25 deterioration in discretionary cash flow. Without a commensurate focus on
26 balance sheet preservation through equity support of discretionary cash
27 flow deficits, limited financial cushions could give rise to another round of
28 negative rating actions. The question then comes back to management
29 priorities and financial policy decisions, or utilities may be faced with
30 another step down in the median ratings.⁶¹

⁶⁰ S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

⁶¹ S&P Global Ratings, "Record CapEx Fuels Growth Along With Credit Risk For North American Investor-Owned Utilities," September 12, 2023, at 5, 7-8.

1 Therefore, to the extent that the Company’s rates do not continue to reasonably permit the
2 recovery of its prudently-incurred capital investments on a timely basis, MAWC would
3 face increased recovery risk and thus increased pressure on its credit metrics.

4 **Q. Does MAWC have a capital tracking mechanism to recover some of the costs associated**
5 **with its capital expenditures plan between rate cases?**

6 A. Yes. MAWC has a Water and Sewer Infrastructure Rate Adjustment (“WSIRA”) surcharge
7 which allows the Company to recover its costs associated with replacing and repairing
8 aging water and wastewater infrastructure such as pipes, meters, valves, hydrants, service
9 lines, sewer laterals, pumps, mechanical equipment, and system controls.⁶² However, there
10 is a cap on the annual amount of capital costs recovered through the WSIRA. The annual
11 revenue collected through the WSIRA (revenue collected through the WSIRA minus the
12 revenue associated with the plant being replaced) cannot exceed 15 percent of MAWC’s
13 total base revenue requirement approved by the Commission in the Company’s last general
14 rate proceeding.⁶³ Further, only a portion of the Company’s total capital expenditures plan
15 is eligible for recovery through the WSIRA. The Company will still rely on future rate case
16 filings for authorization to recover on and of its capital expenditures for 2022-2026 and
17 therefore the approved WSIRA mitigates but does not eliminate the cost recovery risk
18 associated with MAWC’s capital expenditure plans.

⁶² Missouri American Water tariff. <https://www.amwater.com/moaw/resources/PDF/Customer-Service/Water-Sewer-Rates/MOAW-Rates.pdf>

⁶³ In the Matter of the Petition of Missouri –American Water Company for Approval to Establish a Water and Sewer Infrastructure Rate Adjustment (“WSIRA”), Order Approving Water and Sewer Infrastructure Rate Adjustments, Missouri Public Service Commission, File No. WO-2021-0428. January 12, 2022, at 4.

1 **Q. Does the WSIRA reduce MAWC's cost of equity?**

2 A. No. It is important to recognize that the estimation of the cost of equity includes a
3 comparative analysis of the risks and returns of the subject company and the proxy group
4 of publicly traded utilities that are relied on in the cost of equity estimation models,
5 including their utility operating subsidiaries. Therefore, the threshold question is not
6 whether this mechanism reduces the risk of MAWC, but rather is MAWC's risk reduced
7 below that of the proxy group. As shown in Schedule AEB-9, the majority of the operating
8 utilities of the proxy group companies (*i.e.*, approximately 79 percent) also have some form
9 of a capital cost recovery mechanism. Thus, MAWC is similar to the proxy group with
10 respect to the recovery of capital investments, and the WSIRA does not reduce the
11 Company's regulatory risk relative to its peers. Rather, the implementation of them means
12 the Company's risk profile is more consistent with the operating utilities of the proxy group
13 companies. As noted, however, it is important to recognize that while the WSIRA has
14 provided for certain cost recovery, it remains subject to an annual cap and thus could limit
15 the recovery of capital on a forward-looking basis.

16 **Q. What are your conclusions regarding the effect of the Company's capital spending**
17 **requirements on its risk profile and cost of capital?**

18 A. The Company's capital expenditure requirements as a percentage of net utility plant are
19 significant relative to the proxy group and will continue over the next few years. While
20 MAWC has the WSIRA to recover certain qualifying capital costs, this mechanism does
21 not provide for timely recovery of all of the Company's capital expenditures between rate

1 cases. As a result, the Company has greater risk of timely cost recovery and earnings
2 potential relative to the proxy group companies.

3 Earned ROE

4 **Q. Is there evidence that MAWC has been unable to earn its authorized return on**
5 **equity?**

6 A. Yes. As shown in Figure 12, MAWC has persistently under-earned its authorized ROE in
7 each year since 2015. Over this period, the Company’s average earned ROE was 8.19
8 percent as compared with the average authorized ROE of 9.71 percent, for an average
9 under-earning of approximately 152 basis points per year. This under-earning is due in
10 part to the regulatory environment in Missouri which is discussed in the upcoming sections.
11 The prior under earning highlights the importance of a constructive outcome in the current
12 proceeding so that MAWC has the opportunity to earn its authorized ROE.

13 **Figure 12: Earned vs. Authorized ROE**

	Earned ROE	Authorized ROE	Earnings Differential (BPS)
2023	8.72%	9.75% ⁶⁴	(103)
2022	8.72%	9.55%	(83)
2021	7.46%	9.55% ⁶⁵	(209)
2020	8.03%	9.75%	(172)
2019	8.57%	9.75%	(118)

⁶⁴ From AWK Investor Day Presentation, March 2024, “The ROE is the Company’s view of the ROE allowed in the case; however, the ROE was not disclosed in the Order or the applicable settlement agreement”, pg. 37.

⁶⁵ From AWK Fall 2021 Investor Day Presentation, November 2021, “The ROE is the Company’s view of the ROE allowed in the case; however, the ROE was not disclosed in the Order or the applicable settlement agreement”, pg. 60.

2018	8.42%	9.75%	(133)
2017	7.67%	9.50-10.00% ⁶⁶	(183-233)
2016	8.71%	9.75%	(104)
2015	7.95%	9.75% ⁶⁷	(180)

1

2

Regulatory Risk

3

Q. How does the regulatory environment affect investors’ risk assessments?

4

A. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory commissions recognize that because utility operations are capital intensive, their decisions should enable the utility to attract capital at reasonable terms, and that doing so balances the long-term interests of investors and customers. Utilities must finance their operations and thus require the opportunity to earn a reasonable return on their invested capital to maintain their financial profiles. The Company is no exception. Therefore, the regulatory environment is one of the most important factors considered in both debt and equity investors’ risk assessments.

