Exhibit No.	
Issues:	Return on Equity and Capital Structure
Witness:	Ann E. Bulkley
Exhibit Type:	Surrebuttal
Sponsoring Party:	Missouri-American Water Company
Case No.	WR-2020-0344
Date:	February 9, 2021

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2020-0344

SURREBUTTAL 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 Senior Vice President for Concentric Energy Advisors, Inc., 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

February 8, 2021
Dated

SURREBUTTAL TESTIMONY
ANN E. BULKLEY
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR-2020-0344

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SURREBUTTAL TESTIMONY

ANN E. BULKLEY

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Ann E. Bulkley. I am Senior Vice President of Concentric Energy Advisors, Inc. ("Concentric"). My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752.

Q. On whose behalf are you submitting this testimony?

A. I am testifying on behalf of Missouri-American Water Company ("MAWC", "Missouri-American", or the "Company"), a wholly-owned subsidiary of American Water Works Company, Inc. ("AWK" or "American Water").

Q. Did you previously provide Direct and Rebuttal testimonies in this proceeding?

A. Yes. I filed Direct Testimony in this proceeding on June 30, 2020. I filed Rebuttal Testimony on January 15, 2021.

Q. What is the purpose of your Surrebuttal Testimony?

A. The purpose of my Surrebuttal Testimony is to respond to the Rebuttal Testimony of the Missouri Public Service Commission Staff ("Staff") witness Seoung Joun Won and the Rebuttal Testimony of David Murray on behalf of the Missouri Office of Public Counsel ("OPC") relating to the authorized return on equity ("ROE") and capital structure.

Q. Are you sponsoring any schedules as part of your Rebuttal Testimony?

A. Yes, I am sponsoring Schedules AEB-1S through AEB-5S.

Q. Please briefly summarize your Surrebuttal Testimony and your key conclusions and recommendations regarding the appropriate ROE and capital structure for MAWC in this proceeding.

A. My key conclusions are as follows:

1. Dr. Won and Mr. Murray both continue to recommend imputing the consolidated capital structure of the American Water affiliated companies on MAWC for ratemaking purposes. As discussed in my Rebuttal Testimony, the Commission determined in a case for Spire Missouri, Inc. ("Spire Missouri")[1] that the consolidated capital structure of Spire, Inc. should not be relied on for the operating subsidiary where the parent company had multiple operating companies, and the Missouri utility did not represent a majority of the parent capitalization. Neither Dr. Won nor Mr. Murray have provided any evidence to indicate how MAWC's circumstances are different from those of Spire Missouri, particularly where the Company is one of sixteen utility operating subsidiaries of AWK and comprises a relatively small percentage of the consolidated capitalization. Consistent with the Spire Missouri case, it is not reasonable to utilize the consolidated capital structure of American Water as the ratemaking capital structure of Missouri-American.

2. Mr. Murray continues to propose the inclusion of short-term debt in the capital structure for MAWC in his rebuttal testimony. As discussed in the Rebuttal Testimony of Company Witness LaGrand, the Company uses short-term debt and other sources of funds including customer payments to finance a variety of its

[1] MoPSC Case No. GR-2017-0215 (March 7, 2018).

operational needs including capital spending, employee payroll, general taxes and payments to vendors for maintenance expenses.[2] Therefore, since short-term debt is primarily used to fund working capital requirements, it is not reasonable to include short-term debt in the capital structure for MAWC to finance long-term assets.

3. Mr. Murray's inclusion of short-term debt for each of the companies in his proxy group also biases the equity ratios of the companies in his proxy group downward. Reasonable adjustment to Mr. Murray's analysis - such as removing short-term and relying on an equity quarter average - results in a range of equity ratios for the water subgroup that Mr. Murray claims are similar (in size and geographical diversity) of 48.66 percent to 58.15 percent with an average of 54.61 percent. These equity ratios of comparable companies confirm that the equity ratios in the capital structures recommended by Mr. Murray and Dr. Won's are well below this range and are not reasonable.

4. Notably, Dr. Won and Mr. Murray both continue to simply ignore this Commission's decision and guidance in the Spire Missouri case. Instead, they rely on the authorized capital structures in three other jurisdictions where AWK subsidiaries operate -- Tennessee, New York and Virginia – to support their recommendation to impute the American Water consolidated capital structure on MAWC for ratemaking purposes. The Tennessee and New York commissions however, did not rely on the consolidated capital structure for the AWK operating

[2] Rebuttal Testimony of Brian W. LaGrand at 31.

companies in those jurisdictions and the Virginia commission does not apply the consolidated capital structure to electric companies.

5. Dr. Won's and Mr. Murray's proposed equity ratios in combination with their weighted ROE recommendations ("WROE") do not meet the standards of Hope and Bluefield including (1) consistency with other businesses having similar or comparable risks; and (2) adequacy of the return to support credit quality and access capital. If adopted, the proposals offered by these witnesses would result in weighted ROEs, that are significantly below the average authorized for AWK operating companies, well outside the range of weighted ROEs authorized by this Commission and would have a significant negative effect on MAWC's ability to attract discretionary capital investment.

6. Both Dr. Won and Mr. Murray spend many pages of their respective Rebuttal Testimony disputing my application of the DCF and CAPM models. Their criticism should be viewed, however, in the context that neither Dr. Won nor Mr. Murray rely on the results of any of their own ROE estimation models. Their respective 9.55 percent and 9.25 percent recommendations are completely divorced from their methodologies and instead rely instead on subjective analyses.

7. My ROE models were developed using a proxy group of comparable water and natural gas utilities to determine the ROE. Although he did not rely on his own models, Dr. Won presents three flawed analyses to suggest that including natural gas companies in my proxy group biases the results of the ROE estimation models. In each case, correcting Dr. Won's analysis demonstrates that his conclusion is mistaken and supports the inclusion of natural gas companies in the proxy group.

8. Finally, Mr. Murray recommends a downward adjustment to MAWC's ROE if the Company's proposed Revenue Stabilization Mechanism ("RSM") is approved to account for the reduction in business risk associated with the RSM. The rate of return on equity in this case is being set using a proxy group to establish MAWC's cost of equity. To the extent that companies in that group have revenue stabilization mechanisms, the use of the proxy group takes them into account, and the addition of any discrete adjustment would be an unwarranted double counting of the effect of the clause.

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

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

- In Section II, I respond to the capital structure recommendations of Staff witness Dr. Won and OPC witness Mr. Murray.
- In Section III, I respond to the ROE analyses and recommendations of Staff witness Dr. Won and OPC witness Mr. Murray.
- Finally, in Section IV, I summarize my conclusions and recommendations.

II. CAPITAL STRUCTURE

A. Overview

Q. Please summarize the Staff and OPC capital structure recommendations that you respond to in your Surrebuttal Testimony.

A. Staff witness Dr. Won[3] and OPC witness Mr. Murray[4] reasserted the recommendations each made in their respective direct testimonies, namely that the Commission impose the

[3] Rebuttal Testimony of Seoung Joun Won, Phd ("Won Rebuttal"), at 21-22.
[4] Rebuttal Testimony of David Murray ("Murray Rebuttal"), at 21.

consolidated capital structure of American Water on MAWC for ratemaking purposes. Staff recommends the use of AWC's consolidated capital structure as of June 30, 2020 while OPC recommends the average of five quarters ending June 30, 2020. Finally, Dr. Won states that if the Commission does not adopt Staff's capital structure recommendation, it should adopt a lower ROE than currently recommended by Staff.[5]

Q. Please summarize your responses to the Rebuttal Testimonies of Staff and OPC and your recommendations to the Commission regarding the Company's capital structure.

A. I summarize below the four central failings of Dr. Won's and Mr. Murray's positions supporting their imputation of the consolidated capital structure for MAWC. These failings include; 1) not addressing Missouri Public Service Commission precedent, 2) the effect of their proposals on the financial integrity of MAWC, 3) misunderstanding the relationship between the ROE and the equity ratio and 4) failure to meet the comparable return standard of *Hope* and *Bluefield*.[6]

Q. You note that Dr. Won and Mr. Murray fail to address Missouri Public Service Commission precedent regarding capital structure. Please explain.

A. Dr. Won and Mr. Murray seek support for their proposed capital structure in other jurisdictions where AWK operates, yet they do not address the fact that the Commission in this jurisdiction has rejected their proposal in a case that is directly comparable to the

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5 Won Rebuttal, at 22.

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

circumstances faced by MAWC. In its 2018 Spire Missouri decision,[7] this Commission considered and rejected the imputation of the parent company's consolidated capital structure on the regulated operating utility affiliate for ratemaking purposes and also rejected the inclusion of short-term debt in the capital structure. The Commission was clear that the Spire, Inc. consolidated company capital structure should not be relied upon in that case because Spire Missouri was one of five operating companies and did not represent the majority of the parent capitalization. Here, MAWC is one of sixteen utility operating companies in American Water's Regulated Business segment and American Water's operations also include a Market-Based Services (i.e. non-regulated) segment that makes up approximately 15 percent of its operating income. While the Spire Missouri decision is precedent from this Commission on how to address the capital structure for an operating company in a consolidated group, neither Dr. Won nor Mr. Murray address the Commission's decision or provide any credible reasons why Missouri-American should be treated differently than Spire Missouri with respect to capital structure.

Q. You stated that Mr. Murray's analysis fails to demonstrate that MAWC's financial integrity would be maintained if its capital structure mirrored the consolidated capital structure. Please explain.

A. First, it is important to recognize, as discussed in my Rebuttal Testimony and the Rebuttal Testimony of Company witness Merante, that Dr. Won's and Mr. Murray's proposal to impute the American Water consolidated capital structure on MAWC for ratemaking

[7] MoPSC Case No. GR-2017-0215 (March 7, 2018). See also Rebuttal Testimony of Ann E. Bulkley ("Bulkley Rebuttal"), at 3, 6, 10-11.

purposes creates the incentive for the utility to match its actual capital structure with the imputed capital structure in order to provide the best opportunity to earn its authorized ROE, thereby removing equity from MAWC. Mr. Murray puts forth a labored analysis in an attempt to support his view that aligning MAWC's capital structure with American Water's more leveraged consolidated capital structure would have no effect on MAWC's financial risk profile.[8] I demonstrate that Mr. Murray incorrectly calculated the capital structures for his proxy group by: 1) including short-term debt in the analysis; and 2) considering the capitalization of companies such as SJW, AWK, and CWT, which have much greater geographic diversity than MAWC. This results in Mr. Murray inappropriately concluding that MAWC would maintain a credit rating of A- or above and could issue debt independently at a lower cost than the debt rates American Water secures given its more substantial sized, diversification and financial strength. Furthermore, as I will discuss in more detail below, in response to OPC data request number 3027, Mr. Merante estimated the difference in cost between accessing capital through American Water Capital Corp. ("AWCC") and MAWC accessing capital on a stand-alone basis conservatively assuming a Moody's credit rating of Baa3 to account for Mr. Murray's proposed 39 percent equity ratio. That analysis demonstrated that issuing first mortgage bonds or issuing debt through private placement would result in significantly greater cost for MAWC, in the range of 223-237 basis points higher. Finally, Mr. Murray's conclusion is also disproven by the analysis prepared in my Rebuttal Testimony, comparing the debt costs achieved through AWCC to the yield on bond indexes in the same market conditions.

[8] Murray Rebuttal, at 14-22.

Q. Dr. Won argues that if the Commission does not adopt Staff's proposed capital structure, it should adopt a lower ROE than currently recommended by Staff. You noted that no ROE adjustment is warranted for relying on MAWC's actual capital structure. Please explain.

A. Dr. Won offers no support for his recommendation that if the Commission does not adopt Staff's proposed capital structure, it should adopt a lower ROE than currently recommended by Staff. In fact, as I discuss below, basic financial theory mandates a *higher* ROE be applied if the authorized equity ratio of the utility is lower than that of the proxy group used to determine its ROE, as it would be if there is a mismatch between the capital structure of the proxy group used to set MAWC's ROE and the much lower capital structure recommended by Dr. Won and Mr. Murray.

