

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

ELECTRONIC APPLICATION OF KENTUCKY-	)	
AMERICAN WATER COMPANY FOR AN	)	CASE NO. 2026-00094
ADJUSTMENT OF RATES	)	

REBUTTAL TESTIMONY OF ANN E. BULKLEY

September 16, 2026

TABLE OF CONTENTS

I.	INTRODUCTION	2
II.	SUMMARY OF ANALYSIS AND CONCLUSIONS	3
III.	UPDATED COST OF EQUITY ANALYSIS	8
IV.	CAPITAL MARKET CONDITIONS	9
V.	RESPONSE TO MR. ROTHSCHILD.....	12
A.	Proxy Group	14
B.	Cost of Equity and Return on Equity.....	16
C.	Constant Growth DCF	23
D.	Non-Constant Growth DCF.....	34
E.	CAPM Analysis.....	36
a.	Risk Free Rate.....	36
b.	Beta	38
c.	Market Risk Premium	43
d.	Adjustments to Mr. Rothschild’s CAPM analysis.	57
F.	ECAPM Analysis	57
G.	Summary of Adjusted Results	64
H.	Business and Regulatory Risk	65
I.	Capital Structure.....	68

1 **I. INTRODUCTION**

2 **Q. Are you the same Ann E. Bulkley who previously submitted direct testimony in this**
3 **proceeding?**

4 A. Yes. I am submitting this rebuttal testimony before the Kentucky Public Service
5 Commission (“Commission”) on behalf of Kentucky-American Water Company
6 (“KAWC” or the “Company”), a wholly-owned subsidiary of American Water Works
7 Company Inc (“AWK”).

8 **Q. What is the purpose of your rebuttal testimony?**

9 A. The purpose of my rebuttal testimony is to respond to the Direct Testimony of the Office
10 of Attorney General of the Commonwealth of Kentucky, the Lexington-Fayette Urban
11 County Government, and the Georgetown Municipal Water and Sewer Service
12 (“AG/LFUCG/GMWSS”) witness Aaron L. Rothschild (“Rothschild Direct Testimony”)
13 regarding the just and reasonable return on equity (“ROE”) and the appropriate capital
14 structure for the Company.¹ I have not attempted to respond to every argument made by
15 Mr. Rothschild, and the fact that I may not have responded to any particular argument or
16 statement made by him or others does not indicate my agreement with that argument or
17 statement.

18 **Q. Are you sponsoring any exhibits as part of your rebuttal testimony?**

19 A. Yes. I am sponsoring Exhibits AEB-1-R through AEB-11-R, which have been prepared
20 by me or under my direct supervision.

¹ Kentucky Public Service Commission, Direct Testimony and Exhibits of Aaron L. Rothschild, August 7, 2026 (“Rothschild Direct Testimony”).

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

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

- 3 • Section II provides a summary and overview of my rebuttal testimony and the
4 important factors to be considered in establishing the authorized ROE for the
5 Company.
- 6 • Section III provides cost of equity analyses based on market data as of July 31,
7 2026.
- 8 • Section IV discusses the changes in capital market conditions, and their effect on
9 the cost of equity.
- 10 • Section V provides my response to the issues raised by Mr. Rothschild.

11 **II. SUMMARY OF ANALYSIS AND CONCLUSIONS**

12 **Q. What factors should be considered in evaluating the results of the cost of equity**
13 **analyses and establishing the authorized ROE?**

14 A. The primary factors that should be considered are: (1) the importance of providing a return
15 that is comparable to returns on alternative investments with commensurate risk; (2) the
16 need for a return that supports a utility's ability to attract needed capital at reasonable terms;
17 (3) the effect of current and expected capital market conditions; and (4) achieving a
18 reasonable balance between the interests of investors and customers.

19 **Q. Please summarize the analyses performed by Mr. Rothschild and his recommended**
20 **ROE for the Company in this proceeding.**

21 A. Mr. Rothschild conducts multiple constant growth DCF and CAPM analyses using the
22 proxy group identified in my direct testimony ("Combination Proxy Group") and a proxy
23 group which contains only water companies ("Water Proxy Group") to arrive at his
24 recommended ROE of 8.07 percent for the Company in this proceeding. Specifically, Mr.
25 Rothschild conducts the following analyses:

Constant-Growth DCF

- Mr. Rothschild calculates four constant growth DCF scenarios – two that utilize sustainable growth rates and two that use option-implied growth rates². For two of Mr. Rothschild’s scenarios, he calculates the dividend yields using average high and low stock prices for the 12 months ended June 30, 2026, while the other two scenarios utilize closing stock prices as of June 30, 2026. Mr. Rothschild calculates his sustainable growth rate as the sum of his dividend yield, the growth in dividend yield in the next year, a retention growth rate,³ and a new financing growth rate.
 - Mr. Rothschild’s sustainable-growth DCF model assumes a positive relationship between retention and future earnings growth that is not supported by empirical studies. Further, the sustainable growth rate requires subjective forecasts of four separate variables, which creates opportunity for misspecification or analyst bias.
 - Mr. Rothschild’s option-implied growth model is unsupported by any academic studies or regulatory jurisdictions.

Non-Constant Growth DCF

- Mr. Rothschild presents a non-constant growth DCF analysis using both an average of the high and low stock prices through June 30, 2026, and the closing spot market stock prices as of June 30, 2026. His non-constant growth model is based on projected capital appreciation, forecasted DPS growth rates, and projected book values for his proxy group as reported by *Value Line*.
 - Mr. Rothschild’s non-constant DCF analysis is unnecessarily subjective, requiring assumptions for projected dividends, future book-value growth, the terminal stock price, and the investor’s assumed holding period, which have the potential to bias the results of the analyses. Moreover, the model relies entirely on *Value Line* projections despite Mr. Rothschild’s criticism of the use of analysts’ projected growth rates.

² An option implied growth rate is the future growth rate of an underlying asset's earnings or dividends that is reverse-engineered from current market option prices.

³ For his retention growth rate, Mr. Rothschild assumes a one-third weight on the median of the average historical return on the book value equity for the proxy companies for 2023-2025, a one-third weight on the projected return on the book value equity reported by *Value Line*, and a one-third weight on the projected implied return on the book value equity reported by *Zacks*.

1 CAPM

- 2 • Mr. Rothschild utilizes risk-free rates that are the spot yields for the 3-month
3 Treasury bill and the 30-year Treasury bond as of June 30, 2026, as well as
4 weighted averages over the three months ending June 30, 2026 for both yields. Mr.
5 Rothschild utilizes a “forward beta” and a “historical blended” beta, whereby the
6 forward beta is an option implied beta calculated using options data with a
7 maximum expiration period of six months for the companies in his proxy group and
8 the S&P 500 Index. Mr. Rothschild’s market risk premium is calculated as his
9 estimate of the option-implied growth rate of the S&P 500 Index minus his risk-
10 free rate.

11 ○ Mr. Rothschild’s use of a three-month Treasury bill is inappropriate for
12 long-lived assets, like utility companies.

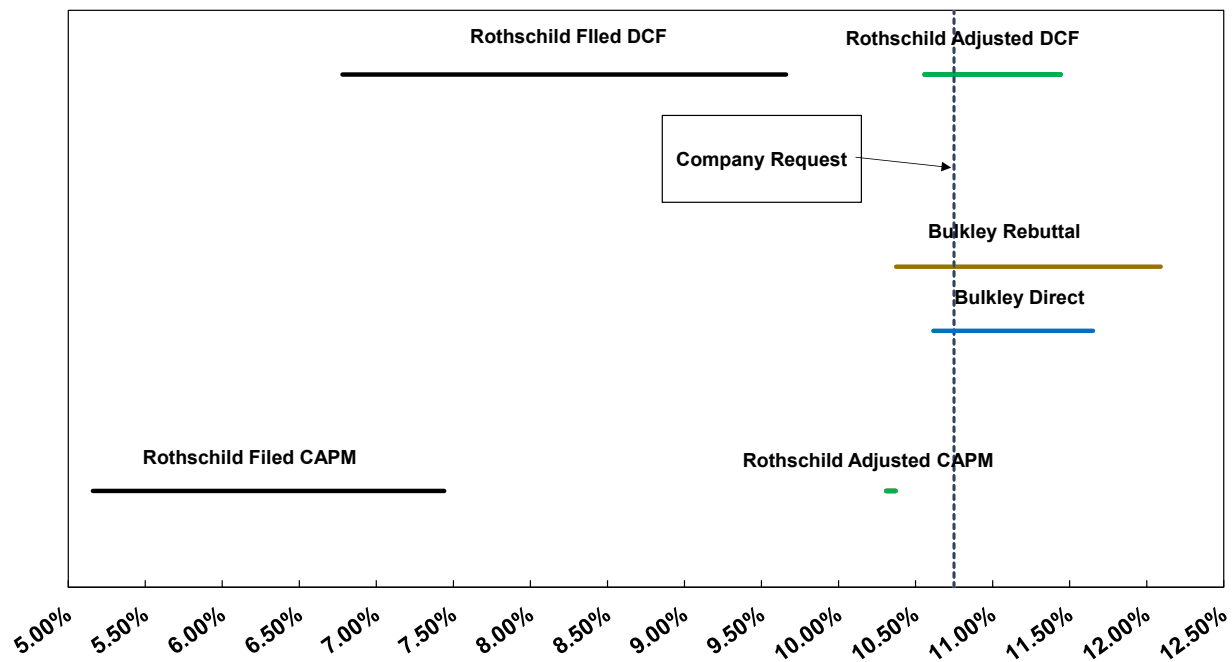
13 ○ His option-implied beta analysis cannot be relied upon in a CAPM analysis.
14 Both his option-implied and six-month betas demonstrate significant
15 volatility on a daily basis. The data used to estimate these betas is sparse
16 and often illiquid, and the weightings he applies to his various beta estimates
17 are arbitrary.

18 ○ Finally, the results of these analyses; a range of 5.32 percent to 7.22 percent
19 with a midpoint of 6.27 percent for his Combination Proxy Group; and a
20 range of 5.16 percent to 7.44 percent with a midpoint of 6.30 percent for his
21 Water Proxy Group, do not provide a sufficient equity premium above the
22 cost of debt to be reasonable estimates of the investor-required return on
23 equity.

24 **Q. Please summarize the cost of equity results presented in this proceeding.**

25 A. Figure 1 summarizes the results of the cost of equity analyses presented by Mr. Rothschild
26 and my analytical results as presented in my direct and rebuttal testimony. In addition,
27 Figure 1 summarizes the results of the models relied upon by Mr. Rothschild taking into
28 consideration the adjustments discussed throughout my rebuttal testimony. As shown in
29 the figure, applying consistent data and methodologies, the intervenors’ positions are
30 within a reasonable range around the Company’s requested ROE.

Figure 1: Summary of the Results of Mr. Rothschild's Cost of Equity Analyses and Recommended ROE



Q. What are your key conclusions and recommendations regarding the appropriate ROE and capital structure for the Company?

A. My key conclusions and recommendations in this proceeding are as follows:

Cost of Equity

- The results of my updated cost of equity analyses based on data through July 31, 2026, continue to support the reasonableness of KAWC's proposed ROE of 10.75.
- Comparing current market conditions to the conditions at the time of the Company's last rate case demonstrates that the cost of equity has increased since the Company's last rate proceeding. This demonstrates that the recommendation of Mr. Rothschild who recommends an ROE that is *lower* than the Company's currently authorized ROE, does not meet the investor-required return on equity.
- The results of many of Mr. Rothschild's analyses are inconsistent with the comparable return standard in *Hope* and *Bluefield* and significantly below any comparable authorized ROE for water, natural gas, or electric utilities since at least 2010. These model results cannot be relied upon as reasonable expectations of the investor required return when considering recently authorized ROEs for utilities and the current cost of debt.

- When reasonable adjustments are made to address the issues that I identify with Mr. Rothschild's cost of equity analyses, the results of his models significantly increase and support the Company's proposed ROE in this proceeding. Specifically, I adjust:
 - Mr. Rothschild's sustainable-growth rate to replace it with average projected EPS growth from *Value Line*, *S&P*, and *Zacks* increases the result of his constant-growth DCF analyses. For his Combination Proxy Group this increases the range from 9.59 percent to 9.66 percent with a midpoint of 9.63 percent, to a range from 11.36 percent to 11.44 percent with a midpoint of 11.40 percent and for his Water Proxy Group from a range of 8.75 percent to 8.85 percent with a midpoint of 8.80 percent, to a range from 10.56 percent to 10.81 percent.⁴
 - Mr. Rothschild's CAPM to rely on the 30-year Treasury yield and Mr. Rothschild's five-year historical betas, and a 13.64 percent forward-looking market return increases the results of his CAPM analyses, to 10.36 percent to 10.37 percent, with a midpoint of 10.37 percent for his Combination Proxy Group and 10.31 percent to 10.33 percent, with a midpoint of 10.32 percent for his Water Proxy Group.
- Mr. Rothschild has not independently evaluated the comparative risk of the Company relative to their respective proxy groups. As detailed below, 75.00 percent of the proxy group companies have capital recovery mechanisms. Moreover, Mr. Rothschild's claim that the approval of the SIP should result in a 10 basis point reduction to investments recovered through the SIP is unsupported.

Capital Structure

- The Company's proposed capital structure, consisting of 52.24⁵ common equity, is reasonable.
 - The Company's proposed equity ratio is similar to the average actual equity ratio of the utility subsidiaries of the proxy group companies (*i.e.*, utilities with risk profiles that are similar to the Company's risk profile).

⁴ Based on the issues I have identified in Mr. Rothschild's option-implied analyses, I do not attempt to correct these analyses, but rather recommend that they be rejected.

⁵ Please see the Direct Testimony of John M. Watkins who supports the Company's update to its proposed equity percentage.

1 ○ The Company’s proposed equity ratio is similar to the average equity ratios
2 authorized for water and natural gas utilities across the U.S. over the past
3 four years.

- 4 • Although I disagree with Mr. Rothschild that the Company’s proposed capital
5 structure should be compared to the average equity ratios of the proxy group
6 holding companies, if that analysis is performed correctly, it also demonstrates that
7 the Company’s proposed equity ratio is much lower than the proxy group average
8 equity ratios and is therefore reasonable.

9 **III. UPDATED COST OF EQUITY ANALYSIS**

10 **Q. Have you prepared cost of equity analyses to support your rebuttal testimony?**

11 A. Yes. I have prepared cost of equity analyses that validate my direct testimony and include
12 market data through July 31, 2026.

13 **Q. Have you updated the proxy group for the cost of equity analyses that you have**
14 **conducted?**

15 A. Yes. Since the filing of my direct testimony three acquisitions have been announced related
16 to Spire Inc. (“SR”). The first is a March 30, 2026, announcement that Boardwalk
17 Pipelines would be acquiring Spire Marketing, Inc. for approximately \$215 million, the
18 second announced on April 15, 2026, where I Squared Capital Advisors, LLC entered an
19 agreement to acquire the natural gas storage assets from SR, and finally on April 22, 2026,
20 Bernhard Capital partners Management, LP entered into a definitive agreement to acquire
21 Spire Mississippi Inc. from SR.⁶ Given the significant amount of transaction activity, SR
22 no longer meets the merger and acquisition proxy group screening criterion that I discussed
23 in my direct testimony.

⁶ See, e.g., Boardwalk Press Releases, “Boardwalk Pipelines Enters Agreement to Acquire Spire Marketing,” March 30, 2026; Spire News Releases, “Spire and I Squared announce agreement for sale of natural gas storage assets for \$650 million,” April 15, 2026; and Bernhard Capital Partners, “Bernhard Capital-Backed Delta Utilities to Expand Mississippi Footprint through Acquisition of Spire Inc.’s Natural Gas Business,” April 22, 2026.

Q. What are the updated results of your cost of equity analyses?

A. Figure 2 summarizes the results of my updated analyses as of July 31, 2026, which are also presented in Exhibits AEB-1-R through AEB-5-R. As shown, the updated results of the cost of equity analyses continue to support the Company's requested ROE of 10.75 percent.

Figure 2: Cost of Equity Model Results

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Constant Growth DCF - Mean Results			
30-Day Avg. Stock Price	9.99%	10.99%	11.78%
90-Day Avg. Stock Price	10.04%	11.03%	11.83%
180-Day Avg. Stock Price	10.13%	11.12%	11.91%
Average	10.05%	11.05%	11.84%
Constant Growth DCF - Median Results			
30-Day Avg. Stock Price	9.72%	10.32%	10.78%
90-Day Avg. Stock Price	9.62%	10.36%	10.82%
180-Day Avg. Stock Price	9.70%	10.44%	10.95%
Average	9.68%	10.37%	10.85%
	30-Year Treasury Bond Yield		
	Current	Near-Term	Longer-Term
	30-Day Avg	Projected	Projected
CAPM			
Current <i>Value Line</i> Beta	11.58%	11.54%	11.49%
Long-term Avg. <i>Value Line</i> Beta	11.49%	11.45%	11.40%
ECAPM			
Current <i>Value Line</i> Beta	12.09%	12.06%	12.03%
Long-term Avg. <i>Value Line</i> Beta	12.03%	12.00%	11.96%

IV. CAPITAL MARKET CONDITIONS

Q. Do changes in capital market conditions since the Company's last rate proceeding indicate an increase in the cost of equity since that time?

A. Yes. While core inflation has declined since the last rate proceeding, short-term interest rates have remained consistent and long-term interest rates have increased, which is

indicative of an increase in the cost of capital. As shown in Figure 3, since the issuance of the decision in the Company's last rate proceeding, long-term interest rates have increased by 31 basis points.

Figure 3: Change in Market Conditions Since KAWC Last Rate Proceeding⁷

Docket	Date	Federal Funds Rate	30-Day Avg of 30-Year Treasury Bond Yield	Core Inflation Rate	Auth'd ROE
<u>Case No. 2025-00122</u>					
Commission Decision	2025-12-16	3.64%	4.73%	2.65%	9.70%
<u>Case No. 2026-00094</u>					
Company Direct	2026-02-27	3.64%	4.79%	2.47%	
Company Rebuttal	2026-07-31	3.63%	5.04%	2.47%	
<i>Change since Dec-25 Decision to Direct:</i>		<i>0.00%</i>	<i>0.05%</i>	<i>-0.17%</i>	
<i>Change since Dec-25 Decision to Rebuttal:</i>		<i>-0.01%</i>	<i>0.31%</i>	<i>-0.18%</i>	

Q. Does Mr. Rothschild adequately consider the implications of current and prospective capital market conditions on the cost of equity?

A. No. Despite an increase in the cost of debt as set out in Figure 3 since the Company's last rate proceeding, the ROE recommendation of Mr. Rothschild is directionally inconsistent with the Company's currently authorized ROE of 9.70 percent. As noted, Mr. Rothschild's ROE recommendation, of 8.07 percent, is 163 basis point *lower* than the Company's currently authorized ROE.

Q. What is the expected path of monetary policy over the near-term?

A. At the July 2026 Federal Open Market Committee ("FOMC") meeting, Chair Warsh noted that the economy continued to demonstrate resilience, with recent trends reflecting "solid growth," job gains keeping pace with growth in the workforce, and little change in the

⁷ St. Louis Federal Reserve Bank; Bureau of Labor Statistics; Bloomberg Professional.

1 unemployment rate.⁸ Chair Warsh did acknowledge that inflation remains elevated relative
2 to the Federal Reserve’s 2 percent target.⁹ Considering these economic conditions, the
3 FOMC voted 9-to-3 to maintain the federal funds rate target range at 3.50 percent to 3.75
4 percent, where the three dissenting FOMC members voted to increase the federal funds
5 rate target range by 25 basis points.¹⁰ Given the FOMC’s decision to maintain the current
6 target range, together with the preference of three members voting for a rate increase, the
7 federal funds rate is expected to remain steady over the near-term, with the potential for an
8 increase in the near-term.

9 **Q. What are expectations for the yields on long-term government bonds?**

10 A. Economists are still expecting elevated long-term interest rates. The *Blue Chip Financial*
11 *Forecasts*, which is a consensus estimate of economists reports that the 30-year treasury
12 bond yield will be 4.90 percent in Q4/2026 and 4.88 percent through Q4/2027.¹¹
13 Additionally, the consensus estimate over the longer term (*i.e.*, 2028-2032) is 4.70
14 percent.¹² This is important because it means that long-term interest rates are expected to
15 remain elevated during the period that the Company’s rates will be in effect.

16 **Q. What do you conclude from this market data?**

17 A. There is a positive relationship between bond yields and authorized ROEs. This means that
18 as bond yields increase, the investor-required return on equity also increases. Therefore,
19 considering that long-term interest rates have increased since the Company’s last rate
20 proceeding, and there is no longer an expectation that the Federal Reserve will be lowering
21 short-term interest rates in the near term, it is reasonable to expect that investors’ equity

⁸ Federal Reserve, “Transcript of Chairman Warsh’s Press Conference,” July 29, 2026.

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Blue Chip Financial Forecasts*, Vol. 45, No. 8, July 31, 2026, at 9.

¹² *Blue Chip Financial Forecasts*, Vol. 45, No. 6, June 1, 2026, at 14.

1 return requirements have increased since the Company's ROE was established in its last
2 rate proceeding. Therefore, the recommendation of Mr. Rothschild, that the Company's
3 ROE should be lower than the currently authorized ROE is inconsistent with what can
4 reasonably be expected to be investors' expectations in the current market.

5 **V. RESPONSE TO MR. ROTHSCHILD**

6 **Q. Please summarize Mr. Rothschild's testimony regarding his recommended ROE and**
7 **capital structure.**

8 A. Mr. Rothschild recommends an 8.07 percent ROE based on the 85th percentile of his cost
9 of equity model results for his Combination Proxy Group, with a recommended range of
10 7.95 percent to 9.11 percent based on the 80th and 90th percentiles, respectively.¹³ While
11 he also provides the recommended ROE and range of his Water Proxy Group, he does not
12 utilize the results of the cost of equity models using the Water Proxy Group. Mr.
13 Rothschild relies on the model results at the 80th to 90th percentile of the range his model
14 results to establish his recommended range. None of Mr. Rothschild's CAPM results fall
15 within his recommended range. Therefore, he relies primarily on the result of his DCF
16 analyses to set his recommendations in this proceeding. Finally, Mr. Rothschild argues
17 that KAWC's proposed equity ratio of 52.29 percent is too high as the holding company
18 equity ratio of American Water Works Company, Inc. is 46.00 percent, therefore, he
19 proposes a capital structure consisting of 51.17 percent common equity, 48.09 percent
20 long-term debt, 0.45 percent short-term debt, and 0.28 percent preferred equity.¹⁴

¹³ Rothschild Direct Testimony, at 6-8.

¹⁴ *Id.*, at 55.

1 **Q. Please identify the areas of Mr. Rothschild’s analyses with which you disagree.**

2 A. I disagree with the following aspects of Mr. Rothschild’s analyses: (1) the use of the Water
3 Proxy Group; (2) Mr. Rothschild’s discussion on the cost of equity and the return on equity;
4 (3) the use of sustainable-growth rates and option-implied growth rates in the constant
5 growth DCF analysis; (4) the use of a non-constant DCF analysis for the calculation of the
6 Company’s cost of equity; (5) the use of a 3-month Treasury bill as the risk free rate, using
7 option-implied betas, and the option-implied market risk premiums in the CAPM analysis;
8 (6) the relevance of my ECAPM analysis; (7) the effect of company-specific risks on the
9 cost of equity for KAWC. I discuss each of these issues in the following sections of my
10 rebuttal testimony.

11 **Q. As a threshold matter, are the results of Mr. Rothschild’s cost of equity analyses**
12 **reasonable?**

13 A. No. As shown in Figure 1, the results of Mr. Rothschild’s constant growth DCF for the
14 Combination Proxy Group using sustainable growth rates range from 9.59 percent to 9.66
15 percent.¹⁵ While I disagree in further detail below on the use of sustainable growth rates,
16 these results are generally consistent with the average of recently authorized ROEs for
17 water, gas, and electric utilities. However, for the Combination Proxy Group, the results
18 of Mr. Rothschild’s DCF analyses using option-implied growth rates and the non-constant
19 DCF analyses are in the range of 6.78 percent to 7.99 percent. Mr. Rothschild’s CAPM
20 results, using option-implied betas result in a cost of equity range of 5.32 percent to 7.22
21 percent.¹⁶ While Mr. Rothschild’s results for his DCF analyses using option-implied

¹⁵ Rothschild Direct Testimony, at 8.

¹⁶ *Id.*

1 growth rates and the non-constant DCF analyses are in the range of 6.79 percent to 7.95
2 percent, and CAPM results of 5.16 percent to 7.44 percent.¹⁷ These cost of equity results
3 are below any authorized ROEs for water, natural gas, and electric utilities since at least
4 2010 and are well below the annual authorized average ROE of water utilities since 2010.
5 The *Hope* and *Bluefield* decisions, which Mr. Rothschild acknowledges, require the
6 authorized return to be comparable to other returns available to investors in companies with
7 similar risk. Mr. Rothschild's reliance on option-implied growth rates in his constant
8 growth DCF, non-constant growth DCF, and his option-implied betas in his CAPM
9 analyses clearly do not meet this standard.

10 **A. Proxy Group**

11 **Q. What is the composition of Mr. Rothschild's proxy groups for the purposes of his cost**
12 **of equity analyses?**

13 A. Mr. Rothschild uses two proxy groups for the purposes of his cost of equity analyses. For
14 his first proxy group, Mr. Rothschild relies on a Combination Proxy Group that consists of
15 the same 11 natural gas and water utilities that were included in the proxy group that I
16 relied on in my direct testimony. Mr. Rothschild's second proxy group, the Water Proxy
17 Group, contains only 4 water utilities, which are the water utilities in the Combination
18 Proxy Group.¹⁸

¹⁷ *Id.*

¹⁸ Rothschild Direct Testimony, at 22-23.

1 **Q. Why do you believe it is appropriate to also include natural gas utilities in the proxy**
2 **group used to estimate the cost of equity for a water utility?**

3 A. As discussed in my direct testimony, there are several reasons why it is appropriate to
4 include natural gas utilities in the proxy group used to estimate the cost of equity for
5 KAWC:

- 6 • Due to consolidation in the water industry, there are only a limited number of water
7 utilities that can be included in the proxy group. Mr. Rothschild's water proxy
8 group only includes four utilities. The smaller the size of the proxy group, the
9 greater the chance the proxy group average could be affected by the results of one
10 company. Mr. Rothschild recognizes this that the small size of a water only proxy
11 group presents its own limitations.¹⁹
- 12 • Similar to the water utilities included in my proxy group, the natural gas utilities
13 included in my proxy group generate a substantial portion of their operating income
14 from regulated distribution operations. Therefore, there are significant similarities
15 between the business and operating risks of water and natural gas distribution
16 companies.
- 17 • Several regulatory commissions have considered the results of a proxy group that
18 includes natural gas utilities when determining the authorized return for a water
19 utility.²⁰
- 20 • As shown in my direct testimony, a comparison of financial risk metrics between
21 water and natural gas utilities demonstrates that while the specific risk factors may
22 differ, these utility segments have similar risk characteristics.²¹

23 **Q. Does Mr. Rothschild also conclude it is reasonable to include natural gas utilities in**
24 **the proxy group used to estimate the cost of equity for KAWC?**

25 A. Yes. In fact, Mr. Rothschild's recommended range and ROE recommendation are based
26 only on the results of the analyses conducted on his Combination Proxy Group. While I

¹⁹ Rothschild Direct Testimony, at 15.

²⁰ Bulkley Direct Testimony, at 21-23.

²¹ *Id.*, at 23-24.

1 conclude that a proxy group containing both water and natural gas utilities is appropriate
2 for estimating the cost of equity for the Company, I will also adjust the results of Mr.
3 Rothschild's Water Proxy Group.