5

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From the perspective of debt investors, the authorized return should enable the utility to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its systems, and maintain the necessary levels of liquidity to fund unexpected events. This financial liquidity must be derived not only

⁶⁶ Docket No. WR-2017-0285, Stipulation and Agreement, p. 3.

⁶⁷ Docket No. WR-2015- 0301, p. 3.

1 from internally generated funds, but also by efficient access to capital markets. Moreover,
2 because fixed income investors have many investment alternatives, even within a given
3 market sector, a utility's financial profile must be adequate on a relative basis to ensure its
4 ability to attract capital under a variety of economic and financial market conditions.

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

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

12 A. Both S&P and Moody's consider the overall regulatory framework in establishing credit
13 ratings. Moody's establishes credit ratings based on four key factors: (1) business profile;
14 (2) financial policy; (3) leverage and coverage; and (4) uplift for structural considerations.
15 Within the business profile criteria, stability and predictability of regulatory environment
16 and cost and investment recovery (sufficiency and timeliness) are each given a broad rating
17 factor of 15.0 percent, while revenue risk is given a rating factor of 5.0 percent. Therefore,
18 Moody's assigns regulatory risk a 35.0 percent weighting in the overall assessment of
19 business and financial risk for regulated utilities.⁶⁸

⁶⁸ Moody's Investors Service, Rating Methodology: Regulated Water Utilities, June 8, 2018, at 4.

1 S&P also identifies the regulatory framework as an important factor in credit ratings for
2 regulated utilities, stating: “One significant aspect of regulatory risk that influences credit
3 quality is the regulatory environment in the jurisdictions in which a utility operates.”⁶⁹ S&P
4 identifies four specific factors that it uses to assess the credit implications of the regulatory
5 jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting
6 procedures and design; (3) financial stability; and (4) regulatory independence and
7 insulation.⁷⁰

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

10 A. The regulatory environment can significantly affect both the access to, and cost of capital
11 in several ways. First, the proportion and cost of debt capital available to utility companies
12 are influenced by the rating agencies’ assessment of the regulatory environment. As noted
13 by Moody’s, “the characteristics and transparency of the concession(s) and regulations
14 under which the utility operates, the track record of the regulatory regime in setting tariffs
15 and applying regulations consistently are key elements in assessing the overall stability of
16 a water utility’s business profile.”⁷¹

⁶⁹ Standard & Poor’s Global Ratings. Ratings Direct. “Assessing U.S. Investor-Owned Utility Regulatory Environments.” August 10, 2016, at 2.

⁷⁰ *Id.*, at 1.

⁷¹ Moody’s Investors Service, Rating Methodology: Regulated Water Utilities, June 8, 2018, at 7.

1 **Q. Have you conducted any analysis of the regulatory framework in Missouri relative**
2 **to the jurisdictions in which the companies in your proxy group operate?**

3 A. Yes. I have evaluated the regulatory framework in Missouri considering three factors that
4 are important in terms of providing a regulated utility a reasonable opportunity to earn its
5 authorized ROE: (1) the test year convention (*i.e.*, forecast vs. historical) for ratemaking;
6 (2) the use of rate design or other mechanisms that mitigate volumetric risk and stabilize
7 revenue; and (3) the ability to recover capital costs between rate cases. Each of these are
8 described below:

9 Test Year Convention: MAWC has relied on a hybrid test year in the past with limited
10 “known and measurable” changes through a true-up period. In this proceeding, the
11 Company is proposing a future test year ending May 31, 2026. A future test year is
12 consistent with operating subsidiaries of the proxy group companies. As shown in
13 Schedule AEB-9, approximately 52 percent of the utility operating subsidiaries of the
14 proxy group companies use a partially or fully forecast test year, while the remainder use
15 a historical test year. Forecast test years result in more prompt recovery of incurred costs
16 and thus mitigates the regulatory lag associated with historical test years. As Lowry,
17 Hovde, Getachew, and Makos (2010) explain:

18 This report provides an in depth discussion of the test year issue. It includes
19 the results of empirical research which explores why the unit costs of
20 electric IOUs are rising and shows that utilities operating under forward test
21 years realize higher returns on capital and have credit ratings that are
22 materially better than those of utilities operating under historical test years.
23 The research suggests that shifting to a future test year is a prime strategy

1 for rebuilding utility credit ratings as insurance against an uncertain
2 future.⁷²

3 Non-Volumetric Rate Design/Revenue Stabilization: As discussed in the Direct Testimony
4 of Company witness Mr. Rea, MAWC is proposing a revenue stabilization mechanism
5 (“RSM”) that would reconcile actual revenue for water customers in the residential,
6 commercial, OPA and sale for resale classes with the revenue the Commission authorizes
7 (i.e., “Authorized Revenues”) the Company to collect in rates.⁷³ This mechanism excludes
8 revenues authorized and collected through the WSIRA, since this mechanism already
9 includes a reconciliation that functions similar to an RSM.

10 In order to determine the relative risk of MAWC to the proxy group, I reviewed RSM
11 mechanisms implemented by the proxy group. As shown in Schedule AEB-9,
12 approximately 59 percent of the operating companies of the proxy group have some form
13 of mechanism that results in increased revenue stability. Therefore, if the Commission were
14 to authorize the Company’s proposed RSM, MAWC’s volumetric risk would be more
15 comparable to the proxy group. However, to the extent that MAWC is not granted its
16 proposed RSM in this rate case, its risk would be substantially elevated, relative to the
17 proxy group.

18 Capital Cost Recovery: MAWC does have a capital tracking mechanism (the WSIRA) to
19 recover approximately 70 percent of its capital expenditures plan. As shown in Schedule

⁷² Mark Newton Lowry, David Hovde, Lullit Getachew, and Matt Makos. “Forward Test Years for US Electric Utilities,” Prepared for the Edison Electric Institute, August 2010 at 1.

⁷³ DT Charles Rea at 34.

1 AEB-9, approximately 79 percent of the operating companies held by the proxy group have
2 some form of capital cost recovery mechanism.