Q. You testify that Dr. Won's and Mr. Murray's proposals fail to meet the comparable return standard. Please explain what you mean by that.

A. As I discussed in my Rebuttal Testimony "It is a fundamental tenet of finance that the greater the amount of financial risk borne by common shareholders, the greater the return required by shareholders in order to be compensated for the added financial risk imparted by the greater use of senior debt financing. In other words, the greater the debt ratio, the greater is the return required by equity investors."[9] Dr. Won's and Mr. Murray's recommended equity ratios, in combination with their ROE recommendations, do not meet the standards of *Hope* and *Bluefield* including (1) consistency with other businesses having similar or comparable risks; and (2) adequacy of the return to support credit quality and

[9] Bulkley Rebuttal at 20.

access capital. The proposals offered by these witnesses result in weighted ROEs of approximately 3.78 percent to 3.80 percent which is significantly below the average of the AWK operating companies of 4.76 percent and outside the range of recently authorized weighted ROEs in Missouri of 4.18 to 6.16 percent as shown in **Error! Reference source not found.** below.

Q. Did Dr. Won and Mr. Murray offer additional arguments that you address in your Surrebuttal Testimony?

A. Yes. Much of Dr. Won's and Mr. Murray's testimonies, however, repeat the positions taken and arguments made in their respective direct testimonies to which I responded in my Rebuttal Testimony. To the extent that I have not addressed an issue in my Surrebuttal testimony, it should not be interpreted that I agree with Dr. Won or Mr. Murray.

Appropriate Capital Structure

Q. Do you agree with Mr. Murray that the Commission has not developed a capital structure that it "requires/expects" for utilities?[10]

A. No, I do not. While the Commission has not developed a specific ratio that it expects for each of the types of capital used to finance permanent capital, the Commission has developed and articulated criteria it uses when assessing and determining a utility's capital structure for ratemaking purposes. These criteria start with the Commission adherence to the precedents of *Hope* and *Bluefield* which developed standards for determining the

[10] Murray Rebuttal, at 3.

reasonableness of a utility's authorized return. In its decision in File No. GR-2017-0215 in the case for Spire Missouri, the Commission noted the following:

> To determine a return on equity, the Commission must consider the expectations and requirements of investors when they choose to invest their money in Spire Missouri rather than in some other investment opportunity. As a result, the Commission cannot simply find a rate of return on equity that is unassailably scientifically, mathematically, or legally correct. Such a "correct" rate does not exist. Instead, the Commission must use its judgment to establish a rate of return on equity attractive enough to investors to allow the utility to fairly compete for the investors' dollar in the capital market without permitting an excessive rate of return on equity that would drive up rates for Spire's ratepayers. To obtain guidance about the appropriate rate of return on equity, the Commission considers the testimony of expert witnesses.[11]

Therefore, the Commission understood that the authorized return must be attractive enough to ensure a utility can compete for capital with other investments of comparable risk. While this principle is most often discussed in terms of the allowed ROE, it is necessary to consider both the rates that are applied to debt and equity and the composition of the capital structure to assess whether an authorized return will allow a utility to compete for capital with other investments of comparable risk at reasonable terms. The equity return, the product of the ROE and the equity ratio, (i.e., the Weighted Return on Equity ("WROE")), ultimately defines the return to shareholders and the product of the cost of debt and the debt ratio ensures that a company's debt obligations are met. This process for managing the capital structure would be consistent with this Commission's prior decisions and the precedent of *Hope* and *Bluefield*.

[11] In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase its Revenues for Gas Service, Missouri Public Service Commission GR-2017-0216, February 21, 2018, at 27.

Q. Have you reviewed the WROEs recently authorized by this Commission?

A. Yes, I have. As shown in **Figure 1**, I reviewed the distribution of authorized WROEs for water, electric and natural gas companies in Missouri from 2011 to 2020. The range of authorized WROEs has been from 4.18 percent to 6.16 percent over this period, with an average authorized WROE of 4.95 percent.

Figure 1: Authorized Electric and Natural Gas WROEs in Missouri from 2011-2020 [12,13]

Company	Docket No.	Service Type	Year	ROE	Equity Ratio	WROE
Summit Natural Gas of Missouri	GR-2014-0086	Natural Gas	2014	10.80%	57.00%	6.16%
Union Electric Co.	ER-2011-0028	Electric	2011	10.20%	52.24%	5.33%
Missouri Gas Energy	GR-2017-0216	Natural Gas	2018	9.80%	54.16%	5.31%
Spire Missouri Inc.	GR-2017-0215	Natural Gas	2018	9.80%	54.16%	5.31%
Missouri-American Water	WR-2017-0285	Water	2018	10.00%	52.79%	5.28%
Union Electric Co.	ER-2012-0166	Electric	2012	9.80%	52.30%	5.13%
Evergy Metro Inc	ER-2012-0174	Electric	2013	9.70%	52.30%	5.07%
Evergy Missouri West	ER-2012-0175 (MPS)	Electric	2013	9.70%	52.30%	5.07%
Evergy Missouri West	ER-2012-0175 (L&P)	Electric	2013	9.70%	52.30%	5.07%
Union Electric Co.	ER-2014-0258	Electric	2015	9.53%	51.76%	4.93%
Evergy Metro Inc	ER-2014-0370	Electric	2015	9.50%	50.09%	4.76%
Evergy Metro Inc	ER-2016-0285	Electric	2017	9.50%	49.20%	4.67%
Evergy Missouri West	ER-2010-0356 (MPS)	Electric	2011	10.00%	46.58%	4.66%
Evergy Missouri West	ER-2010-0356 (L&P)	Electric	2011	10.00%	46.58%	4.66%
Evergy Metro Inc	ER-2010-0355	Electric	2011	10.00%	46.30%	4.63%
Liberty Utilities (Midstates)	GR-2014-0152	Natural Gas	2014	10.00%	45.89%	4.59%
Empire District Electric Co.	ER-2019-0374	Electric	2020	9.25%	46.00%	4.26%
Liberty Utilities (Water)	WR-2018-0170	Water	2018	9.75%	42.83%	4.18%
Dr. Won's recommendation				9.55%	39.69%	3.79%
Mr. Murray's recommendation				9.25%	39.18%	3.62%

Bulkley Recommended WROE Range of 5.17%-5.62%

Opposing Witness recommendations are 39-55 basis points below lowest WROE authorized by the Commission

Dr. Won's recommende WROE range of 3.69% t 3.89% and Mr. Murray' recommended WROE range of 3.33% to 3.62%

12 Source: Regulatory Research Associates.

13 The equity ratio and ROE listed are MAWC's view of the equity ratio and ROE allowed in the case, the actual equity ratio and ROE were not disclosed in the Order or the applicable settlement agreement.

Q. Are MAWC's capital structure and proposed ROE reasonable and consistent with this Commission's prior decisions?

A. Yes. The Company's proposed equity ratio of 53 percent taken together with the ROE range established in my Rebuttal Testimony results in a WROE range of 5.17 percent to 5.62 percent which is within the range established in Figure 1. Furthermore, the range of authorized equity ratios has been from 42.83 percent to 57.00 percent with an average of 50.27 percent. The Company's proposed equity ratio of 53 percent is well within the range of equity ratios authorized by the Commission over the past ten years. Conversely, the proposed equity ratios of Dr. Won and Mr. Murray of 39.61 percent and 41.10 percent, respectively, are well below the equity ratios authorized by the Commission over the past ten years. As discussed in the Rebuttal Testimony of Mr. Merante, the Company's current and proposed equity ratio of 53 percent is consistent with the historical equity ratio of the Company over the past several years,[14] and it is well within the range of equity ratios authorized by the Commission in prior cases. Therefore, the Company's proposed equity ratio reflects the ongoing operations of MAWC and is comparable to the capital structures being authorized for other assets of comparable risk. The Company's proposed equity ratio would, accordingly, satisfy the standards of *Hope* and *Bluefield* and the Commission's expectations based on prior rate case decisions. In contrast, the proposals of Dr. Won and Mr. Murray who propose equity ratios that are approximately 1060 basis points below the average authorized equity ratio by the Commission in the past ten years, would not meet

[14] Rebuttal Testimony of James Merante, at 3.

the *Hope* and *Bluefield* standards nor do they recognize the rationale outlined by the Commission in the Spire Missouri decision.

B. Financial and Business Risks

Q. Mr. Murray claims that if MAWC had an equity ratio of approximately 41 percent and was separately rated by the credit ratings agencies, there is no reason to conclude that it would be assigned a rating lower than an 'A-.' Do you agree with his assertion?

A. No. There is no basis for Mr. Murray's claim. Mr. Murray has constructed a hypothetical scenario to suggest that his proposal would result in at least an A- rating but cannot substantiate any of the assumptions in that scenario. In contrast, Company Witness Merante has calculated the financial metrics that would result from Mr. Murray and Dr. Won's proposed capital structures and considered both the quantitative and qualitative factors used by Moody's in developing ratings.[15] As shown in Mr. Merante's analysis, if the equity ratio were reduced from its actual equity ratio at year end 2020 of 53.4 percent to 39 percent, the FFO/Debt ratio for MAWC would decline from 17.1 percent to 11.1 percent. Mr. Merante also noted that there are other factors that would be considered by the rating agencies, including 1) the regulatory lag that exists as a result of using a historical test year for ratemaking and 2) the fact that the Company has not collected the revenues that it has been authorized by the Missouri Commission in eight out of the last ten calendar years. Based on these factors, Mr. Merante concludes that it would not be unreasonable to

[15] See Schedule AEB-5S, Response to OPC 3028.

expect the company's credit rating to decline to as low as Ba1, which is a below-investment grade rating.[16]

Q. How would a change in rating of this magnitude affect MAWC's borrowing costs?

A. Company Witness Merante analyzed the potential cost differentials from changes in the Company's credit rating. As discussed in response to OPC data request number 3027, Mr. Merante notes that it was not possible to estimate the cost difference for a non-investment grade rating of Ba1; however, as shown in that response, Mr. Merante compares the cost of issuances under AWCC to the estimated cost that MAWC could expect as a stand-alone entity under two scenarios with a Moody's credit rating of Baa3, issuing first mortgage bonds and issuing private placement debt. As shown in his analysis, Mr. Merante estimates that the incremental cost of issuing first mortgage bonds would be 223 basis points and private placements would be 237 basis points higher than debt costs secured through AWCC. Mr. Merante also noted that it would be more likely that MAWC would issue private placements which would reduce its access to the capital markets because the private placement market requires significant marketing efforts that may not attract adequate demand to meet MAWC's capital needs and timing.

Q. Did you testify, as Mr. Murray asserts, that variability in revenues is the primary measure of a company's business-risk profile?[17]

A. No. Both Company witness Merante and I testified regarding the various factors that go into a company's business-risk profile including geographic risk, regulatory risk, and future

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[16] See Schedule AEB-5S, Response to OPC 3027.

[17] Murray Rebuttal, at 18.

investment needs.[18] While Mr. Merante noted in his Rebuttal Testimony that MAWC has not collected the revenues authorized by this Commission in eight of the last 10 calendar years, he also discussed several other risks, including the regulatory lag that results from the use of a historical test year and the scale of MAWC's capital investment. Further, in his Direct Testimony, Company witness Mr. Kaiser discusses the future investment needs at MAWC.[19] Like the inability to collect authorized revenue, the flooding risk potential is a business risk unique to Missouri-American and is not shared with similar water utilities.

Q. What is your response to Mr. Murray's assertion that American Water's cash flows have been more volatile than MAWC's over the last five years and investors are more concerned with volatility in cash flow than revenue?