4 **B. Cost of Equity and Return on Equity**

5 **Q. What is Mr. Rothschild's position regarding previously authorized ROEs?**

6 A. Mr. Rothschild contends that since utilities' market-to-book ratios have been greater than
7 1.0, that the market-based cost of equity is necessarily lower than the authorized book
8 ROEs.²²

9 **Q. Do you agree with Mr. Rothschild that authorized ROEs have exceeded the cost of**
10 **equity because the market-to-book ratios for utilities have exceeded 1.00?**

11 A. No, I do not. Mr. Rothschild's position that ROEs have been higher than utilities' cost of
12 equity rests on the belief that capital markets are perfectly efficient (*i.e.*, what is referred
13 to as the Efficient Market Hypothesis ("EMH")). The premise implied by Mr. Rothschild
14 is that because markets are efficient, if the ROE is set equal to the cost of equity, the share
15 price will adjust so that the expected return is equivalent to the cost of equity, at which
16 point the market-to-book ratio is 1.00. Therefore, Mr. Rothschild concludes that because
17 the market-to-book ratio for each of the companies in my proxy groups is greater than 1.00,
18 the authorized ROEs are greater than the cost of equity. However, there are several reasons
19 why the market-to-book ratio for utilities may exceed 1.00 other than the authorized ROE
20 exceeding the cost of equity. First, there is no consensus among economists regarding
21 whether the theory of the EMH is valid and that share prices are rationally priced. Second,

²² Rothschild Direct Testimony, Appendix A, at 86.

1 even if one assumes, as Mr. Rothschild does, that the EMH holds, the correct asset pricing
2 model is not known.

3 **Q. What is the theory of the EMH?**

4 A. The theory of the EMH contends that all information that is currently known by investors
5 is already reflected in current stock prices.²³ For example, as shown in my direct testimony,
6 the theory of the DCF model is that the current share price is equal to the present value of
7 all expected future dividends.²⁴ Therefore, if markets were fully efficient as assumed by
8 Mr. Rothschild, changes in share prices could only be explained by new information that
9 results in a change to the expected dividends.

10 **Q. Is there consensus that the EMH holds?**

11 A. No. There is no consensus among economists regarding whether the theory of the EMH,
12 which contends that share prices are rationally priced, holds true. Further, it is not possible
13 to test the theory of the EMH on its own, it must be tested with the use of an asset pricing
14 model such as the DCF and CAPM.

15 **Q. What is the underlying problem with the EMH?**

16 A. In the text *Behavioral Finance: The Second Generation*, Meir Statman noted that it is
17 difficult to test the EMH because of the “joint hypothesis” problem (*i.e.*, trying to solve for
18 two variables); therefore, one can either assume market efficiency and determine the asset
19 pricing model, or assume an asset pricing model and determine market efficiency.²⁵ The
20 problem can be illustrated as follows – if the returns predicted by the CAPM deviate from
21 those achieved in the market, one could conclude either that the market is not efficient or

²³ R. J. Shiller, “Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?,” *The American Economic Review*, Vol. 71, No. 3, 1981, at 421–436.

²⁴ Bulkley Direct Testimony, at 28.

²⁵ Meir Statman, *Behavioral Finance: The Second Generation*, CFA Institute Research Foundation, 2019, at 162.

1 the CAPM is not the appropriate model. Therefore, as Dr. Lawrence Kolbe and Dr.
2 Michael Vilbert outlined in their 2016 presentation to the California Public Utilities
3 Commission, the problem with assuming that authorized ROEs have exceeded the cost of
4 equity, which is predicated on the theory of the EMH, is: (1) it is unclear whether the
5 theory of the EMH holds true; and (2) even assuming for the sake of argument that the
6 EMH does in fact hold true, there is also no consensus regarding which model produces
7 reasonable estimates of the cost of equity.²⁶

8 **Q. Have economists identified inefficiencies in the market using historical market data?**

9 A. Yes. For example, Nobel Prize winning economist Dr. Robert Shiller examined market
10 efficiency in his 1981 study titled “Do Stock Prices Move Too Much to be Justified by
11 Subsequent Changes in Dividends?” where he examined if the volatility in share prices
12 could be fully explained by new information regarding future dividends. Dr. Shiller found
13 that the historical volatility of share prices has been far too high to be fully explained by
14 changes in expectations for future dividends:

15 We have seen that measures of stock price volatility over the past century
16 appear to be far too high – five to thirteen times too high – to be attributed
17 to new information about future real dividends if uncertainty about future
18 dividends is measured by the sample standard deviations of real dividends
19 around their long-run exponential growth path. The lower bound of a 95
20 percent one-sided χ^2 confidence interval for the standard deviation of annual
21 changes in real stock prices is over five times higher than the upper bound
22 allowed by our measure of the observed variability of real dividends. The
23 failure of the efficient markets model is thus so dramatic that it would seem
24 impossible to attribute the failure to such things as data errors, price index
25 problems, or changes in tax laws.²⁷

²⁶ A. Lawrence Kolbe, Ph.D. and Michael J. Vilbert, Ph.D., “Moving Toward Value in Utility Compensation Shareholder Value Concept,” Presented to the CPUC, June 13, 2016.

²⁷ R. J. Shiller, “Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?,” *The American Economic Review*, Vol. 71, No. 3, 1981, at 421-436. emphasis added.

1 Thus, Dr. Shiller concluded that the DCF model does not fully explain stock prices,
2 which, as noted, could be either an indication that markets are not efficient (the conclusion
3 reached by Dr. Shiller) and/or the DCF model is not the correct asset pricing model.²⁸

4 **Q. Are there other practical examples of inefficiencies in the market that indicate**
5 **markets are not efficient or that the DCF model does not explain share prices?**

6 A. Yes. Large sudden declines in the market such as Black Monday in 1987, the Great
7 Recession of 2008/09, and the COVID-19 crash in March 2020 would not be explained by
8 new information regarding dividends. Moreover, Dr. Shiller contended that there were
9 “asset bubbles” such as the “tech boom” from 1994 to 2000 that resulted in substantial
10 increases in share prices that could not be explained by market fundamentals.²⁹ In fact, as
11 Brealey, Myers and Allen noted in *Principles of Corporate Finance*:

12 Extensive empirical testing of the efficient market hypothesis began around
13 1970. By 2009, after almost 40 years of work, the tests have uncovered
14 dozens of statistically significant anomalies. Sorry, but this work does not
15 translate into dozens of ways to make easy money. Superior returns are
16 elusive. For example, only a few mutual fund managers can generate
17 superior returns for a few years in a row, and then only in small amounts.
18 Statisticians can beat the market, but real investors have a much harder time
19 of it.³⁰

20 **Q. Are you aware of any practical examples where market inefficiencies were also**
21 **identified using the share prices of individual stocks?**

22 A. Yes. There are many examples where market inefficiencies were identified using the share
23 prices of individual stocks. For example, Statman noted the following example:

²⁸ See also, Werner F. M. De Bondt; Richard Thaler, “Does the Stock Market Overreact?,” *The Journal of Finance*, Vol. 40, No. 3, 1985, at 793-805; Andrei Shleifer and Lawrence H. Summers, “The Noise Trader Approach to Finance,” *Journal of Economic Perspectives*, 1990, Vol. 4, No. 2, at 19-33.

²⁹ R.J. Shiller, “From Efficient Markets Theory to Behavioral Finance,” *Journal of Economic Perspectives*, Vol. 17, No. 1, 2003, at 83-104.

³⁰ Richard A. Brealey, Stewart C. Myers, Franklin Allen, *Principles of Corporate Finance*, 10th ed., McGraw-Hill/Irwin, 2011, at 867.

1 Direct evidence refuting the value-efficiency hypothesis comes from Palm
2 Computing's spinoff from its parent, 3Com, as reported by economist Owen
3 Lamont and Nobel Prize-winning economist Richard Thaler. (Palm
4 Computing manufactured the Palm Pilot personal digital assistant.) The
5 spinoff occurred at the height of the internet boom. Initially, only 5% of
6 Palm Computing shares were sold to investors. The other 95% remained
7 with 3Com. Enthusiasm for the shares of Palm Computing was so great and
8 their price shot up so high that the total value of the 95% of Palm Computing
9 shares still owned by 3Com greatly exceeded the total value of all 3Com
10 shares, implying the absurd conclusion that the rest of 3Com's business had
11 negative value. The more likely conclusion is that the price of 3Com shares
12 was far below their value, the price of Palm Computing shares was far above
13 their value, or both.³¹

14 Similarly, Sushma Karnati (2024) noted the example of the share price for
15 GameStop in 2021 where retail investors influenced by herd dynamics drove up the share
16 price in response to hedge funds that had short positions in GameStop.³² The same applies
17 for various other individual stocks that have experienced significant price increases and
18 volatility when no new material financial information is made available that would
19 otherwise justify such pricing changes.

20 **Q. Although it is evident that inefficiencies in the market exist, is it correct that this could**
21 **be due to either markets being inefficient as assumed by Dr. Shiller and/or that the**
22 **asset pricing model used is not appropriate for determining the share price?**

23 A. Yes. While the examples discussed above provide evidence of market inefficiencies that
24 could very well prove that the EMH does not hold and stocks are not rationally priced, it
25 could also be that the correct asset pricing model to determine expected returns is not
26 known by economists. For example, in the text *Corporate Finance*, finance professor Ivo
27 Welch states:

³¹ Meir Statman, *Behavioral Finance: The Second Generation*, CFA Institute Research Foundation, 2019, at 148.

³² Sushma Karnati, "The Role of Behavioral Finance in Market Anomalies and Investor Biases," *International Journal for Multidisciplinary Research*, June 2024.

1 Of course, few people doubt that big U.S. financial markets are, to such a
2 first approximation, efficient – we all know that you just can’t earn that
3 much. But there is a large gray zone where it is difficult to distinguish
4 between model error and market inefficiency. Because no one knows for
5 sure what the correct model of expected returns is, no one can tell you
6 affirmatively whether the stock market set the price of ABC stock so as to
7 offer investors an expected rate of return on ABC of, say, 10 percent a year
8 or 12 percent a year.³³

9 Welch further noted that “we are not sure and cannot agree whether ABC should
10 earn 10 percent, 20 percent, or 30 percent a year.”³⁴ Similarly, Statman noted:

11 The CAPM was accepted as the correct asset pricing model as long as it
12 served to show that markets are hard to beat and value efficient. But the
13 CAPM was largely replaced by the three-factor model when the former
14 indicated that markets are not efficient, yielding abnormal returns to
15 investors in small-capitalization and value stocks.

16 The three-factor model was judged as faulty when it failed to account for
17 abnormal returns yielded by the momentum factor. And the four-factor
18 model was declared faulty when it failed to account for abnormal returns
19 associated with investment and profitability, idiosyncratic volatility, and net
20 stock issues, among many others.³⁵

21 This is important because it shows that existing asset pricing models are continually
22 being adjusted to better predict prices in the market and explain deficiencies and that
23 currently there is not one correct asset pricing model.

24 **Q. Mr. Rothschild includes a citation from Alfred Kahn as evidence on why the cost of**
25 **equity is lower than authorized returns when market-to-book ratios are above 1.0.**³⁶
26 **Do you agree with this reference?**

27 **A.** No. Mr. Rothschild references a footnote in a broader discussion from Alfred Kahn to
28 suggest that Dr. Kahn agreed with his view on the market-to-book ratios being dispositive

³³ Ivo Welch, *Corporate Finance*, 5th edition, at 319-320.

³⁴ *Id.*, at 319.

³⁵ Meir Statman, *Behavioral Finance: The Second Generation*, CFA Institute Research Foundation, 2019, at 163.

³⁶ Rothschild Direct Testimony, Appendix A, at 86.

1 of authorized returns exceeding the investor required return. However, reviewing the
2 broader context of the passage demonstrates that Dr. Kahn cautioned against using
3 observed market valuations (market-to-book ratios) to infer the cost of equity because stock
4 prices reflect investors' expectations regarding future, rather than just current earnings.
5 Specifically, Dr. Kahn stated:

6 However, the principal difficulty is that what investors are capitalizing in
7 the purchase price of the securities they buy is not current but anticipated
8 earnings; and there is no objective measure of what their anticipations were
9 or are. Thus, computed contemporaneous earnings/price ratios will either
10 underestimate or overestimate the actual cost of capital, depending on the
11 extent to which investors were expecting earnings to rise or fall from current
12 levels when they paid those prices...Any successful effort by utility
13 commissions to hold earnings on the companies' rate bases thereafter to the
14 low rates suggested by those ratios would surely have resulted in a deflation
15 of security prices, and, by thus increasing earnings/price ratios, have
16 demonstrated that the true cost of capital was higher than they had originally
17 inferred. But how much higher, it is impossible to say with any precision.³⁷

18 In other words, when considering the entire quote from Dr. Kahn, it does not
19 support the conclusion that a market-to-book ratio above 1.0 demonstrates that the
20 authorized ROE exceeds the cost of equity. Rather, Dr. Kahn recognized that market prices
21 incorporate investors' expectations regarding future earnings and that, as a result, observed
22 valuation ratios may either understate or overstate the actual cost of capital. Consequently,
23 as previously stated, those ratios cannot be used to determine with any precision either the
24 cost of equity or the difference, if any, between the cost of equity and the authorized ROE.

³⁷ Alfred Kahn, *The Economics of Regulation: Principles and Institutions*, Mass. Inst. Tech. at 46-48 (1970).

1 **Q. What is your conclusion regarding market-to-book ratios, authorized returns, and**
2 **the cost of equity?**

3 A. Since markets are not fully efficient and the correct asset pricing model is not known, it is
4 unreasonable for Mr. Rothschild to claim that a market-to-book ratio greater than 1.0
5 demonstrates that the authorized return exceeds the cost of equity. As discussed
6 previously, it is possible that the selected cost of equity model may not produce an accurate
7 estimate of the return required by investors given the level of prices. There is no irrefutable
8 evidence that demonstrates whether stock prices reflect all information (*i.e.*, the EMH) or
9 whether the models precisely reflect the return required by investors. Furthermore, the
10 academic support Mr. Rothschild relies on to reach this conclusion is actual evidence
11 against his claim that a market-to-book ratio greater than 1.0 demonstrates that the
12 authorized return exceeds the cost of equity. Therefore, Mr. Rothschild cannot say with
13 certainty that a market-to-book ratio of 1.0 necessarily means that the ROE is equivalent
14 to the cost of equity or that a ratio above 1.0 means the ROE is above the cost of equity.

15 **C. Constant Growth DCF**

16 **Q. Please summarize Mr. Rothschild's constant growth DCF analysis.**

17 A. Mr. Rothschild calculates four constant growth DCF scenarios – two that utilize sustainable
18 growth rates and two that use option-implied growth rates. For two of Mr. Rothschild's
19 scenarios, he calculates the dividend yields using average high and low stock prices for the
20 12 months ended June 30, 2026, while the other two scenarios utilize closing stock prices
21 as of June 30, 2026. Mr. Rothschild calculates his sustainable growth rate as the sum of

1 his dividend yield, the growth in dividend yield in the next year, a retention growth rate,³⁸
2 and a new financing growth rate.

3 **Q. Do you agree with Mr. Rothschild's sustainable growth rates used in his constant**
4 **growth DCF?**

5 A. No. The use of a sustainable growth rates in the DCF analysis suggests there is a positive
6 relationship between future earnings and the retention ratio; however, this assumption that
7 future earnings growth is inversely related to the dividend payout ratio does not necessarily
8 hold in practice, and academic research has found the opposite to be true (*i.e.*, there is a
9 negative relationship between earnings growth rates and payout ratios). Specifically:

- 10 • Management decisions to conserve cash for capital investments, to manage the
11 dividend payout for the purpose of minimizing future dividend reductions, or to
12 signal future earnings prospects, can influence dividend growth rates in near-term
13 periods. These decisions affect the dividends and the payout ratio in the short term
14 but are not necessarily indicative of a firm's long-term earnings growth.
- 15 • For example, forty S&P 500 companies suspended dividend payments in 2020 due
16 to the increased uncertainty associated with the COVID-19 pandemic.³⁹ These
17 dividend suspensions occurred because companies believed earnings over the short
18 term would decline and, therefore, elected to conserve cash to offset the financial
19 effects of the COVID-19 pandemic.

20 These decisions can and do influence the dividend payout (and therefore earnings
21 retention) in the near-term, and such decisions have been seen recently in the market.
22 Counter to Mr. Rothschild's assumption, it is reasonable to expect that a company's
23 management will alter dividend policy to respond to changes in earnings, and therefore

³⁸ For his retention growth rate, Mr. Rothschild assumes a one-third weight on the median of the average historical return on the book value equity for the proxy companies for 2023-2025, a one-third weight on the projected return on the book value equity reported by *Value Line*, and a one-third weight on the projected implied return on the book value equity reported by *Zacks*.

³⁹ Karen Langley, U.S. Companies Slashed Dividends at Fastest Pace in More Than a Decade, *Wall Street Journal*, July 8, 2020.

dividend growth will not always reflect earnings growth (and vice versa).

Q. Is there academic research that supports your conclusion that future earnings growth is not inversely related to the dividend payout ratio?

A. Yes. Zhou and Ruland (2006), Gwilym, *et al.* (2006), and Vivian (2006) discuss the theory that high dividend payouts (*i.e.*, low retention ratios) are associated with low future earnings growth and found the opposite to be true (*i.e.*, future earnings growth is associated with high payout ratios/low retention ratios).⁴⁰ Each of these studies also cite Arnott and Asness (2003), which found that, over the course of 130 years of data, future earnings growth is associated with high, rather than low, payout ratios.⁴¹ Specifically, Arnott and Asness (2003) concluded:

Unlike optimistic new-paradigm advocates, we found that low payout ratios (high retention rates) historically precede low earnings growth. This relationship is statistically strong and robust. We found that the empirical facts conform to a world in which managers possess private information that causes them to pay out a large share of earnings when they are optimistic that dividend cuts will not be necessary and to pay out a small share when they are pessimistic, perhaps so that they can be confident of maintaining the dividend payouts. Alternatively, the facts also fit a world in which low payout ratios lead to, or come with, inefficient empire building and the funding of less than-ideal projects and investments, leading to poor subsequent growth, whereas high payout ratios lead to more carefully chosen projects. The empire-building story also fits the initial macroeconomic evidence quite well. At this point, these explanations are conjectures; more work on discriminating among competing stories is appropriate.⁴²

⁴⁰ Ping Zhou and William Ruland, "Dividend Payout and Future Earnings Growth," *Financial Analysts Journal*, Vol. 62, No. 3, 2006; Owain Gwilym, James Seaton, Karina Suddason, and Stephen Thomas, "International Evidence on the Payout Ratio, Earnings, Dividends and Returns," *Financial Analysts Journal*, Vol. 62, No. 1, 2006; and A Vivian, "The Payout Ratio, Earnings Growth Returns: UK Industry Evidence," Working Paper, School of Economics, Finance and Business, University of Durham, 2006.

⁴¹ Robert Arnott and Clifford Asness, "Surprise: Higher Dividends = Higher Earnings Growth," *Financial Analysts Journal*, Vol. 59, No. 1, January/February 2003. Since the payout ratio is the inverse of the retention ratio, the authors found that future earnings growth is negatively related to the retention ratio.

⁴² *Id.*

1 All four studies found that there is a negative, not a positive, relationship between
2 earnings growth rates and retention ratios. As such, Mr. Rothschild's reliance on
3 sustainable growth rates in the constant growth DCF model is not appropriate.

4 **Q. Are there other reasons why you believe sustainable growth rates should not be used**
5 **in the DCF model?**

6 A. Yes. The use of the sustainable growth rates involves estimating investor expectations for
7 four separate variables over the near-term: (1) the retention ratio, reflected as the "b"
8 variable; (2) the expected return on book equity, reflected as the "r" variable; (3) the growth
9 in the number of shares of common equity, reflected as the "s" variable; and (4) the portion
10 of the market-to-book ratio that exceeds unity, reflected as the "v" variable. This means
11 that the growth estimate includes the potential forecasting error of the four separate
12 variables.

13 **Q. Using inputs selected by Mr. Rothschild, can you provide an example of how**
14 **forecasting error could affect the calculation of the sustainable growth rate?**

15 A. Yes. The effect of analyst judgment can be seen in how Mr. Rothschild develops estimates
16 of r and b in his calculation of the sustainable growth rate. Mr. Rothschild's r is based
17 primarily on analysts' projections of r . Unlike his estimate of r , Mr. Rothschild's
18 calculation of the retention ratio relies more heavily on historical data. In other words, he
19 uses his own judgment to mix and match the use of projected and historical data but
20 provides no support that this process would be consistent with the expectations of investors.

21 For example, Mr. Rothschild calculates an r of 9.30 percent based on a two-thirds
22 weighting of analysts' projected return on book value equity as reported by *Zacks* and
23 *Value Line* and a one-third weighting of the historical average return on book value equity

1 for the period from 2023 through 2025. To estimate b , Mr. Rothschild divided the
2 historical average dividend yield on book value by his estimate of r , which results in a
3 retention ratio of 40.87 percent (based on the average of the high and low stock price for
4 the year ending June 30, 2026) and 42.18 percent (based on spot stock prices as of June 30,
5 2026). Further, what Mr. Rothschild fails to consider is that *Value Line*, the source he
6 relies on to calculate r , also provides a projection of b for the period of 2029-2031. In
7 comparison to the projections provided by *Value Line*, Mr. Rothschild has understated his
8 retention ratio and thus his sustainable growth rate. As shown in Exhibit AEB-6-R, using
9 the projections from *Value Line* for 2029-2031 that were available as of June 30, 2026 (*i.e.*,
10 the date through which Mr. Rothschild calculates his analyses), the average retention ratio,
11 r , for Mr. Rothschild's proxy group was 49.18 percent, which is greater than either of the
12 retention ratios that he relies on for his constant growth DCF analyses (*i.e.*, 40.87 percent
13 and the 42.18 percent).

14 This example highlights the significant judgment that must be used to estimate the
15 four variables used to calculate the sustainable growth rate. The judgment applied can
16 result in significant forecast error thereby biasing the sustainable growth rate and the cost
17 of equity results produced by the constant growth DCF model using such a growth rate.

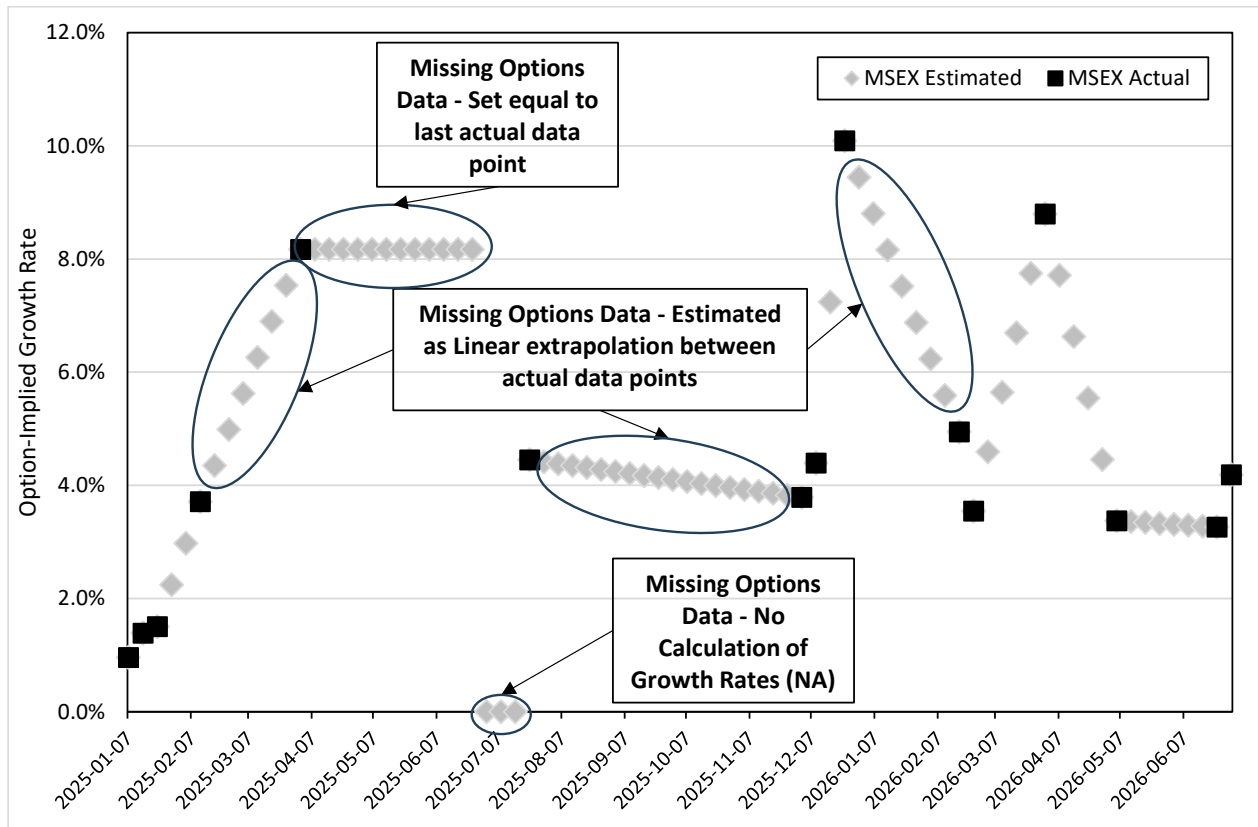
18 **Q. Are there reasons why the Commission should not consider the results of Mr.**
19 **Rothschild's constant growth DCF analyses using his option-implied growth rate?**

20 **A.** Yes, there are several reasons why his analysis should not be relied upon to estimate the
21 cost of equity:

- 22 • Lack of Academic Support: Mr. Rothschild has provided no academic support for
23 the use of option-implied growth rates in the constant growth DCF model, nor has
24 he provided any evidence that investors would rely on option-implied growth in the
25 DCF model to estimate their required return.

- 1 • Scarcity of Option Data: As shown in Exhibit AEB-7-R, given the limited options
2 contract data for utilities, for five weeks, Mr. Rothschild was unable to estimate an
3 option-implied growth rate for six out of the eleven companies included in his
4 Combination Proxy Group, and for one week he was unable to estimate the
5 option-implied growth rate for seven of the eleven companies. Additionally, for
6 his Water Proxy Group, Mr. Rothschild was unable to calculate option-implied
7 growth rates for three out of his four companies (*i.e.* 75 percent of his proxy group)
8 for nine weeks. Specifically, Mr. Rothschild was unable to calculate an option-
9 implied growth rate for the entire period of March 31, 2026 through June 30, 2026
10 (*i.e.* fourteen weeks) for Northwest Natural Gas and only calculated an option
11 implied growth rate for less than three weeks over the same period for California
12 Water Service Group, Southwest Gas Corporation, and H2O America.
- 13 • Creation of Data: Mr. Rothschild simply fabricates data for weeks where options
14 contract data is not available. Specifically, Mr. Rothschild relies on different
15 methods to calculate the growth rates: 1) linear extrapolation to estimate the growth
16 rates for the missing weeks using the actual option implied growth rates that are
17 between actual observations; and 2) setting growth rates equal to the last actual data
18 point. This creation of data is problematic for several reasons. First, there is no basis
19 to assume that a linear extrapolation or setting growth rates equal to the last data
20 point are appropriate for options data and second, and more importantly,
21 Mr. Rothschild uses these methods to create data for a significant number of weeks
22 where options contract data is missing. As shown in Figure 4, Mr. Rothschild was
23 unable to calculate an option implied growth rate for Middlesex Water Company
24 (“MSEX”) for 63 of the 78 weeks between January 7, 2025 and June 30, 2026. Mr.
25 Rothschild simply did not estimate a value for 3 of the missing weeks; however,
26 for **60 missing weeks**, Mr. Rothschild estimated the growth rate using either linear
27 extrapolation or setting the value equal to the last data point. It is evident from the
28 actual data points, that there is no basis for relying on a linear assumption or setting
29 the value equal to the last data point as representative of investors’ expectations.