3 **Q. How does the Company's proposed production cost tracker affect its overall risk**
4 **profile?**

5 A. The Company's proposed production cost tracker would allow any differences in
6 production costs incurred and production costs in customers rates to be deferred to a
7 regulatory asset or liability. This mechanism simply provides for the recovery of the actual
8 costs of production. To the extent that the production costs decrease, the incremental cost
9 embedded in rates would decrease the regulatory asset and be returned to customers. While
10 this tracker provides the ability to true up production costs over time, it is not as
11 comprehensive as the production cost trackers that have been implemented by the gas
12 utilities in the proxy group, the majority of which pass through the cost of gas directly to
13 customers.

14 **Q. What is your understanding of the Company's proposal with respect to the RSM and**
15 **the production cost tracker?**

16 A. As discussed in the testimony of Company witnesses Charles Rea and Brian LaGrand,⁷⁴
17 the proposed RSM would include production costs. Therefore, if the Company were to be
18 authorized the RSM, as proposed, there would not be a need for a separate production cost

⁷⁴ DT Brian LaGrand at 26.

1 tracker, however, if the Commission were to approve the RSM excluding the production
2 cost tracker, there would be a need for this separate tracking mechanism.

3 **Q. What have the credit rating agencies concluded regarding the Missouri regulatory
4 environment?**

5 A. S&P considers the Missouri regulatory jurisdiction to be somewhat more restrictive than
6 average from an investor perspective.⁷⁵

7 **Q. Have you conducted any additional analyses to evaluate the regulatory environment
8 in Missouri as compared to the jurisdictions in which the companies in the proxy
9 group operate?**

10 A. Yes, I have conducted two additional analyses to compare the regulatory framework of
11 Missouri to the jurisdictions in which the companies in the proxy group operate.
12 Specifically, I considered two different rankings: (1) the Regulatory Research Associates
13 (“RRA”) ranking of regulatory jurisdictions; and (2) S&P’s ranking of the credit
14 supportiveness of regulatory jurisdictions.

15 **Q. Please explain how RRA evaluates the regulatory environment in each jurisdiction.**

16 A. RRA evaluates the regulatory environment from an investor perspective, considering the
17 relative regulatory risk associated with ownership of securities issued by the companies
18 that are regulated in each jurisdiction. RRA considers several factors that affect the
19 regulatory process including gubernatorial, legislative and court activity, rate case

⁷⁵ S&P CapitalIQ Pro, Missouri Commission profile, accessed June 5, 2024. Last updated by S&P April 21, 2023.

1 decisions and other regulatory decisions, and information obtained through contact with
2 commissioners, staff, company and government outreach.

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

5 A. RRA assigns a ranking for each regulatory jurisdiction as "Above Average", "Average" or
6 "Below Average", and then within each of those categories, a numeric ranking from 1 to
7 3. Thus, there are a total of nine RRA rankings, with the rankings for each jurisdiction
8 ranging from "Above Average/1", which is considered the most supportive, to "Below
9 Average/3," which is the least supportive. I have applied a numeric ranking system to the
10 RRA rankings with "Above Average/1" assigned the highest ranking (*i.e.*, a "1") and
11 "Below Average/3" assigned the lowest ranking (*i.e.*, a "9"). As shown on Schedule AEB-
12 10, the Missouri jurisdictional ranking is "Average / 3" (*i.e.*, a "6"), which is below the
13 proxy group average ranking of between "Average/1" and "Average/2" (*i.e.*, a "4.94").

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

15 A. For credit supportiveness, S&P classifies each regulatory jurisdiction into five categories
16 that range from "Most Credit Supportive" down to "Credit Supportive." My analysis of
17 the credit supportiveness of the regulatory jurisdictions in which the proxy companies
18 operate as compared to the Company's regulatory jurisdiction is similar to the analysis of
19 the RRA overall regulatory ranking discussed above. Specifically, I have assigned a
20 numerical ranking to each category, from Most Credit Supportive (*i.e.*, a "1") to Credit
21 Supportive (*i.e.*, a "5"). As shown on Schedule AEB-11, similar to the RRA regulatory
22 rankings discussed above, the Missouri jurisdictional classification of "Very Credit

1 Supportive” (*i.e.*, a “3”) is below the proxy group average ranking, which is classified
2 between “Highly Credit Supportive” and “Very Credit Supportive” (*i.e.*, a “2.68”).

3 **Q. What are your conclusions regarding the regulatory risks related to the Missouri**
4 **regulatory environment?**

5 A. Both Moody’s and S&P have identified the supportiveness of the regulatory environment
6 as an important consideration in developing their overall credit ratings for regulated
7 utilities. Based on my analysis, the Company’s regulatory risk and the ability to timely
8 recover its prudently incurred costs is generally consistent with the operating utilities of
9 the proxy group, albeit moderately higher given the lack of full fuel cost recovery, and the
10 limitations on capital cost recovery associated with certain capital expenditures. In
11 addition, the Company has not earned its authorized ROE since 2015, and both the RRA
12 and S&P rankings for Missouri indicate a greater risk than the average for the proxy group.
13 For these reasons, I conclude that the Company has greater than average regulatory risk
14 when compared to the proxy group.

15 **Flotation Costs**

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

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

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

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

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

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

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

19 A. As shown in Schedule AEB-7, in AWK's most recent stock issuance, the offering price
20 was \$135.50 per share of common stock. After paying flotation costs associated with the
21 equity issuance, which include fees paid to underwriters and attorneys, among others,
22 AWK's net proceeds are only \$133.41 per share invested. AWK invests that \$133.41 per

1 share in plant used to serve its customers, which becomes part of the invested capital of the
2 company. Absent a flotation cost adjustment, the investor will thereafter earn a return on
3 only the \$133.41 per share of invested capital, even though the contribution was \$135.50.
4 Making a small flotation cost adjustment gives the investor a reasonable opportunity to
5 earn the authorized return, rather than the lower return that results when the authorized
6 return is applied to an amount less than what the investor contributed.

7 **Q. Is the need to consider flotation costs eliminated because MAWC is a wholly-owned**
8 **subsidiary of AWK?**

9 A. No. Although MAWC is a wholly-owned subsidiary of AWK, it is appropriate to consider
10 flotation costs because wholly-owned subsidiaries receive equity capital from their parent
11 and provide returns on the capital that roll up to the parent, which is designated to attract
12 and raise capital based upon the returns of those subsidiaries. To deny recovery of issuance
13 costs associated with the capital that is invested in the subsidiaries ultimately penalizes the
14 investors that fund the utility operations and could inhibit the utility's ability to obtain new
15 equity capital at a reasonable cost. This is important for MAWC because the Company is
16 planning significant capital expenditures in the near term.