A. Mr. Murray's assertion is an unsubstantiated generalization about investor expectations. Business and financial risks perceived by investors are specific to the individual operations of a company. In the case of MAWC, a significant portion of the operating costs of the business are fixed costs whereas the ratemaking structure that has been relied on results in the majority of the costs being recovered on a volumetric basis.[20] As discussed in the Direct Testimony of Company Witness Roach, MAWC is faced with declining usage, which means that it is often the case that the volume over which fixed costs are recovered is lower than the volume on which rates were set, making it difficult to collect the authorized revenue.[21] As discussed previously, Mr. Merante identified that MAWC has

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[18] Bulkley Direct at 75. Bulkley Rebuttal at 15. Merante Rebuttal at 2, 4.
[19] Direct Testimony of Jeffrey T. Kaiser at 3-7, 18-32.
[20] Direct Testimony of John M. Watkins at 5.
[21] Direct Testimony of Gregory P. Roach at 3.

not collected its authorized revenue in eight out of the last ten years. Therefore, revenue volatility is a significant concern in the business operations of MAWC.[22]

Moreover, Mr. Murray fails to recognize the benefit of AWK's regulatory diversity, which confers greater insulation from the financial effects of customer concentration, weather, recessions and adverse regulatory decisions than is enjoyed by MAWC.[23] Considering only five-years of data, it is possible that such events might not have been present in the data for either MAWC or AWK during Mr. Murray's study period. The future risk of each type of financial event, however, is precisely why the business risk of MAWC is greater than that of AWK, as each event is likely to have a greater effect on the revenue and cash flows of MAWC than on AWK due to its comparative lack of diversification.

Q. What is your response to Mr. Murray's conclusions that MAWC could potentially issue debt at a lower cost than it received through AWCC and that the Company has not provided evidence to the contrary?[24]

A. As Mr. Murray acknowledges, MAWC has the ability to issue its own third-party debt; however, as discussed in the Rebuttal Testimony of Mr. Merante, MAWC has consistently been able to access debt on more favorable terms through AWCC than through independent issuances.[25] Further, as discussed previously, Mr. Merante estimated the difference in cost between accessing capital through AWCC and MAWC accessing capital on a stand-alone basis conservatively assuming a Moody's credit rating of Baa3 to account for a 39 percent

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[22] It is also important to note that Mr. Murray's statistical analysis of volatility is flawed in that it relies on an insufficient number of data points to draw any conclusions.
[23] S&P Global Ratings, The York Water Company, October 21, 2020, at 5.
[24] Murray Rebuttal, at 21-22.
[25] Rebuttal Testimony of James Merante at 8.

equity ratio. That analysis demonstrated that issuing first mortgage bonds or issuing debt through private placement would result in significantly greater cost for MAWC, in the range of 223-237 basis points higher. In addition, using private placement debt could make access to capital difficult to secure when it is required to meet the Company's capital investment requirements. In addition, as discussed in my Rebuttal Testimony, I reviewed the interest rates obtained by AWCC as compared with the yield on the Moody's Utility Bond Index that corresponds to the AWCC rating at the time of issue and demonstrated that issuing debt through AWCC has consistently been the lowest cost resource available to MAWC.[26]

Q. How do you respond to Dr. Won's conclusion that the implication of MAWC not issuing its own debt is that "…MAWC does not need to manage its financial risk to appease potential debt investors. MAWC's book capital structure is irrelevant for the purpose of assessing its financial risk. Therefore, the notion of stand-alone financial risk is irrelevant in MAWC's case.[27]

A. First, as Mr. LaGrand points out, Dr. Won's premise is incorrect as the company does have debt issuances outstanding.[28] As Mr. LaGrand explains further in his surrebuttal testimony:

> … Missouri-American's book capital structure is the actual capital structure used to finance the Company's rate base. Missouri-American will always need to appropriately manage and properly account for its financial risk. Missouri-American must maintain accurate financial records to obtain financing from American Water, and Missouri-American is required to produce audited financial statements in accordance with GAAP as a requirement under the Company's existing mortgage bonds. As such, Missouri-American's book capital structure is, and will always be relevant,

[26] Bulkley Rebuttal at 16.
[27] Won Rebuttal at 19.
[28] Surrebuttal Testimony of Brian LaGrand at __.

whether or not Missouri-American obtains its financing through AWCC or independently.[29]

Dr. Won fails to recognize that the consolidated capital structure of American Water is itself, a weighted average of all of the subsidiaries. If, as Dr. Won argues, the subsidiaries book capital structures are irrelevant, then how could anyone have any confidence in, and rely upon, the consolidated financial statements? Dr. Won is asking the Commission to establish a capital structure for MAWC that disregards the actual books and records of MAWC reflecting its capital structure. Such a proposal is unworkable and should be rejected.

Q. Dr. Won asks himself, "What is the past Commission decision on the capital structure issue?" And he then goes on to explain that each MAWC case been settled, so the Commission has not ruled on the issue of whether MAWC's ratemaking capital structure should be based on MAWC's per books subsidiary capital structure or AWC's consolidated capital structure.[30] Do you agree with Dr. Won's explanation of "the past Commission decision on the capital structure issue?"

A. No, I do not, Dr. Won is choosing to ignore the fact that the Commission has considered the consolidated capital structure in the Spire Missouri case and rejected that proposal recognizing the consolidated capital structure should not be relied on for the operating subsidiary where the parent company had multiple operating companies, and the Missouri utility did not represent a majority of the parent capitalization. The circumstances for MAWC are entirely consistent with the circumstances that formed the basis of the

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[29] *Ibid*.
[30] Won Rebuttal, at 20.

Commission's decision in the Spire Missouri case. MAWC is one of 16 regulated operating companies of AWK, and AWK also includes other non-regulated companies. Further, Missouri is a relatively small portion of the consolidated capitalization. Therefore, it is reasonable and appropriate to rely on the actual books and records of MAWC to establish its capital structure, consistent with the Commission's determination and guidance in the Spire Missouri case.

Q. What are the potential consequences if the Commission were to adopt Dr. Won's proposed capital structure?

A. The consequences of imputing an unreasonably low equity ratio were discussed in the Rebuttal Testimony of Company Witness Merante. Mr. Merante noted that it would be virtually impossible for MAWC to have an opportunity to earn its authorized ROE without swiftly and significantly reducing its current equity ratio to match the lower authorized equity ratio. The methods that would likely be employed to achieve the target equity ratio would be a combination of 1) increasing dividends to the parent out of the retained earnings of MAWC, 2) forgoing equity infusions into MAWC, and 3) withdrawing equity from Missouri.[31] Imputing a lower equity ratio will weaken the Company's credit metrics and would lead to higher debt costs for MAWC.[32]

Further, as discussed in the Rebuttal Testimony of Company witness Dewey, it could also delay planned discretionary capital investment by Missouri-American.[33] Company witness Dewey discusses the allocation of discretionary capital and testifies that the amount of

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[31] Rebuttal Testimony of James Merante at 6-7.
[32] Ibid at 9.
[33] Rebuttal Testimony of Deborah D. Dewey at 6. Surrebuttal Testimony of Jeffrey T. Kaiser at 13.

discretionary capital exceeds the resources available from American Water placing the operating companies in competition with each other for this capital.[34] Company Witness Kaiser testifies that discretionary capital investment is defined by MAWC as spending which is considered proactive investment of assets that could be delayed to a later period. Mr. Kaiser estimated that in the Company's 2021-2022 capital plan, there is approximately $70 million of capital investment that could be deferred, including the proactive replacement of aging or prone-to-fail assets.[35] Proactive investment in capital replacement is likely to result in a lower cost to serve customers than replacing assets at the point of failure, or continual repair of aging infrastructure.

C. Capital Structures of the Proxy Companies

Q. Please summarize Mr. Murray's analysis which led to his conclusion that stand-alone water utilities can "carry as much leverage as a large, diversified holding company such as American Water"?[36]

A. To arrive at this conclusion, Mr. Murray isolates five of the water utility companies contained in my proxy group that he suggests are similar in size to MAWC's operations in Missouri and have operations that are concentrated in a few states; American States Water Company ("AWR"), California Water Services Group ("CWT"), Middlesex Water Company ("MSEX"), SJW Group ("SJW") and York Water Company ("YORW"). As shown in Schedule DM-R-4, Mr. Murray then determined the capital structures at the parent company level including short-term debt for each of the companies in his water

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[34] Rebuttal Testimony of Deborah D. Dewey at 9.
[35] See Schedule AEB-5S, Response to OPC 3026.
[36] Murray Rebuttal, at 15.

utility subgroup, which he states results in a common equity ratio range of 37.61 percent to 56.64 percent. Mr. Murray notes that the two companies at the low-end of the equity ratio range, SJW and CWT, have equity ratios below 40 percent; however, the companies have credit ratings from S&P of A- and A+, respectively. As a result, Mr. Murray concludes that companies which are small in size with limited geographic diversity can increase leverage similar to larger more geographically diverse companies and still maintain credit ratings in the "A' category.[37]

Further, Mr. Murray reviews the FFO/debt ratios of each of the companies in his subgroup and concludes that there is a wide range of FFO/debt ratios for the companies; however, the range of S&P credit ratings for the companies is still only from A- to A+. Thus, Mr. Murray concludes that there is no reason to believe that MAWC would receive a credit rating below A- from S&P were the Company's capital structure similar to AWK's capital structure.[38]

Q. Do you agree with Mr. Murray that the five companies he has selected are similar to MAWC in size and geographic diversity?

A. No, I do not. Reviewing the companies selected by Mr. Murray, only two of the five companies are similar to MAWC in size and geographic diversity, MSEX and YORW. Each of these companies operate in small geographic areas; a majority of MSEX's operations are in New Jersey and Delaware, and YORW operates in Pennsylvania and both are of a size that is generally comparable to MAWC.

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[37] Murray Rebuttal, at 15.
[38] Murray Rebuttal, at 17.

The remainder of the group identified by Mr. Murray is not comparable because the companies have greater geographic diversity than MAWC. AWR operates multiple utilities and includes a non-regulated services operation that provides service across the country. SJW, after its acquisition of Connecticut Water, operates in four states (CA, TX, CT, and ME).[39] Finally, CWT is the third largest publicly traded water utility in the United States and provides service in California, Hawaii, New Mexico, and Washington. AWR, CWT and SJW all fail Mr. Murray's comparability test because they have significantly greater regulatory and geographic diversity than MAWC.

Q. How do the equity ratios of MSEX and YORW compare with MAWC's proposed equity ratio?

A. As shown in Figure 2: below, based on Mr. Murray's calculations, which include short-term debt, MSEX and YORW have equity ratios that are similar to or higher than MAWC's proposed equity ratio.

Figure 2 : **MSEX and YORW Capital Structures**

	MSEX	YORW
Total Equity	53.73%	56.64%
Long-Term Debt	38.96%	40.70%
Short-Term Debt	7.31%	2.66%
Total	100.00%	100.00%

[39] SJW, 2019 Form 10-K, at 23.

Q. How do the rating agencies consider regulatory risk and geographic diversity in the overall assessment of a YORW's risk profile?

A. In a recent credit report for YORW, S&P noted that lack of diversity increased business risk:

> Our business risk assessment of York Water incorporates its low-risk, rate-regulated water and wastewater utility operations in a supportive regulatory environment, as well as its effective management of regulatory risk. Its small size partly offsets these strengths.
>
> The Pennsylvania Public Utilities Commission regulates York Water, and it relies on forecast test years and allows for quarterly updates to rates between rate cases, reducing regulatory lag. The DSIC allows York Water to increase revenue between rate filings to adjust for qualified infrastructure investments. We view the company's management of regulatory risk as above average relative to peers. The company's regular rate case filings support our view.
>
> While York Water's limited geographic and regulatory diversity remain a challenge and support our view of a comparatively weaker business risk assessment within the excellent category relative to peers, the company continues to explore opportunities to increase its footprint.
>
> York Water is much smaller than its investor-owned water utility peers, and it only operates in one jurisdiction. These factors disproportionately increase its susceptibility to a localized economic recession, unfavorable local weather, or adverse regulatory changes, relative to peers. We reflect these credit weaknesses through our assessment of the comparable rating analysis modifier as negative.[40]

It is telling, that even though York Water has both a forecasted test year and a DSIC, S&P views the fact that YORW has only regulated water utility operations in Pennsylvania as a credit negative. Thus, while as Mr. Murray notes YORW has an equity ratio of 56 percent and a FFO/debt ratio in the range of 19 percent to 23 percent, YORW is assigned an A- credit rating from S&P, which means the Company's size and lack of geographic diversity

[40] S&P Global Ratings, The York Water Company, October 21, 2020, at 5.

weighs on that company's credit profile. Based on the S&P analysis of YORW, it is reasonable to expect that S&P would view MAWC's historical test year and lack of regulatory diversity on a stand-alone basis as credit negative. Further, Mr. Murray's proposal to rely on the AWK equity ratio of 39.18 to 41.10 percent would result in an equity ratio for MAWC that is 17.46 percentage points (56.64% - 39.18%) - lower than the equity ratio for YORW. It is, therefore, reasonable to expect that such a significant shift in the equity ratio for MAWC would be viewed by S&P as credit negative were MAWC a stand-alone entity.