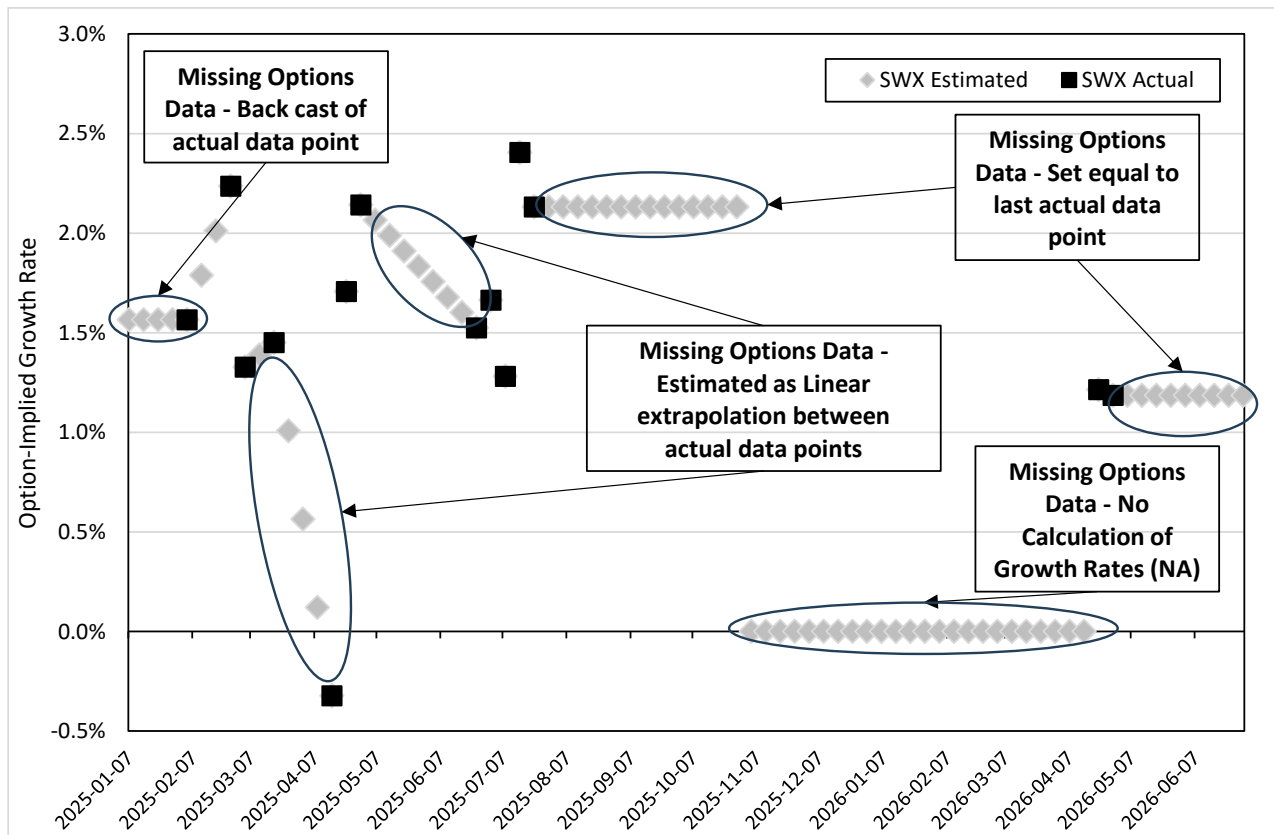
Figure 4: Option-Implied Growth Rate – MSEX – January 7, 2025 – June 30, 2026⁴³



- Additionally, Figure 5 outlines how Mr. Rothschild estimates missing data for Southwest Gas Corporation (“SWX”) over the same period of January 7, 2025, through June 30, 2026. As seen, Mr. Rothschild utilizes another method for estimating missing options data, back casting of actual data points. Furthermore, Mr. Rothschild also utilizes linear extrapolation between the calculated growth rates for March 4, 2025 of 1.45 percent) and for April 15, 2025 of **negative** 0.32 percent, resulting in three weeks of progressively decreasing growth rates. However, Mr. Rothschild also calculates an option-implied growth rate for April 22, 2025, of 1.71 percent (*i.e.*, the next data point following the negative growth rate for April 15, 2026), which indicates that a linear extrapolation to a negative growth rate may not be an appropriate estimation method. The approach Mr. Rothschild utilizes to estimate missing data between points is inconsistent between companies and he has provided no evidence that this is a supported methodology for estimating between data observations. These examples demonstrate that Mr. Rothschild’s construction of the data sets he uses in his analyses are arbitrary, inconsistent and unreliable.

⁴³ Rothschild Workpaper: 2023-04-04-2026-06-30 - RFC Water Proxy Group OptIVA Results - D.xlsx

Figure 5: Option-Implied Growth Rate – SWX – January 7, 2025 – June 30, 2026⁴⁴



- Growth Rates Inconsistent with Constant Growth DCF Model:* Mr. Rothschild is relying on a constant growth DCF model. This form of the model requires a growth rate that can be considered sustainable in perpetuity. There is no basis to conclude that a growth rate estimated using options contracts that expire in six months is sustainable over the long-term. In fact, as shown in Figure 6, the estimated growth rate is very sensitive to the expiration date of the options contract. For example, HTO had a growth rate of -1.38 percent using data for options contracts that expired in approximately 3.5-months; however, the growth rate was 4.02 percent relying on data for options contracts that expired in approximately 6.5-months. Therefore, the selection of the options contract expiration date could have a meaningful effect on the growth rate and thus the DCF results.

⁴⁴ Rothschild Workpaper: 2023-04-04-2026-06-30 - RFC Gas Proxy Group OptIVA Results - D.xlsx

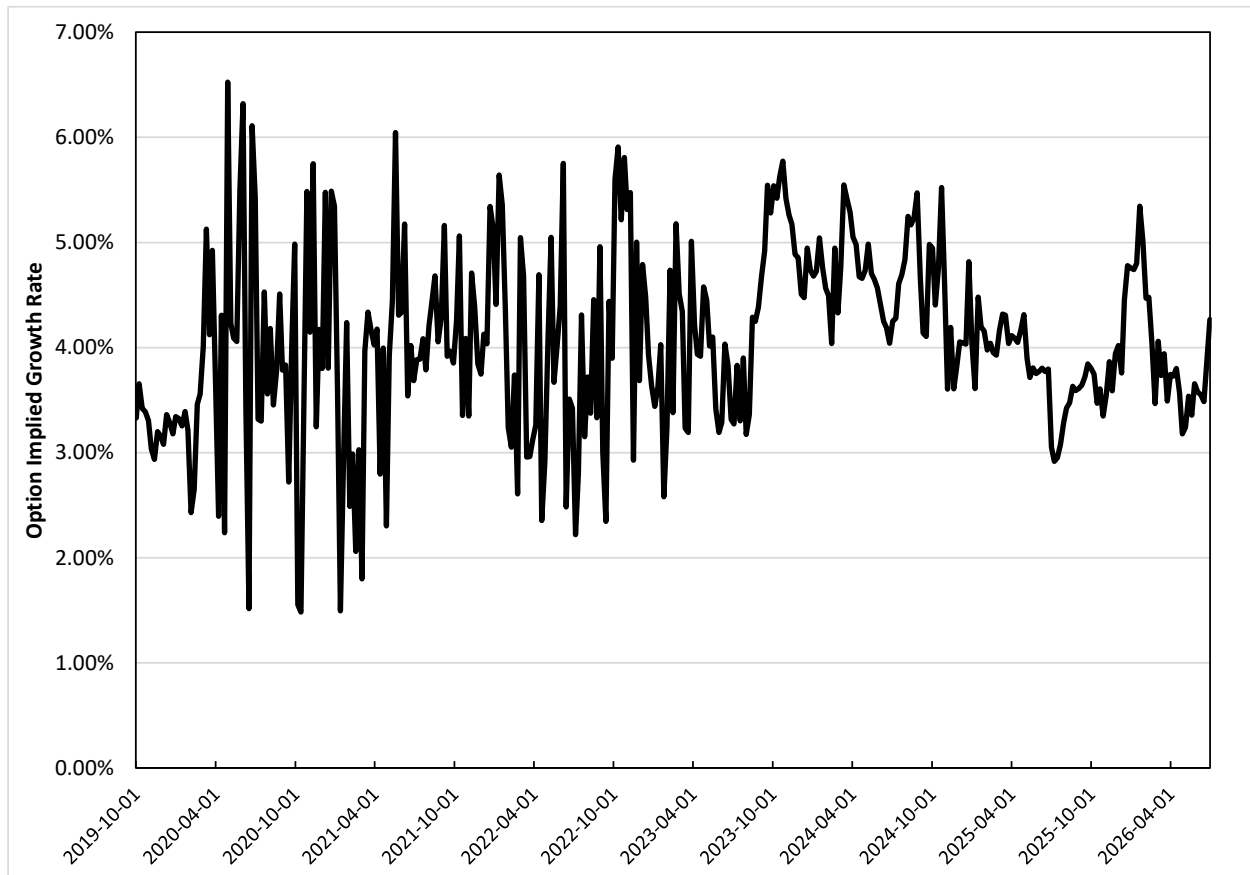
Figure 6: Option-Implied Growth Rates as of June 1, 2026⁴⁵

Options Contract Expiration	Option-Implied Growth Rate		
	MSEX	HTO	NI
0.5 Months			1.36%
1.5 Months	1.92%	7.54%	2.10%
2.6 Months			6.77%
3.6 Months	-2.03%	-1.38%	
4.5 Months			4.37%
5.6 Months			9.74%
6.5 Months	1.64%	4.02%	
7.5 Months			1.11%

- *Substantial Variability from Week-to-Week:* Mr. Rothschild estimates the option-implied growth rates weekly based on an average of the daily growth rates in the week. However, as shown in Figure 7, Mr. Rothschild's methodology results in a significant difference in the growth rate from week to week. Moreover, while Mr. Rothschild does also develop a constant growth DCF model using a weighted three-month average option-implied growth rate, as I will discuss in more detail below, Mr. Rothschild has provided no evidence for the weekly weighting factors he applies.

⁴⁵ Rothschild Workpapers: 2026.06 RFC Gas Proxy Group OptionIVA Results.xlsx and 2026.06 RFC Water Proxy Group OptionIVA Results.xlsx.

**Figure 7: Option-Implied Growth Rates – Combination Proxy Group –
October 1, 2019 – June 30, 2026⁴⁶**



Given these various issues discussed, the Commission should not consider the results of Mr. Rothschild's constant growth DCF analysis using his option-implied growth rates.

Q. Please summarize Mr. Rothschild's primary criticism of your DCF analyses.

A. In general, Mr. Rothschild's main criticisms of my constant growth DCF is the application of the growth rates. Specifically, Mr. Rothschild contends that my use of five-year projected EPS growth rates is not appropriate for a constant growth DCF, as these growth rates do not represent sustainable growth rates and are unable to last indefinitely and overstate or misrepresent the true cost of equity.⁴⁷

⁴⁶ Rothschild Workpaper: 2026.06.30 - KAWC Cost of Capital (Bulkley PG).xlsx.

⁴⁷ Rothschild Direct Testimony, at 62-63.

1 **Q. Do you agree with Mr. Rothschild that the correct growth rates to be used in the**
2 **constant growth DCF are the sustainable growth rates?**

3 A. No. Mr. Rothschild states that growth rates used in the constant growth DCF should
4 consider future sustainable growth in cash flow anticipated by investors and that this
5 approach is similar to what major financial firm like J.P. Morgan Chase use.⁴⁸ However,
6 as previously stated, there is substantial empirical evidence and academic research
7 demonstrating that key assumptions in the use of sustainable growth rates (*i.e.* the
8 assumed positive relationship between retention and future earnings growth) does not
9 necessarily hold and therefore renders the use of sustainable growth rates in the constant
10 growth DCF not appropriate. Furthermore, Mr. Rothschild offers no evidence from major
11 financial institutions or otherwise that utilizes or endorses his option-implied growth rate
12 version of the constant growth DCF.

13 **Q. Have you adjusted Mr. Rothschild's constant growth DCF analysis?**

14 A. Yes. Since earnings are the fundamental determinant of a company's ability to pay
15 dividends, I adjust Mr. Rothschild's constant growth DCF analysis to rely on the average
16 projected EPS growth rates from *Value Line*, *S&P*, and *Zacks* instead of his calculated
17 sustainable growth rates. As shown in Exhibit AEB-8-R, for his Combination Proxy Group
18 the resulting cost of equity ranges from 11.36 percent (spot market price) to 11.44 percent
19 (12 month average market price) and for his Water Proxy Group range from 10.56 percent
20 (spot market price) to 10.81 percent (12 month average market price). These results are
21 substantially higher than his constant growth DCF results and consistent with the range of

⁴⁸ *Id.*

1 cost of equity estimates presented in my constant growth DCF analyses updated with
2 current data and presented herein.

3 **D. Non-Constant Growth DCF**

4 **Q. Please summarize Mr. Rothschild's non-constant growth DCF analysis.**

5 A. Mr. Rothschild presents a non-constant growth DCF analysis using both an average of the
6 high and low stock prices through June 30, 2026, and the closing spot market stock prices
7 as of June 30, 2026. His non-constant growth model is based on projected capital
8 appreciation, forecasted DPS growth rates, and projected book values for his proxy group
9 as reported by *Value Line*.

10 **Q. Does the non-constant form of the DCF model increase the number of subjective**
11 **inputs required to estimate the cost of equity?**

12 A. Yes. The non-constant DCF model (sometimes also determined through a multi-stage DCF
13 model) introduces additional assumptions and potential analyst bias. Specifically, the non-
14 constant DCF model presented by Mr. Rothschild in this proceeding results in the
15 following additional assumptions that require subjective judgment:

- 16 • Specification of the Model: Mr. Rothschild utilizes a non-constant DCF analysis
17 using both closing stock price data and the average of the high and low stock prices
18 through June 30, 2026. However, a multi-stage model could also be utilized with
19 different stages of growth (e.g., two-stage or three-stage DCF models).
- 20 • Selection of the Growth Rates: Mr. Rothschild uses *Value Line* projected DPS and
21 assumes that the terminal stock price grows at the rate at which *Value Line* projects
22 that book value will grow.
- 23 • Duration of the Stages of the DCF Model: Mr. Rothschild does not specify discrete
24 growth stages of differing durations. Instead, his model assumes that an investor
25 purchases the stock on July 1, 2026, receives dividends through June 30, 2030, and
26 sells the stock on June 30, 2030. However, a multi-stage model could also have
27 multiple growth periods with varying assumptions on the duration of each growth
28 stage.

29 Given the number of additional subjective assumptions required, it is reasonable to

1 conclude that a non-constant DCF analysis creates greater opportunity for an analyst to
2 influence the results of the model.

3 **Q. Is Mr. Rothschild's specification of his non-constant growth DCF model inconsistent**
4 **with his criticism of your use of analysts' projections?**

5 A. Yes. Although Mr. Rothschild suggests that my analysis is flawed for relying on analysts'
6 projected growth rates, his non-constant growth DCF also relies on analyst growth rates.
7 As shown on Exhibit ALR-3, pages 3 and 4, the assumptions used in Mr. Rothschild's
8 non-constant growth DCF model are entirely based on *Value Line's* projections (analyst's
9 projections), including: (1) projected dividends per share; (2) a projected stock price based
10 on *Value Line's* projected book value; and (3) a projected cash flow resulting from the sale
11 of stock based on *Value Line's* projected stock price.

12 **Q. Has Mr. Rothschild expressed concerns with the reliability of the non-constant**
13 **growth DCF model in his prior testimony?**

14 A. Yes. In testimony that he submitted in July 2022 in a rate proceeding filed by Pennsylvania
15 American Water Company ("PAWC"), Mr. Rothschild did not rely on the results of his
16 non-constant growth DCF and stated that it could understate the cost of equity:

17 I did not rely on the results of my non constant growth DCF model, which
18 range between 6.08% and 6.21% because this method does not incorporate
19 the growth from the sale of new common stock and therefore could
20 understate PAWC's cost of equity.⁴⁹

21 Given the unreasonable results of Mr. Rothschild's non-constant growth DCF
22 discussed previously, as well as the fact that he acknowledges his non-constant growth
23 DCF can understate the cost of equity, demonstrates that his analysis should not be used

⁴⁹ Pennsylvania Public Utilities Commission, Docket Nos. R-2022-3031672 R-2022-3031673, Rothschild Direct Testimony, July 29, 2022, at 9.

1 for determining the cost of equity for the Company in this proceeding.

2 **E. CAPM Analysis**

3 **Q. Please summarize Mr. Rothschild's CAPM analysis.**

4 A. Mr. Rothschild's CAPM utilizes risk-free rates that are the spot yields for the 3-month
5 Treasury bill and the 30-year Treasury bond as of June 30, 2026, as well as weighted
6 averages over the three months ending June 30, 2026 for both yields. Mr. Rothschild
7 utilizes a "forward beta" and a "historical blended" beta, whereby the forward beta is an
8 option-implied beta calculated using options data with a maximum expiration period of six
9 months for the companies in his proxy group and the S&P 500 Index. Mr. Rothschild
10 calculates his market risk premium based on an estimate of the option-implied growth rate
11 of the S&P 500 Index minus his risk-free rate.⁵⁰

12 **Q. Please summarize the areas of Mr. Rothschild's CAPM analysis with which you**
13 **disagree?**

14 A. The primary areas of disagreement are: (1) the 3-month Treasury bill selected as the risk-
15 free rates selected; (2) the option-implied betas relied on; and (3) the assumed market risk
16 premia estimate derived from option-implied growth rates.

17 **a. Risk Free Rate**

18 **Q. Do you agree with Mr. Rothschild's use of the yield on the 3-month Treasury bill as**
19 **the risk-free rate in his CAPM?**

20 A. No. In determining the security most relevant to the application of the CAPM, it is
21 important to select the term (or maturity) that best matches the life of the underlying
22 investment. As noted by *Morningstar*:

⁵⁰ Rothschild Direct Testimony, at 46.

1 The horizon of the chosen Treasury security should match the horizon of
2 whatever is being valued... If an investor plans to hold stock in a company
3 for only five years, the yield on a five year Treasury note would not be
4 appropriate since the company will continue to exist beyond those five
5 years.⁵¹

6 Because utility companies represent long duration investments, the 30-year
7 Treasury yield, not the 3-month Treasury bill, is the appropriate measure of the risk free
8 rate for the purpose of the CAPM. In addition, based on principles of prudent financial
9 management, the term of the debt financing should match the useful life of the asset being
10 financed. Utility plant assets generally have useful lives beyond 25 years, meaning that,
11 under prudent financial management, those assets should be financed with bonds of longer
12 duration than 3 months.

13 **Q. Is Mr. Rothschild's use of historical data to estimate the risk-free rate consistent with**
14 **his views on estimating the investor-required return on equity?**

15 A. No. Mr. Rothschild's use of historical and spot yields for the risk-free rate is inconsistent
16 with the forward-looking nature of the CAPM, which he agrees is a forward-looking
17 methodology. In addition, the cost of equity being estimated in this proceeding is for the
18 forward-looking period when the Company's rates will be in effect, and therefore it is
19 important for the Commission to consider projected risk-free rates in the CAPM.

20 **Q. Mr. Rothschild contends that it is not appropriate to use a risk-free rate based on**
21 **interest rate forecasts. Is this consistent with his other cost of equity analyses?**

22 A. No. Mr. Rothschild's argument regarding the accuracy of projected interest rates is not
23 compelling and is inconsistent with his use of projected data elsewhere in his analyses.
24 Although Mr. Rothschild argues against the use of a projected risk-free rate in his CAPM

⁵¹ *Morningstar, Inc.*, 2010 Ibbotson Stocks, Bonds, Bills and Inflation, Valuation Yearbook, at 44.

1 analysis, as noted previously, his constant growth DCF using sustainable growth rates and
2 his non-constant growth DCF analysis both rely on forecasts for the development of many
3 of the assumptions used in those analyses.

4 **Q. Do you agree with Mr. Rothschild that the use of interest rate forecasts to determine**
5 **the risk free rate is flawed because current market yields on U.S. Treasury bonds**
6 **already reflect investor expectations?**⁵²

7 A. No. I utilize analysts' consensus near-term and longer-term projected 30-year Treasury
8 yield for two of my risk free rate scenarios as reported by *Blue Chip Financial Forecast*.
9 *Blue Chip Financial Forecast* is a consensus estimate based on estimates from major
10 investment firms (e.g., JP Morgan Chase, Goldman, Sachs & Co., Barclays, and Bank of
11 America). In fact, the *Blue Chip Financial Forecast* relies on data from some of the same
12 sources that Mr. Rothschild relies on to support his criticisms of my analysis. A
13 fundamental tenet in Mr. Rothschild's testimony is that he relies on market data based on
14 the behavior of market participants, and it is undeniable that the opinions of these
15 institutions are considered by equity investors and therefore can reasonably be relied upon
16 as estimates of the risk-free rate in the CAPM. Furthermore, Mr. Rothschild fails to
17 mention that one of my CAPM scenarios uses the current 30-day average of the 30-year
18 Treasury yield as the risk-free rate.

19 **b. Beta**

20 **Q. Is Mr. Rothschild's approach in in estimating option-implied beta coefficients in this**
21 **proceeding reasonable?**

22 A. No. There are several reasons why Mr. Rothschild's beta estimates are unreasonable:

⁵² Rothschild Direct Testimony, at 65-67.

- 1 • Mr. Rothschild's forward option-implied beta varies significantly from
2 week-to-week.
- 3 • Mr. Rothschild's short-term beta analyses (*i.e.*, his forward option-implied beta
4 using options contracts with expirations six months in the future and his six-month
5 historical beta) overemphasize market dislocations and show significant variation
6 over very short time periods.
- 7 • Mr. Rothschild arbitrarily selects the weighting factors for the historical beta
8 coefficients in his "historical blended" betas.

9 **Q. Why do you disagree with Mr. Rothschild's use of forward option-implied betas in**
10 **his CAPM?**

11 A. Mr. Rothschild calculates a weekly forward option-implied beta based on the options
12 contract for a single day. However, daily market volatility can be significant, which affects
13 his calculation of the weekly option-implied beta resulting in substantial variations in his
14 option-implied betas from week-to-week.

15 **Q. Does Mr. Rothschild's testimony demonstrate significant week-to-week variation in**
16 **his option-implied betas?**

17 A. Yes. As shown on Exhibit ALR-4, page 3, the forward option-implied beta for his proxy
18 group is 0.51 on March 31, 2026, while later on June 30, 2026, it is 0.66. This demonstrates
19 that the approach Mr. Rothschild relies on to estimate his option-implied beta used in the
20 calculation of his forward betas is highly variable.

21 **Q. How does Mr. Rothschild's calculation of historical betas overemphasize market**
22 **dislocations?**

23 A. Mr. Rothschild calculates betas over three time periods: 6 months; 2 years; and 5 years.
24 He places the greatest weight (*i.e.*, 50 percent) on his 6-month historical betas, despite
25 recognizing that changes in market dynamics, such as macroeconomic events (*e.g.*,

COVID-19) can have a larger effect on 6-month historical betas.⁵³ Although Mr. Rothschild acknowledges that changes in market dynamics have a larger effect on 6-month historical betas, he dismisses this fact by concluding that there are always numerous factors affecting markets and that “it is a good idea to use six-month historical betas to measure recent and current market dynamics regardless of recent developments.”⁵⁴

Q. Is there wide variation in the 6-month beta estimates calculated by Mr. Rothschild?

A. Yes. As shown in Exhibit ALR-4, page 3, the 6-month historical beta ranged from 0.17 to 0.41 over a 14-week period, while the 2-year and 5-year historical betas show much less fluctuation. Specifically, over the same time-period, the 5-year betas range from 0.62 to 0.64. Thus, short term fluctuations in the market can have a significant effect on the 6-month historical beta from week-to-week. Given that a 6-month historical beta calculation can be greatly affected by short-term changes in the market, it is reasonable to place greater weight on the historical betas calculated using 5 years of market data – which is exactly the opposite of what Mr. Rothschild does.

Q. How does Mr. Rothschild arrive at his final blended beta?

A. Mr. Rothschild relies on the forward and “historical blended” betas for both the most recent week (*i.e.*, June 30, 2026) and a three-month weighted average (*i.e.*, March 31, 2026, through June 30, 2026).⁵⁵ For his weighted average, Mr. Rothschild calculates a weekly time series for both the option-implied betas and historical betas over that three-month period, giving the greatest weight to the more recent data in the series.

⁵³ Rothschild Direct Testimony, at 40-41.

⁵⁴ *Id.*, at 41.

⁵⁵ Exhibit ALR-4, page 3.

1 **Q. Is there any empirical or academic support for weighting the time series of beta**
2 **calculations as Mr. Rothschild has done?**

3 A. No. This methodology lacks empirical support and appears to be entirely Mr. Rothschild's
4 own methodology. Although Mr. Rothschild relies on the Chang, Christoffersen, Jacobs,
5 and Vainberg (2011) study to suggest that his calculation is superior to the use of published
6 betas, this study does not discuss the use of a weighted time series. Further, Mr. Rothschild
7 provides no other empirical studies or academic support that suggests calculating a
8 3-month weighted average of the time series will produce a more accurate estimate of beta
9 to be used in a forward-looking CAPM analysis.

10 **Q. Are Mr. Rothschild's option-implied betas biased by the limited availability of data**
11 **for his proxy group?**

12 A. Yes. Consistent with his option-implied growth rate analysis, reviewing the underlying
13 data relied upon by Mr. Rothschild, it is clear that the actual option data is sparse, the
14 trading of these contracts is limited, and the data is volatile. The combination of limited
15 data, illiquid trading, and volatility in settlements demonstrates that this data cannot
16 reasonably be relied upon to estimate a forward-looking beta.

17 **Q. Please summarize the limitations you have identified in the underlying data used in**
18 **Mr. Rothschild's option analysis.**

19 A. In reviewing Mr. Rothschild's workpapers, the following limitations were identified:

- 20 • His beta calculations cannot be relied upon because the utility options contracts
21 used in the calculation are not similar in term to the S&P 500 contracts. The options
22 contracts for Mr. Rothschild's proxy group have expiration dates that are no longer
23 than 1 year forward-looking with a majority of the proxy group companies having
24 expiration dates of no longer than 1 year, whereas the S&P 500 has option contracts
25 out approximately 5 years.

- Similar to his option-implied growth rates, as shown in Exhibit AEB-7-R, the options contract data for his proxy group companies is limited. Mr. Rothschild was unable to estimate an option-implied beta for six out of the eleven companies included in his Combination Proxy Group, and for one week he was unable to estimate the option-implied beta for seven of the eleven companies. Additionally, for his Water Proxy Group, Mr. Rothschild was unable to calculate option-implied betas for three out of his four companies (*i.e.* 75 percent of his proxy group) for nine weeks. Specifically, Mr. Rothschild was unable to calculate an option-implied beta for the entire period of March 31, 2026 through June 30, 2026 (*i.e.* fourteen weeks) for Northwest Natural Gas and only calculated an option implied beta for less than three weeks over the same period for California Water Service Group, Southwest Gas Corporation, and H2O America.
- Similar to his option-implied growth rates, for weeks where options contract data was not available, Mr. Rothschild creates data by relying on one of his estimation methods including 1) linear extrapolation to estimate the betas for the missing weeks using the actual option-implied betas from before and after the missing observations, 2) holding the prior data point constant, or 3) back casting from an actual data point. It is clear that Mr. Rothschild has provided no basis to assume that these methods are appropriate, which is particularly important because of the significant number of weeks where options contract data is missing. Further, none of the data that has been created by Mr. Rothschild is market data.
- Finally, as shown in Figure 8, much like his option-implied growth rates, his option-implied betas are very sensitive to the expiration date of the contract. For example, the calculated beta for NiSource Inc. (“NI”) declines from 1.18 for a 5.6-month contract to 0.36 for a 7.5-month contract, this significant difference would result in substantially different CAPM results.