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

19 A. Yes. The need to reimburse shareholders for the lost returns associated with equity
20 issuance costs is recognized by the academic and financial communities in the same spirit
21 that investors are reimbursed for the costs of issuing debt. This treatment is consistent with
22 the philosophy of a fair rate of return. According to Dr. Shannon Pratt:

1 Flotation costs occur when new issues of stock or debt are sold to the public.
2 The firm usually incurs several kinds of flotation or transaction costs, which
3 reduce the actual proceeds received by the firm. Some of these are direct
4 out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and
5 prospectus preparation costs. Because of this reduction in proceeds, the
6 firm's required returns on these proceeds equate to a higher return to
7 compensate for the additional costs. Flotation costs can be accounted for
8 either by amortizing the cost, thus reducing the cash flow to discount, or by
9 incorporating the cost into the cost of capital. Because flotation costs are
10 not typically applied to operating cash flow, one must incorporate them into
11 the cost of capital.⁷⁶

12 **Q. How did you calculate the flotation costs for MAWC?**

13 A. My flotation cost calculation is based on the costs incurred by AWK in that company's
14 most recent equity offering as of February 28, 2023. That flotation cost percentage is then
15 applied to the DCF analysis to estimate impact on ROE. As shown in Schedule AEB-8,
16 based on the flotation costs incurred in the most recent AWK issuance, the impact on the
17 proxy group's cost of equity amounts to 6 basis points (i.e., 0.06 percent) based on the
18 mean and 4 basis points (i.e., 0.04 percent) based on the median.

19 **Q. Do your final results include an adjustment for flotation cost recovery?**

20 A. No. While the final ROE results do not incorporate an explicit adjustment for flotation
21 costs, I considered the estimated effect of flotation cost on ROE in identifying a
22 recommended ROE within the range of ROE estimates from the various models.

⁷⁶ Shannon P. Pratt, *Cost of Capital Estimation and Applications*, Second Edition, at 220-221.

1 **VIII. CAPITAL STRUCTURE**

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

4 A. Yes. The equity ratio is a primary indicator of financial risk for a regulated utility. All
5 else equal, a higher debt ratio increases the risk to investors. For debt holders, higher debt
6 ratios result in a greater portion of the available cash flow being required to meet debt
7 service, thereby increasing the risk associated with the payments on debt. The result of
8 increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more
9 significant for common equity shareholders, whose claim on the cash flow of the Company
10 is secondary to debt holders. Therefore, the greater the debt service requirement, the less
11 cash flow is available for common equity holders.

12 **Q. What is the Company's projected capital structure?**

13 A. As is discussed in the Direct Testimony of Company witness Nicholas Furia, the Company
14 proposes to establish a projected capital structure through May 31, 2026, of 50.54 percent
15 common equity and 49.46 percent long-term debt.

16 **Q. Is the Company's projected capital structure reflective of the way the Company is**
17 **operated and consistent with industry norms?**

18 A. Yes, it is for several reasons. Most importantly, the Company's test-year capital structure
19 is reflective of the way the Company is operated.⁷⁷ As discussed in the Direct Testimony
20 of Company witness Furia, the capital structure reflects the financing of MAWC's rate base

⁷⁷ DT of Nicholas Furia, at p. 14.

1 assets and operating costs. In addition to considering the operations of the Company, I also
2 examined the capital structures of the operating companies of the proxy group as well as
3 the capital structures that have recently been authorized for natural gas and water utilities.
4 In each case, the Company's capital structure is within the established range.

5 **Q. Why is it important that Missouri-American's capital structure be in line with the**
6 **proxy group capital structures?**

7 A. The capital structure reflects the financial risk profile of the company. From an equity
8 holder's perspective, the greater the amount of debt, the higher the risk of the investment,
9 since equity receives only the residual value after debt is paid in the event of the dissolution
10 of a company. Equity investors consider this financial risk in the valuation of a company.
11 The data that is used in setting the return on equity is the market's value and expectations
12 for the proxy group companies. This information takes into consideration the financial risk
13 of the proxy group companies, including their capitalization. Therefore, consistent with the
14 return on equity analysis, where there is a need to evaluate the risk of the company as
15 compared with the proxy group, it is also necessary to compare the Company's financial
16 risk, as established based on the capital structure, with the proxy group companies. If the
17 Commission is going to rely on the ROE estimates for the proxy companies to establish
18 the authorized ROE for MAWC, it is important that the financial risk of MAWC be similar
19 to the financial risk of the proxy group. This is accomplished when the equity ratio of the
20 subject company (in this case MAWC) is within the range established by the proxy group.

1 **Q. Have you conducted any analysis to determine the reasonableness of the Company's**
2 **capital structure?**

3 A. Yes. I conducted two analyses. I reviewed the Company's actual capital structure in
4 comparison with the actual capital structures of the utility operating companies of the proxy
5 group companies. In addition, I reviewed the Company's actual capital structure as
6 compared with the recently authorized capital structures for regulated water and natural
7 gas distribution companies.

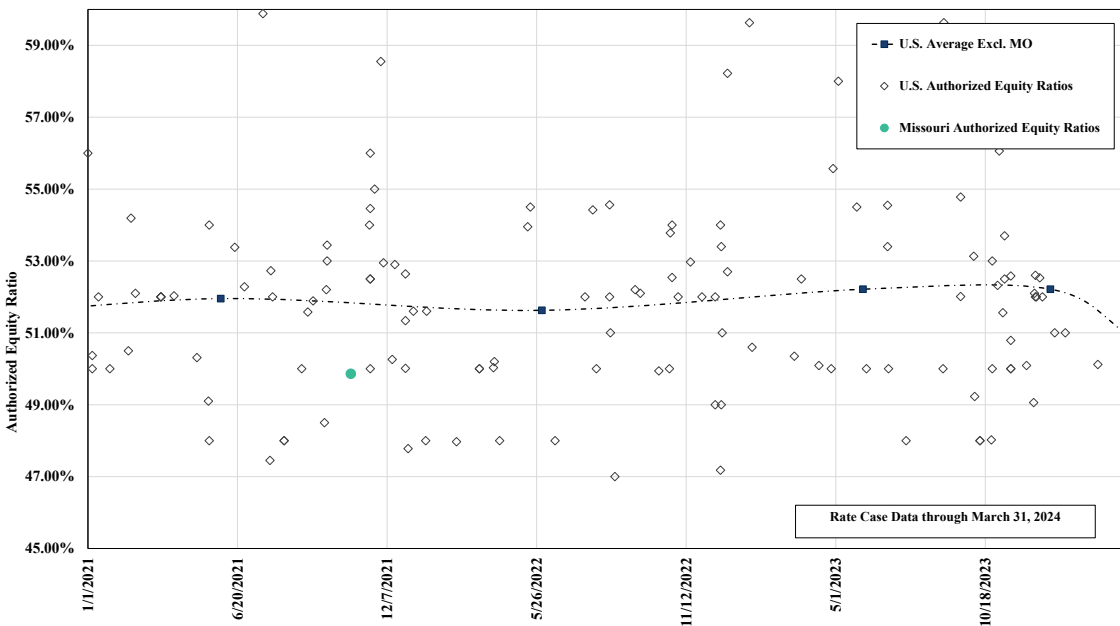
8 **Q. Did you conduct any analysis to determine if the projected equity ratio was**
9 **reasonable?**