Q. Do you agree with Mr. Murray's proposal to include short-term debt in the capital structure for MAWC?

A. No, I do not. The capital structure that should be used for ratemaking purposes should reflect the permanent financing of a water utility. Water utilities' distribution system assets are long-lived assets that are financed with long-term debt and common equity. As discussed in Company Witness LaGrand's Rebuttal Testimony, short-term debt may be used to meet seasonal working capital requirements including employee payroll, general taxes and payments to vendors in addition to funding capital spending.[41] Therefore, it is not appropriate to impose short-term debt in the capital structure when the permanent assets in the rate base are not financed using this source of funds.

As discussed in my Rebuttal Testimony, inclusion of short-term debt in a company's capital structure was addressed by the Commission in the Spire Missouri case where the

[41] Rebuttal Testimony of Brian LaGrand at 31.

Commission noted that the short-term debt balance reflects the holding company short term debt and is not necessarily related to the operating companies.[42]

Q. What concern do you have with Mr. Murray's inclusion of the consolidated short-term debt balances in his analysis?

A. The consolidated short-term debt ratio is the result of the short-term financing requirements for the consolidated company, not the individual operating companies. As discussed in my Direct and Rebuttal Testimonies, the capital structure to consider for ratemaking purposes should be the capital structures of the operating companies of the proxy group companies because the holding company capital structures often include corporate-level debt that is not part of the regulated or financial capital structure of the operating utilities. Furthermore, Mr. Murray's proposal to include short-term debt is not appropriate in the determination of the appropriate ratemaking capital structure and is inconsistent with the Commission's determination its decision in the Spire case.

Q. What other concerns to you have with Mr. Murray's analysis of short-term debt?

A. Mr. Murray relied on a single quarter to estimate short-term debt, rather than relying on a longer averaging period, (five-quarter) as he suggests is appropriate for MAWC. In addition, Mr. Murray did not make any attempt to determine if the short-term debt balance in the one quarter, June 2020, was representative of the forward-looking use of short-term debt.

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[42] Bulkley Rebuttal, at 6.

Q. How does Mr. Murray's reliance on the short-term debt balance as of a single point in time (June 2020) affect his analysis?

A. Mr. Murray's proposal artificially inflates the short-term debt balance and leads to an inaccurate assessment of the overall capitalization of CWT. As shown in Schedule DM-R-4, Mr. Murray reports that CWT has a short-term debt ratio of 20.21 percent. This short-term debt ratio is not CWT's average short-term debt balance. In fact, the short-term debt reported for this company as of June 30, 2020 is highly influenced by the pandemic and should not be considered a consistent level for maintaining the credit rating of the company or for ratemaking purposes. CWT noted the following in the 10-Q for the quarter ending June 30, 2020:

> Short-term liquidity is provided by our unsecured revolving credit facilities and internally generated funds. Long-term financing is accomplished through the use of both debt and equity. However, the recent COVID-19 pandemic, which has caused disruption in the capital markets, could make financing more difficult and/or expensive. To mitigate this risk, we borrowed $100.0 million on our unsecured revolving credit facilities to provide substantial additional liquidity. The Company and subsidiaries that it designates may borrow up to $150.0 million under the Company's revolving credit facility. Cal Water may borrow up to $400.0 million under its revolving credit facility; however, all borrowings must be repaid within 24 months unless a different period is required or authorized by the CPUC. The proceeds from the unsecured revolving credit facilities may be used for working capital purposes, including the short-term financing of utility plant projects.[43]

Additionally, CWT noted:

> Long-term financing, which includes First Mortgage Bonds, other debt securities, and common stock, has typically been used to replace short-term borrowings and fund utility plant expenditures.[44]

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[43] CWT, Form 10-Q, June 30, 2020, at 37.

[44] *Ibid.*

CWT has acknowledged that its short-term debt balance is much higher in 2020 than in prior years, to ensure the company had adequate liquidity over the near-term to offset the possible negative effects on revenues of COVID-19. Furthermore, as CWT noted, it is long-term financing such as long-term debt and common equity which is the primary source of funding for utility plant expenditures. Therefore, it is unreasonable to suggest that the short-term debt balance for CWT as of this period is appropriate on an ongoing basis. Further, it would be unreasonable to expect that the rating agencies would have considered this amount of short-term debt in the company's rating.

Q. How should the use of the consolidated capital structure affect Mr. Murray's ROE recommendation?

Mr. Murray's recommended ROE of 9.25 percent would need to be adjusted upward to reflect the difference in proposed leverage from the average leverage of the proxy group. As I have explained elsewhere, it is a fundamental financial tenet that increased financial risk through a lower equity ratio must be compensated by a higher ROE.

Q. What is your response to Mr. Murray's assertion that the operating company data that you relied on was insufficient and should not be relied upon?

A. At the time I filed my Direct Testimony, 2019 financial data was not available for many of the operating companies of the proxy group. However, updated information was provided in MoPSC-0350 Attachment 1 that included the remainder of the 2019 financial data. That updated information demonstrates that the MAWC's equity ratio is consistent with the operating companies of the proxy group companies whereas Mr. Murray's recommendation is unreasonably low and inconsistent with the *Hope* and *Bluefield* comparable return standards. As shown in Schedule AEB-1S, which updated 2019 data,

the equity ratios of the operating companies owned by the proxy group companies ranged from 46.55 percent to 65.94 percent with a mean result of 56.47 percent. The equity ratio requested for MAWC of 53 percent is well within the range established by the operating companies owned by the proxy group companies. In contrast, Mr. Murray's recommendation is 17.29 percentage points lower than the mean result and 694 basis points lower than the low end of the range of equity ratios for the operating companies of the proxy group, demonstrating that Mr. Murray's proposal is inconsistent with the *Hope* and *Bluefield* standards.

D. American Water Subsidiaries Authorized Capital Structures for Ratemaking

Q. You mentioned that Dr. Won and Mr. Murray ignore Missouri precedent and focus, instead, on other jurisdictions. Please summarize Dr. Won's and Mr. Murray's efforts to shift the focus onto MAWC's affiliate's capital structures authorized for ratemaking.

A. Ignoring the fact that most of the Company's affiliates have rates set on stand-alone capital structures, Dr. Won claims support in the capital structure authorized for ratemaking in the 2012 Tennessee-American Water Company rate case,[45] while Mr. Murray claims support in the 2017 authorized capital structures for Virginia American Water Company and New York American Water Company.[46] Dr. Won and Mr. Murray assert that the authorized

[45] Won Rebuttal, at 21.
[46] Murray Rebuttal, at 21.

capital structure in each of these cases was American Water's consolidated capital structure.

Q. Do Dr. Won's and Mr. Murray's selective review of these three MAWC affiliates support their capital structure recommendations in this case?

A. No. Both Dr. Won and Mr. Murray attempt to cherry pick lower equity ratios for selected American Water operating utilities in other jurisdictions to support their recommendation to impute American Water's consolidated capital structure on MAWC. Collectively, they discuss just three jurisdictions; ignoring the other dozen American Water jurisdictions that set rates for affiliates using the utility's stand-alone capital structure. Equally unsupportive of their arguments, of the three cases referenced by Mr. Murry and Dr. Won, only one, Virginia, actually imputed the American Water consolidated capital structure on the utility for ratemaking purposes.

Q. Did the Tennessee Commission support the use of the consolidated capital structure for Tennessee American Water Company?

A. No, it did not. First, it is important to note that the capital structure for ratemaking was set for Tennessee American Water in 2012, and the commission's determination in that case does not necessarily reflect its current views. Furthermore, at that time, the Tennessee Public Utility Commission did not authorize the use of the American Water consolidated capital structure, but rather imposed a double leverage adjustment. "Double leverage" is not an accounting term; rather, it results in a hypothetical balance sheet and capital structure adjustment based upon the perceived source of the capital at the regulated entity. The double leverage approach has been largely abandoned in regulatory arenas. To the best of my knowledge, only Tennessee and Iowa have relied on this approach in the past, and in

the most recent Iowa-American rate case, the Iowa Utilities Board expressly rejected continued use of a double leverage adjustment on Iowa-American.[47]

Q. Did the New York Commission impute a consolidated capital structure on New York-American Water Company for ratemaking?

A. No. New York American Water's last rate proceeding was settled at an equity ratio of 46 percent.[48] That equity ratio was a compromise between the 48 percent stand-alone equity ratio of New York American and the New York staff's proposed equity ratio. I would also note that it has been the long-standing practice for the New York commission to rely on a 48 percent equity ratio for its electric and natural gas utilities. Furthermore, New York American Water Company is in the process of being sold by AWK, which suggests that it may not be a meaningful comparator.

Q. Did the Virginia Commonwealth Commission impute a consolidated capital structure on Virginia-American Water Company for ratemaking?

A. Yes, the Virginia Corporation Commission ("VCC") has imputed the American Water consolidated capital structure on Virginia-American Water for ratemaking purposes.[49]

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[47] State of Iowa Department of Commerce Utilities Board, In re: Iowa-American Water Company, Docket No. RPU-2016-0002, "Final Order", pp. 41-42 (Iowa U.B. February 27, 2017).

[48] New York Public Service Commission, Case No. 16-W-0259, Order Establishing Rates for Water Service, May 18, 2017 (2017 WL 2225989) at 12.

[49] Commonwealth of Virginia State Corporation Commission, Application of Virginia-American Water Company for a general increase in rates, Case No. PUR-2018-00175, November 2, 2018 at 12.

Q. Is the use of the consolidated capital structure applied consistently in Virginia?

A. No, it is not. The VCC has set Virginia-American's rates in the past using a stand-alone capital structure.[50] The VCC is prohibited by statute from imposing a consolidated capital structure on electric utilities throughout the commonwealth.

> For purposes of this section, the Commission shall regulate the rates, terms and conditions of any utility subject to this section on a stand-alone basis utilizing the actual end-of-test period capital structure and cost of capital of such utility, excluding any debt associated with securitized bonds that are the obligation of non-Virginia jurisdictional customers, unless the Commission finds that the debt to equity ratio of such capital structure is unreasonable for such utility, in which case the Commission may utilize a debt to equity ratio that it finds to be reasonable for such utility in determining any rate adjustment pursuant to subdivisions 8 a and c, and without regard to the cost of capital, capital structure, revenues, expenses or investments of any other entity with which such utility may be affiliated.[51]

Q. What conclusions should be drawn from Dr. Won's and Mr. Murray's reliance on other jurisdictions to support their proposal to impute American Water's consolidated capital structure on Missouri-American for ratemaking?

A. None. Dr. Won and Mr. Murray have identified a single jurisdiction that has imputed the American Water consolidated capital structure on the jurisdictional utility for ratemaking purposes. It is unreasonable to suggest that one observation out of the 16 regulated water utility operating companies provides any meaningful support for their recommendations. In the more than dozen jurisdictions where American Water utility companies operate,

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[50] Final Order, *Application of Virginia-American Water Company, To revise its tariffs*, Case No. PUE-1982-00077, 1983 S.C.C. Ann. Rep. 400, 402 (Aug. 29, 1983) ("The Company's capital structure is now in line with what we would expect of a company of this size and nature, and we are of the opinion and find that its revenue requirement should be calculated on the basis of its capital structure alone, without reference to the capital structure of its parent.").

[51] https://law.lis.virginia.gov/vacode/56-585.1/

Commissions set rates using the stand-alone capital structures of the jurisdictional utility consistent with this Commission's decision and guidance in the Spire Missouri case.