Figure 8: Option-Implied Betas as of June 1, 2026⁵⁶

Options Contract Expiration	Option-Implied Growth Rate		
	MSEX	HTO	NI
0.5 Months			0.79
1.5 Months	0.77	1.40	0.73
2.6 Months			1.02
3.6 Months	-0.60	-0.54	
4.5 Months			0.73
5.6 Months			1.18
6.5 Months	0.48	0.65	
7.5 Months			0.36

⁵⁶ Rothschild Workpapers: 2026.06 RFC Gas Proxy Group OptionIVA Results.xlsx and 2026.06 RFC Water Proxy Group OptionIVA Results.xlsx.

1 **Q. What are your conclusions regarding the option contract data relied upon by**
2 **Mr. Rothschild?**

3 A. As discussed previously, there is limited options contract data available for utilities.
4 Further, Mr. Rothschild has made several simplifying and inconsistent assumptions to fill
5 in large gaps in the data set on which he relies and beta estimates vary significantly
6 depending on the contract expiration date. Therefore, the analysis he performs is not
7 market-based and cannot be used to estimate the cost of equity for the proxy group
8 companies.

9 **Q. Have the various methodologies that Mr. Rothschild has used to estimate beta over**
10 **time produced consistent results?**

11 A. No. As shown in Exhibit AEB-9-R, Mr. Rothschild has relied on a variety of approaches
12 to estimate beta; using option-implied and hybrid beta estimates between mid-2020 and the
13 end of 2022, with a range of betas varying widely over time from 0.38 to 0.82. Since that
14 time, Mr. Rothschild has relied on option-implied betas and historical blended betas, with
15 the calculation of his option-implied betas continually evolving over this period. The
16 results using these more recent approaches still produce a range that is extremely wide,
17 ranging from 0.38 to 0.94. A proxy group beta of 0.38 will produce a substantially different
18 CAPM result than a proxy group beta of 0.94.

19 **c. Market Risk Premium**

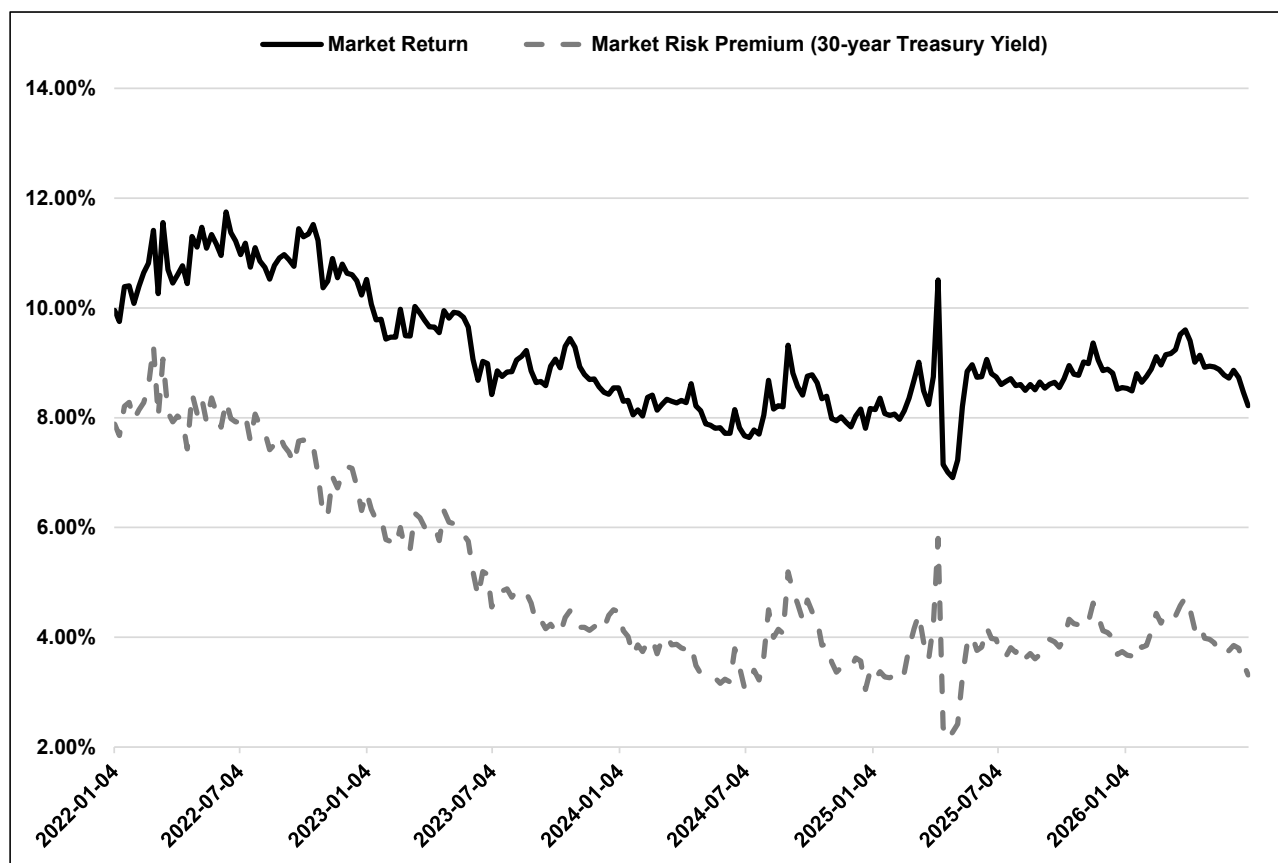
20 **Q. Do Mr. Rothschild's market risk premium estimates suffer similar flaws to those**
21 **identified in his beta estimates?**

22 A. Yes. Mr. Rothschild uses options contracts that expire up to 68 months in the future for
23 his market risk premium calculation, however these contracts are for a single trading day,

which, as discussed, are sensitive to trading day volatility and do not produce consistent results. Depending on the day chosen, this type of volatility will result in significant changes in the market return using Mr. Rothschild's estimation process. Accordingly, it is not appropriate to estimate the cost of equity for the Company using a calculation that can vary greatly from day-to-day.

As shown in Figure 9, Mr. Rothschild's market return calculation has varied significantly since January 2022, from a low of 6.91 percent to a high of 11.75 percent. This demonstrates that it is not appropriate to estimate the cost of equity for the Company using an approach that can vary so greatly in such a short period of time.

Figure 9: Variability in Mr. Rothschild's Market Return and Market Risk Premium, January 2022 through June 2026⁵⁷

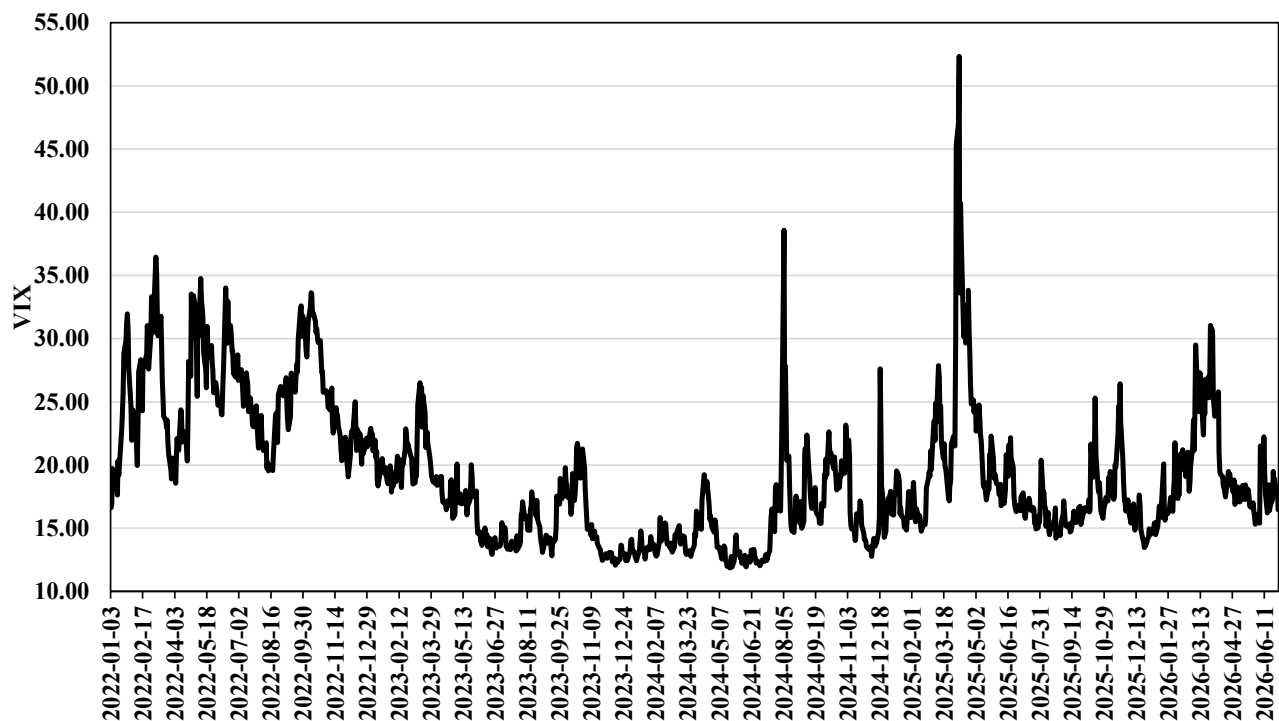


⁵⁷ Rothschild Workpaper: 2026.06.30 - KAWC Cost of Capital (Bulkley PG).xlsx.

1 **Q. Does Mr. Rothschild’s estimate of the market risk premium using a three-month**
2 **average address the deficiency of using spot market data?**

3 A. No. Although Mr. Rothschild indicates he uses a three-month average, it is my
4 understanding that the calculation represents the average of options contract data for a
5 single day for each week in each of the three months. This average will be highly
6 dependent on the days selected given that options data are highly correlated with the VIX,
7 which, as shown in Figure 10, has been quite volatile.

8 **Figure 10: VIX Index**



9
10 **Q. Are there other reasons why it is not appropriate to rely on options data to estimate**
11 **the market return?**

12 A. Yes. Although Mr. Rothschild is relying on traded options contracts, this data represents
13 options investors’ *predictions* as to the direction of the market over the near-term, which
14 could be incorrect. In fact, an article published in *Forbes* casts doubt on the accuracy of

options investors' expectations, suggesting that options buyers lose 90 percent of the time,
which suggests that the options market has worse odds than a casino:

Mood is one thing – it may well be dark – but the significance of it is altogether different. The PCR [Put/Call ratio] signal is a huge Green Light for investors.

This is because, like almost all measures of broad investor sentiment, the Put/Call Ratio is contrarian. It has to be interpreted as the opposite of what it seems to say. If negative sentiment predominates – with so many more Puts than Calls – it is historically a reliable signal of an upturn in the market in the not-too-distant future.

How can this be so? thousands or tens of thousands of options buyers are convinced that their bets on a continued decline will pay off. Aren't we urged to respect the "wisdom of crowds"?

Yet this crowd is not just wrong. It is precisely, spectacularly and persistently wrong.

It is widely known that options traders, especially option buyers, are not the most successful traders. Option buyers lose about 90% of the time.

This is an overlooked truism in finance. The options market has even worse odds than a casino. Practically every option buyer loses money.⁵⁸

If options traders' views regarding the direction of the market over the near-term are considered incorrect, it is likely that the market return calculated using options data will not be reflective of the return requirements of all investors. For example, if options investors are purchasing significantly more puts (*i.e.*, options that grant investors the right to sell an equity at a specified price in the future) than calls (*i.e.*, options that grant investors the right to buy an equity at a specified price in the future), options investors are bearish on the market and expect it to decline. This would indicate increased risk in the market

⁵⁸ George Calhoun, "The Put/Call Ratio Says 'Get In The Market Now!,'" *Forbes*, September 22, 2022.

1 and thus an increase in investors' required return and the market risk premia. However, as
2 noted by the *Forbes* article, this is likely an indicator for non-options investors to instead
3 buy equities as the market has likely bottomed and will increase over the near-term.
4 Likewise, the converse is true if options investors are buying significantly more calls than
5 puts expecting the market to increase. Therefore, if non-options investors are taking a
6 "contrarian" approach to the trends in options, a market return based on options data will
7 not accurately reflect the broader expectations of all investors over the near-term.

8 **Q. Is there academic support for this conclusion?**

9 A. Yes. I have reviewed two studies that support my conclusion. De Silva, So, and Smith
10 (2023) note an increase in the proportion of retail investors trading options since the
11 COVID-19 pandemic; however, these retail investors have lost money trading options. This
12 shows that retail traders in options markets have been consistently incorrect regarding
13 near-term expectations.

14 This combination of behaviors translates to retail losses of 5-to-9% around
15 earnings announcements on average, and 10-to-14% for high expected
16 volatility announcements. This has led to significant capital transfers from
17 retail investors to market makers, especially during the COVID pandemic.
18 Our results complement the findings in Poteshman and Serbin (2003) that
19 unsophisticated investors exercise options early by showing that not only
20 do these investors misunderstand the mechanics of options, but also they
21 trade these options at times when and in stocks where they have
22 exceptionally high prices.⁵⁹

23 Additionally, Cao, Li, Zhan, and Zhou (2023) examined how equity options trading
24 affects the market risk premium. Cao, Li, Zhan, and Zhou found that higher (lower) levels
25 of call option volume would lead to lower (higher) stock market returns in the next days,

⁵⁹ Tim de Silva, Kevin Smith, Eric C. So, "Losing is Optional: Retail Option Trading and Expected Announcement Volatility," June 8, 2023.

1 weeks, and months:

2 We find ACIB [aggregate equity call option order imbalance] strongly and
3 negatively predict future stock market returns from days to months. Higher
4 (lower) ACIB leads to lower (higher) stock market returns in next couple of
5 days, weeks, and months respectively. Interestingly, we do not find such
6 predictive power from using a similar aggregate equity put option order
7 imbalance (APIB). Moreover, we conduct robustness checks by
8 decomposing equity option trading into different groups based on trading
9 size, option moneyness, option time to maturity, option traders, alternative
10 aggregation method, and alternative data resources. We find the predictive
11 power of ACIB remains strong and robust in most cases, and is more
12 prominent among options driven by retail investors.

13 *****

14 Overall, we argue that the predictive power of ACIB forecasting market risk
15 premium comes from general sentiment trading behaviour among equity
16 option traders, especially the retail investors who are overly optimistic or
17 pessimistic. Our evidence is consistent with the view that retail investors
18 are sensitive to the underlying stocks' current performance, thus leading to
19 overbought (too bullish) or oversold (too bearish) reactions of option
20 trading.⁶⁰

21 Both studies provide support for a “contrarian” approach where if the put/call ratio
22 is significantly greater (less) than 1.0, the market is likely to increase (decrease). These
23 studies provide evidence that Mr. Rothschild's market return based on options data is likely
24 not aligned with overall investors' near-term expectations regarding the market return.

25 **Q. Is Mr. Rothschild's methodology for estimating the market return in this proceeding**
26 **consistent with the approach he has applied in prior proceedings?**

27 A. No. Mr. Rothschild has admitted that he made a change in his methodology for estimating
28 the option-implied market return in late 2020 to rely on a log-normal function and a
29 cumulative probability of 50 percent, but states that he has relied on this updated

⁶⁰ Jie Cao, Gang Li, Xintong Zhan, and Guofu Zhou, “Betting Against the Crowd: Option Trading and Market Risk Premium,” *SSRN*, September 1, 2022.

1 methodology since 2021.⁶¹ Although it may be true that each of his testimonies since 2021
2 have relied on a log-normal function to estimate the option-implied market return,
3 Mr. Rothschild has nonetheless made additional changes to his calculation of the
4 option-implied market return.

5 For example, as shown in Figure 11, Mr. Rothschild calculated a different
6 option-implied market return for the same December 28, 2021 period in three separate rate
7 cases in 2022; however, his calculated option-implied market returns were not the same
8 and ranged from 9.98 percent to 10.41 percent, or a difference of 43 basis points. Similarly,
9 in his testimony in a United Illuminating rate proceeding in Connecticut in late 2022,⁶²
10 Mr. Rothschild estimated a spot option-implied market return of 11.45 percent as of
11 September 27, 2022, whereas just six weeks prior in Docket No. 22-07-01 for Aquarion
12 Water, Mr. Rothschild calculated a spot option-implied market return for this exact same
13 date of 10.98 percent, a difference of 47 basis points.

14 These discrepancies continued in the analyses presented in his testimonies in in
15 2024. In Docket No 23-11-02 for Connecticut Natural Gas Corporation, Mr. Rothschild
16 estimated a spot option-implied market return of 8.57 percent as of December 26, 2023;
17 however, later that year in Docket No. 24-00032 for Tennessee-American Water Company,
18 Mr. Rothschild calculated a spot option-implied market return for the same date of 8.54
19 percent. Therefore, despite Mr. Rothschild's contention that he has used the same
20 methodology since 2021, his calculations of the option-implied market return belie that
21 statement and are not consistent from case-to-case even when purportedly using data as of

⁶¹ Connecticut Public Utilities Regulatory Authority, Docket No. 24-10-04, Direct Testimony of Aaron L. Rothschild, February 14, 2025, at 150-151.

⁶² Connecticut Public Utilities Regulatory Authority, Docket No. 22-08-08, Direct Testimony of Aaron L. Rothschild.

the same date. These examples demonstrate that even Mr. Rothschild cannot reproduce his own analytical results. It is not appropriate to rely on a methodology to estimate the cost of equity that cannot be reproduced or verified, even by the original analyst, and is highly variable .

Figure 11: Summary of Mr. Rothschild’s Market Return Calculations

Company	Docket No.	Date of Testimony	As of 12/28/2021	As of 6/28/2022	As of 9/27/2022	As of 12/26/2023
San Jose Water Company ⁶³	A.21.05.001 <i>et. al.</i>	1/31/22	10.41%	N/A	N/A	N/A
Pennsylvania American Water ⁶⁴	R-2022-3031672 (Water) R-2022-3031673 (Wastewater)	7/29/22	10.28%	11.22%	N/A	N/A
Aquarion Water ⁶⁵	22-07-01	10/26/22	9.98%	10.96%	10.98%	N/A
United Illuminating ⁶⁶	22-08-08	12/13/22	10.28%	11.22%	11.45%	N/A
Connecticut Natural Gas Corporation ⁶⁷	23-11-02	2/8/24	10.28%	11.22%	11.45%	8.57%
Tennessee-American ⁶⁸	24-00032	9/17/24	10.28%	11.22%	11.44%	8.54%

⁶³ CPUC, Docket A.21.05.001 *et. al.*, January 31, 2022, at 87. Workpaper titled “2021.12.31 – CA4 Cost of Capital (RFC Water PG)”.

⁶⁴ Pennsylvania Public Utilities Commission, Docket No. R-2022-3031672, Rothschild Direct Testimony, July 29, 2022, at 94. Workpaper titled “2022.06.30 - PAWC Cost of Capital (RFC Water PG)”.

⁶⁵ Connecticut Public Utilities Regulatory Authority, Docket No. 22-07-01, Direct Testimony of Aaron L. Rothschild, October 26, 2022, Workpaper titled: 2022.09.30 - Aquarion Cost of Capital (RFC Water PG).

⁶⁶ Connecticut Public Utilities Regulatory Authority, Docket No. 22-08-08, Direct Testimony of Aaron L. Rothschild, December 13, 2022, Workpaper titled: 2022.10.31 - UI Cost of Capital (Bulkley Electric PG).

⁶⁷ Connecticut Public Utilities Regulatory Authority, Docket No. 23-11-02, Direct Testimony of Aaron L. Rothschild, February 8, 2024, Workpaper titled: 2023.12.31 - CNG Cost of Capital (RFC Gas PG).

⁶⁸ Tennessee Public Utility Commission, Docket No. 24-00032, Direct Testimony of Aaron L. Rothschild, September 17, 2024, Workpaper titled: 2024.08.31 - TAWC Cost of Capital (RFC Water PG).

1 **Q. Does Mr. Rothschild claim that your market return calculation is overstated?**

2 A. Yes. Mr. Rothschild validates his cost of equity model results against the long-term market
3 expectations of financial institutions and investors. Mr. Rothschild notes that the expected
4 returns on the broader U.S. equity market reflected in these sources range from
5 approximately 5.90 percent to 8.65 percent and contends that these estimates support his
6 recommendation.⁶⁹ Similarly, Mr. Rothschild states that the market risk premium included
7 in my direct testimony, which is derived from a market return of 12.99 percent, is excessive
8 compared to Dr. Damodaran's implied equity risk premium of 4.18 percent, as well as a
9 publication by Hammond and Leibowitz, *Revisiting the Equity Risk Premium*, where they
10 note that the equity risk premium forums fell within a range of 3 percent to 5 percent.⁷⁰

11 **Q. What is your response to Mr. Rothschild comparison of the equity return expectations**
12 **of financial institutions?**

13 A. I have two primary concerns. First, studies have shown that investment firms have not
14 accurately forecasted actual market returns. For example, the investment firm Dimensional
15 Fund Advisors LP compared the return forecasts of investment firms published in their
16 capital market assumption reports (*i.e.*, the same reports referenced by Mr. Rothschild) for
17 various asset classes for the ten-year period of 2014-2023 to the returns that were actually
18 achieved over the same time period. This comparison showed that the forecasted returns
19 from investment firms for U.S. equities ranged from 5.5 percent to 7.7 percent for the
20 period of 2014-2023; however, the actual return for U.S. equities over this period was 11.50
21 percent, or substantially greater than the range projected by the various investment firms.

⁶⁹ Rothschild Direct Testimony, at 8-9.

⁷⁰ *Id.*, at 67-69.

1 Given the inaccuracy of the forecasts, the recommendation was to not rely on the forecasts
2 of investment firms when building investment portfolios:

3 Rather than relying on a crystal ball that does not exist, planning for the
4 possible range of outcomes can better prepare investors for what's ahead.
5 When setting expectations about potential outcomes, we believe a sensible
6 starting point is to look at the long-term historical performance of asset
7 classes, to incorporate information from real-time market prices when
8 relevant, and to consider a wide range of possible values.⁷¹

9 Second, while Mr. Rothschild has classified the referenced returns as the
10 expectations of the investment firms; however, he fails to indicate that investment firms
11 often also provide a *range of return* expectations and that those ranges highlight the
12 significant degree of uncertainty associated with their forecast estimates. For example, Mr.
13 Rothschild cites BlackRock, which currently (as of August 2026) provides annual return
14 expectations for the next 10 years of 8.97 percent for U.S. equities. However, BlackRock
15 also provides a range of annual return expectations for the next 10 years for U.S. equities,
16 which is currently 4.14 percent to 14.98 percent. Moreover, BlackRock specifically notes
17 that their return expectations should not be used as an estimate of future performance:

18 This information is not intended as a recommendation to invest in any
19 particular asset class or strategy or as a promise - or even estimate - of future
20 performance.⁷²

21 Given the inaccuracy of forecasting actual returns using the projected returns of
22 investments firms and the large range of returns provided by the investment firms, it is not
23 reasonable for Mr. Rothschild to conclude that my forward-looking market return, and
24 therefore my market risk premium, is overstated.

⁷¹ Matt Wicker, "Reality Check: Capital Market Assumptions vs. Actual Returns," December 20, 2024.

⁷² BlackRock Investment Institute, Capital Market Assumptions, August 2026.

1 **Q. What is the primary disagreement that Mr. Rothschild has regarding your**
2 **calculation of the market risk premium?**

3 A. Mr. Rothschild contends that the forward-looking market return, and thus market risk
4 premium, in my CAPM analyses are overstated.

5 **Q. Is the methodology that you have used to estimate the market return in the CAPM**
6 **supported by regulatory commissions?**

7 A. Yes. Various state utility regulatory commissions have supported the use of a constant
8 growth DCF model to estimate the market return in the CAPM. As shown in Figure 12,
9 the Staff of the Illinois Commerce Commission (“ICC”), the Bureau of Investigation and
10 Enforcement (“I&E”) of the Pennsylvania Public Utility Commission (“Pennsylvania
11 PUC”), and the Staff of the Maine Public Utilities Commission (“Maine PUC”) have each
12 supported the forward-looking market risk premium, and the market return estimates using
13 the constant growth DCF model. In each of these cases, the respective regulatory
14 commission relied on the estimated CAPM results, using the methodology that I have relied
15 upon in this case, to determine the authorized ROE and did not dispute the use of the
16 constant growth DCF model to calculate the market return.

Figure 12: Examples of Jurisdictions Where Market Return Estimated Using the Constant Growth DCF Model

Intervening Party	Applicant	Docket No.	Approach of Intervening Party to Calculating the Market Return	Date of Order	Did the Commission Rely on the Intervening Party's CAPM?
Staff of the ICC	North Shore Gas Company	20-0810	CGDCF of the dividend-paying companies in the S&P 500 (11.95%) ⁷³	9/8/21	Yes ⁷⁴
I&E	Aqua Pennsylvania, Inc.	R-2021-3027385	CGDCF of the Value Line Universe and S&P 500 (12.14%) ⁷⁵	5/12/22	Yes, the regulator placed primary weight on I&E's CAPM ⁷⁶
Staff of the Maine PUC	Northern Utilities, Inc.	2019-00092	CGDCF of the dividend-paying companies in the S&P 500 (11.33%-13.49%) ⁷⁷	4/1/20	Yes ⁷⁸

Q. Do studies demonstrate that the market return used in your CAPM, and thus the market risk premium, is reasonable?

A. Yes. The Federal Reserve Bank of New York published an analysis in 2015 that reviewed 20 methodologies over the period 1960 through 2013 for estimating the market risk premium.⁷⁹ The results of this study demonstrate that my market risk premium estimates, which, as shown on Exhibit AEB-3-R, are in the range of 8.59 percent to 8.94 percent, are reasonable. Specifically, the key conclusions from this study are:

- The 20 methodologies reviewed reflected a range for the market risk premium between -1.00 percent to 14.50 percent.

⁷³ Illinois Commerce Commission, Docket No. 20-0810, Order at 71 (Sept. 8, 2021).

⁷⁴ *Id.* at 86-87.

⁷⁵ Pennsylvania Public Utility Commission, Docket No. R-2021-3027385, Opinion and Order at 147, (May 16, 2022).

⁷⁶ *Id.* at 178.

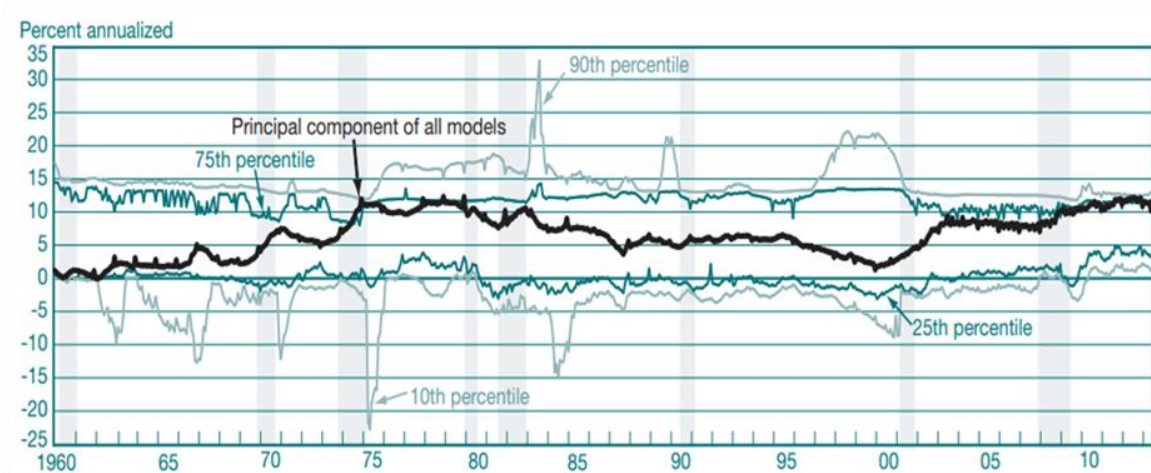
⁷⁷ Maine Public Utilities Commission, Docket No. 2019-00092, Bench Analysis at 21 (Oct. 29, 2019).