10 A. Yes. I compared the Company's projected capital structure relative to the actual capital
11 structures of the utility operating subsidiaries of the companies in the proxy group.
12 Specifically, I have calculated the average proportion of common equity, long-term debt,
13 preferred equity and short-term debt for the most recent three years for each of the utility
14 operating subsidiaries of the proxy group companies. As shown in Schedule AEB-12, the
15 common equity ratios for operating subsidiaries of the proxy group companies over the
16 past three years ranged from 44.57 percent to 59.79 percent, with an average of 53.50
17 percent. Therefore, MAWC's projected equity ratio is below the mean of the range of
18 equity ratios for the utility operating subsidiaries of the proxy group companies and is
19 conservative.

1 **Q. How do the equity ratios in this case compare with the equity ratios that have been**
2 **recently authorized for water and natural gas utilities?**

3 A. Figure 13 below shows the authorized equity ratio for natural gas and water utilities in
4 Missouri and other jurisdictions throughout the United States over the past decade. As
5 shown in Figure 13, the authorized equity ratio has been below the national average in the
6 more recent cases. Additionally, MAWC’s projected equity ratio of 50.54 percent is at the
7 low end of the range of authorized equity ratios for companies of comparable risk and
8 slightly below the average of recently authorized equity ratios. Therefore, I conclude that
9 MAWC’s capital structure is reasonable and appropriate as compared with recent
10 authorized returns.

11 **Figure 13: Average Authorized Equity Ratios for Natural Gas & Water Utilities⁷⁸**



12

⁷⁸ Figure 13 excludes jurisdictions that include zero cost items in the capital structure: Texas, Arizona, Arkansas, Indiana, Michigan and Florida.

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

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

5 For example, while Moody’s recently revised its outlook for the utility sector from
6 “negative” to “stable”, Moody’s continues to note that high interest rates and increased
7 capital spending will place pressure on credit metrics. Thus, Moody’s highlights
8 constructive regulatory outcomes that promote timely cost recovery as a key factor in
9 supporting utility credit quality.⁷⁹

10 Likewise, while S&P also recently revised its outlook for the industry from negative to
11 stable, S&P continues to see significant risks over the near-term for the industry as a result
12 of inflation and increased levels of capital spending. Specifically, S&P noted:

13 Despite the improvement in economic data, we expect inflation, rising
14 interest rates, higher capital spending, and the strategic decision by many
15 companies to operate with only minimal financial cushion from their
16 downgrade thresholds to continue to pressure the industry's credit quality.
17 Throughout 2022 and so far in 2023, the Federal Reserve has consistently
18 raised interest rates to reduce the pace of inflation. While these actions
19 appear to have had a positive effect on slowing inflation, there's still been a
20 modest weakening in the industry's financial measures because of inflation

⁷⁹ Moody’s Investors Service, Outlook, “Outlook turns stable on low prices and credit-supportive regulation,” September 7, 2023.

1 and rising interest rates. An environment of continuously rising costs tends
2 to weaken the industry's financial measures because of the timing difference
3 between when the higher costs are incurred and when they are ultimately
4 recovered from ratepayers.⁸⁰

5 S&P has also recently concluded:

6 The confluence of higher operating costs due to rising inflation, higher
7 interest rates, storm restoration costs, increasing capital spending, and the
8 recovery of previously deferred higher commodity costs, has resulted in
9 growing rate case filings and increased rate rider recovery requests from
10 state regulators. We expect to closely monitor the industry's ability to not
11 just recover these rising costs but to do so in such a manner that minimizes
12 the regulatory lag. However, given the impact of these higher costs to the
13 customer bill, the industry's ability to effectively manage regulatory risk
14 could become increasingly challenging, possibly pressuring its credit
15 quality.⁸¹

16 Fitch Ratings (“Fitch”) has stated that it is maintaining a “deteriorating outlook” on the
17 U.S. utility sector in 2024 based on elevated capital spending and continuing higher interest
18 rates that place pressure on credit metrics. Fitch noted that bill affordability will remain a
19 major issue for the industry that could affect future regulatory outcomes, and that while it
20 expects authorized ROEs to start trending up with the increase in interest rates, albeit with

⁸⁰ S&P Global Ratings, “The Outlook for North American Regulated Utilities Turns Stable,” May 18, 2023, at 8.

⁸¹ S&P Global Ratings, “Regulatory Friction Is Constraining Cost Recovery For North American Investor-Owned Utilities,” November 6, 2023, at 8.

1 a lag, given the uncertain macroeconomic environment and bill pressure on customers, the
2 lag could be longer than in previous cycles.⁸²

3 The credit ratings agencies' continued concerns over the negative effects of inflation and
4 increased capital expenditures underscore the importance of maintaining adequate cash
5 flow metrics for the industry as a whole, and for MAWC in particular.

6 **IX. CONCLUSIONS AND RECOMMENDATIONS**

7 **Q. What is your conclusion regarding a fair ROE for MAWC?**

8 A. Based on the various quantitative analyses summarized in Figure 14, a reasonable range
9 for the Company's ROE is from 10.25 percent to 11.25 percent. Considering the qualitative
10 analyses presented in my direct testimony, and the Company's specific risk factors, an
11 ROE of 10.75 percent within that range is reasonable.