Q. What is your response to Mr. Murray's suggestion that American Water's capital structure should be imputed to MAWC for ratemaking purposes because American Water is using debt to purchase equity in MAWC? [52]

A. Mr. Murray's recommendation is an iteration of the "double leverage" argument based on the mere existence of debt at the American Water holding company level. As I previously explained, this proposed adjustment has been rejected by almost every regulatory body; including those who once applied the adjustment. Modern regulation recognizes that it is axiomatic in finance that the source of the funds should not determine the return on those funds; rather, it is the risk posed by an investment that determines the return.[53] The cost of capital is determined using the subsidiary's capital structure and cost of debt; and the cost of equity is estimated by reference to a proxy group of firms with comparable risk. Consistent with that principle, the ownership structure should not, in and of itself, determine the operating company's capital structure or cost of equity.

Q. Please explain further why it is unreasonable to claim that the *perceived* source of funds should dictate the cost rate on an investment?

A. The proposals by Dr. Won and Mr. Murray suggest that an equity investment in an operating company should enjoy a higher return when it is funded with parent company equity than when it is funded by debt. If this were true, it would mean that two different

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[52] Murray Rebuttal, at 7-9.

[53] New Regulatory Finance, Roger A. Morin Ph.D., Public Utility Reports, 2006, at 215-216.

equity investments in the same asset could result in two different equity returns. This result is unreasonable:

> Carrying the double leverage standard to its logical conclusion leads to even more unreasonable prescriptions. If the common shares of a subsidiary were held by both the parent and by individual investors, the equity contributed by the parent would have one cost under the double leverage computation while the equity contributed by the public would have another.[54]

Another major flaw in the "double leverage" argument is that it confuses the direction of cause and effect.[55] It is not the parent company's weighted average cost of capital that determines the subsidiary's cost of equity because the parent's weighted average cost of capital is itself a weighted average of equity costs of all subsidiaries. In short, the double leverage argument violates the core notion that an investment's required return depends on its particular risks and not on its perceived funding source. Cost of capital has to do with the use of funds and not with the source of funds, and the same is true for the appropriate capital structure. The appropriate return on any investment and capital structure are dictated by the risk of that investment and not by the manner in which that investment is financed. Regardless of the investor, the proper return and capital structure for that investment must be reflective of that investment's risk, regardless of the source of funding, regardless of the identity of the investor.

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[54] Roger A. Morin, New Regulatory Finance, Public Utility Reports, Inc., 2006, at 523.

[55] William Beranek and James A. Miles, *The Excess Return Argument and Double Leverage*, The Financial Review, Vol. 23, No. 2, May 1988.

III. RETURN ON EQUITY

A. Proxy Group

Q. Please summarize the Staff and OPC's position with respect to the proxy group that you relied on for MAWC.

A. Staff Witness Won and OPC Witness Murray both suggest that natural gas companies are not risk comparable to water companies and therefore should not be included in the proxy group for MAWC. Staff incorrectly concludes that the inclusion of natural gas distribution companies significantly overstates the ROE estimates in my Direct Testimony.[56]

Q. Do you agree with the analyses that Staff and OPC conducted to determine that natural gas companies were not suitable proxy companies?

A. No, I do not. Staff Witness Won conducts two analyses with the intention of demonstrating that natural gas utilities are not comparable in risk to water utilities: 1) a comparison of authorized ROEs for water and natural gas utilities, and 2) a comparison of the results of the ROE estimation models that I developed in my direct testimony for the water companies and the natural gas companies. Each of these analyses has significant flaws and should not be relied upon for any purpose.

Q. Please summarize the flaws in Dr. Won's comparison of recently authorized ROEs for water and gas utilities.

A. Figure 2 in Dr. Won's testimony summarizes the average authorized ROEs for natural gas and water utilities from 2015 through 2020. The first five years of the chart; 2015 through

[56] Rebuttal Testimony of Dr. Won at p. 5.

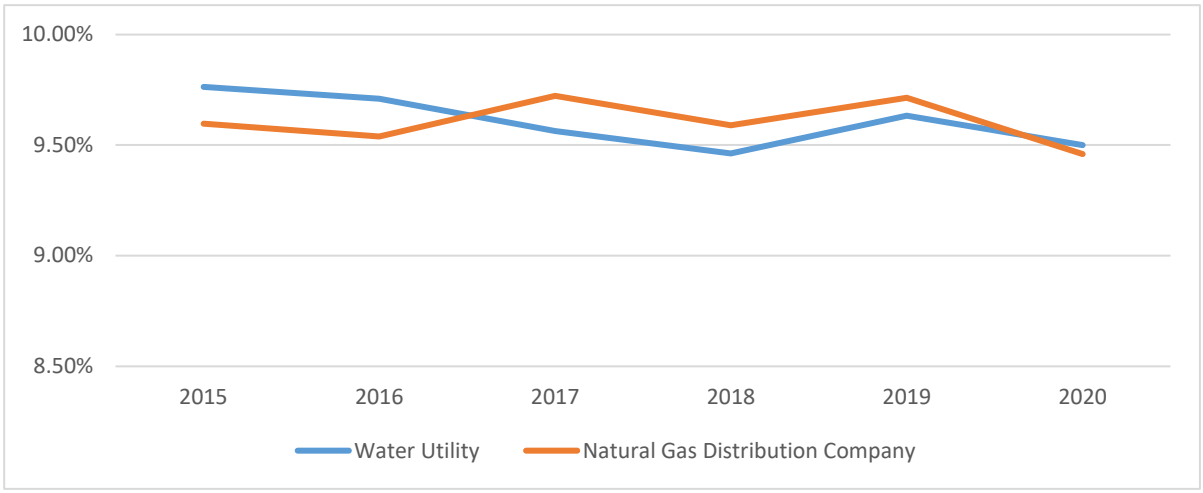
2019, refute that notion and demonstrate that natural gas distribution utility ROEs and water utility ROEs have been similar on average. Dr. Won concludes, however based solely on the 2020 data, that the authorized ROEs for natural gas utilities are considerably higher than for water utilities. Dr. Won claims that the average authorized ROE for the natural gas utilities in 2020 is 9.63 percent whereas the average authorized ROE for the water utilities was 8.82 percent for the same time-period.[57] Dr. Won then argues that the average authorized ROEs for natural gas distribution companies "show a stable trend above 9.50% as compared to the average authorized ROEs for water utilities, which have trended downward below 9.50%".[58]

Dr. Won's analysis which considers only the simple average of the 2020 data, is invalid for two reasons. First, reviewing the underlying ROE determinations, the 2020 average authorized return for water utilities that Dr. Won relies on contain just three water utility ROE determinations. A sample of this size is too small to be of any significance. Second, and more importantly, the ROE that was authorized for two of the three cases was 9.50 percent. The third ROE determination, which is for the Blue Granite Water Company which resulted in an authorized ROE of 7.49 percent, is clearly an anomaly. Reviewing the Blue Granite decision, it is obvious that the ROE determined in that case was based on a penalty for performance issues as well as other unusual circumstances that resulted in a well below average authorized ROE. Based on the circumstances of the Blue Granite case, it is clear that this determination was not an entirely market-based ROE and therefore

[57] Rebuttal Testimony of Staff Witness Won at 6.
[58] Ibid.

cannot be used to compare the relative risk of the natural gas and water utility industries. As shown in Figure 3 below, removing the Blue Granite case, and recognizing the small sample for 2020 and considering the trend in the full data set provided for 2015-2020, it is reasonable to conclude that once the ROE for the Blue Granite case is removed from the data set, the average ROE for the water utilities and the natural gas utilities over this time-period are very similar. This corrected analysis supports my determination that the natural gas utilities have a similar risk profile to the water utilities and therefore should be included in the proxy group.

Figure 3: Correcting Dr. Won's Comparison of Water and Natural Gas Authorized ROEs[59]



Q. Why should the Commission dismiss Dr. Won's comparison of the model results for the water utilities and the natural gas utilities shown in Table 1 of his testimony?

[59] Source: S&P Global Market Intelligence.

A. Dr. Won's analysis shown in Table 1 has several critical flaws that make this analysis unreliable. First, Dr. Won's analysis of the Constant Growth DCF model results that were presented in my Direct Testimony misrepresent the analysis that was prepared in my Direct Testimony. As shown in Schedule AEB-2S, the measure of central tendency that I determined was appropriate was the **median**, which minimizes the effects of outliers. Dr. Won's analysis, as summarized in Table 1 of his testimony reflects the **mean** ROEs from the Constant Growth DCF model, rather than the **median** results of the models that I relied upon in my direct testimony. In doing so, Dr. Won inflates the ROE estimates for the natural gas distribution companies to account for outliers that were addressed in my direct testimony using the more appropriate measure of central tendency given the dispersion of the results. Therefore, it is only because Dr. Won has misrepresented my DCF analysis and results for the natural gas utilities that he creates the illusion that the results for the natural gas utilities exceed the ROEs for the water utilities. As shown in Figure 4 below, relying on the median results, which is consistent with the analysis that I produced in my direct testimony, and is the appropriate measure of central tendency to apply in this circumstance, demonstrates that the returns for the natural gas utilities do not overstate the ROEs for water utilities.

Figure 4: Comparison of Constant Growth DCF Results – Water vs. Natural Gas

	Water Median	Natural Gas Median
30-Day average	9.78%	9.61%
90-day average	9.62%	9.50%
180-Day average	9.60%	9.44%
Constant Growth DCF	9.67%	9.52%

Q. Does Dr. Won make similar errors in his analysis of the CAPM results developed in your direct testimony?

A. Yes. In his comparison of the CAPM results for water utilities and natural gas utilities, Dr. Won fails to recognize that the primary difference in the results is based on the Value Line publishing schedule for their beta estimates for the natural gas and water utilities, not a difference in the risk factors between these sectors. The analysis in my Direct Testimony was prepared using data as of May 29, 2020. As of that date, the most recent Value Line reports for the natural gas utilities had been issued on May 29, 2020 and therefore were the most up to date information available. Water company betas, however, had not yet been updated by Value Line. As shown in Figure 5 below, the spread between the natural gas and water utility betas, due in large part to the timing differences in the Value Line reports, was 0.121.

Figure 5: Comparison of Betas for Water and Natural Gas Utilities- Bulkley Direct Testimony[60]

Company	Water	Natural Gas
American States Water Co	0.6	
Atmos Energy Corporation		0.8
California Water Service Group	0.6	
Essential Utilities, Inc.	0.6	
Middlesex Water Company	0.7	
New Jersey Resources Corporation		0.9
Northwest Natural Gas Company		0.8
ONE Gas Inc.		0.8
SJW Group	0.6	
South Jersey Industries, Inc.		0.95
Southwest Gas Corporation		0.9
Spire, Inc.		0.8
York Water Company	0.65	
Mean	0.625	0.85
Water & Gas Group Average	0.75	
Natural Gas V. Water Average Beta	0.23	
Water & Gas Group Average vs. Water Only	0.12	

Figure 6 immediately below, however, shows that relying on updated Value Line Beta estimates for both industry groups result in a much narrower spread in the Betas of 0.06, which is significantly lower than the spread that resulted in my Direct Testimony.

[60] Source: Value Line April 10, 2020 and May 29, 2020.