⁷⁸ *Id.*, Order Part II at 58 (April 1, 2020).

⁷⁹ Fernando Duarte and Carla Rosa, "The Equity Risk Premium: A Review of Models," Federal Reserve Bank of New York (2015).

- As shown in Figure 13, the principal component analysis of the 20 models (*i.e.*, the bold black line) produced a range for the market risk premium of approximately 0.00 percent to over 10.00 percent from 1960 through 2013.
- The one-year-ahead market risk premium was consistently greater than 10.00 percent following the financial crisis of 2008/09.

Figure 13: The Federal Reserve Bank of New York, One-Year-Ahead Market Risk Premium⁸⁰



Further, the Federal Reserve Bank of New York also noted the following:

Chart 2 shows the first principal component of all twenty models in black (the black line is the same principal component shown in black in each of the panels of Chart 1). *As expected, the principal component tends to peak during financial turmoil, recessions, and periods of low real GDP growth or high inflation.* It tends to bottom out after periods of sustained bullish stock markets and high real GDP growth. Evaluated by the first principal component, the one-year ahead ERP [*equity risk premium*] reaches a local peak in June 2012 at 12.2 percent. The surrounding months have ERP estimates of similar magnitude, with the most recent estimate in June 2013 at 11.2 percent. This behavior is not so clearly seen by simply looking at the collection of individual models in Chart 1, a finding that highlights the usefulness of principal component analysis. Similarly high levels were observed in the mid- and late 1970s, during a period of stagflation, while the recent financial crisis had slightly lower ERP estimates, closer to 10 percent.⁸¹

Thus, the Federal Reserve Bank of New York noted that the market risk premium

⁸⁰ *Id.*, at 50.

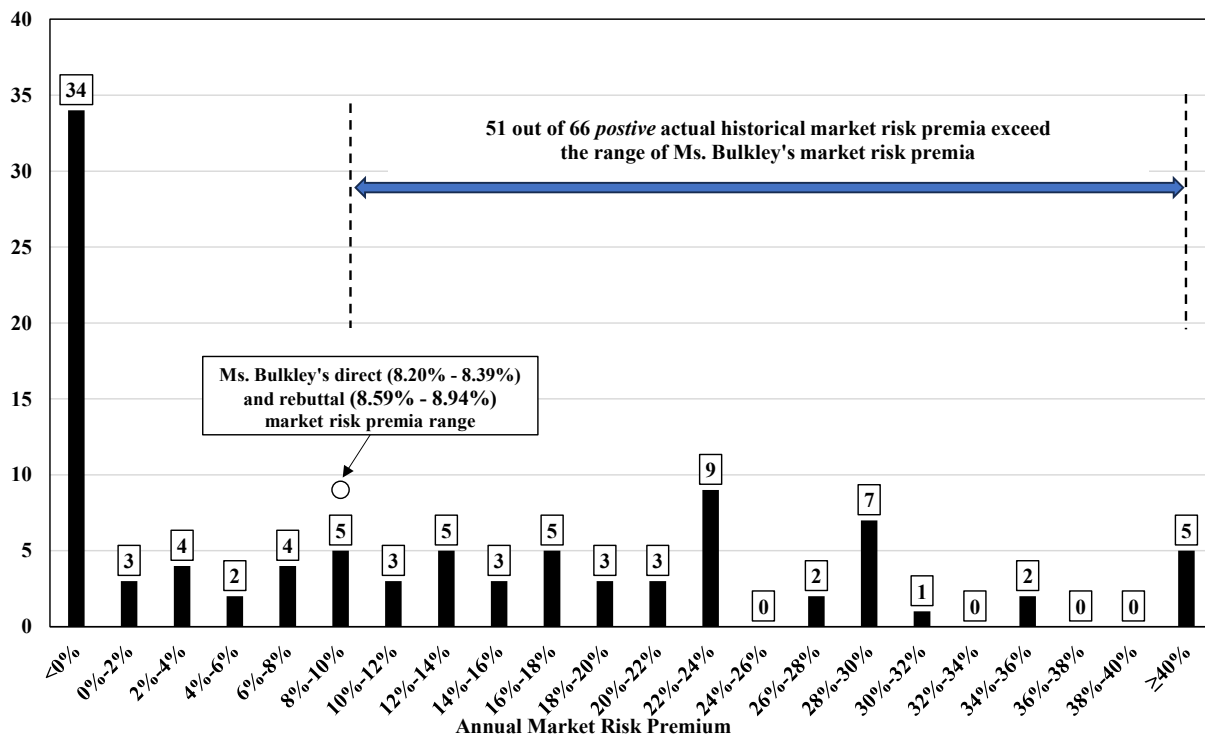
⁸¹ *Id.*; emphasis and clarification added.

is higher during periods of increased inflation. Although inflation has declined significantly in the past two years, it remains above the Federal Reserve's target of 2.00 percent.

Q. Is the market return, and thus the market risk premia, you have relied on consistent with historical market risk premia?

A. Yes. As shown in Figure 14, the vast majority of the positive historical market risk premium observations are at or above the range of market risk premia used in my direct (8.20 percent to 8.39 percent) and rebuttal testimonies (8.59 percent to 8.94 percent).

Figure 14: Distribution of Historical Market Risk Premia (1926-2025)⁸²



⁸² Depicts the risk premia as calculated as the difference between total annual returns on large company stocks and income only returns on long-term government bonds, as reported in the 2023 Kroll SBBI Yearbook for 1926-2022 and from S&P Capital IQ Pro (market returns) and Kroll (long-term government bond yields) for 2023-2025.

1 **Q. What is your overall conclusion regarding the market return in your CAPM analysis?**

2 A. For all the reasons just discussed, the market return, and thus market risk premium, in my
3 CAPM analyses are reasonable and consistent with the findings of the Federal Reserve and
4 other utility regulatory commissions. Therefore, there is no basis to conclude that the
5 market return, and thus market risk premium, in my CAPM analyses is overstated.

6 **d. Adjustments to Mr. Rothschild's CAPM analysis.**

7 **Q. Did you recalculate Mr. Rothschild's CAPM analysis to address your concerns?**

8 A. Yes. As shown on Exhibit AEB-10-R, I adjusted Mr. Rothschild's CAPM analysis to rely
9 on: (1) only the 30-year Treasury bond yield as the estimate of the risk free rate; (2) only
10 relying on Mr. Rothschild's calculation of the 3-month average of five-year historical beta
11 coefficients; and (3) the current forward-looking market return of 13.64 percent.⁸³ These
12 adjustments increase Mr. Rothschild's CAPM results that as filed ranged from 5.61 percent
13 to 7.22 percent to a range of 10.36 percent to 10.37 percent for his Combination Proxy
14 Group; and 5.16 percent to 7.44 percent to a range of 10.31 percent to 10.33 percent for his
15 Water Proxy Group.

16 **F. ECAPM Analysis**

17 **Q. What is the position of Mr. Rothschild regarding your ECAPM analyses?**

18 A. Mr. Rothschild contends that the use of an adjusted beta in the ECAPM is double counting
19 and thus produces overstated results. Mr. Rothschild also asserts that the academic support
20 underpinning the ECAPM is biased and that the ECAPM adjustment is not necessary.

⁸³ Although I also disagree with Mr. Rothschild's use of the 3-month historical average Treasury Bond yield and a spot 30-year Treasury Bond yield as the risk-free rate, the selection of the market return and beta represents the most significant methodological difference in our CAPM analyses. Therefore, I have not calculated a revised version of Mr. Rothschild's CAPM analysis using projected Treasury Bond yields.

1 Finally, Mr. Rothschild contends that the ECAPM results violate the economic boundary
2 of the return on the overall equity market.⁸⁴

3 **Q. Do you agree with Mr. Rothschild that the ECAPM inappropriately adjusts betas and**
4 **thus produces overstated results?**

5 A. No. The purpose of adjusting beta in the CAPM is to account for the tendency of beta to
6 trend back over time to the market beta of 1.00. The betas published by *Value Line* include
7 this adjustment, which was first proposed by Marshall E. Blume in 1975.⁸⁵ The use of
8 adjusted betas in the CAPM is important because if beta trends towards 1.00, as Blume
9 noted, then the adjusted beta will be more reflective of the beta that can be expected over
10 the near-term. This is equally important in the specification of the CAPM in this case since
11 we are estimating the cost of equity for the Company over the near-term.

12 The ECAPM does not account for the tendency of beta to trend toward 1.00. The
13 purpose of the ECAPM is to account for the fact that the risk-return relationship is flatter
14 than what is estimated by the CAPM, *even when using adjusted betas*. While beta is not
15 observable and must be estimated, the theory behind the ECAPM is that even if the true
16 value of a stock's beta were observable, the CAPM would understate the results for stocks
17 with betas less than 1.00 and overstate the results for stocks with betas greater than 1.00.
18 Therefore, contrary to Mr. Rothschild's view, the purpose of each adjustment is different,
19 and thus applying both adjustments in the ECAPM is not duplicative.

20 The concept of the ECAPM and the conclusion that the risk-return relationship is
21 flatter than predicted by the CAPM is generally accepted in financial literature. For

⁸⁴ Rothschild Direct Testimony, at 70-72.

⁸⁵ Marshall E. Blume, "Betas And Their Regression Tendencies," *The Journal of Finance*, Vol. 30, No. 3 at 785-795 (1975), available at <https://www.scribd.com/document/419756244/Betas-and-Their-Regression-Tendencies>.

1 example, in *Modern Regulatory Finance*, Dr. Morin provides a list of studies, each of
2 which concludes that the CAPM understates the returns for companies with betas less than
3 1.0 and overstates the return for companies with betas greater than 1.0.⁸⁶ It is these
4 empirical studies that formed the basis of the development of alternative models such as
5 the ECAPM that would better predict the risk return-relationship observed when reviewing
6 actual market data.

7 **Q. Can you demonstrate that using adjusted betas in the CAPM and relying on the**
8 **ECAPM are two distinct adjustments to the CAPM?**

9 A. Yes.

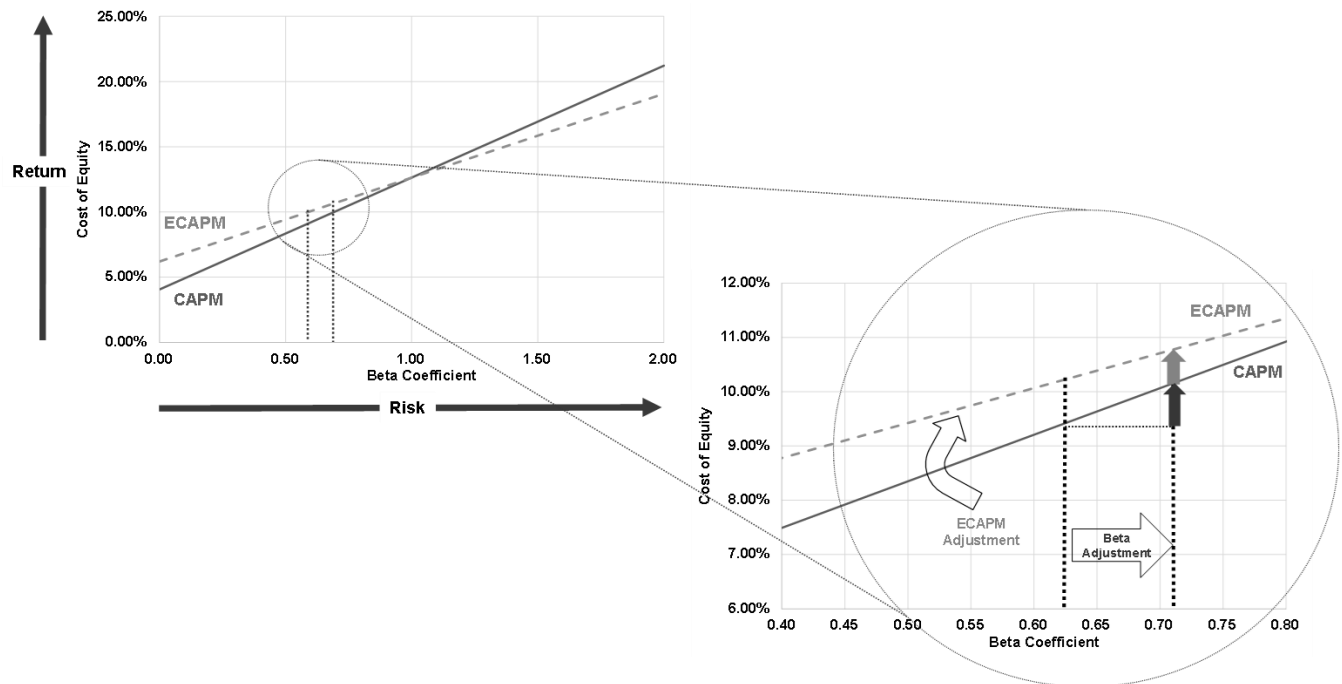
10 A. Figure 15 demonstrates that adjusting betas and adjusting the slope of the risk/return
11 relationship through the ECAPM are two distinct adjustments and are not duplicative. As
12 shown in

13 A. Figure 15, when beta is adjusted to recognize that betas revert to the market mean of 1.0
14 over time and used in the CAPM, the resulting adjustment is shown by the darker gray
15 arrow in the lower right-hand corner. Separately, when the ECAPM is employed to
16 recognize that the risk/return relationship is flatter than predicted by the CAPM, the
17 resulting adjustment is shown by the lighter gray arrow (on top of the darker gray arrow)
18 in the lower right-hand corner. To the extent that a company with a beta greater than 1.0
19 were being evaluated, the same process of two separate adjustments would apply, albeit in
20 the opposite direction from what is shown in

21 A. Figure 15 and would result in a decrease in the cost of equity otherwise predicted by the
22 CAPM.

⁸⁶ Roger A. Morin, *Modern Regulatory Finance*, Public Utilities Reports, Inc., 2021, at 206-208.

Figure 15: Risk/Return Relationship between CAPM and ECAPM



Q. Do you agree with Mr. Rothschild that you only rely on academic support of Dr. Morin for the use of the ECAPM?

A. No. There are several academic sources that support the use of the ECAPM. Specifically, Chrétien and Coggins (2011) 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 2006.⁸⁷ Chrétien and Coggins (2011) considered the CAPM, the Fama-French three-factor model and a model similar to the ECAPM. The study shows that the ECAPM significantly outperformed the traditional CAPM at predicting the observed risk premium for the various utility subgroups.

Additionally, Litzenberger, Ramaswamy, and Howard (1980) found that the CAPM

⁸⁷ Stéphane Chrétien and Frank Coggins, "Cost Of Equity For Energy Utilities: Beyond The CAPM," *Energy Studies Review*, Vol. 18, No. 2, 2011.

tends to understate the return for stocks such as utilities that have a beta less than 1.00.⁸⁸

To develop their analysis, the authors used historical (*i.e.*, “raw”) betas to estimate the “alpha” factor in the ECAPM. However, the authors also showed that an “alpha” factor can be derived for betas adjusted using the Blume procedure discussed above and the results of their analysis for raw betas. The Blume adjustment is shown in the following equation:

$$\beta_i = \omega\beta_{i(historical)} + (1 - \omega) \quad [1]$$

Where:

β_i = adjusted beta

β_i [historical] = raw beta

ω = Blume Adjustment factor (*i.e.*, 0.67)

The estimate of “alpha” using Blume-adjusted betas can be derived using the results presented in the “Raw Beta” section of Table 1 on page 380 and the equations on page 376:

$$a = a' - b' \left(\frac{1-\omega}{\omega} \right) = 0.326 - 0.330 \left(\frac{0.33}{0.67} \right) = 0.163 \quad [2]$$

Where:

a = estimated alpha factor for Blume adjusted betas

a' = estimated alpha factor using raw betas

b' = estimated excess return over the risk-free rate using raw betas

Because the authors relied on monthly returns for stocks in the New York Stock Exchange, the estimated “alpha” factor using adjusted betas of 0.163 percent must be annualized.⁸⁹ When annualized, the estimated “alpha” factor is 1.97 percent using Blume-adjusted betas, which is consistent with the “alpha” factor relied on by Dr. Morin of 1 to 2 percent to develop the 0.25 and 0.75 factors included in the ECAPM that I rely on in both

⁸⁸ Robert Litzenberger, *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, at 369-383, available at <https://www.icc.illinois.gov/docket/P2020-0308/documents/303195/files/528715.pdf>.

⁸⁹ $(1.00163)^{12} - 1 = 1.97$ percent

1 my direct and rebuttal testimonies. Therefore, the Litzenberger, *et al.* (1980) study shows
2 that the adjustment to beta and the use of the ECAPM are not duplicative, but rather account
3 for two different factors in the CAPM.

4 Additionally, Mr. Rothschild's concern with the ECAPM analysis is addressed
5 directly by Dr. Morin in his 2021 text *Modern Regulatory Finance* as follows:

6 Because of this adjustment, some critics of the ECAPM argue that the use
7 of Value Line adjusted betas in the traditional CAPM amounts to using an
8 ECAPM. This is incorrect. The use of adjusted betas in a CAPM analysis is
9 not equivalent to the ECAPM. Betas are adjusted because of the regression
10 tendency of betas to converge towards 1.0 over time. We have seen that
11 numerous empirical studies have determined that the SML [Security Market
12 Line] described by the CAPM formula at *any given moment* in time is not
13 as steeply sloped as the predicted SML. The slope of the SML should not
14 be confused with Beta. On the point, Eugene F. Brigham, finance professor
15 and the author of many financial textbooks states:

16 The Slope of the SML (5% in Figure 6-16) reflects the degree of
17 risk aversion in the economy. The greater the average investor's
18 aversion to risk, then (a) the steeper the slope of the line, (b) the
19 greater the risk premium for all stocks, and (c) the higher required
20 rate of return on all stocks. Students sometimes confuse beta with
21 the slope of the SML. This is a mistake.

22 The use of an adjusted beta by Value Line is correcting for a different
23 problem than the ECAPM. The adjusted beta captures the fact that betas
24 regress towards one over time. The ECAPM corrects for the fact that the
25 CAPM under-predicts observed returns when beta is less than one and over-
26 predicts observed returns when beta is greater than one.⁹⁰

⁹⁰ Roger A. Morin, *Modern Regulatory Finance*, Public Utilities Report, Inc. (2021), at 223-224 (emphasis added).

1 **Q. Do you agree with Mr. Rothschild that the results of your ECAPM violate an**
2 **economic boundary by estimating a cost of equity greater than that of the market**
3 **return for the S&P 500?**⁹¹

4 A. No. Mr. Rothschild states that the results of my ECAPM are roughly 380 and 160 basis
5 points higher than the 7.59 percent to 10.00 percent required market return for the S&P
6 500 that he calculated using his DCF with option-implied growth rates. As previously
7 described, there are various reasons why the Commission should not consider Mr.
8 Rothschild's calculation of the market return, which uses his DCF with option-implied
9 growth rates, to be credible. Exhibit AEB-5-R calculates the estimated market return of
10 the S&P 500 using a constant growth DCF and results in an estimated 13.64 percent, which
11 is below the ECAPM results in both my direct and rebuttal testimonies.

12 **Q. Are you aware of any state regulatory commissions that have accepted the use of the**
13 **ECAPM in the manner you have conducted?**

14 A. Yes. There are various regulatory commissions that have supported the use of the ECAPM
15 in establishing an authorized ROE, including when adjusted betas are used in the ECAPM
16 analysis. For example, the New York Public Service Commission ("NYPSC") and the
17 North Carolina Utilities Commission ("NCUC") have accepted the ECAPM analysis with
18 the use of adjusted beta coefficients in establishing the authorized ROE for regulated
19 utilities. Specifically, the NYPSC gives equal weight to the CAPM and ECAPM (which it
20 refers to as the "Zero Beta" CAPM) results,⁹² and the NCUC has recently found that both

⁹¹ Rothschild Direct, at 72.

⁹² See, e.g., New York Public Service Commission, Case No. 20-G-0101, Order, May 19, 2021, at 44-46.

the adjustment to beta in the CAPM and the adjustment in the ECAPM were needed because they correct for different things.⁹³

G. Summary of Adjusted Results

Q. Have you considered how the ROE recommendation of Mr. Rothschild would change if his cost of equity analyses was corrected for the issues you have identified and previously discussed?

A. Yes. I have evaluated how Mr. Rothschild's cost of equity analyses for his Combination Proxy Group and Water Proxy Group would change once his analyses are corrected. Figure 16 and Figure 17 presents the results of Mr. Rothschild's cost of equity analyses based on the corrections to his analyses that I have discussed for his Combination Proxy Group and Water Proxy Group, respectively. As shown, the results of the revisions to Mr. Rothschild's analyses support the Company's requested ROE in this proceeding.

Figure 16: Mr. Rothschild's As Filed and Adjusted Model Results – Combination Proxy Group

	Combination Proxy Group As Filed				Combination Proxy Group Adjusted			
	Range		Midpoint		Range		Midpoint	
Constant Growth DCF								
CG DCF - Sustainable Growth	9.59%	-	9.66%	9.63%	11.36%	-	11.44%	11.40%
CG DCF - Option-Implied Growth	6.78%	-	7.30%	7.04%	n/a		n/a	
Non-Constant DCF	7.91%	-	7.99%	7.95%	n/a		n/a	
CAPM	5.32%	-	7.22%	6.27%	10.36%	-	10.37%	10.37%

⁹³ North Carolina Utilities Commission, Docket No. E-2, SUB 1300, Order Accepting Stipulations, Granting Partial Rate Increase, and Requiring Public Notice, August 18, 2023, at 162-63.

Figure 17: Mr. Rothschild’s As Filed and Adjusted Model Results – Water Proxy Group

	Water Proxy Group As Filed				Water Proxy Group Adjusted			
	Range		Midpoint		Range		Midpoint	
Constant Growth DCF								
CG DCF - Sustainable Growth	8.75%	-	8.85%	8.80%	10.56%	-	10.81%	10.69%
CG DCF - Option-Implied Growth	6.79%	-	7.57%	7.18%	n/a			n/a
Non-Constant DCF	7.70%	-	7.95%	7.83%	n/a			n/a
CAPM	5.16%	-	7.44%	6.30%	10.31%	-	10.33%	10.32%

H. Business and Regulatory Risk

Q. What is Mr. Rothschild’s position regarding the business and regulatory risks identified and discussed in your direct testimony?

A. Mr. Rothschild states that I have not justified a “premium ROE” for the Company based on business and regulatory risks.⁹⁴ He disagrees with my assessment of KAWC’s capital expenditures and that the Company already has sufficient ratemaking protections to protect against regulatory lag. Finally, Mr. Rothschild concludes that were the Commission to approve the System Improvement Program (“SIP”) mechanism, that would warrant a reduction of 10 basis points below the base-rate ROE for investments recovered through the rider.⁹⁵

Q. Has Mr. Rothschild conducted any analysis of the specific risks of the Company relative to the proxy group?

A. No. Mr. Rothschild has not independently evaluated the comparative risk of the Company relative to his Combination Proxy Group or Water Proxy Group.

⁹⁴ Rothschild Direct Testimony, at 75.

⁹⁵ *Id.*, at 75-76.

1 **Q. Do you agree with Mr. Rothschild that your direct testimony recommended a**
2 **“premium ROE”?**⁹⁶

3 A. No. As discussed in my direct testimony, I conclude that KAWC has slightly greater than
4 average regulatory risk when compared to the proxy group and that if the Commission did
5 not approve the SIP that it would increase the Company’s risk relative to the proxy group.⁹⁷
6 My ultimate ROE recommendation for KAWC is 10.75 percent which is the exact midpoint
7 between my recommended range of 10.25 percent to 11.25 percent. Even though a slightly
8 higher business and regulatory risk consideration for the Company may warrant an ROE
9 recommendation in the upper portion of the recommended range, I recommended the
10 midpoint, therefore I am not aware of what Mr. Rothschild considers as a “premium ROE.”

11 **Q. Has Mr. Rothschild appropriately assessed the Company’s risk related to its extensive**
12 **capital expenditure program?**

13 A. No. First, I agree with Mr. Rothschild that the use of a future test year helps to mitigate
14 the Company’s regulatory cost recovery risk; as I show in my direct testimony, the
15 Company still faces significant regulatory lag as KAWC underearned its authorized return
16 in eight of the past eleven years, and on average during that period has underearned 72
17 basis points per year. As Mr. Rothschild appropriately considers in part of his response to
18 my business and regulatory risk assessment, the appropriate comparison for purposes of
19 assessing the risk of business and regulatory risk of the Company is relative to the operating
20 utilities of the proxy group. Mr. Rothschild correctly notes that KAWC is relative to the
21 median of the proxy group companies in terms of capital expenditures and that, like the

⁹⁶ *Id.*, at 75.

⁹⁷ Bulkley Direct Testimony, at 40 and 45.

1 Company, 56.82 percent of the operating companies in the proxy group have a fully or
2 partially forecast test year.⁹⁸ Mr. Rothschild also correctly notes that 75.00 percent of the
3 operating companies in the proxy group have some form of infrastructure cost recovery
4 mechanism.⁹⁹ Therefore, given these test year conventions and cost recovery mechanisms
5 are more common than not within the proxy group, a placement of the recommended ROE
6 at least at the midpoint of my recommended range would be justified, which is exactly
7 where I my recommended ROE was placed.

8 **Q. Do you agree with Mr. Rothschild’s suggestion of a reduction of 10 basis points to the**
9 **base-ROE for SIP investments if the SIP is approved?**

10 A. No. As previously mentioned, and acknowledged by Mr. Rothschild, 75.00 percent of the
11 operating subsidiaries of the proxy group have some form of infrastructure cost recovery
12 mechanism. Therefore, if the Commission approved the SIP this would bring KAWC more
13 in line with the recovery mechanisms available to a majority of the proxy group companies,
14 not provide greater levels of recovery. Mr. Rothschild states there is Commission
15 precedent to reduce ROE for tracking mechanisms.¹⁰⁰ However, the Commission approved
16 the Company’s Qualified Infrastructure Program (“QIP”) surcharge in its 2018 rate
17 proceeding and did not specify a lower ROE to be applied to investments that are recovered
18 through this mechanism. The market-based cost of equity estimates developed using the
19 models, which the Commission has routinely referenced as critical to the development of
20 the return on equity, include the effects of mechanisms that have been implemented by the
21 proxy group companies. Therefore, in setting the ROE in this proceeding, it is necessary

⁹⁸ Rothschild Direct Testimony, at 71-72.

⁹⁹ *Id.*

¹⁰⁰ Rothschild Direct Testimony, at 77-78.

1 to consider the risk of KAWC as compared with that proxy group to determine the
2 appropriate return on equity. Mr. Rothschild has provided no evidence that demonstrates
3 that KAWC has lower risk relative to the proxy group as a result of the SIP to justify his
4 recommended reduction to the ROE if the SIP is approved. In fact, as discussed previously,
5 Mr. Rothschild even acknowledges that 75.00 percent of the proxy group companies have
6 mechanisms that provide more timely recovery of capital investments. Therefore, the
7 recovery of KAWC's investments through the SIP is consistent with the proxy group
8 companies and should not result in a lower authorized ROE for those investments.