⁸² Fitch Ratings, "North American Utilities, Power & Gas Outlook," S&P Market Intelligence, November 13, 2023.

1

Figure 14: Summary of Analytical Results

<i>Constant Growth DCF</i>			
	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Mean Results:			
30-Day Avg. Stock Price	8.84%	9.88%	10.91%
90-Day Avg. Stock Price	8.81%	9.86%	10.88%
180-Day Avg. Stock Price	8.77%	9.82%	10.84%
Average	8.81%	9.85%	10.88%
Median Results:			
30-Day Avg. Stock Price	8.71%	10.03%	10.54%
90-Day Avg. Stock Price	8.69%	10.00%	10.52%
180-Day Avg. Stock Price	8.75%	9.90%	10.58%
Average	8.72%	9.98%	10.55%

<i>CAPM and ECAPM</i>			
30-Year Treasury Bond Yield			
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
CAPM:			
Current <i>Value Line</i> Beta	11.62%	11.58%	11.55%
Current Bloomberg Beta	10.90%	10.83%	10.78%
Long-term Avg. <i>Value Line</i> Beta	10.74%	10.67%	10.62%
ECAPM:			
Current <i>Value Line</i> Beta	11.94%	11.91%	11.89%
Current Bloomberg Beta	11.40%	11.35%	11.31%
Long-term Avg. <i>Value Line</i> Beta	11.28%	11.23%	11.19%

2

3 **Q. What is your conclusion with respect to MAWC'S capital structure?**

4 A. MAWC's requested capital structure consisting of 50.54 percent common equity and 49.46
5 percent long-term debt is consistent with the actual capital structures of the operating
6 utilities of the proxy group companies. Further, taking into consideration the impact of
7 current and projected market conditions on the cash flows of utilities as raised by the credit

1 rating agencies, I conclude that the Company's proposal is reasonable and should be
2 adopted for ratemaking purposes.

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

4 A. Yes, it does.



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With more than 25 years of experience in the energy industry, Ms. Bulkley specializes in regulatory economics for the electric and natural gas and water utility sectors, including valuation of regulated and unregulated utility assets, cost of capital, and capital structure issues.

Ms. Bulkley has extensive state and federal regulatory experience, and she has provided expert testimony on the cost of capital in nearly 100 regulatory proceedings before 32 state regulatory commissions and the Federal Energy Regulatory Commission (FERC).

In addition to her regulatory experience, Ms. Bulkley has provided valuation and appraisal services for a variety of purposes, including the sale or acquisition of utility assets, regulated ratemaking, ad valorem tax disputes, and other litigation purposes. In addition, she has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring, and regulatory and litigation support.

Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

Prior to joining Brattle, Ms. Bulkley was a Senior Vice President at an economic consultancy and held senior positions at several other consulting firms.

AREAS OF EXPERTISE

- Regulatory Economics, Finance & Rates
- Regulatory Investigations & Enforcement
- Tax Controversy & Transfer Pricing
- Electricity Litigation & Regulatory Disputes
- M&A Litigation



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EDUCATION

- **Boston University**
MA in Economics
- **Simmons College**
BA in Economics and Finance

PROFESSIONAL EXPERIENCE

- **The Brattle Group (2022–Present)**
Principal
- **Concentric Energy Advisors, Inc. (2002–2021)**
Senior Vice President
Vice President
Assistant Vice President
Project Manager
- **Navigant Consulting, Inc. (1997–2002)**
Project Manager
- **Reed Consulting Group (1995-1997)**
Consultant- Project Manager
- **Cahners Publishing Company (1995)**
Economist

SELECTED CONSULTING EXPERIENCE & EXPERT TESTIMONY

REGULATORY ANALYSIS AND RATEMAKING

Have provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking, with specific services including:

- Cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies
- Development of merchant function exit strategies



- Analysis and program development to address residual energy supply and/or provider of last resort obligations
- Stranded costs assessment and recovery
Performance-based ratemaking analysis and design
- Many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation)

COST OF CAPITAL

Have provided expert testimony on the cost of capital and capital structure in nearly 100 regulatory proceedings before state and federal regulatory commissions in the United States.

RATEMAKING

Have assisted several clients with analysis to support investor-owned and municipal utility clients in the preparation of rate cases. Sample engagements include:

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.
- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Along with analyzing and evaluating rate application, attended hearings and conducted investigation of rate application for regulatory staff and prepared, supported, and defended recommendations for revenue requirements and rates for the company. Additionally, developed rates for gas utility for transportation program and ancillary services.

VALUATION

Have provided valuation services to utility clients, unregulated generators, and private equity clients for a variety of purposes, including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. Appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal Practice.

Representative projects/clients have included:

- Prepared appraisals of electric utility transmission and distribution assets for ad valorem tax purposes.
- Prepared appraisals of hydroelectric generating facilities for ad valorem tax purposes.
- Conducted appraisals of fossil fuel generating facilities for ad valorem tax purposes.
- Conducted appraisals of generating assets for the purposes of unwinding sale-leaseback agreements.
- For a confidential utility client, prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.



- Conducted a strategic review of the acquisition of nuclear generation assets. Review included the evaluation of the operating costs of the facilities and the long-term liabilities associated with the assets including the decommissioning of the assets.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis, and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract.
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, and a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Conducted a valuation of regulated utility assets for the fair value rate base estimate used in electric rate proceedings in Indiana.
- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Prepared feasibility reports analyzing the expected net benefits resulting from municipal ownership of investor-owned utility operations.
- Prepared independent analyses of proposal for the proposed government condemnation of the investor-owned utilities in Maine and the formation of a public power district.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

STRATEGIC AND FINANCIAL ADVISORY SERVICES

Have assisted several clients across North America with analytically-based strategic planning, due diligence, and financial advisory services.

Representative projects include:



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- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.
- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.