Figure 6: Comparison of Betas for Water and Natural Gas Utilities- Bulkley Rebuttal Testimony[61]

Company	Water	Natural Gas
American States Water Company	0.65	
American Water Works Company Inc.	0.85	
Atmos Energy Corporation		0.8
California Water Service Group	0.65	
Essential Utilities, Inc.	0.9	
Middlesex Water Company	0.7	
New Jersey Resources Corporation		0.95
Northwest Natural Gas Company		0.8
ONE Gas, Inc.		0.8
SJW Corporation	0.8	
South Jersey Industries, Inc.		1.05
Southwest Gas Corporation		0.95
Spire, Inc.		0.85
York Water Company	0.8	
Mean	0.76	0.89
Water & Gas Group Average	0.83	
Natural Gas V. Water Average Beta	0.12	
Water & Gas Group Average vs. Water Only	0.06	

Q. How have the long-term Betas for the natural gas utilities compared with the water utility betas?

A. I reviewed the Betas for the proxy group companies used in my direct testimony for the period from 2015-2020. As shown in Schedule 3S, while the Betas for water utilities were slightly higher than the natural gas utilities and in other years the reverse occurred, where the natural gas utilities had higher betas, on average, over this historical period, the betas for these industry segments were essentially the same. Mr. Murray reaches this same

[61] Source: Value Line October 9, 2020 and November 27, 2020.

conclusion in his direct testimony, concluding that utility betas have typically been in the 0.7 to 0.75 range.[62]

Q. While Mr. Murray recognizes that the historical average betas across the utilities segments is within a narrow range, he still contends that the spread in betas between the natural gas and water betas currently suggests that the natural gas utilities are not comparable to the water utilities. How do you respond?

A. It is important to recognize that the development of the proxy group is engaged in to achieve a balance between relying on a group that is of sufficient size and relative comparability. The water utility group by itself, excluding AWK, which is the parent company of MAWC, includes only six companies. This is a very small group on which to base the ROE determination. The addition of the natural gas utilities increases the size of the group meaningfully, to thirteen companies. As discussed previously, the authorized ROEs for these industry sectors have been very similar since 2015. As shown in Figure 4 above, the Constant Growth DCF results for these two groups are generally comparable. Furthermore, the analysis presented in Schedule 3S demonstrates that the historical betas for the group demonstrate similar in volatility over time. Therefore, it is reasonable and appropriate to consider the natural gas utilities in the proxy group for MAWC.

[62] Direct Testimony of David Murray at 29.

Q. While you believe it is reasonable and appropriate to rely on a combined natural gas and water utility proxy group, have you conducted an analysis of a water-only proxy group?

A. Yes. I have. As shown in Figure 7 below, and provided in Schedule 4S, I calculated the DCF results for a water utility proxy group using the same data as relied upon in my Rebuttal Testimony and similar to the analysis that Dr. Won attempted in his rebuttal testimony, I have more accurately compared the median results of the water proxy group to the natural gas and combined proxy group results I provided in my rebuttal testimony. As shown in Figure 7 the median results for these three groups is essentially the same. Therefore, I continue to support the use of the combined natural gas and water utility proxy group.

Figure 7: Updated Analytical Results- Water Only, Natural Gas Group and Combined Group[63]

	Water Group Median	Natural Gas Group Median	Combined Proxy Group
30-Day average	9.40%	9.44%	9.44%
90-day average	9.46%	9.52%	9.52%
180-Day average	9.54%	9.41%	9.41%
Constant Growth Average	9.46%	9.46%	9.46%

[63] Rebuttal Testimony AEB- Schedule 2 provides the results for the Combined Proxy Group. The Constant Growth DCF results for the water only proxy group are provided in Schedule 4S.

B. DCF – Growth Rates

Q. Please summarize Staff's and OPC's concerns with the DCF analyses you prepared in your Direct Testimony.

A. Staff witness Won and OPC witness Murray both object to the use of a constant growth form of the DCF model and the use of analysts' projected earnings per share ("EPS") growth rates in that form of the model, suggesting that the use of a constant growth form of the DCF model and projected EPS growth rates will overstate the ROE. Mr. Murray suggests the use of the "Grinold-Kroner" model could be used to consider expected changes in the P/E ratio of utilities.[64]

Q. How do you respond to these witnesses regarding the use of the Constant Growth DCF model and projected EPS growth rate assumptions?

A. First, as discussed in my Direct and Rebuttal Testimonies, I have not relied exclusively on the results of the Constant Growth DCF model. Rather, I have considered the results of multiple ROE estimation models in determining the range of ROEs that are appropriate to consider for MAWC. Furthermore, while each of these witnesses criticizes the use of the Constant Growth DCF model, and each has advocated the use of the multi-stage DCF model in their Direct Testimonies, their preferred specification of the DCF model produced ROE estimates that were below any recently authorized ROE for a water utility and well below their own recommendations. Specifically, Mr. Murray's Multi-Stage DCF model relied on a 3.5% perpetual growth rate and resulted in COE estimates of 5.70 to 6.60

[64] Rebuttal Testimony of Mr. David Murray at 34.

percent.[65] In contrast, Mr. Murray proposes a range for the Company's ROE of 8.25 percent to 9.50 percent, recommending an ROE of 9.25 percent which is at least 265 basis points above the results of the DCF methodology that he suggests is more appropriate than the Constant Growth DCF model.

Dr. Won relies on two versions of the multi-stage DCF model – not for the purposes of relying on the model estimates, but rather to estimate a change in the cost of equity from 2017 to the current market, which he then applies to the settlement ROE from MAWC's last rate case. In performing this benchmarking exercise, Dr. Won also elects not to rely specifically on the results of his Multi-Stage DCF model, which produced a result of 8.20 percent. Rather, Dr. Won is recommending 9.55 percent, which is 135 basis points above the results of his model.

Considering that both of these witnesses demonstrate no confidence in the results of their own Multi-Stage DCF models, it is unreasonable to suggest that the use of their Multi-Stage models is a more appropriate estimate of the ROE for MAWC than the Constant Growth DCF model developed in my Direct Testimony.

Q. Do you agree with Mr. Murray's suggested that it may be appropriate to rely on use of the Grinold-Kroner model to determine the ROE for MAWC?

A. No, I do not. While the Grinold-Kroner model may have some academic interest, I am unaware of any regulatory commission that has relied on this methodology to establish the ROE for a regulated utility company. Furthermore, this is yet another methodology

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[65] Direct Testimony of Mr. David Murray at 23.

proposed by Mr. Murray that results in ROE estimates that would be both inconsistent with his own equity cost recommendation and with the comparable return standard established in *Hope* and *Bluefield*. Based on his own specification of this model, Mr. Murray suggests that the ROE for MAWC using the Grinold-Kroner model would be 6.17 percent. While within the range of results of his multi-stage DCF analysis, since Mr. Murray dismissed those results to support an ROE range of 8.25 percent to 9.50 percent and a point estimate of 9.25 percent, I would assume that he is also disregarding the result of this model. Therefore, I am uncertain why Mr. Murray would suggest that this model offers any probative value as to the appropriate ROE for MAWC.

C. CAPM – Risk Free Rate

Q. Please summarize Dr. Won's concerns with the use of projected Treasury bond yields as the risk-free rate in the CAPM.

A. Dr. Won argues that the current yield on U.S. Treasury bonds reflects investors' expectations of the interest rate environment for the foreseeable future.[66] According to Dr. Won, the use of projected interest rates results in "double counting" and overstates the COE. Dr. Won contends that if investors expected the yields on long-term government bonds to increase, they would not purchase long-term government bonds today as investors would experience a capital loss were the yields on long-term government bonds to increase. Thus, it is Dr. Won's position that current interest rates are superior to forecast bond yields for the purpose of estimating the risk-free rate.

[66] Won Rebuttal, at 12-13.

Q. Do you agree with Dr. Won that relying on projected Treasury bond yields as the risk-free rate in the CAPM is "double counting" and overstates the COE? [67]

A. No, I do not. Among many other reasons, trading occurs in the market because investors have different expectations and strategies with respect to individual stocks and overall portfolios at any point in time. Based on the theory of supply and demand, the price of a bond will decline if more investors want to sell the bond than buy the bond. In early 2020, as investors were trying to determine the economic effects of COVID-19, uncertainty and volatility increased in the market which resulted in investors purchasing safer assets such as long-term government bonds. However, as discussed in my rebuttal testimony, as the economy enters the recovery phase of the business cycle there will be a rotation out of safer/defensive sectors of the market and into cyclical sectors.[68] This will likely result in a decrease in the demand for long-term government bonds which is why Blue Chip Financial Forecasts has projected an increase in long-term government bond yields over the near-term. Furthermore, since the low point in August 2020, that Dr. Won relied on in his analysis, yields on the 30-year Treasury bond have increased approximately 30 basis points to 1.70 percent as of January 29, 2021.[69] Therefore, given the current market environment, if projected interest rates are not relied on in the CAPM, the COE estimated will understate the COE during the period that MAWC's rate will be in effect.

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[67] Won Rebuttal, at 12.
[68] Bulkley Rebuttal, at 35-38.
[69] Comparison of the three-month average yields as of August 2020 with the three-month average yield as of January 29, 2021.

Q. Are you aware of any additional evidence that investors consider Blue Chip's forecasts when making investment decisions?

A. Yes. A recent paper published in February 2020 by the Federal Reserve Bank of San Francisco compared the forecasts from Blue Chip and the Federal Reserve (Greenbook) for various economic indicators. The result was that the forecasts from Blue Chip had very similar accuracy as those produced by the Federal Reserve. Specifically, the authors noted that:

> [M]arkets aggregate information, and there are very large, liquid markets in the U.S. that are closely tied to interest rate and inflation forecasts (such as nominal and real Treasury bonds and Treasury, interest rate, and inflation futures, options, and swaps), and these market prices are closely followed by private sector forecaster.[70]

Given that the Federal Reserve Bank is analyzing the private sector forecasts summarized by Blue Chip, it is clear that Blue Chip forecasts are highly regarded among economic and financial experts. In fact, the American Economic Association states that Blue Chip "may be the best known organization for consensus macro forecasts."[71] Finally, former Secretary Mnuchin cited Blue Chip's macroeconomic forecasts in his statement before the House Committee on Financial Services on June 30, 2020.[72] Therefore, the Blue Chip Financial Forecast is a well-respected source of projections that can and should be relied upon in the development of a forward-looking cost of equity.

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70 Bauer, Michael D. and Swanson, Eric T., "The Fed's Response to Economic News Explains the 'Fed Information Effect'", Federal Reserve Bank of San Francisco, Working Paper Series, February 2020, Working Paper 2020-06, at 6, footnote 3.

71 American Economic Association, "Resources for Economists on the Internet", Blue Chip Economic Indicators, available here:https://www.aeaweb.org/rfe/showRes.php?rfe_id=1922&cat_id=12.

72 U.S. Department of the Treasury, Statement of Secretary Steven T. Mnuchin Before the House Committee on Financial Services, June 30, 2020.

Q. Does Dr. Won also rely on forecasted market data in his ROE analysis?

A. Yes. Dr. Won has no objection to the use of forecasted data in his DCF analysis, where he relies on projected EPS and GDP growth rates in his Two-Step DCF analysis. Furthermore, Dr. Won also relied on my forward-looking market return as one of the market return estimates he used to calculate his CAPM results. It is unclear why Dr. Won finds these inputs reasonable, and yet suggests that the use of projected Treasury bond yields, such as those available from Blue Chip Financial Forecasts, should not be considered.

D. CAPM – Market Risk Premium

Q. Please summarize Dr. Won's and Mr. Murray's criticisms of your use of a projected market risk premium in the CAPM.

A. Dr. Won contends that, in my CAPM analysis, I have relied on unreasonably high market risk premiums ("MRPs") which are the result of my estimated market return of 13.18 percent. Specifically, Dr. Won notes that the market return that I have relied on is "unrealistic" considering that: a) the geometric average historical return for 1963-2018 is approximately 10.1 percent; and b) that projected GDP growth is not expected to exceed the historical growth rate of 6.48 percent.[73] Additionally, Dr. Won criticizes the Constant Growth DCF analysis that I use to estimate my market return as he indicates it is inconsistent with the approach applied by FERC which screens out what he calls unsustainably high growth rates that are greater than 20 percent. Finally, to show that my estimates of the MRP are too high, Dr. Won references MRPs from: 1) sources such as

[73] Won Rebuttal, at 9.