9 **I. Capital Structure**

10 **Q. What does Mr. Rothschild recommend regarding the Company's proposed capital**
11 **structure?**

12 A. Mr. Rothschild recommends a capital structure consisting of 51.17 percent common equity,
13 48.09 percent long-term debt, 0.45 percent short-term debt, and 0.28 percent preferred
14 equity.¹⁰¹ Mr. Rothschild states this recommendation is conservative and that KAWC's
15 requested equity ratio of 52.29 was excessive due to the consolidated capital structure of
16 the holding company for KAWC, American Water Works Company, Inc., being 46.00
17 percent.¹⁰² Mr. Rothschild arrives at his 51.17 percent equity ratio due to it being the
18 average equity ratio of the holding companies of the Combination Proxy Group.¹⁰³

¹⁰¹ Rothschild Direct Testimony, at 55.

¹⁰² *Id.*

¹⁰³ Exhibit ALR-5, page 5.

1 **Q. Is it appropriate to compare KAWC’s proposed capital structure to that of its holding**
2 **company?**

3 A. No. As described in my direct testimony, the cost of equity and ultimately the authorized
4 ROE is based on the expected return for a proxy group of companies that are comparable
5 in risk to KAWC. The equity ratio is a measure of a company’s financial risk, and the
6 authorized ROE is the return to compensative investors for risks. If the Commission is
7 going to rely on the cost of equity estimates for the proxy companies to establish the
8 authorized ROE for KAWC, it is important that the financial risk of KAWC be similar to
9 the financial risk of the proxy group. Furthermore, as described in more detail below,
10 holding companies include corporate-level debt that is not part of the regulated or financial
11 capital structure of the operating utilities. Therefore, it is not appropriate to compare the
12 capital structure of American Water Works Company, Inc. to that of the proposed capital
13 structure for KAWC.

14 **Q. Do you agree with Mr. Rothschild’s comparison of the Company’s proposed equity**
15 **ratio to the actual equity ratios of the holding companies in the proxy group?**¹⁰⁴

16 A. No. There are two problems with Mr. Rothschild’s comparison of the Company’s proposed
17 equity ratios to the equity ratios of the proxy group holding companies. First, it is not
18 appropriate to compare the proposed equity ratios of the Company to the average equity
19 ratio of the proxy group at the holding company level. Second, even though it is not
20 appropriate, if the capital structures at the holding company level are considered for
21 comparison to the Company’s proposal, the market value of debt and equity must be used

¹⁰⁴ *Id.*

1 to estimate the percentage of debt and equity in the capital structure, not the book value of
2 debt and equity.

3 **Q. Why is it inappropriate to rely on the holding company capital structures to set the**
4 **capital structure for the utility subsidiary?**

5 A. The holding company data on which Mr. Rothschild relies includes corporate-level debt
6 that is not part of the regulated or financial capital structure of the operating utilities.
7 Simply because the parent companies in the proxy group are used to estimate the
8 Company's cost of equity does not mean that the *holding company* capital structures are
9 the relevant comparators for establishing the Company's authorized capital structure.
10 There is no question that the utility subsidiaries of those holding companies are *more*
11 comparable to the Company in terms of risk. Holding companies have multiple regulated
12 utility subsidiaries, including in multiple jurisdictions, as well as unregulated operations or
13 other business activities, which differs from the Company's purely regulated utility
14 operations in a single jurisdiction. Therefore, the appropriate comparison for the
15 Company's proposed capital structure is a comparison to the capital structures of the utility
16 subsidiaries of the proxy group companies since they are the most comparable to the
17 Company.

18 **Q. Is the Company's proposed equity ratio consistent with the actual capital structures**
19 **of the operating utilities of the proxy group companies?**

20 A. Yes. As shown on Exhibit AEB-9 to my direct testimony, the equity ratios for my proxy
21 group are in the range of 47.19 percent to 60.26 percent with a mean of 52.69 percent.
22 Thus, KAWC's proposed equity ratio of 52.29 percent is approximately equal to the proxy

1 group average and well within the equity ratio range established by the utility operating
2 subsidiaries of the proxy group.

3 **Q. Why is it inappropriate to rely on the book value capitalization of the proxy group**
4 **companies at the holding company level as Mr. Rothschild has done?**

5 A. The use of the *book value* of debt and equity for the proxy group companies at the holding
6 company level creates a mismatch between the capital structure data that is being used to
7 determine the reasonableness of the Company's equity ratios and the data that is being used
8 in the models to determine the cost of equity for the Company. For example, Mr.
9 Rothschild considers the constant growth DCF model to determine the cost of equity for
10 the Company and estimates the dividend yield based on the expected dividends of the proxy
11 group companies and their respective current stock prices – which is the current *market*
12 *value* of their equity. Similarly, Mr. Rothschild also relies on the CAPM to estimate the
13 cost of equity for the Company, and in doing so, relies on beta coefficients – which reflect
14 the returns of each proxy group company based on that company's respective *market value*.
15 Therefore, the cost of equity developed by Mr. Rothschild is intended to represent the
16 return required by investors on the market value of the equity not the book value.

17 **Q. Does Mr. Rothschild acknowledge in his testimony that the cost of equity is the return**
18 **on the market value of common equity and that the book value and market value of**
19 **common equity can be different?**

20 A. Yes. In Appendix E of his direct testimony Mr. Rothschild directly outlines that the book
21 value and market value of common equity can be different.¹⁰⁵

¹⁰⁵ Rothschild Direct Testimony, Appendix E, at 102-103.

Q. What is the effect of relying on the required return on the market value of equity for assessing the cost of equity, but then the book value of debt and equity for assessing the capital structure?

A. If the *market value* of debt and equity are substantially different than the *book value* of debt and equity, then the resulting cost of equity estimate would not reflect the financial risk of the *book value* capital structure. This is illustrated in the following set of equations found readily in corporate finance textbooks.¹⁰⁶ As shown in Equation [3], the value of a company (or asset) is determined as follows:

$$V = D + E \quad [3]$$

Where:

V = Market value of a company/asset

D = Market value of debt

E = Market value of equity

For simplicity, if it is assumed that there are no taxes, based on Equation [3], the total return on V can be estimated as follows:

$$r_V = \frac{D}{D + E} \times r_D + \frac{E}{E + D} \times r_E \quad [4]$$

Where:

r_V = expected return on assets / weighted-average cost of capital

r_D = expected return on debt

r_E = expected return on equity

Then, Equation [4] can be rearranged into the following form to solve for the expected return on equity, r_E :

¹⁰⁶ See, e.g., Brealey, Myers, and Allen, *Principles of Corporate Finance*, 13th Ed., 2020, at 452-462.

1
$$r_E = r_V + (r_V - r_D) \frac{D}{E} \quad [5]$$

2 As shown in Equation [5], the expected return on the market value of equity is a
3 function of the market value debt-to-equity ratio. As the percentage of debt increases, the
4 financial risk of the firm increases, and thus investors require a higher return to compensate
5 for the additional financial risk. Therefore, if the book value debt-to-equity ratio for the
6 proxy group is substantially different than market value debt-to-equity ratio, the expected
7 return on equity will also be substantially different.

8 **Q. Is the average *market value* equity ratio for Mr. Rothschild's proxy group different**
9 **from the book value equity ratio for that group?**

10 A. Yes. As shown in Exhibit AEB-11-R, the average *market value* common equity ratio for
11 Mr. Rothschild's Combination Proxy Group is 60.94 percent, 64.69 percent for his Water
12 Proxy Group, and 62.19 percent for my updated proxy group. Given that Mr. Rothschild
13 estimated the cost of equity using the DCF and CAPM analyses based on the *market value*
14 of the proxy group companies' equity, the costs of equity estimated by Mr. Rothschild for
15 the Combination Proxy Group reflect the financial risk of a market value common equity
16 ratio of 60.94 percent based on Equation [5]. Therefore, this analysis demonstrates that
17 the *market value* common equity ratio for my proxy group is significantly greater than the
18 average *book value* equity ratio cited by Mr. Rothschild. Likewise, this analysis also
19 demonstrates that, when the analysis is done correctly, the Company's proposed equity
20 ratio of 52.29 percent is lower than the average *market value* common equity ratio for the
21 holding companies of the proxy groups.

Q. How does the Company’s proposed equity ratio compare to the equity ratios that have been authorized for water and natural gas utilities in the past few years?

A. Figure 18 presents the authorized equity ratios for water utilities across the U.S. from 2023-2025, properly excluding both limited issue rider cases and authorizations in Arkansas, Indiana, Michigan and Florida due to the inclusion of zero cost capital items in the capital structure. Likewise, Figure 19 presents the authorized equity ratios for natural gas utilities across the U.S. from 2023-2026. As shown in both figures, the Company’s proposed equity ratio of 52.29 percent is similar to, or below, the mean and median equity ratios for utilities across the U.S. since 2023.

Figure 18: Authorized Equity Ratios for Water Utilities for 2023-2025¹⁰⁷

Year	Average	Median	Min.	Max.
2023	50.28%	50.22%	40.73%	55.57%
2024	52.02%	52.13%	48.00%	55.90%
2025	50.78%	52.26%	44.19%	53.50%

Figure 19: Authorized Equity Ratios for Natural Gas Utilities for 2023-2026¹⁰⁸

Year	Average	Median	Min.	Max.
2023	52.14%	52.00%	48.00%	62.20%
2024	52.59%	52.13%	45.30%	62.38%
2025	51.66%	51.20%	43.17%	61.05%
2026	53.75%	53.00%	48.00%	59.92%

Q. What is your conclusion regarding the appropriate capital structure for the Company?

A. I continue to conclude that that the Company’s proposed capital structure is reasonable. The Company’s proposed equity ratio consisting of 52.29 percent common equity is both: (1) similar to the average actual equity ratio of the utility subsidiaries of the proxy group

¹⁰⁷ S&P Capital IQ Pro; data through February 4, 2026. This figure reports authorized equity ratios for water utilities from 2023-2025 due to a lack of sufficient data for 2026 water utility authorized equity ratios.

¹⁰⁸ S&P Capital IQ Pro; data through August 15, 2026.

1 companies (*i.e.*, utilities with risk profiles that are similar to the Company's risk profile);
2 and (2) similar to the average equity ratios authorized for water and natural gas utilities
3 across the U.S. over the past four years. Further, although I disagree with the approach
4 supported by Mr. Rothschild to compare the Company's proposed equity ratio to the
5 average equity ratios of the proxy group holding companies, if that analysis is done
6 correctly, it also demonstrates that, contrary to his conclusion, the Company's proposed
7 equity ratio is much lower than those of the proxy group and thus reasonable.

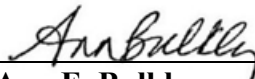
8 **Q. Does this conclude your rebuttal testimony?**

9 **A. Yes.**

VERIFICATION

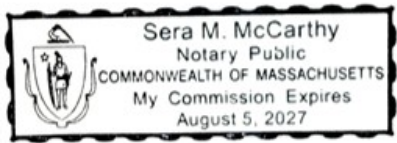
COMMONWEALTH OF MASSACHUSETTS)
) SS:
COUNTY OF SUFFOLK)

The undersigned, Ann E. Bulkley, being duly sworn, deposes and says that she is a Principal at The Brattle Group, that she has personal knowledge of the matters set forth in the accompanying testimony for which she is identified as the responsible witness, and that the answers contained therein are true and correct to the best of her information, knowledge and belief.



Ann E. Bulkley

Subscribed and sworn to before me, a Notary Public in and before said County and State,
this 4 day of September, 2026.





Notary Public

My Commission Expires:

August 5, 2027

COST OF EQUITY ANALYSES
SUMMARY OF RESULTS AS OF JULY 31, 2026

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Constant Growth DCF - Mean Results			
30-Day Avg. Stock Price	9.99%	10.99%	11.78%
90-Day Avg. Stock Price	10.04%	11.03%	11.83%
180-Day Avg. Stock Price	10.13%	11.12%	11.91%
Average	10.05%	11.05%	11.84%
Constant Growth DCF - Median Results			
30-Day Avg. Stock Price	9.72%	10.32%	10.78%
90-Day Avg. Stock Price	9.62%	10.36%	10.82%
180-Day Avg. Stock Price	9.70%	10.44%	10.95%
Average	9.68%	10.37%	10.85%
	30-Year Treasury Bond Yield		
	Current	Near-Term	Longer-Term
	30-Day Avg	Projected	Projected
CAPM			
Current <i>Value Line</i> Beta	11.58%	11.54%	11.49%
Long-term Avg. <i>Value Line</i> Beta	11.49%	11.45%	11.40%
ECAPM			
Current <i>Value Line</i> Beta	12.09%	12.06%	12.03%
Long-term Avg. <i>Value Line</i> Beta	12.03%	12.00%	11.96%

CONSTANT GROWTH DCF
30 DAY AVERAGE STOCK PRICES

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
						Value Line Projected EPS Growth Rate	S&P Capital IQ Projected EPS Growth Rate	Zacks Projected EPS Growth Rate	Average Projected EPS Growth Rate	Cost of Equity: Minimum Growth Rate	Cost of Equity: Mean Growth Rate	Cost of Equity: Maximum Growth Rate
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield							
Atmos Energy Corporation	ATO	\$4.00	\$175.59	2.28%	2.37%	8.50%	6.80%	7.98%	7.76%	9.16%	10.13%	10.87%
Chesapeake Utilities Corporation	CPK	\$2.94	\$128.79	2.28%	2.39%	10.00%	n/a	8.35%	9.18%	10.73%	11.56%	12.40%
NiSource Inc.	NI	\$1.20	\$46.37	2.59%	2.70%	9.00%	6.60%	10.14%	8.58%	9.27%	11.28%	12.86%
Northwest Natural Gas Company	NWN	\$1.97	\$49.84	3.95%	4.07%	6.50%	n/a	5.87%	6.18%	9.94%	10.26%	10.58%
ONE Gas, Inc.	OGS	\$2.72	\$78.63	3.46%	3.57%	7.00%	6.20%	5.94%	6.38%	9.50%	9.95%	10.58%
Southwest Gas Corporation	SWX	\$2.58	\$90.80	2.84%	3.01%	n/a	9.90%	13.20%	11.55%	12.88%	14.55%	16.22%
American States Water Company	AWR	\$2.02	\$84.33	2.39%	2.47%	7.00%	6.90%	5.66%	6.52%	8.12%	8.99%	9.47%
California Water Service Group	CWT	\$1.34	\$49.60	2.70%	2.84%	9.50%	10.60%	10.62%	10.24%	12.33%	13.08%	13.46%
Middlesex Water Company	MSEX	\$1.44	\$55.67	2.59%	2.69%	8.00%	n/a	7.40%	7.70%	10.08%	10.39%	10.69%
H2O America (SJW Group)	HTO	\$1.76	\$61.86	2.85%	2.94%	5.00%	7.50%	7.70%	6.73%	7.92%	9.67%	10.65%
Mean										9.99%	10.99%	11.78%
Median										9.72%	10.32%	10.78%

Notes:

[1] Bloomberg Professional as of July 31, 2026

[2] Bloomberg Professional 30-day average as of July 31, 2026

[3] Equals [1]/[2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Value Line

[6] S&P Capital IQ

[7] Zacks

[8] Equals average of [5], [6], [7]

[9] Equals [3] x (1 + 0.5 x (min([5], [6], [7])) + (min([5], [6], [7]))

[10] Equals [4] ÷ [8]

[11] Equals [3] x (1 + 0.5 x (max([5], [6], [7])) + (max([5], [6], [7]))

CONSTANT GROWTH DCF
90 DAY AVERAGE STOCK PRICES

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
						Value Line Projected EPS	S&P Capital IQ Projected EPS Growth Rate	Zacks Projected EPS Growth Rate	Average Projected EPS Growth Rate	Cost of Equity: Minimum Growth Rate	Cost of Equity: Mean Growth Rate	Cost of Equity: Maximum Growth Rate
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Growth Rate	EPS Growth Rate	Growth Rate	Growth Rate	Growth Rate	Growth Rate	Growth Rate
Atmos Energy Corporation	ATO	\$4.00	\$178.29	2.24%	2.33%	8.50%	6.80%	7.98%	7.76%	9.12%	10.09%	10.84%
Chesapeake Utilities Corporation	CPK	\$2.94	\$126.33	2.33%	2.43%	10.00%	n/a	8.35%	9.18%	10.77%	11.61%	12.44%
NiSource Inc.	NI	\$1.20	\$46.58	2.58%	2.69%	9.00%	6.60%	10.14%	8.58%	9.26%	11.27%	12.85%
Northwest Natural Gas Company	NWN	\$1.97	\$50.51	3.90%	4.02%	6.50%	n/a	5.87%	6.18%	9.88%	10.20%	10.53%
ONE Gas, Inc.	OGS	\$2.72	\$82.00	3.32%	3.42%	7.00%	6.20%	5.94%	6.38%	9.36%	9.80%	10.43%
Southwest Gas Corporation	SWX	\$2.58	\$89.50	2.88%	3.05%	n/a	9.90%	13.20%	11.55%	12.93%	14.60%	16.27%
American States Water Company	AWR	\$2.02	\$79.16	2.55%	2.63%	7.00%	6.90%	5.66%	6.52%	8.28%	9.15%	9.64%
California Water Service Group	CWT	\$1.34	\$46.27	2.90%	3.04%	9.50%	10.60%	10.62%	10.24%	12.53%	13.28%	13.67%
Middlesex Water Company	MSEX	\$1.44	\$53.28	2.70%	2.81%	8.00%	n/a	7.40%	7.70%	10.20%	10.51%	10.81%
H2O America (SJW Group)	HTO	\$1.76	\$59.00	2.98%	3.08%	5.00%	7.50%	7.70%	6.73%	8.06%	9.82%	10.80%
Mean										10.04%	11.03%	11.83%
Median										9.62%	10.36%	10.82%

Notes:

[1] Bloomberg Professional as of July 31, 2026

[2] Bloomberg Professional 90-day average as of July 31, 2026

[3] Equals [1]/[2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Value Line

[6] S&P Capital IQ

[7] Zacks

[8] Equals average of [5], [6], [7]

[9] Equals [3] x (1 + 0.5 x (min([5], [6], [7])) + (min([5], [6], [7]))

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x (max([5], [6], [7])) + (max([5], [6], [7]))

CONSTANT GROWTH DCF
180 DAY AVERAGE STOCK PRICES

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
						Value Line Projected EPS	S&P Capital IQ Projected EPS Growth Rate	Zacks Projected EPS Growth Rate	Average Projected EPS Growth Rate	Cost of Equity: Minimum Growth Rate	Cost of Equity: Mean Growth Rate	Cost of Equity: Maximum Growth Rate
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Growth Rate	EPS Growth Rate	EPS Growth Rate	EPS Growth Rate	EPS Growth Rate	EPS Growth Rate	EPS Growth Rate
Atmos Energy Corporation	ATO	\$4.00	\$175.34	2.28%	2.37%	8.50%	6.80%	7.98%	7.76%	9.16%	10.13%	10.88%
Chesapeake Utilities Corporation	CPK	\$2.94	\$127.29	2.31%	2.42%	10.00%	n/a	8.35%	9.18%	10.76%	11.59%	12.43%
NiSource Inc.	NI	\$1.20	\$44.87	2.67%	2.79%	9.00%	6.60%	10.14%	8.58%	9.36%	11.37%	12.95%
Northwest Natural Gas Company	NWN	\$1.97	\$48.89	4.03%	4.15%	6.50%	n/a	5.87%	6.18%	10.01%	10.34%	10.66%
ONE Gas, Inc.	OGS	\$2.72	\$81.14	3.35%	3.46%	7.00%	6.20%	5.94%	6.38%	9.39%	9.84%	10.47%
Southwest Gas Corporation	SWX	\$2.58	\$85.93	3.00%	3.18%	n/a	9.90%	13.20%	11.55%	13.05%	14.72%	16.40%
American States Water Company	AWR	\$2.02	\$75.89	2.66%	2.74%	7.00%	6.90%	5.66%	6.52%	8.40%	9.26%	9.75%
California Water Service Group	CWT	\$1.34	\$45.18	2.97%	3.12%	9.50%	10.60%	10.62%	10.24%	12.61%	13.36%	13.74%
Middlesex Water Company	MSEX	\$1.44	\$52.46	2.74%	2.85%	8.00%	n/a	7.40%	7.70%	10.25%	10.55%	10.85%
H2O America (SJW Group)	HTO	\$1.76	\$54.95	3.20%	3.31%	5.00%	7.50%	7.70%	6.73%	8.28%	10.04%	11.03%
Mean										10.13%	11.12%	11.91%
Median										9.70%	10.44%	10.95%

Notes:

[1] Bloomberg Professional as of July 31, 2026

[2] Bloomberg Professional 180-day average as of July 31, 2026

[3] Equals [1]/[2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Value Line

[6] S&P Capital IQ

[7] Zacks

[8] Equals average of [5], [6], [7]

[9] Equals [3] x (1 + 0.5 x (min([5], [6], [7])) + (min([5], [6], [7]))

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x (max([5], [6], [7])) + (max([5], [6], [7]))

**CAPITAL ASSET PRICING MODEL
CURRENT RISK FREE RATE AND VALUE LINE BETA**

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Atmos Energy Corporation	ATO	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
Chesapeake Utilities Corporation	CPK	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
NiSource Inc.	NI	5.04%	0.85	13.64%	8.59%	12.35%	12.67%
Northwest Natural Gas Company	NWN	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
ONE Gas, Inc.	OGS	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
Southwest Gas Corporation	SWX	5.04%	0.80	13.64%	8.59%	11.92%	12.35%
American States Water Company	AWR	5.04%	0.70	13.64%	8.59%	11.06%	11.70%
California Water Service Group	CWT	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
Middlesex Water Company	MSEX	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
H2O America (SJW Group)	HTO	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
Mean						11.58%	12.09%
Median						11.49%	12.03%

Notes:

[1] Bloomberg Professional as of July 31, 2026

[2] Value Line

[3] Exhibit AEB-5-R

[4] Equals [3]-[1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
NEAR TERM PROJECTED RISK-FREE RATE AND VALUE LINE BETA

		[1]	[2]	[3]	[4]	[5]	[6]	
		Near-term projected 30 year U.S. Treasury bond yield (Q4 2026 - Q4 2027)		Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Company	Ticker							
Atmos Energy Corporation	ATO	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
Chesapeake Utilities Corporation	CPK	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
NiSource Inc.	NI	4.88%	0.85	13.64%	8.76%	12.32%	12.65%	
Northwest Natural Gas Company	NWN	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
ONE Gas, Inc.	OGS	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
Southwest Gas Corporation	SWX	4.88%	0.80	13.64%	8.76%	11.89%	12.32%	
American States Water Company	AWR	4.88%	0.70	13.64%	8.76%	11.01%	11.67%	
California Water Service Group	CWT	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
Middlesex Water Company	MSEX	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
H2O America (SJW Group)	HTO	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
Mean						11.54%	12.06%	
Median						11.45%	12.00%	

Notes:

[1] Blue Chip Financial Forecasts, Vol. 45, No. 8, July 31, 2026, at 9

[2] Value Line

[3] Exhibit AEB-5-R

[4] Equals [3]-[1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
LONG-TERM PROJECTED RISK-FREE RATE AND VALUE LINE BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2028 - 2032)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Atmos Energy Corporation	ATO	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
Chesapeake Utilities Corporation	CPK	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
NiSource Inc.	NI	4.70%	0.85	13.64%	8.94%	12.30%	12.63%
Northwest Natural Gas Company	NWN	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
ONE Gas, Inc.	OGS	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
Southwest Gas Corporation	SWX	4.70%	0.80	13.64%	8.94%	11.85%	12.30%
American States Water Company	AWR	4.70%	0.70	13.64%	8.94%	10.96%	11.63%
California Water Service Group	CWT	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
Middlesex Water Company	MSEX	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
H2O America (SJW Group)	HTO	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
Mean						11.49%	12.03%
Median						11.40%	11.96%

Notes:

[1] Blue Chip Financial Forecasts, Vol. 44, No. 12, December 1, 2025, at 14

[2] Value Line

[3] Exhibit AEB-5-R

[4] Equals [3]-[1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
CURRENT RISK FREE RATE AND LONG-TERM VALUE LINE BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Atmos Energy Corporation	ATO	5.04%	0.76	13.64%	8.59%	11.59%	12.10%
Chesapeake Utilities Corporation	CPK	5.04%	0.72	13.64%	8.59%	11.26%	11.85%
NiSource Inc.	NI	5.04%	0.78	13.64%	8.59%	11.76%	12.23%
Northwest Natural Gas Company	NWN	5.04%	0.73	13.64%	8.59%	11.29%	11.88%
ONE Gas, Inc.	OGS	5.04%	0.75	13.64%	8.59%	11.49%	12.03%
Southwest Gas Corporation	SWX	5.04%	0.83	13.64%	8.59%	12.18%	12.55%
American States Water Company	AWR	5.04%	0.70	13.64%	8.59%	11.06%	11.70%
California Water Service Group	CWT	5.04%	0.72	13.64%	8.59%	11.19%	11.80%
Middlesex Water Company	MSEX	5.04%	0.74	13.64%	8.59%	11.42%	11.98%
H2O America (SJW Group)	HTO	5.04%	0.77	13.64%	8.59%	11.65%	12.15%
Mean						11.49%	12.03%
Median						11.46%	12.00%

Notes:

[1] Bloomberg Professional as of July 31, 2026

[2] Exhibit AEB-4-R

[3] Exhibit AEB-5-R

[4] Equals [3]-[1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
NEAR-TERM PROJECTED RISK FREE RATE AND LONG-TERM VALUE LINE BETA

		[1]	[2]	[3]	[4]	[5]	[6]	
		Near-term projected 30 year U.S. Treasury bond yield (Q4 2026 - Q4 2027)		Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Company	Ticker							
Atmos Energy Corporation	ATO	4.88%	0.76	13.64%	8.76%	11.55%	12.07%	
Chesapeake Utilities Corporation	CPK	4.88%	0.72	13.64%	8.76%	11.21%	11.82%	
NiSource Inc.	NI	4.88%	0.78	13.64%	8.76%	11.73%	12.20%	
Northwest Natural Gas Company	NWN	4.88%	0.73	13.64%	8.76%	11.25%	11.84%	
ONE Gas, Inc.	OGS	4.88%	0.75	13.64%	8.76%	11.45%	12.00%	
Southwest Gas Corporation	SWX	4.88%	0.83	13.64%	8.76%	12.16%	12.53%	
American States Water Company	AWR	4.88%	0.70	13.64%	8.76%	11.01%	11.67%	
California Water Service Group	CWT	4.88%	0.72	13.64%	8.76%	11.15%	11.77%	
Middlesex Water Company	MSEX	4.88%	0.74	13.64%	8.76%	11.38%	11.95%	
H2O America (SJW Group)	HTO	4.88%	0.77	13.64%	8.76%	11.62%	12.12%	
Mean						11.45%	12.00%	
Median						11.41%	11.97%	

Notes:

[1] Blue Chip Financial Forecasts, Vol. 45, No. 8, July 31, 2026, at 9

[2] Exhibit AEB-4-R

[3] Exhibit AEB-5-R

[4] Equals [3]-[1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL
LONG-TERM PROJECTED RISK FREE RATE AND LONG-TERM VALUE LINE BETA