BULKLEY TESTIMONY LISTING

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
Southwest Gas Corporation	02/24	Southwest Gas Corporation	Docket No. G-01551A-23-0341	Return on Equity
UNS Electric	11/22	UNS Electric	Docket No. E-04204A-15-0251	Return on Equity
Tucson Electric Power Company	6/22	Tucson Electric Power Company	Docket No. G-01933A-22-0107	Return on Equity
Southwest Gas Corporation	12/21	Southwest Gas Corporation	Docket No. G-01551A-21-0368	Return on Equity
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
Arkansas Public Service Commission				
Oklahoma Gas and Electric Co	10/21	Oklahoma Gas and Electric Co	Docket No. D-18-046-FR	Return on Equity
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
California Public Utilities Commission				
PacifiCorp, d/b/a Pacific Power	5/22	PacifiCorp, d/b/a Pacific Power	Docket No. A-22-05-006	Return on Equity
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity
Colorado Public Utilities Commission				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Public Service Company of Colorado	01/24	Public Service Company of Colorado	Docket No. 24AL-___G	Return on Equity
Public Service Company of Colorado	11/22	Public Service Company of Colorado	Docket No. 22AL-0530E	Return on Equity
Public Service Company of Colorado	01/22	Public Service Company of Colorado	Docket No. 22AL-0046G	Return on Equity
Public Service Company of Colorado	07/21	Public Service Company of Colorado	21AL-0317E	Return on Equity
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
Connecticut Public Utilities Regulatory Authority				
The Southern Connecticut Gas Company	11/23	The Southern Connecticut Gas Company	Docket No. 23-11-02	Return on Equity
Connecticut Natural Gas Corporation	11/23	Connecticut Natural Gas Corporation	Docket No. 23-11-02	Return on Equity
Connecticut Water Company	10/23	Connecticut Water Company	Docket No. 23-08-32	Return on Equity
United Illuminating	09/22	United Illuminating	Docket No. 22-08-08	Return on Equity
United Illuminating	05/21	United Illuminating	Docket No. 17-12-03RE11	Return on Equity
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
Federal Energy Regulatory Commission				
Sea Robin Pipeline	12/22	Sea Robin Pipeline	Docket No. RP22-___	Return on Equity
Northern Natural Gas Company	07/22	Northern Natural Gas Company	Docket No. RP22-___	Return on Equity
Transwestern Pipeline Company, LLC	07/22	Transwestern Pipeline Company, LLC	Docket No. RP22-___	Return on Equity
Florida Gas Transmission	02/21	Florida Gas Transmission	Docket No. RP21-441	Return on Equity
TransCanyon	01/21	TransCanyon	Docket No. ER21-1065	Return on Equity
Duke Energy	12/20	Duke Energy	Docket No. EL21-9-000	Return on Equity
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
Idaho Public Utilities Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-24-04	Return on Equity
Intermountain Gas Co	12/22	Intermountain Gas Co	C-INT-G-22-07	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-21-07	Return on Equity
Illinois Commerce Commission				
Illinois American Water	01/24	Illinois American Water	Docket No. 24-0097	Return on Equity
Peoples Gas Light & Coke Company	01/23	Peoples Gas Light & Coke Company	D-23-0069	Return on Equity
North Shore Gas Company	01/23	North Shore Gas Company	D-23-0068	Return on Equity
Illinois American Water	02/22	Illinois American Water	Docket No. 22-0210	Return on Equity
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
Indiana Utility Regulatory Commission				
Ohio Valley Gas Corporation and Ohio Valley Gas, Inc.	02/24	Ohio Valley Gas Corporation and Ohio Valley Gas, Inc.	Cause No. 46011	Return on Equity
Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South	12/23	Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South	IURC Cause No. 45990	Return on Equity
Indiana Michigan Power Co.	08/23	Indiana Michigan Power Co.	IURC Cause No. 45933	Return on Equity
Indiana American Water Company	03/23	Indiana and Michigan American Water Company	IURC Cause No. 45870	Return on Equity
Indiana Michigan Power Co.	07/21	Indiana Michigan Power Co.	IURC Cause No. 45576	Return on Equity
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
Iowa Department of Commerce Utilities Board				
Iowa-American Water Company	04/24	Iowa-American Water Company	Docket No. RPU-2024-000_	Return on Equity
MidAmerican Energy Company	06/23	MidAmerican Energy Company	Docket No. RPU-2023-____	Return on Equity
MidAmerican Energy Company	01/22	MidAmerican Energy Company	Docket No. RPU-2022-0001	Return on Equity
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
Kansas Corporation Commission				
Evergy Kansas	04/23	Evergy Kansas	Docket No. 23-EKCE-775-RTS	Return on Equity
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				
Kentucky American Water Company	06/23	Kentucky American Water Company	Docket No. 2023-____	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
Maine Public Utilities Commission				
Central Maine Power	08/22	Central Maine Power	Docket No. 2022-00152	Return on Equity
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
Maryland Public Service Commission				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
Massachusetts Appellate Tax Board				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
Massachusetts Department of Public Utilities				
Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid	11/23	Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid	DPU 23-150	Return on Equity
National Grid USA	11/20	Boston Gas Company	DPU 20-120	Return on Equity
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Upper Michigan Energy Resources Corporation	05/24	Upper Michigan Energy Resources Corporation	Case No. U-21541	Return on Equity
Michigan Gas Utilities Corporation	03/24	Michigan Gas Utilities Corporation	Case No. U-21540	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Indiana Michigan Power Co.	09/23	Indiana Michigan Power Co.	Case No. U-21461	Return on Equity
Michigan Gas Utilities Corporation	03/23	Michigan Gas Utilities Corporation	Case No. U-21366	Return on Equity
Michigan Gas Utilities Corporation	03/21	Michigan Gas Utilities Corporation	Case No. U-20718	Return on Equity
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
Minnesota Public Utilities Commission				
ALLETE, Inc. d/b/a Minnesota Power	11/23	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-23-155	Return on Equity
CenterPoint Energy Resources	11/23	CenterPoint Energy Resources	D-G-008/GR-23-173	Return on Equity
Minnesota Energy Resources Corporation	11/22	Minnesota Energy Resources Corporation	Docket No. G011/GR-22-504	Return on Equity
CenterPoint Energy Resources	11/21	CenterPoint Energy Resources	D-G-008/GR-21-435	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/21	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-21-630	Return on Equity
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
Missouri Public Service Commission				
Evergy Missouri West	02/24	Evergy Missouri West	File No. ER-2024-0189	Return on Equity
Ameren Missouri	08/22	Ameren Missouri	File No. ER-2022-0337	Return on Equity
Missouri American Water Company	07/22	Missouri American Water Company	Case No. WR-2022-0303 Case No. SR-2022-0304	Return on Equity
Evergy Missouri West	01/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity
Evergy Missouri Metro	01/22	Evergy Missouri Metro	File No. ER-2022-0129	Return on Equity
Ameren Missouri	03/21	Ameren Missouri	Docket No. ER-2021-0240 Docket No. GR-2021-0241	Return on Equity
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				
Montana-Dakota Utilities Co.	11/22	Montana-Dakota Utilities Co.	D2022.11.099	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
Public Utilities Commission of Nevada				
Sierra Pacific Power Company d/b/a NV Energy	02/24	Sierra Pacific Power Company d/b/a NV Energy	24-02026	Return on Equity
Nevada Power Company d/b/a NV Energy	06/23	Nevada Power Company d/b/a NV Energy	23-06007	Return on Equity
Nevada Power Company d/b/a NV Energy	03/23	Nevada Power Company d/b/a NV Energy	22-03028	Merger benefits
New Hampshire - Board of Tax and Land Appeals				
Liberty Utilities (EnergyNorth Natural Gas)	07/23	Liberty Utilities (EnergyNorth Natural Gas)	Docket No. DG 23-067	Return on Equity
Liberty Utilities (Granite State Electric)	05/23	Liberty Utilities (Granite State Electric)	Docket No. DE 23-039	Return on Equity
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
New Hampshire-Merrimack County Superior Court				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
New Hampshire-Rockingham Superior Court				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
New Jersey American Water Company, Inc.	02/24	New Jersey American Water Company, Inc.	WR2401056	Return on Equity
Elizabethtown Gas Company	2/24	Elizabethtown Gas Company	GR24020158	Return on Equity
Public Service Electric and Gas Company	12/23	Public Service Electric and Gas Company	ER23120924 GR23120925	Return on Equity
New Jersey American Water Company, Inc.	01/22	New Jersey American Water Company, Inc.	WR22010019	Return on Equity
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	EO18101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
New Mexico Public Regulation Commission				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
New York State Department of Public Service				
Liberty Utilities (New York Water)	5/23	Liberty Utilities (New York Water)	Case 23-W-0235	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/22	New York State Electric and Gas Company Rochester Gas and Electric	22-E-0317 22-G-0318 22-E-0319 22-G-0320	Return on Equity
Corning Natural Gas Corporation	07/21	Corning Natural Gas Corporation	Case No. 21-G-0394	Return on Equity
Central Hudson Gas and Electric Corporation	08/20	Central Hudson Gas and Electric Corporation	Electric 20-E-0428 Gas 20-G-0429	Return on Equity
Niagara Mohawk Power Corporation	07/20	National Grid USA	Case No. 20-E-0380 20-G-0381	Return on Equity
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/19	New York State Electric and Gas Company Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Electric 17-E-0459 Gas 17-G-0460	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-E-0283 Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
North Dakota Public Service Commission				
Otter Tail Power Company	11/23	Otter Tail Power Company	Case No. PU-23-___	Return on Equity
Montana-Dakota Utilities Co.	11/23	Montana-Dakota Utilities Co.	Case No. PU-23-___	Return on Equity
Montana-Dakota Utilities Co.	05/22	Montana-Dakota Utilities Co.	C-PU-22-194	Return on Equity
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-379	Return on Equity
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
Oklahoma Corporation Commission				
Oklahoma Gas & Electric	12/23	Oklahoma Gas & Electric	Cause No. PUD2023-000087	Return on Equity
Oklahoma Gas & Electric	12/21	Oklahoma Gas & Electric	Cause No. PUD 202100164	Return on Equity
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Oregon Public Service Commission				
PacifiCorp d/b/a Pacific Power & Light	02/24	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-433	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	03/22	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-399	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Pennsylvania Public Utility Commission				
American Water Works Company Inc.	11/23	Pennsylvania-American Water Company	Docket No. R-2023-3043189 (water) Docket No. R-2023-3043190 (wastewater)	Return on Equity
American Water Works Company Inc.	04/22	Pennsylvania-American Water Company	Docket No. R-2020-3031672 (water) Docket No. R-2020-3031673 (wastewater)	Return on Equity
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
South Dakota Public Utilities Commission				
MidAmerican Energy Company	05/22	MidAmerican Energy Company	D-NG22-005	Return on Equity
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				
CenterPoint Energy Houston	03/24	CenterPoint Energy Houston	D-56211	Return on Equity
AEP Texas	02/24	AEP Texas	D-56165	Return on Equity
Entergy Texas, Inc.	07/22	Entergy Texas, Inc.	D-53719	Return on Equity
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
Texas Railroad Commission				