American Appraisal Risk Premium Quarterly, Value Line, Duff & Phelps, and Geometric Mean of Duff & Phelps which range from 4.5 percent to 6.00 percent; 2) survey results which range from 5.0 percent to 5.4 percent; and 3) the First and Second Complaint proceedings for Docket No. EL 14-12-003 from the FERC of 9.12 percent and 8.85 percent, respectively.[74]

Similarly, Mr. Murray criticizes the MRPs that I rely on in my CAPM analysis and contends that they are double the MRPs relied on by utility analysts to estimate the fair value of utility stocks.[75] Moreover, Mr. Murray indicates that he is unaware of any source which calculates the market return using a Constant Growth DCF model with projected earnings growth rates as the estimate of growth. According to Mr. Murray, the sources he reviewed recommended using a growth rate no higher than the growth rate of GDP when estimating the long-term return for the market.[76] Finally, Mr. Murray asserts that the Wilshire 5000, which is an index of the value of all American stocks traded in the United States, would be about 50 times the value of GDP in 50 years if the index grew at the 11.2 percent earnings growth rate that I relied on to calculate my market return.[77]

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74 Won Rebuttal, at 11.
75 Murray Rebuttal, at 39.
76 Murray Rebuttal, at 39.
77 Murray Rebuttal, at 40.

Q. Please explain why you disagree with Dr. Won's contention that your market return is overstated because you relied on different inputs than the FERC in your Constant Growth DCF model of the S&P 500.

A. First, none of the witnesses in this case have attempted to rely on the FERC methodology for estimating the appropriate cost of equity for MAWC. If that were the intention, it would be necessary to weigh equally the results of the DCF, the CAPM, and a Risk Premium approach. Since the MRP is not directly observable, it must be estimated. It is not necessary that this be done using the approach established by the FERC. Next, it is important to note that Dr. Won's attempt to specify the market return and MRP using the FERC methodology is incorrect. Dr. Won suggests that FERC excludes companies with earnings growth rates less than -20 percent of greater than 20 percent. That misstates FERC's approach, which excludes non-dividend paying companies, companies with negative earnings growth rates and companies with earnings growth rates greater than 20 percent.[78]

Second, the FERC methodology for calculating the market return by eliminating non-dividend-paying companies and those with growth rates greater than 20 percent is inherently flawed in that 1) the removal of certain companies from the S&P 500, which is used to calculate the market return is inconsistent with the Beta used in the CAPM and 2) the removal of companies for growth rates in excess of 20 percent biases the overall market return downward.

[78] FERC Docket No. EL-14-12-004, Opinion No. 569-A (May 21, 2020), at para. 75-86.

FERC relies on the S&P 500 as a proxy for the broader market return. By removing companies that have growth in excess of 20 percent from the market return calculation, FERC is suggesting that there will never be companies that have this type of growth in the future. Historical market data suggests that this is not true. There have historically been companies that experience high growth and companies that are more mature with lower growth. While FERC focuses on the individual companies in the S&P 500 and removes them because the growth rate for the individual company may not be sustainable, doing so effectively suggests that no company will have that growth in the future and biases the overall market return downward.

The Beta coefficient for a company is calculated using return data for either the S&P 500 or New York Stock Exchange Composite including all of the companies in the respective index. No adjustments are made in the calculation of Beta to remove high returns from the market. It is reasonable to expect that the market return be calculated on a consistent basis with how the Beta is calculated. Therefore, the market return should be based on the entire universe of companies in the index, consistent with the calculation of Beta.

Next, considering the elimination of non-dividend paying companies, the same argument hold; these companies are part of the overall market return. For example, consider that investors in the S&P 500 base their return expectations in part on the growth rates of companies such as Amazon, Facebook, Alphabet (the parent company of Google), and Netflix; however, because these companies do not pay dividends, they are (inappropriately) excluded from the FERC's total market return estimate. Furthermore, as a result of current market conditions, more than forty S&P 500 companies have temporarily suspended their dividends - a situation which cannot be assumed to continue in perpetuity as is implied by

using a constant growth DCF model.[79] Therefore, at this time, the exclusion of non-dividend-paying companies would even more significantly bias the calculation of the total market return.

Q. Do you agree with Dr. Won and Mr. Murray that the forward-looking MRP in your CAPM analysis is overstated because it relies on EPS growth rates for the S&P 500?

A. No, I do not. Dr. Won and Mr. Murray support this assertion by arguing that the EPS growth rate for the S&P 500 of 11.20 percent is significantly higher than more recent trends in GDP growth, as well as projections of GDP growth. However, the forecasted growth rate used in my CAPM analysis is a market-based growth rate provided by S&P for the companies in the S&P 500 Index. In other words, 11.20 percent is not my estimate of the expected growth rate; it is based on forecasted earnings growth rates for the companies in the S&P 500 as reported by S&P.

Furthermore, as noted above, while I disagree with the FERC's approach to exclude companies with earnings growth rate greater than 20%, the FERC did note the following in support of the use of the Constant Growth DCF model for the S&P 500 as opposed to the use of a Two-Step DCF model with GDP growth:

> [w]e also continue to find that the CAPM should use a one-step DCF for its risk premium. This is because the rationale for using a two-step DCF methodology for a specific group of utilities does not apply when conducting a DCF study of the dividend-paying companies in the S&P 500, as the Commission found in Opinion Nos. 531-B and 569.172 A long-term component is unnecessary because of the regular updates to the S&P 500, which allows it to continue to grow at a short-term growth rate and because

[79] Langley, Karen, Wall Street Journal. "U.S. Companies Slashed Dividends at Fastest Pace in More Than a Decade", July 8, 2020.

S&P 500 companies include stocks that are both new and mature, the latter of which have a moderating effect on the short-term growth rates.[80]

Q. What is your response to Mr. Murray's contention that he is not "aware of any authoritative sources" that use your approach to estimating the market return?[81]

A. While I developed the estimate of the market return, the process I used to estimate the market return relies on data published by S&P and a prominent cost of equity model, the Constant Growth DCF. In addition to the Maine Public Utilities Commission which I reference in my Direct Testimony[82] and the FERC which I reference above, the Minnesota Public Utilities Commission ("Minnesota PUC") has also relied on the Constant Growth DCF model to estimate the market return.

In Docket No. G-004/GR-19-511 for Great Plains Natural Gas Company, the Department of Commerce in Minnesota ("Minnesota DOC") relied on a Constant Growth DCF analysis for the S&P 500 to estimate the market return for the CAPM. Specifically, the Minnesota DOC relied on the dividend yield reported by S&P for the S&P 500 and the three-five year earnings growth estimate for the State Street Global Advisors S&P 500 exchange traded fund ("ETF") which resulted in a market return of 13.44 percent.[83] The Minnesota DOC has historically relied on the Constant Growth DCF model to estimate the market return

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80 FERC Docket No. EL-14-12-004, Opinion No. 569-A (May 21, 2020), at para. 85.
81 Murray Rebuttal, at 39.
82 Bulkley Direct Testimony, at 62-63
83 Docket No. G-004/GR-19-511, In the Matter of the Petition By Great Plains Natural Gas Co., a Division of Montana-Dakota Utilities Co., for Authority to Increase Natural Gas Rates in Minnesota (March 3, 2020), at Ex. DER-9, CMA-S-8.

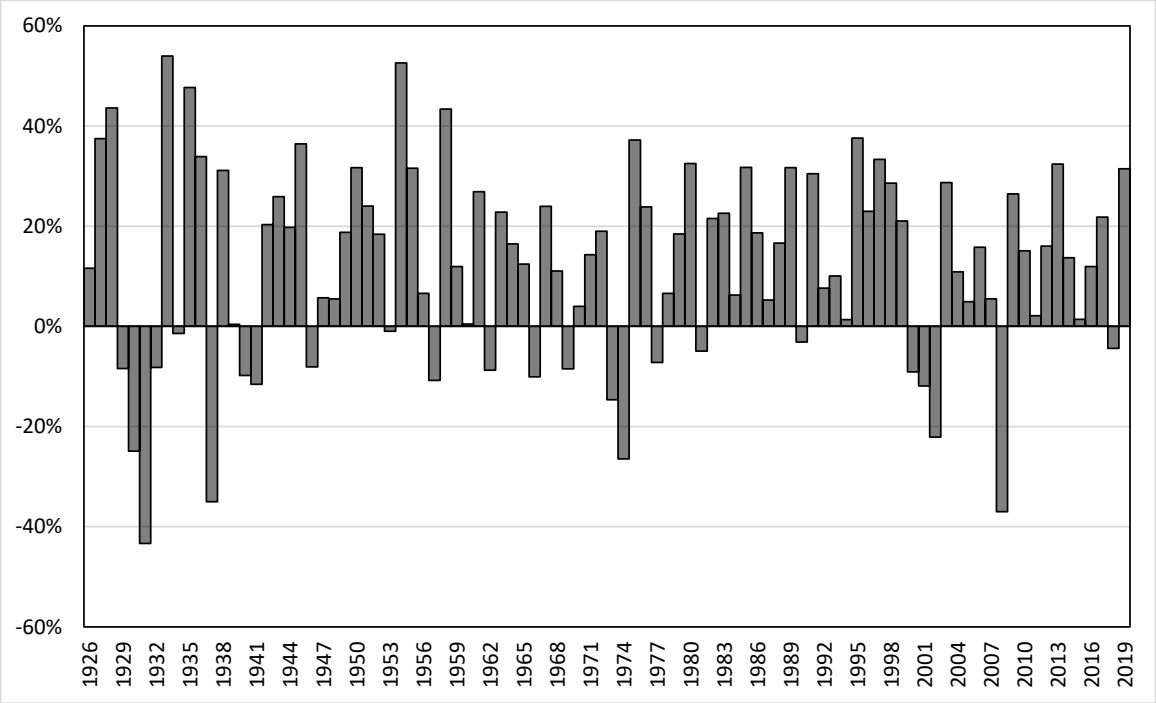
for the CAPM, which has in turn been considered by the Minnesota PUC in prior proceedings.[84]

Q. How does your forward-looking market return estimate compare to historical returns for Large Company Stocks?

A. Given the range of annual equity returns that have been observed over the past century (shown in Figure 8), a current expected return of 13.18 percent is not unreasonable. In 48 out of the past 94 years (or roughly 51 percent of observations), the realized equity return was at least 13.18 percent or greater. Furthermore, as shown in Figure 17 of my Rebuttal Testimony, my estimate of the market return of 13.18 percent is well below the actual average market return for Large Company Stocks from 2009 to 2019 of 15.27 percent as reported by Duff & Phelps. Therefore, my estimate of the market return is more than reasonable considering the historical returns achieved by Large Company Stocks.

[84] See Docket No. E017/GR-15-1033, Findings of Fact, Conclusions and Order, May 1, 2017, at 54-56; and Docket No. E015/GR-16-664, Findings of Fact, Conclusions and Order, March 12, 2018, at 60-61.

Figure 8: Realized U.S. equity market returns (1926-2019)[85]



E. ECAPM

Q. Please summarize Dr. Won's stated criticism of the Empirical CAPM analysis.

A. Dr. Won notes that the ECAPM analysis is based on the findings of Dr. Morin who developed the model based on data between 1926 and 1984; therefore, Dr. Won asserts that there is no evidence that Dr. Morin's findings would still be relevant based on data after 1984.[86] Furthermore, Dr. Won contends that Dr. Morin presented other studies which produced estimates of alpha that ranged from -9.61 percent to 13.56 percent which according to Dr. Won means the CAPM overestimated the return in some instances.

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[85] Depicts total annual returns on large company stocks, as reported in the 2020 Duff and Phelps SBBI Yearbook.

[86] Won Rebuttal Testimony, at 14.

Q. Do you agree with how Dr. Won presented the studies cited by Dr. Morin regarding the appropriate Alpha for the ECAPM?

A. No, I do not. Dr. Won combined the estimates of Alpha from eight separate studies that Dr. Morin cited into one combined range of Alpha. This is incorrect because the combined range can result in the incorrect conclusion that the consensus among the studies is that CAPM could equally overstate or understate the actual return. However, as shown in Figure 9, six out of the eight studies estimated positive values of Alpha which would indicate that the consensus among the studies is that the CAPM understates the observed return. Additionally, among the six studies which estimate only positive values of Alpha the range of Alpha was 1.63 percent to 13.56 percent. From this range, it is reasonable to conclude that Dr. Morin's estimate of Alpha of 2 percent is somewhat conservative. Finally, as I will discuss in more detail below, studies that I have reviewed which specifically examined the utility industry have shown that the CAPM has historically understated the returns of utilities.