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2028 - 2032)	Beta	Market Return	Market Risk Premium	Cost of Equity: CAPM	Cost of Equity: ECAPM
Atmos Energy Corporation	ATO	4.70%	0.76	13.64%	8.94%	11.51%	12.04%
Chesapeake Utilities Corporation	CPK	4.70%	0.72	13.64%	8.94%	11.16%	11.78%
NiSource Inc.	NI	4.70%	0.78	13.64%	8.94%	11.69%	12.18%
Northwest Natural Gas Company	NWN	4.70%	0.73	13.64%	8.94%	11.20%	11.81%
ONE Gas, Inc.	OGS	4.70%	0.75	13.64%	8.94%	11.40%	11.96%
Southwest Gas Corporation	SWX	4.70%	0.83	13.64%	8.94%	12.13%	12.50%
American States Water Company	AWR	4.70%	0.70	13.64%	8.94%	10.96%	11.63%
California Water Service Group	CWT	4.70%	0.72	13.64%	8.94%	11.09%	11.73%
Middlesex Water Company	MSEX	4.70%	0.74	13.64%	8.94%	11.33%	11.91%
H2O America (SJW Group)	HTO	4.70%	0.77	13.64%	8.94%	11.58%	12.09%
Mean						11.40%	11.96%
Median						11.37%	11.94%

Notes:

[1] Blue Chip Financial Forecasts, Vol. 44, No. 12, December 1, 2025, at 14

[2] Exhibit AEB-4-R

[3] Exhibit AEB-5-R

[4] Equals [3]-[1]

[5] Equals [1] + [2] x [4]

[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

HISTORICAL VALUE LINE BETA

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
Company	Ticker	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Average
Atmos Energy Corporation	ATO	0.80	0.80	0.80	0.70	0.70	0.60	0.60	0.80	0.80	0.80	0.85	0.90	0.75	0.76
Chesapeake Utilities Corporation	CPK	0.70	0.65	0.65	0.65	0.70	0.65	0.65	0.80	0.80	0.80	0.80	0.85	0.70	0.72
NiSource Inc.	NI	0.85	0.85	NMF	NMF	0.60	0.50	0.55	0.85	0.85	0.85	0.90	0.95	0.85	0.78
Northwest Natural Gas Company	NWN	0.65	0.70	0.65	0.65	0.70	0.60	0.60	0.80	0.85	0.80	0.80	0.90	0.75	0.73
ONE Gas, Inc.	OGS				0.70	0.70	0.65	0.65	0.80	0.80	0.80	0.80	0.85	0.75	0.75
Southwest Gas Corporation	SWX	0.80	0.85	0.80	0.75	0.80	0.70	0.70	0.95	0.95	0.90	0.90	0.95	0.75	0.83
American States Water Company	AWR	0.65	0.70	0.70	0.75	0.80	0.70	0.65	0.65	0.65	0.65	0.70	0.75	0.75	0.70
California Water Service Group	CWT	0.60	0.70	0.75	0.75	0.80	0.70	0.70	0.65	0.70	0.70	0.70	0.75	0.80	0.72
Middlesex Water Company	MSEX	0.75	0.70	0.70	0.75	0.80	0.75	0.75	0.75	0.70	0.70	0.75	0.80	0.75	0.74
H2O America (SJW Group)	HTO	0.85	0.85	0.75	0.75	0.70	0.60	0.60	0.85	0.80	0.80	0.85	0.85	0.75	0.77
Mean		0.74	0.76	0.73	0.72	0.73	0.65	0.65	0.79	0.79	0.78	0.81	0.86	0.76	0.75

Notes:

[1] Value Line, dated December 26, 2013

[2] Value Line, dated December 31, 2014

[3] Value Line, dated December 30, 2015

[4] Value Line, dated December 29, 2016

[5] Value Line, dated December 28, 2017

[6] Value Line, dated December 27, 2018

[7] Value Line, dated December 26, 2019

[8] Value Line, dated December 30, 2020

[9] Value Line, dated December 29, 2021

[10] Value Line, dated December 30, 2022

[11] Value Line, Dated December 29, 2023

[12] Value Line, Dated December 27, 2024

[13] Value Line, Dated December 26, 2025

[14] Average ([1] - [13])

MARKET RETURN DERIVED FROM S&P 500 INDEX

[1] Estimate of the S&P 500 Dividend Yield	1.23%
[2] Estimate of the S&P 500 Growth Rate	12.34%
[3] S&P 500 Estimated Required Market Return	13.64%

		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outst'g	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Agilent Technologies Inc	A	282.432	138.37	39,080.11	0.08%	0.74%	0.00%	8.44%	0.01%
Apple Inc	AAPL	14594.180	308.91	4,508,288.14	8.98%	0.35%	0.03%	12.33%	1.11%
AbbVie Inc	ABBV	1766.793	250.94	443,358.99	0.88%	2.76%	0.02%	16.47%	0.15%
Airbnb Inc	ABNB	417.930	151.52	63,324.79	0.13%			15.74%	0.02%
Abbott Laboratories	ABT	1730.383	105.7	182,901.51	0.36%	2.38%	0.01%	8.59%	0.03%
Arch Capital Group Ltd	ACGL	349.390	100.53	35,124.14	0.07%			6.50%	0.00%
Accenture PLC	ACN	611.942	165.92	101,533.43	0.20%	3.93%	0.01%	5.50%	0.01%
Adobe Inc	ADBE	397.500	250.41	99,537.98	0.20%			15.76%	0.03%
Analog Devices Inc	ADI	487.087	367.41	178,960.65		1.20%		21.52%	
Archer-Daniels-Midland Co	ADM	481.957	79.27	38,204.69	0.08%	2.62%	0.00%	7.00%	0.01%
Automatic Data Processing Inc	ADP	397.800	266.46	105,997.79	0.21%	2.55%	0.01%	6.50%	0.01%
Autodesk Inc	ADSK	211.000	234.2	49,416.20	0.10%			15.61%	0.02%
Ameren Corp	AEE	276.800	109.61	30,340.05	0.06%	2.74%	0.00%	7.72%	0.00%
American Electric Power Co Inc	AEP	544.397	127.85	69,601.20	0.14%	2.97%	0.00%	6.77%	0.01%
AES Corp/The	AES	713.158	14.68	10,469.16		4.79%		30.00%	
Aflac Inc	AFL	508.985	127.48	64,885.40	0.13%	1.91%	0.00%	8.10%	0.01%
American International Group Inc	AIG	530.206	78.58	41,663.60	0.08%	2.55%	0.00%	9.05%	0.01%
Assurant Inc	AIZ	49.548	279.19	13,833.21	0.03%	1.26%	0.00%	9.50%	0.00%
Arthur J Gallagher & Co	AJG	256.000	249.42	63,851.52	0.13%	1.12%	0.00%	15.50%	0.02%
Akamai Technologies Inc	AKAM	145.385	115.18	16,745.50	0.03%			6.03%	0.00%
Albemarle Corp	ALB	117.935	117.64	13,873.83	0.03%	1.39%	0.00%	5.50%	0.00%
Align Technology Inc	ALGN	71.618	169.16	12,114.92	0.02%			11.02%	0.00%
Allstate Corp/The	ALL	257.421	264.08	67,979.72	0.14%	1.64%	0.00%	9.74%	0.01%
Allegion plc	ALLE	85.037	157.4	13,384.79	0.03%	1.40%	0.00%	6.21%	0.00%
Applied Materials Inc	AMAT	793.959	507.67	403,069.38	0.80%	0.42%	0.00%	18.76%	0.15%
Amcor PLC	AMCR	462.346	44.88	20,750.07	0.04%	5.79%	0.00%	7.51%	0.00%
Advanced Micro Devices Inc	AMD	1630.601	476.15	776,410.49				42.92%	
AMETEK Inc	AME	229.203	241.71	55,400.66	0.11%	0.56%	0.00%	8.79%	0.01%
Amgen Inc	AMGN	539.708	385.16	207,874.04	0.41%	2.62%	0.01%	5.15%	0.02%
Ameriprise Financial Inc	AMP	90.800	544.14	49,407.91	0.10%	1.25%	0.00%	14.06%	0.01%
American Tower Corp	AMT	465.960	173.36	80,778.83	0.16%	4.13%	0.01%	3.13%	0.01%
Amazon.com Inc	AMZN	10786.314	271.58	2,929,347.04	5.84%			19.17%	1.12%
Arista Networks Inc	ANET	1259.203	180.35	227,097.19	0.45%			16.43%	0.07%
Aon PLC	AON	212.125	359.7301	76,307.90	0.15%	0.91%	0.00%	8.69%	0.01%
A O Smith Corp	AOS	110.047	60.13	6,617.14	0.01%	2.39%	0.00%	7.50%	0.00%
APA Corp	APA	353.470	37.32	13,191.51	0.03%	2.68%	0.00%	8.25%	0.00%
Air Products and Chemicals Inc	APD	222.686	294.89	65,667.74	0.13%	2.46%	0.00%	6.40%	0.01%
Amphenol Corp	APH	1232.983	160.7	198,140.44		0.62%		25.34%	
Apollo Global Management Inc	APO	576.518	125.59	72,404.83	0.14%	1.79%	0.00%	12.59%	0.02%
AppLovin Corp	APP	305.732	395.9	121,039.30				40.96%	
Aptiv PLC	APTIV	211.621	56.47	11,950.21	0.02%			13.25%	0.00%
Alexandria Real Estate Equities Inc	ARE	174.269	51.45	8,966.16		5.60%		-7.88%	
Ares Management Corp	ARES	222.028	128.09	28,439.62		4.22%		25.30%	
Atmos Energy Corp	ATO	166.920	172.78	28,840.41	0.06%	2.32%	0.00%	8.58%	0.00%
AvalonBay Communities Inc	AVB	142.798	185.61	26,504.73	0.05%	3.84%	0.00%	4.59%	0.00%
Broadcom Inc	AVGO	4757.580	389.28	1,852,030.82		0.67%		37.84%	
Avery Dennison Corp	AVY	76.490	169.73	12,982.71	0.03%	2.36%	0.00%	5.04%	0.00%
American Water Works Co Inc	AWK	198.729	134.17	26,663.47	0.05%	2.67%	0.00%	7.46%	0.00%
Axon Enterprise Inc	AXON	80.602	527.76	42,538.55				27.33%	
American Express Co	AXP	675.310	336.25	227,072.93	0.45%	1.13%	0.01%	13.04%	0.06%
AutoZone Inc	AZO	16.325	3016.25	49,241.34	0.10%			9.85%	0.01%
Boeing Co/The	BA	790.370	216.14	170,830.58				130.54%	
Bank of America Corp	BAC	6992.748	61.95	433,200.76	0.86%	2.07%	0.02%	11.00%	0.09%
Ball Corp	BALL	266.247	64.9	17,279.40	0.03%	1.23%	0.00%	12.13%	0.00%
Baxter International Inc	BAX	516.996	26.16	13,524.62		0.15%		-1.59%	
Best Buy Co Inc	BBY	210.767	86.26	18,180.77	0.04%	4.45%	0.00%	3.50%	0.00%
Becton Dickinson & Co	BDX	275.540	165.62	45,635.01	0.09%	2.54%	0.00%	0.76%	0.00%
Franklin Resources Inc	BEN	508.077	33.86	17,203.48	0.03%	3.90%	0.00%	10.53%	0.00%
Brown-Forman Corp	BF/B	290.383	28.73	8,342.72	0.02%	3.22%	0.00%	3.85%	0.00%
Bunge Global SA	BG	192.119	106.23	20,408.81	0.04%	2.71%	0.00%	3.00%	0.00%
Biogen Inc	BIIB	147.754	202.95	29,986.67	0.06%			4.30%	0.00%
Booking Holdings Inc	BKNG	774.878	192.9	149,474.05	0.30%	0.87%	0.00%	13.63%	0.04%
Baker Hughes Co	BKR	992.674	60.49	60,046.85	0.12%	1.52%	0.00%	12.00%	0.01%
Builders FirstSource Inc	BLDR	107.596	66.44	7,148.71				-2.27%	
Blackrock Inc	BLK	155.234	1090.39	169,265.59	0.34%	2.10%	0.01%	13.61%	0.05%

		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outs'tg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Bristol-Myers Squibb Co	BMJ	2042.715	65.31	133,409.69		3.86%		26.00%	
Bank of New York Mellon Corp/The	BNY	678.504	156.33	106,070.55	0.21%	1.61%	0.00%	15.03%	0.03%
Broadridge Financial Solutions Inc	BR	115.658	153.95	17,805.60	0.04%	2.53%	0.00%	9.50%	0.00%
Berkshire Hathaway Inc	BRK/B	1398.309	511.54	715,290.82	1.43%			9.50%	0.14%
Brown & Brown Inc	BRO	334.610	70.4	23,556.57	0.05%	0.94%	0.00%	6.98%	0.00%
Boston Scientific Corp	BSX	1486.355	46.73	69,457.38	0.14%			7.79%	0.01%
Blackstone Inc	BX	742.880	126.46	93,944.58	0.19%	4.08%	0.01%	19.31%	0.04%
BXP Inc	BXP	159.522	70.12	11,185.65	0.02%	3.99%	0.00%	0.67%	0.00%
Citigroup Inc	C	1705.577	131.7799	224,760.76	0.45%	2.03%	0.01%	18.47%	0.08%
Cardinal Health Inc	CAH	234.206	230.03	53,874.37	0.11%	0.90%	0.00%	7.86%	0.01%
Carrier Global Corp	CARR	824.325	61.81	50,951.53	0.10%	1.55%	0.00%	12.33%	0.01%
Casey's General Stores Inc	CASY	37.005	871	32,231.28	0.06%	0.30%	0.00%	12.55%	0.01%
Caterpillar Inc	CAT	460.592	814.81	375,294.95		0.80%		20.55%	
Chubb Ltd	CB	385.800	350.68	135,292.29	0.27%	1.16%	0.00%	5.84%	0.02%
Cboe Global Markets Inc	CBOE	104.431	310.23	32,397.64	0.06%	0.93%	0.00%	14.19%	0.01%
CBRE Group Inc	CBRE	289.575	146.81	42,512.55	0.08%			13.00%	0.01%
Crown Castle Inc	CCI	436.452	76.3	33,301.29		5.57%		25.73%	
Carnival Corp Ltd	CCL	1369.649	27.81	38,089.94	0.08%	2.16%	0.00%	7.40%	0.01%
Cadence Design Systems Inc	CDNS	275.393	340.02	93,639.13	0.19%			16.12%	0.03%
CDW Corp/DE	CDW	127.753	147.81	18,883.24	0.04%	1.70%	0.00%	9.70%	0.00%
Constellation Energy Corp	CEG	362.295	262.75	95,192.92	0.19%	0.65%	0.00%	13.17%	0.02%
CF Industries Holdings Inc	CF	153.629	125.19	19,232.85	0.04%	1.92%	0.00%	4.16%	0.00%
Citizens Financial Group Inc	CFG	422.882	71.65	30,299.49		2.57%		24.74%	
Church & Dwight Co Inc	CHD	237.204	98.81	23,438.12	0.05%	1.24%	0.00%	11.19%	0.01%
CH Robinson Worldwide Inc	CHRW	116.851	147.73	17,262.44	0.03%	1.71%	0.00%	12.59%	0.00%
Charter Communications Inc	CHTR	119.277	144.98	17,292.85	0.03%			15.94%	0.01%
Cigna Group/The	CI	264.240	279.05	73,736.31	0.15%	2.24%	0.00%	7.42%	0.01%
Ciena Corp	CIEN	141.553	377.05	53,372.53				39.53%	
Cincinnati Financial Corp	CINF	153.478	177.68	27,269.98	0.05%	2.12%	0.00%	17.38%	0.01%
Colgate-Palmolive Co	CL	797.173	91.3	72,781.88	0.15%	2.32%	0.00%	7.62%	0.01%
Clorox Co/The	CLX	120.921	95.53	11,551.62	0.02%	5.23%	0.00%	3.03%	0.00%
Comcast Corp	CMCSA	3539.192	23.96	84,799.05	0.17%	5.51%	0.01%	0.78%	0.00%
CME Group Inc	CME	359.576	267.79	96,290.89	0.19%	1.94%	0.00%	6.49%	0.01%
Chipotle Mexican Grill Inc	CMG	1265.418	37.22	47,098.86	0.09%			8.73%	0.01%
Cummins Inc	CMI	137.989	634.2	87,512.67	0.17%	1.39%	0.00%	16.22%	0.03%
CMS Energy Corp	CMS	313.577	71.99	22,574.42	0.04%	3.17%	0.00%	7.76%	0.00%
Centene Corp	CNC	493.995	62.22	30,736.37				28.39%	
CenterPoint Energy Inc	CNP	652.872	42.04	27,446.72	0.05%	2.28%	0.00%	9.18%	0.01%
Capital One Financial Corp	COF	613.485	209.01	128,224.47	0.26%	1.53%	0.00%	9.31%	0.02%
Coherent Corp	COHR	195.639	262.89	51,431.62				30.15%	
Coinbase Global Inc	COIN	222.803	146.26	32,587.17	0.06%			14.57%	0.01%
Cooper Cos Inc/The	COO	195.031	72.32	14,104.62	0.03%			13.13%	0.00%
ConocoPhillips	COP	1218.853	120.48	146,847.41	0.29%	2.79%	0.01%	11.00%	0.03%
Cencora Inc	COR	194.561	311.34	60,574.64	0.12%	0.77%	0.00%	6.32%	0.01%
Costco Wholesale Corp	COST	443.479	951.89	422,143.03	0.84%	0.62%	0.01%	9.28%	0.08%
Corpay Inc	CPAY	65.362	382.11	24,975.44	0.05%			10.95%	0.01%
Copart Inc	CPRT	925.811	29.12	26,959.63	0.05%			14.00%	0.01%
Camden Property Trust	CPT	100.539	110.81	11,140.77	0.02%	3.83%	0.00%	3.98%	0.00%
CRH PLC	CRH	665.285	95.01	63,208.68	0.13%	1.64%	0.00%	8.90%	0.01%
Charles River Laboratories International Inc	CRL	48.168	232.51	11,199.48	0.02%			1.10%	0.00%
Salesforce Inc	CRM	819.000	184.02	150,712.38	0.30%	0.96%	0.00%	13.92%	0.04%
CrowdStrike Holdings Inc	CRWD	1018.259	190.86	194,344.97				20.89%	
Cisco Systems Inc	CSCO	3941.435	115.99	457,167.01	0.91%	1.45%	0.01%	16.05%	0.15%
CoStar Group Inc	CSGP	405.198	28.76	11,653.48				33.72%	
CSX Corp	CSX	1852.475	50.4	93,364.74	0.19%	1.11%	0.00%	11.67%	0.02%
Cintas Corp	CTAS	400.170	204.63	81,886.70		1.02%		24.50%	
Cognizant Technology Solutions Corp	CTSH	450.444	55.35	24,932.09	0.05%	2.38%	0.00%	8.50%	0.00%
Corteva Inc	CTVA	667.018	78.71	52,500.99	0.10%	0.91%	0.00%	11.48%	0.01%
Carvana Co	CVNA	719.916	62.36	44,893.99	0.09%			5.87%	0.01%
CVS Health Corp	CVS	1275.927	104.43	133,245.09	0.27%	2.55%	0.01%	11.72%	0.03%
Chevron Corp	CVX	1991.598	196.83	392,006.18		3.62%		20.66%	
Dominion Energy Inc	D	879.526	69.17	60,836.81	0.12%	3.86%	0.00%	4.55%	0.01%
Delta Air Lines Inc	DAL	657.623	87.44	57,502.56	0.11%	0.98%	0.00%	0.50%	0.00%
DoorDash Inc	DASH	411.337	196.16	80,687.79				24.71%	
DuPont de Nemours Inc	DD	136.640	137	18,719.74	0.04%	1.75%	0.00%	14.60%	0.01%
Datadog Inc	DDOG	330.826	267.97	88,651.39	0.18%			15.33%	0.03%
Deere & Co	DE	269.937	592.67	159,983.82	0.32%	1.09%	0.00%	7.22%	0.02%
Deckers Outdoor Corp	DECK	136.182	96.88	13,193.30	0.03%			11.34%	0.00%
Dell Technologies Inc	DELL	325.047	405.37	131,764.18		0.62%		22.10%	
Dollar General Corp	DG	220.587	127.05	28,025.53	0.06%	1.86%	0.00%	9.40%	0.01%
Quest Diagnostics Inc	DGX	110.373	233.01	25,718.10	0.05%	1.48%	0.00%	9.89%	0.01%
DR Horton Inc	DHI	279.701	143.06	40,014.06	0.08%	1.26%	0.00%	6.53%	0.01%
Danaher Corp	DHR	702.986	194.98	137,068.22	0.27%	0.82%	0.00%	8.11%	0.02%
Walt Disney Co/The	DIS	1736.511	96.19	167,035.03	0.33%	1.56%	0.01%	8.34%	0.03%
Digital Realty Trust Inc	DLR	370.036	188.52	69,759.22	0.14%	2.59%	0.00%	4.45%	0.01%
Dollar Tree Inc	DLTR	192.175	127.21	24,446.53	0.05%			14.53%	0.01%
Healthpeak Properties Inc	DOC	689.420	21.83	15,050.03	0.03%	5.59%	0.00%	6.34%	0.00%
Dover Corp	DOV	134.680	204.62	27,558.27	0.05%	1.02%	0.00%	19.09%	0.01%
Dow Inc	DOW	722.341	30.29	21,879.70		4.62%		31.94%	
Domino's Pizza Inc	DPZ	33.082	347.44	11,493.92	0.02%	2.29%	0.00%	8.59%	0.00%
Darden Restaurants Inc	DRI	114.078	203.58	23,223.99	0.05%	3.18%	0.00%	12.40%	0.01%
DTE Energy Co	DTE	208.028	141.87	29,512.95	0.06%	3.28%	0.00%	9.73%	0.01%

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Name	Ticker	Shares Outs'tg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Duke Energy Corp	DUK	778.217	125.43	97,611.72	0.19%	3.46%	0.01%	8.33%	0.02%
DaVita Inc	DVA	64.200	240.09	15,413.78	0.03%			15.91%	0.00%
Devon Energy Corp	DVN	1153.403	45.13	52,053.08	0.10%	2.84%	0.00%	6.50%	0.01%
Dexcom Inc	DXCM	377.361	83.45	31,490.76	0.06%			15.34%	0.01%
Electronic Arts Inc	EA	250.751	209.86	52,622.71		0.36%		-2.00%	
eBay Inc	EBAY	444.000	114.01	50,620.44	0.10%	1.09%	0.00%	13.66%	0.01%
EchoStar Corp	ECHO	158.465	84.09	13,325.32	0.03%			9.50%	0.00%
Ecolab Inc	ECL	281.438	277.63	78,135.49	0.16%	1.05%	0.00%	15.75%	0.02%
Consolidated Edison Inc	ED	368.530	108.85	40,114.46	0.08%	3.26%	0.00%	6.58%	0.01%
Equifax Inc	EFX	117.485	172.62	20,280.24	0.04%	1.30%	0.00%	11.92%	0.00%
Everest Group Ltd	EG	38.700	374.15	14,479.61	0.03%	2.14%	0.00%	9.29%	0.00%
Edison International	ELX	384.814	73.37	28,233.80	0.06%	4.78%	0.00%	4.73%	0.00%
Estee Lauder Cos Inc/The	EL	247.288	83.9	20,747.43		1.67%		22.39%	
Elevance Health Inc	ELV	216.869	375.84	81,508.15	0.16%	1.83%	0.00%	6.15%	0.01%
EMCOR Group Inc	EME	44.110	797.43	35,174.56	0.07%	0.20%	0.00%	5.50%	0.00%
Emerson Electric Co	EMR	560.100	149.82	83,914.18	0.17%	1.48%	0.00%	12.22%	0.02%
EOG Resources Inc	EOG	532.629	148.69	79,196.54	0.16%	2.74%	0.00%	12.50%	0.02%
Equinix Inc	EQIX	98.672	1019.28	100,574.08	0.20%	2.02%	0.00%	11.30%	0.02%
Equity Residential	EQR	374.944	66.45	24,915.06	0.05%	4.23%	0.00%	6.04%	0.00%
EQT Corp	EQT	625.516	53.29	33,333.75	0.07%	1.24%	0.00%	11.50%	0.01%
Erie Indemnity Co	ERIE	46.189	242.04	11,179.60	0.02%	2.42%	0.00%	4.00%	0.00%
Eversource Energy	ES	376.080	71.59	26,923.57	0.05%	4.40%	0.00%	9.91%	0.01%
Essex Property Trust Inc	ESS	64.268	284.14	18,261.23	0.04%	3.65%	0.00%	7.97%	0.00%
Eaton Corp PLC	ETN	388.400	415.2	161,263.68	0.32%	1.06%	0.00%	9.44%	0.03%
Entergy Corp	ETR	466.632	107.62	50,218.88	0.10%	2.38%	0.00%	9.59%	0.01%
Evergy Inc	EVRG	229.746	83.01	19,071.21	0.04%	3.35%	0.00%	11.04%	0.00%
Edwards Lifesciences Corp	EW	575.800	86.07	49,559.11	0.10%			7.68%	0.01%
Exelon Corp	EXC	1023.175	45.82	46,881.88	0.09%	3.67%	0.00%	5.78%	0.01%
Expand Energy Corp	EXE	231.504	94.03	21,768.30	0.04%	2.45%	0.00%	8.50%	0.00%
Expeditors International of Washington Inc	EXPD	130.791	167.89	21,958.52	0.04%	0.96%	0.00%	8.83%	0.00%
Expedia Group Inc	EXPE	114.499	294.74	33,747.33	0.07%	0.65%	0.00%	19.79%	0.01%
Extra Space Storage Inc	EXR	211.270	148.04	31,276.35	0.06%	4.38%	0.00%	3.09%	0.00%
Ford Motor Co	F	3916.744	14.68	57,497.80		4.09%		20.62%	
Diamondback Energy Inc	FANG	281.313	202.95	57,092.53		2.17%		-0.50%	
Fastenal Co	FAST	1147.498	47.71	54,747.11	0.11%	2.18%	0.00%	11.24%	0.01%
Freeport-McMoRan Inc	FCX	1437.560	62.63	90,034.37	0.18%	0.96%	0.00%	15.64%	0.03%
FactSet Research Systems Inc	FDS	35.566	263.2	9,360.85	0.02%	1.76%	0.00%	8.04%	0.00%
FedEx Corp	FDX	236.581	307.4	72,725.06	0.14%	1.59%	0.00%	14.04%	0.02%
Fedex Freight Holding Co Inc	FDX	148.906	140.53	20,925.78	0.04%			6.50%	0.00%
FirstEnergy Corp	FE	578.431	48.31	27,944.01	0.06%	3.85%	0.00%	7.09%	0.00%
F5 Inc	FFIV	57.684	402.57	23,221.85	0.05%			7.50%	0.00%
Fair Isaac Corp	FICO	21.598	1122.97	24,253.50	0.05%			18.41%	0.01%
Fidelity National Information Services Inc	FIS	516.879	44.77	23,140.68	0.05%	3.93%	0.00%	8.50%	0.00%
Fiserv Inc	FISV	533.254	53.94	28,763.72	0.06%			18.00%	0.01%
Fifth Third Bancorp	FITB	906.573	56.5	51,221.37	0.10%	2.83%	0.00%	10.00%	0.01%
Comfort Systems USA Inc	FIX	35.194	1729.69	60,875.28	0.12%	0.21%	0.00%	5.50%	0.01%
Flex Ltd	FLEX	369.403	113.75	42,019.59				28.94%	
Fox Corp	FOX	220.705	51.94	11,463.42	0.02%	1.08%	0.00%	18.34%	0.00%
Fox Corp	FOXA	199.481	58.23	11,615.79	0.02%	0.96%	0.00%	6.17%	0.00%
Federal Realty Investment Trust	FRT	86.889	124.09	10,782.07	0.02%	3.74%	0.00%	6.80%	0.00%
First Solar Inc	FSLR	107.453	211.03	22,675.88	0.05%			2.00%	0.00%
Fortinet Inc	FTNT	733.714	161.95	118,824.93				21.78%	
Fortive Corp	FTV	302.017	59.21	17,882.43	0.04%	0.41%	0.00%	12.50%	0.00%
General Dynamics Corp	GD	270.557	383.42	103,737.04	0.21%	1.66%	0.00%	9.20%	0.02%
GoDaddy Inc	GDDY	126.648	82.74	10,478.83	0.02%			10.00%	0.00%
General Electric Co	GE	1037.563	360.07	373,595.13	0.74%	0.52%	0.00%	11.79%	0.09%
GE HealthCare Technologies Inc	GEHC	451.686	68.02	30,723.70	0.06%	0.21%	0.00%	13.02%	0.01%
Gen Digital Inc	GEN	598.577	27.45	16,430.94	0.03%	1.82%	0.00%	7.50%	0.00%
GE Vernova Inc	GEV	266.334	990.29	263,747.48		0.20%		38.11%	
Gilead Sciences Inc	GILD	1241.570	130.21	161,664.81	0.32%	2.52%	0.01%	6.19%	0.02%
General Mills Inc	GIS	533.708	35.75	19,080.08	0.04%	6.83%	0.00%	6.30%	0.00%
Globe Life Inc	GL	77.645	182.25	14,150.76		0.72%		0.00%	
Corning Inc	GLW	861.388	138.25	119,086.94		0.81%		22.25%	
General Motors Co	GM	877.452	88.86	77,970.34		0.81%		22.47%	
Generac Holdings Inc	GNRC	59.006	197.11	11,630.60	0.02%			9.00%	0.00%
Alphabet Inc	GOOG	5527.000	356.65	1,971,204.55	3.93%	0.25%	0.01%	19.15%	0.75%
Alphabet Inc	GOOGL	5868.000	356.13	2,089,770.84	4.16%	0.25%	0.01%	18.15%	0.76%
Genuine Parts Co	GPC	137.860	124.37	17,145.62		3.42%			
Global Payments Inc	GP	273.544	84.08	22,999.54	0.05%	1.19%	0.00%	2.00%	0.00%
Garmin Ltd	GRMN	192.853	293.78	56,656.22	0.11%	1.43%	0.00%	8.00%	0.01%
Goldman Sachs Group Inc/The	GS	295.007	1018.38	300,429.66	0.60%	1.96%	0.01%	11.51%	0.07%
WW Grainger Inc	GW	47.213	1382.22	65,258.92	0.13%	0.72%	0.00%	11.68%	0.02%
Halliburton Co	HAL	833.130	32.25	26,868.45	0.05%	2.11%	0.00%	5.91%	0.00%
Hasbro Inc	HAS	141.044	93.94	13,249.72	0.03%	2.98%	0.00%	8.19%	0.00%
Huntington Bancshares Inc/OH	HBAN	2020.415	17.04	34,427.87	0.07%	3.64%	0.00%	10.37%	0.01%
HCA Healthcare Inc	HCA	216.502	402.59	87,161.34	0.17%	0.77%	0.00%	8.07%	0.01%
Home Depot Inc/The	HD	997.117	331.96	331,002.85	0.66%	2.81%	0.02%	8.39%	0.06%
Hartford Insurance Group Inc/The	HIG	270.872	141.91	38,439.45	0.08%	1.69%	0.00%	3.94%	0.00%
Huntington Ingalls Industries Inc	HII	39.405	326.45	12,863.63	0.03%	1.69%	0.00%	12.28%	0.00%
Hilton Worldwide Holdings Inc	HLT	225.065	320.49	72,131.05	0.14%	0.19%	0.00%	13.23%	0.02%
Honeywell International Inc	HON	316.940	243.05	77,032.27	0.15%	1.15%	0.00%	17.83%	0.03%
Honeywell Aerospace Inc	HONA	316.940	206.74	65,524.12	0.13%			7.50%	0.01%