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
CenterPoint Energy Entex and CenterPoint Energy Texas Gas	10/23	CenterPoint Energy Entex and CenterPoint Energy Texas Gas	2023 Texas Division Rate Case Case No. OS-23-00015513	Return on Equity
Utah Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/23	Virginia American Water Company, Inc.	Docket No. PUR-2023-00194	Return on Equity
Virginia American Water Company, Inc.	11/21	Virginia American Water Company, Inc.	Docket No. PUR-2021-00255	Return on Equity
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				
Cascade Natural Gas Corporation	03/24	Cascade Natural Gas Corporation	Docket No. UG-240008	Return on Equity
Puget Sound Energy Inc.	02/24	Puget Sound Energy Inc.	Docket No. UE-240004 UG-240005	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	03/23	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-230172	Return on Equity
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
West Virginia Public Service Commission				
West Virginia American Water Company	05/23	West Virginia American Water Company	Case No. 23-0383-W-42T	Return on Equity



SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
West Virginia American Water Company	04/21	West Virginia American Water Company	Case No. 21-02369-W-42T	Return on Equity
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
Wisconsin Public Service Commission				
Wisconsin Power and Light	04/24	Wisconsin Power and Light	Docket No. 6680-UR-128	Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/24	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-111	Return on Equity
Wisconsin Power and Light	05/23	Wisconsin Power and Light	Docket No. 6680-UR-124	Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/22	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-110	Return on Equity
Wisconsin Public Service Corp.	04/22	Wisconsin Public Service Corp.	6690-UR-127	Return on Equity
Alliant Energy		Alliant Energy		Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
Wyoming Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	02/23	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-633-ER-23	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity



CERTIFICATIONS/ACCREDITATIONS

Certified General Appraiser, licensed in the Commonwealth of Massachusetts