Figure 9: Empirical Evidence on the Alpha Factor[87]

Author	Range of Alpha
Fischer (1993)	-3.6% to 3.6%
Fischer, Jensen and Scholes (1972)	-9.61% to 12.24%
Fama and McBeth (1972)	4.08% to 9.36%
Fama and French (1992)	10.08% to 13.56%
Litzenberger and Ramaswamy (1979)	5.32% to 8.17%
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 5.04%
Pettengill, Sundaram and Mathur (1995)	4.6%
Morin (1989)	2.0%

[87] Morin, Roger A., New Regulatory Finance, Public Utilities Report, Inc. (2006), at 190 (Table 6-2)

Q. Do any of the studies cited by Dr. Morin examine the ability of the CAPM to estimate the return of utilities?

A. Yes. Robert Litzenberger, Krishna Ramaswamy, and Howard Sosin published an article titled "On the CAPM Approach to the Estimation of a Public Utility's Cost of Equity Capital," which studied the ability of the CAPM to estimate the returns for utilities.[88] The authors found that the CAPM tends to understate the return for stocks such as utilities, which have a Beta less than 1.0. To develop the analysis, Litzenberger, et al. utilized both adjusted and raw Beta. In both cases, the CAPM understated the return for utilities with Betas less than 1.0.

Q. What is your response to Dr. Won's contention that the ECAPM proposed by Dr. Morin may not be applicable if more recent market data is considered?

A. Dr. Won's claim is incorrect as there has been a study published after the publication of Dr. Morin's book, New Regulatory Finance, which considered the use of the ECAPM based on more recent market data. Stephane Chretien and Frank Coggins published a study in 2011 titled "Cost of Equity for Energy Utilities: Beyond the CAPM", where they studied the CAPM and its ability to estimate the risk premium for the utility industry in particular subgroups of utilities for a data set that included market data through the end of 2006. The article considered the CAPM, the Fama-French three-factor model and a model similar to the ECAPM used in my Direct Testimony. As Chretien and Coggins show, the ECAPM

[88] Litzenberger, Robert, et al. "On the CAPM Approach to the Estimation of A Public Utility's Cost of Equity Capital." The Journal of Finance, vol. 35, no. 2, 1980, pp. 369–383.

significantly outperformed the traditional CAPM at predicting the observed risk premium for the various utility subgroups.[89]

F. Expected Earnings

Q. Please summarize Dr. Won's and Mr. Murray's criticisms regarding the Expected Earnings analysis presented in your Direct Testimony.

A. Dr. Won's primary concern with my Expected Earnings approach is that the results represent the book return on equity and therefore, it is not a market-based model such as either the CAPM or DCF analyses. According to Dr. Won, since the Expected Earnings approach is not market based it cannot be compared to the other market-based models and thus would "not satisfy the principles of a just and reasonable ROR as prescribed by the *Bluefield* and *Hope* decisions".[90] Additionally, Dr. Won notes that the FERC is no longer relying on the Expected Earnings approach in the determination of the ROE.

Mr. Murray recommends that the results of my Expected Earnings approach be rejected; arguing the analysis is "circular" as the forecasted earned returns are dependent on the outcome of rate cases.[91] Furthermore, Mr. Murray disagrees with my adjustment to Value Line's book value of equity which Mr. Murray believes biases the results of my Expected Earnings analysis upwards.

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89 Chrétien, Stéphane, and Frank Coggins. "Cost Of Equity For Energy Utilities: Beyond The CAPM." Energy Studies Review, Vol. 18, No. 2, 2011.

90 Won Rebuttal, at 15.

91 Murray Rebuttal, at 41.

Q. Do you agree with the positions of Dr. Won and Mr. Murray on this issue?

A. No, I do not. The *Hope* and *Bluefield* standards establish that a utility should be granted the opportunity to earn a return that is commensurate with the return on other investments of similar risk. Therefore, it is reasonable to consider the returns that investors expect to earn on the common equity of the water and natural gas distribution companies in the proxy group as a benchmark for a just and reasonable return because that is the expected earned return on equity that an investor will consider in determining whether to purchase shares in the company or to seek alternative investments with a better risk/reward profile. As Dr. Morin notes:

> The Comparable Earnings standard has a long and rich history in regulatory proceedings, and finds its origins in the fair return doctrine enunciated by the U.S. Supreme Court in the landmark Hope case. The governing principle for setting a fair return decreed in Hope is that the allowable return on equity should be commensurate with returns on investments in other firms having comparable risks, and that the allowed return should be sufficient to assure confidence in the financial integrity of the firm, in order to maintain creditworthiness and ability to attract capital on reasonable terms. Two distinct standards emerge from this basic premise: a standard of Capital Attraction and a standard of Comparable Earnings. The Capital Attraction standard focuses on investors' return requirements, and is applied through market value methods described in prior chapters, such as DCF, CAPM, or Risk Premium. The Comparable Earnings standard uses the return earned on book equity investment by enterprises of comparable risks as the measure of fair return.[92]

What Dr. Won and Mr. Murray fail to consider in their critique of the Expected Earnings analysis is that the ROE that is established in this case will be applied to the net book value of the Company's rate base (subject to certain regulatory adjustments). In this regard, the Expected Earnings approach provides valuable insight into the opportunity cost of

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

investing in MAWC. If investors devote capital to the Company (which would offer a return of only 9.55 percent on book value if Dr. Won's recommendation were adopted and 9.25 percent on book value if Mr. Murray's recommendation were adopted), they forgo the opportunity for that same capital to earn a potentially greater return on book value through investment in the proxy companies. As a result, the Expected Earnings approach is informative because it provides a measure of the return on book value that is available to investors through other investments with comparable risk to MAWC.

Q. What is your response to Mr. Murray's concern with your adjustment to Value Line's book value of equity?

A. Mr. Murray does not provide any theoretical support against the adjustment I apply to Value Line's book value of equity. His opposition appears to be solely based on the fact that the adjustment increases the results of my Expected Earnings analysis. This logic is not a reason to reject the adjustment. Value Line defines the return on shareholder's equity as "the annual net profit divided by year-end shareholders' equity".[93] In this case, Value Line is projecting the earned ROE for a period of three years (i.e., 2023-2025). The annual net profit for the three-year period is being divided by the book value of equity as of the last year of the three-year period. However, it is reasonable to assume that the book value of equity will change over the time-period. By dividing net profit by the value of book equity at of the end of the three-ear period, the calculated earned ROE will either be over or understated. The adjustment that I have applied estimates the average value of book

[93] Value Line, "How to Invest in Common Stocks: The Guide to Using the Value Line Investment Survey", at 41.

equity over the three-year period which results in an earned ROE that is more reflective of the average earned ROE over the three-year period of 2023-2025.

G. Revenue Stabilization Mechanism ("RSM")

Q. Please summarize Mr. Murray's position regarding the effect of the Company's proposed RSM on MAWC's allowed ROE?

A. Mr. Murray claims that, if the Company's proposed RSM was approved, the business risk of MAWC would be reduced. As a result, Mr. Murray recommends that the Commission reduce MAWC's authorized ROE by 10 basis points if it approves the Company's proposed RSM.[94] Mr. Murray calculated the 10-basis point adjustment as 1/3 of the six-month average credit spread between A-rated and BBB-rated bond yields.

Q. What are your concerns with Mr. Murray's proposed ROE adjustment to reflect the reduction in business risk associated with the Company's proposed RSM?

A. Mr. Murray contends that MAWC's ROE should be reduced to reflect the fact that the Company's proposed RSM would reduce the risk of the Company. This incorrectly assumes that because a company has an RSM that the ROE for that company should be reduced. The appropriate approach is to compare the regulatory mechanisms authorized for the Company to the regulatory mechanisms in effect for the companies of the proxy group being used to develop the ROE. This comparison will determine if the Company has greater regulatory risk than the proxy group. If the Company is determined to have greater risk than proxy group due to having fewer comprehensive regulatory mechanisms,

[94] Murray Rebuttal, at 42-43.

then an ROE towards the higher end of the proxy group results may be warranted. This is because investors would require a higher return on equity for investing in a utility with limited ratemaking adjustment mechanisms. Mr. Murray, however, did not review these factors for the individual companies contained in the proxy group. Instead, he looked at MAWC in isolation and did not develop an analysis to determine which companies in the proxy group have an RSM to determine how MAWC's risk compares to the proxy group. Absent this comparison, there is no basis to conclude that MAWC has less relative risk than the proxy group employed to set the ROE.

Furthermore, as shown in Schedule AEB-6 to my Direct Testimony, 54.5 percent of the operating companies in my proxy group have some form of a decoupling mechanism which results in increased revenue stability. Therefore, Mr. Murray's assertion that the Company's proposed RSM would reduce MAWC's risk is misplaced because the RSM is similar to the decoupling mechanisms that are approved for a majority of companies in my proxy group. Conversely, to the extent that MAWC is not granted its proposed revenue decoupling mechanism in this rate case, its risk would be elevated relative to the proxy group, requiring an ROE greater than that of the proxy group.

IV. SUMMARY AND RECOMMENDATIONS

Q. Please summarize your conclusions and recommendations regarding the appropriate ROE for MAWC in this proceeding.

A. I continue to support the analyses and recommendation contained in my Direct and Rebuttal Testimonies. Specifically, the range of reasonable ROE results for the proxy group companies is between 9.75 percent and 10.60 percent. An authorized ROE in this range balances the interests of MAWC's customers and shareholders, is comparable to the

authorized returns for similarly-situated water utilities, maintains the Company's financial integrity, and enables MAWC to attract capital on reasonable terms and conditions.

- Nothing in the other ROE witnesses' rebuttal testimony has caused me to change my range of results or my ROE recommendation.
- Neither Dr. Won nor Mr. Murray rely on the results of any of their models to underlie or inform their respective ROE recommendations of 9.55 percent and 9.25 percent.
- A proxy group composed only of water companies is too small to be significant. My proxy group of water and gas utilities is both representative and of sufficient size to provide meaningful results.
- Dr. Won's reliance on a comparison of his Two-Step DCF results for MAWC in this proceeding to those for the same model at the time of MAWC's last rate case in 2017 does not provide sufficient support for his ROE recommendation.
- Similarly, Mr. Murray's DCF, CAPM and Rule of Thumb methods do not support his ultimate recommendation.
- Finally, recently authorized ROEs for water distribution companies are within the range established in my Direct and Rebuttal Testimonies.

Q. What is your recommendation regarding a reasonable capital structure for MAWC in this proceeding?

A. I continue to support the Company's proposed capital structure of 53.00 percent common equity and 47.00 percent long-term debt as reasonable. This is validated by the fact that MAWC's capital structure is consistent with the actual capital structures of the operating utility companies in the proxy group used to determine the Company's ROE. That capital

structure also represents the manner in which MAWC is actually capitalized. Any lower imputed equity ratio would require a commensurate adjustment to increase the ROE, negatively affect MAWC's ability to attract discretionary capital and would present negative incentives for the Company to adjust its equity ratio, reducing investment in Missouri and weakening the credit metrics for the Company.

- Nothing in the other ROE witnesses' rebuttal testimony has caused me to change my support for the Company's proposed capital structure.
- Neither Dr. Won nor Mr. Murray provide compelling evidence to support the use of AWK's capital structure as the ratemaking capital structure of MAWC.
- Dr. Won's and Mr. Murray's proposals result in equity ratios that are well below the equity ratios approved for similarly-situated water utilities. Moreover, the WROEs that results from the proposals of Dr. Won and Mr. Murray would adversely affect MAWC's ability to compete for discretionary capital with the Company's affiliates. Finally, if Dr. Won's and Mr. Murray's capital structure recommendations were adopted, it would be reasonable to expect that the Company would conform its capital structure accordingly, which would significantly weaken the financial metrics of the Company and would reduce its ability to access capital as a stand-alone entity on terms beneficial to its customers.

Q. Does this conclude your Surrebuttal Testimony?

A. Yes, it does.