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Name	Ticker	Shares Outs'tg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Robinhood Markets Inc	HOOD	790.630	86.56	68,436.95				23.26%	
Hewlett Packard Enterprise Co	HPE	1324.204	47.9	63,429.35	0.13%	1.19%	0.00%	18.74%	0.02%
HP Inc	HPQ	914.523	27.27	24,939.03	0.05%	4.40%	0.00%	3.50%	0.00%
Hormel Foods Corp	HRL	550.315	25.01	13,763.38	0.03%	4.68%	0.00%	5.81%	0.00%
Henry Schein Inc	HSIC	114.425	85.75	9,811.92	0.02%			11.29%	0.00%
Host Hotels & Resorts Inc	HST	684.879	25.13	17,211.02	0.03%	3.18%	0.00%	5.03%	0.00%
Hershey Co/The	HSY	146.312	175.05	25,611.94	0.05%	3.32%	0.00%	13.19%	0.01%
Hubbell Inc	HUBB	52.833	472.55	24,966.03	0.05%	1.20%	0.00%	7.50%	0.00%
Humana Inc	HUM	120.080	363.86	43,692.42	0.09%	0.97%	0.00%	9.20%	0.01%
Howmet Aerospace Inc	HWM	400.107	282.26	112,934.34	0.23%	0.20%	0.00%	18.00%	0.04%
Interactive Brokers Group Inc	IBKR	445.484	87.99	39,198.17	0.08%	0.40%	0.00%	17.09%	0.01%
International Business Machines Corp	IBM	942.134	223.65	210,708.36	0.42%	3.02%	0.01%	7.77%	0.03%
Intercontinental Exchange Inc	ICE	561.394	152.48	85,601.43	0.17%	1.36%	0.00%	7.50%	0.01%
IDEXX Laboratories Inc	IDXX	78.883	559.07	44,101.12	0.09%			12.23%	0.01%
IDEX Corp	IEX	73.720	230.45	16,988.75	0.03%	1.27%	0.00%	4.50%	0.00%
International Flavors & Fragrances Inc	IFF	255.303	79.22	20,225.14	0.04%	2.02%	0.00%	7.24%	0.00%
Incyte Corp	INCY	202.698	119.52	24,226.44	0.05%			16.84%	0.01%
Intel Corp	INTC	5044.000	90.2	454,968.80				56.65%	
Intuit Inc	INTU	273.537	316.07	86,456.84	0.17%	1.52%	0.00%	14.42%	0.02%
Invitation Homes Inc	INVH	590.623	29.72	17,553.32	0.03%	4.04%	0.00%	6.51%	0.00%
International Paper Co	IP	529.517	40.83	21,620.18	0.04%	4.53%	0.00%	9.50%	0.00%
IQVIA Holdings Inc	IQV	164.600	235.02	38,684.29	0.08%			8.14%	0.01%
Ingersoll Rand Inc	IR	387.999	83.38	32,351.39	0.06%	0.10%	0.00%	8.50%	0.01%
Iron Mountain Inc	IRM	297.525	122.32	36,393.22	0.07%	2.83%	0.00%	9.50%	0.01%
Intuitive Surgical Inc	ISRG	353.278	353.33	124,823.73	0.25%			13.48%	0.03%
Gartner Inc	IT	66.952	151.02	10,111.07	0.02%			9.14%	0.00%
Illinois Tool Works Inc	ITW	287.700	286.95	82,555.52	0.16%	2.24%	0.00%	9.09%	0.01%
Invesco Ltd	IVZ	443.297	29.6	13,121.58		2.91%		25.87%	
Jacobs Solutions Inc	J	118.081	134.93	15,932.65	0.03%	1.07%	0.00%	10.64%	0.00%
JB Hunt Transport Services Inc	JBHT	93.915	271.75	25,521.38	0.05%	0.66%	0.00%	17.27%	0.01%
Jabil Inc	JBL	104.787	315.05	33,013.17		0.10%		21.52%	
Johnson Controls International plc	JCI	605.741	146.66	88,838.04	0.18%	1.09%	0.00%	18.01%	0.03%
Jack Henry & Associates Inc	JKHY	71.051	154.04	10,944.66	0.02%	1.58%	0.00%	6.50%	0.00%
Johnson & Johnson	JNJ	2409.899	256.35	617,777.51	1.23%	2.09%	0.03%	7.54%	0.09%
JPMorgan Chase & Co	JPM	2679.511	351.79	942,625.32	1.88%	1.71%	0.03%	9.60%	0.18%
Keurig Dr Pepper Inc	KDP	1360.559	31.12	42,340.61	0.08%	2.96%	0.00%	10.22%	0.01%
KeyCorp	KEY	1072.035	22.59	24,217.27	0.05%	3.63%	0.00%	12.07%	0.01%
Keysight Technologies Inc	KEYS	170.895	319.08	54,529.29	0.11%			13.72%	0.01%
Kraft Heinz Co/The	KHC	1185.778	25.85	30,652.35		6.19%		-0.33%	
Kimco Realty Corp	KIM	674.403	25.48	17,183.79	0.03%	4.08%	0.00%	10.59%	0.00%
KKR & Co Inc	KKR	897.873	101.43	91,071.25	0.18%	0.77%	0.00%	7.00%	0.01%
KLA Corp	KLAC	1306.275	182.82	238,813.23	0.48%	0.50%	0.00%	18.31%	0.09%
Kimberly-Clark Corp	KMB	331.940	109.31	36,284.40	0.07%	4.68%	0.00%	4.99%	0.00%
Kinder Morgan Inc	KMI	2226.802	31.8825	70,996.02	0.14%	3.73%	0.01%	8.03%	0.01%
Coca-Cola Co/The	KO	4302.549	87.59	376,860.29	0.75%	2.42%	0.02%	7.84%	0.06%
Kroger Co/The	KR	612.647	57.74	35,374.25	0.07%	2.70%	0.00%	6.29%	0.00%
Kenvue Inc	KVUE	1920.009	19.24	36,940.97	0.07%	4.37%	0.00%	14.81%	0.01%
Loews Corp	L	205.769	116.01	23,871.25	0.05%	0.22%	0.00%	14.00%	0.01%
Leidos Holdings Inc	LDOS	125.785	115.6	14,540.80	0.03%	1.49%	0.00%	7.28%	0.00%
Lennar Corp	LEN	210.506	82.35	17,335.17		2.43%		-1.73%	
Labcorp Holdings Inc	LH	80.900	309.2	25,014.28	0.05%	0.93%	0.00%	9.02%	0.00%
L3Harris Technologies Inc	LHX	186.215	277.06	51,592.62	0.10%	1.80%	0.00%	14.86%	0.02%
Lennox International Inc	LII	34.561	415.88	14,373.10	0.03%	1.31%	0.00%	11.00%	0.00%
Linde PLC	LIN	460.980	478.38	220,523.69	0.44%	1.34%	0.01%	7.86%	0.03%
Lumentum Holdings Inc	LITE	77.800	713.94	55,544.53				138.65%	
Eli Lilly & Co	LLY	941.741	1148.84	1,081,910.20		0.60%		26.00%	
Lockheed Martin Corp	LMT	230.791	582.74	134,491.00	0.27%	2.37%	0.01%	16.57%	0.04%
Alliant Energy Corp	LNT	259.285	70.78	18,352.17	0.04%	3.02%	0.00%	6.73%	0.00%
Lowe's Cos Inc	LOW	560.707	207.81	116,520.53	0.23%	2.41%	0.01%	4.60%	0.01%
Lam Research Corp	LRCX	1250.571	293.02	366,442.31		0.35%		22.85%	
Lululemon Athletica Inc	LULU	108.438	118.87	12,890.02	0.03%			0.18%	0.00%
Southwest Airlines Co	LUV	489.208	44.97	21,999.69		1.60%		53.00%	
Las Vegas Sands Corp	LVS	647.701	48.89	31,666.11	0.06%	2.45%	0.00%	19.97%	0.01%
LyondellBasell Industries NV	LYB	323.038	62.08	20,054.20		4.45%		25.69%	
Live Nation Entertainment Inc	LYV	235.634	174.13	41,030.92				80.36%	
Mastercard Inc	MA	869.464	573.1	498,289.89	0.99%	0.61%	0.01%	14.29%	0.14%
Mid-America Apartment Communities Inc	MAA	116.022	132.34	15,354.35	0.03%	4.62%	0.00%	1.04%	0.00%
Marriott International Inc/MD	MAR	263.689	372.83	98,311.03	0.20%	0.78%	0.00%	11.10%	0.02%
Masco Corp	MAS	197.187	71.48	14,094.96	0.03%	1.79%	0.00%	8.38%	0.00%
McDonald's Corp	MCD	710.506	270.64	192,291.31	0.38%	2.75%	0.01%	7.72%	0.03%
Microchip Technology Inc	MCHP	543.008	74.29	40,340.09		2.45%		20.66%	
McKesson Corp	MCK	117.078	856.19	100,240.80	0.20%	0.44%	0.00%	12.12%	0.02%
Moody's Corp	MCO	173.200	478.38	82,855.42	0.17%	0.86%	0.00%	11.04%	0.02%
Mondelez International Inc	MDLZ	1283.652	62.31	79,984.38	0.16%	3.21%	0.01%	7.36%	0.01%
Medtronic PLC	MDT	1280.045	85.39	109,303.06	0.22%	3.37%	0.01%	6.69%	0.01%
MetLife Inc	MET	643.437	96.13	61,853.58	0.12%	2.47%	0.00%	10.36%	0.01%
Meta Platforms Inc	META	2205.129	556.71	1,227,617.09	2.45%	0.38%	0.01%	17.57%	0.43%
MGM Resorts International	MGM	251.593	44.57	11,213.49				35.34%	
McCormick & Co Inc/MD	MKC	254.055	50.9	12,931.41	0.03%	3.77%	0.00%	5.64%	0.00%
Martin Marietta Materials Inc	MLM	60.066	525.14	31,542.98	0.06%	0.63%	0.00%	12.22%	0.01%
3M Co	MMM	515.722	176.28	90,911.55		1.77%		31.03%	
Monster Beverage Corp	MNST	978.008	96.38	94,260.42	0.19%			10.65%	0.02%

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Name	Ticker	Shares Outs'tg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Altria Group Inc	MO	1669.744	68.33	114,093.60	0.23%	6.21%	0.01%	5.04%	0.01%
Mosaic Co/The	MOS	317.847	22.12	7,030.77	0.01%	3.98%	0.00%	2.28%	0.00%
Marathon Petroleum Corp	MP	291.937	316.47	92,389.19	0.18%	1.26%	0.00%	18.26%	0.03%
Monolithic Power Systems Inc	MPWR	49.142	1426.03	70,077.97	0.14%	0.56%	0.00%	15.00%	0.02%
Merck & Co Inc	MRK	2469.824	130.2	321,571.14	0.64%	2.61%	0.02%	10.85%	0.07%
Moderna Inc	MRNA	399.236	54.82	21,886.11				32.03%	
Marsh & McLennan Cos Inc	MRSH	477.211	189.69	90,522.21	0.18%	2.09%	0.00%	7.81%	0.01%
Marvell Technology Inc	MRVL	874.800	187.56	164,077.49		0.13%		32.78%	
Morgan Stanley	MS	1572.000	210.42	330,780.24	0.66%	2.19%	0.01%	9.82%	0.06%
MSCI Inc	MSCI	72.700	572.24	41,601.85	0.08%	1.43%	0.00%	13.11%	0.01%
Microsoft Corp	MSFT	7425.545	464.72	3,450,799.50	6.88%	0.78%	0.05%	12.47%	0.86%
Motorola Solutions Inc	MSI	165.996	435.75	72,332.57	0.14%	1.11%	0.00%	7.97%	0.01%
M&T Bank Corp	MTB	144.933	246.29	35,695.55	0.07%	2.44%	0.00%	9.17%	0.01%
Mettler-Toledo International Inc	MTD	20.037	1416.3	28,377.78	0.06%			10.54%	0.01%
Micron Technology Inc	MU	1129.393	823.03	929,524.44		0.07%		88.68%	
Norwegian Cruise Line Holdings Ltd	NCLH	459.159	18.53	8,508.21	0.02%			3.79%	0.00%
Nasdaq Inc	NDAQ	558.977	94.19	52,650.08	0.10%	1.32%	0.00%	13.96%	0.01%
Nordson Corp	NDSN	55.718	297.78	16,591.69	0.03%	1.10%	0.00%	8.50%	0.00%
NextEra Energy Inc	NEE	2085.978	86.92	181,313.23	0.36%	2.87%	0.01%	15.98%	0.06%
Newmont Corp	NEM	1053.692	93.71	98,741.50	0.20%	1.11%	0.00%	15.74%	0.03%
Netflix Inc	NFLX	4163.940	71.71	298,596.11	0.59%			16.31%	0.10%
NiSource Inc	NI	479.439	44.43	21,301.49	0.04%	2.70%	0.00%	5.23%	0.00%
NIKE Inc	NKE	1202.111	41.71	50,140.05	0.10%	3.93%	0.00%	6.92%	0.01%
Northrop Grumman Corp	NOC	142.063	542.48	77,066.35	0.15%	1.82%	0.00%	12.10%	0.02%
ServiceNow Inc	NOW	1034.000	111.23	115,011.82	0.23%			20.00%	0.05%
NRG Energy Inc	NRG	210.986	133.815	28,233.15	0.06%	1.42%	0.00%	8.50%	0.00%
Norfolk Southern Corp	NSC	224.608	335.48	75,351.62	0.15%	1.61%	0.00%	9.00%	0.01%
NetApp Inc	NTAP	196.234	178.5	35,027.82	0.07%	1.17%	0.00%	7.39%	0.01%
Northern Trust Corp	NTRS	182.956	182.19	33,332.69	0.07%	1.93%	0.00%	12.42%	0.01%
Nucor Corp	NUE	227.741	257.29	58,595.47		0.87%		27.02%	
NVIDIA Corp	NVDA	24200.000	200.75	4,858,150.00		0.50%		30.14%	
NVR Inc	NVR	2.699	6147.05	16,592.67	0.03%			1.63%	0.00%
News Corp	NWS	184.340	31.27	5,764.32	0.01%	0.64%	0.00%	19.50%	0.00%
News Corp	NWSA	364.895	27.56	10,056.50	0.02%	0.73%	0.00%	8.00%	0.00%
NXP Semiconductors NV	NXPI	252.471	229.16	57,856.27	0.12%	1.77%	0.00%	13.21%	0.02%
Realty Income Corp	O	932.493	63.87	59,558.30	0.12%	5.09%	0.01%	5.44%	0.01%
Old Dominion Freight Line Inc	ODFL	207.968	212.14	44,118.39	0.09%	0.55%	0.00%	14.24%	0.01%
ONEOK Inc	OKE	630.033	89.74	56,539.15	0.11%	4.77%	0.01%	7.14%	0.01%
Omnicon Group Inc	OMC	274.346	78.7	21,591.03	0.04%	4.07%	0.00%	8.28%	0.00%
ON Semiconductor Corp	ON	391.903	81.61	31,983.22				25.19%	
Oracle Corp	ORCL	2880.471	129.87	374,086.77	0.75%	1.54%	0.01%	18.04%	0.13%
O'Reilly Automotive Inc	ORLY	816.166	89.35	72,924.42	0.15%			10.02%	0.01%
Otis Worldwide Corp	OTIS	380.669	71.95	27,389.16		2.45%			
Occidental Petroleum Corp	OXY	994.635	57.07	56,763.80		1.82%		31.50%	
Palo Alto Networks Inc	PANW	815.000	331.83	270,441.45	0.54%			9.66%	0.05%
Paychex Inc	PAYX	355.683	116.84	41,557.99		4.07%		-1.00%	
PACCAR Inc	PCAR	526.365	132.68	69,838.10	0.14%	1.06%	0.00%	15.28%	0.02%
PG&E Corp	PCG	2202.367	17.38	38,277.14	0.08%	1.15%	0.00%	8.31%	0.01%
Public Service Enterprise Group Inc	PEG	498.321	76.68	38,211.28	0.08%	3.50%	0.00%	6.26%	0.00%
PepsiCo Inc	PEP	1364.892	139.56	190,484.27	0.38%	4.24%	0.02%	7.24%	0.03%
Pfizer Inc	PFE	5699.444	25.01	142,543.10		6.88%		-2.11%	
Principal Financial Group Inc	PGF	214.105	113.7	24,343.70	0.05%	2.96%	0.00%	8.00%	0.00%
Procter & Gamble Co/The	PG	2328.599	144.49	336,459.27	0.67%	3.01%	0.02%	9.56%	0.06%
Progressive Corp/The	PGR	583.500	211.42	123,363.57	0.25%	0.19%	0.00%	6.23%	0.02%
Parker-Hannifin Corp	PH	126.086	976.53	123,127.14	0.25%	0.82%	0.00%	7.00%	0.02%
PulteGroup Inc	PHM	187.453	126.47	23,707.12	0.05%	0.82%	0.00%	5.74%	0.00%
Packaging Corp of America	PKG	89.099	245.84	21,904.01	0.04%	2.44%	0.00%	6.14%	0.00%
Prologis Inc	PLD	932.231	144.61	134,809.88		2.96%			
Palantir Technologies Inc	PLTR	2296.071	123.06	282,554.54				28.37%	
Philip Morris International Inc	PM	1558.613	190.82	297,414.62	0.59%	3.08%	0.02%	10.00%	0.06%
PNC Financial Services Group Inc/The	PNC	401.565	249.87	100,338.95	0.20%	3.20%	0.01%	14.03%	0.03%
Pentair PLC	PNR	159.638	65.44	10,446.71	0.02%	1.65%	0.00%	5.45%	0.00%
Pinnacle West Capital Corp	PNW	121.187	100.08	12,128.41	0.02%	3.64%	0.00%	18.76%	0.00%
Insulet Corp	PODD	69.265	165.35	11,452.91	0.02%			13.92%	0.00%
PPG Industries Inc	PPG	222.300	110.52	24,568.60	0.05%	2.68%	0.00%	6.32%	0.00%
PPL Corp	PPL	752.350	35.21	26,490.26	0.05%	3.24%	0.00%	7.81%	0.00%
Prudential Financial Inc	PRU	347.000	122.08	42,361.76	0.08%	4.59%	0.00%	5.59%	0.00%
Public Storage	PSA	186.746	324.17	60,537.37	0.12%	3.70%	0.00%	4.91%	0.01%
Paramount Skydance Corp	PSKY	1087.673	7.96	8,657.88	0.02%	2.51%	0.00%	19.03%	0.00%
Phillips 66	PSX	400.935	211.68	84,869.93		2.40%		30.00%	
PTC Inc	PTC	108.506	137.2	14,887.06	0.03%			9.22%	0.00%
Quanta Services Inc	PWR	150.343	667.36	100,333.16		0.07%		21.34%	
PayPal Holdings Inc	PYPL	855.461	57.21	48,940.92	0.10%	0.98%	0.00%	7.41%	0.01%
Qnity Electronics Inc	Q	209.339	131.18	27,461.12		0.24%			
QUALCOMM Inc	QCOM	1050.000	147.61	154,990.50	0.31%	2.49%	0.01%	3.23%	0.01%
Royal Caribbean Cruises Ltd	RCL	268.193	318.3	85,365.78	0.17%	1.89%	0.00%	14.35%	0.02%
Regency Centers Corp	REG	183.097	80.29	14,700.84	0.03%	3.76%	0.00%	5.68%	0.00%
Regeneron Pharmaceuticals Inc	REGN	101.138	762.63	77,130.75	0.15%	0.49%	0.00%	11.79%	0.02%
Regions Financial Corp	RF	853.380	30.95	26,412.10	0.05%	3.88%	0.00%	9.15%	0.00%
Raymond James Financial Inc	RJF	192.100	175.98	33,805.76	0.07%	1.23%	0.00%	14.82%	0.01%
Ralph Lauren Corp	RL	37.635	380.34	14,314.12	0.03%	1.05%	0.00%	12.95%	0.00%
ResMed Inc	RMD	145.056	210.98	30,604.00	0.06%	1.14%	0.00%	9.67%	0.01%

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Name	Ticker	Shares Outs'tg	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
Rockwell Automation Inc	ROK	111.274	480.08	53,420.40	0.11%	1.15%	0.00%	13.18%	0.01%
Rollins Inc	ROL	481.145	37.97	18,269.09	0.04%	1.92%	0.00%	8.11%	0.00%
Roper Technologies Inc	ROP	98.901	391.97	38,766.17	0.08%	0.93%	0.00%	8.00%	0.01%
Ross Stores Inc	ROST	320.781	251.07	80,538.51	0.16%	0.71%	0.00%	10.41%	0.02%
Republic Services Inc	RSG	307.664	210.55	64,778.67	0.13%	1.27%	0.00%	8.48%	0.01%
RTX Corp	RTX	1347.758	215.22	290,064.51	0.58%	1.36%	0.01%	12.10%	0.07%
Revvity Inc	RVTY	111.560	112.52	12,552.71	0.03%	0.25%	0.00%	7.34%	0.00%
SBA Communications Corp	SBAC	106.063	180.98	19,195.29		2.76%		-0.99%	
Starbucks Corp	SBUX	1140.000	105.25	119,985.00	0.24%	2.36%	0.01%	18.45%	0.04%
Charles Schwab Corp/The	SCHW	1739.136	105.24	183,026.62	0.36%	1.22%	0.00%	9.93%	0.04%
Sherwin-Williams Co/The	SHW	242.758	340.85	82,744.12	0.16%	0.94%	0.00%	12.58%	0.02%
J M Smucker Co/The	SJM	106.881	119.26	12,746.59	0.03%	3.76%	0.00%	8.80%	0.00%
SLB Ltd	SLB	1484.143	49.59	73,598.66	0.15%	2.38%	0.00%	6.28%	0.01%
Super Micro Computer Inc	SMCI	646.832	28.4	18,370.04	0.04%			18.20%	0.01%
Snap-on Inc	SNA	51.727	410.41	21,229.33		2.38%		26.00%	
Sandisk Corp	SNDK	148.090	1214.83	179,903.88				171.39%	
Synopsys Inc	SNPS	191.479	388.76	74,439.50	0.15%			15.36%	0.02%
Southern Co/The	SO	1128.320	94.54	106,671.36	0.21%	3.22%	0.01%	10.34%	0.02%
Solventum Corp	SOLV	173.175	85.44	14,796.05	0.03%			8.43%	0.00%
Simon Property Group Inc	SPG	324.282	229.37	74,380.54	0.15%	3.92%	0.01%	5.86%	0.01%
S&P Global Inc	SPGI	294.800	411.93	121,436.96	0.24%	0.94%	0.00%	8.41%	0.02%
Sempra	SRE	653.690	88.55	57,884.25	0.12%	2.97%	0.00%	8.38%	0.01%
STERIS PLC	STE	97.458	228.4	22,259.33	0.04%	1.21%	0.00%	7.00%	0.00%
Steel Dynamics Inc	STLD	143.328	251.26	36,012.62	0.07%	0.84%	0.00%	19.43%	0.01%
State Street Corp	STT	274.702	184.16	50,589.08	0.10%	2.00%	0.00%	9.09%	0.01%
Seagate Technology Holdings PLC	STX	224.229	856.13	191,969.17		0.35%		39.13%	
Constellation Brands Inc	STZ	170.753	130.23	22,237.10		3.16%		20.07%	
Smurfit Westrock PLC	SW	524.523	45.97	24,112.32		3.94%		23.52%	
Stanley Black & Decker Inc	SWK	151.017	94.58	14,283.15		3.55%			
Skyworks Solutions Inc	SWKS	150.473	62.28	9,371.44	0.02%	4.56%	0.00%	9.32%	0.00%
Synchrony Financial	SYF	325.371	75.79	24,659.86	0.05%	1.79%	0.00%	7.69%	0.00%
Stryker Corp	SYK	383.573	325.7	124,929.74	0.25%	1.08%	0.00%	9.25%	0.02%
Sysco Corp	SYYS	478.183	85.24	40,760.29	0.08%	2.58%	0.00%	10.50%	0.01%
AT&T Inc	T	6852.386	23.25	159,317.97	0.32%	4.77%	0.02%	9.20%	0.03%
Molson Coors Beverage Co	TAP	175.215	41.56	7,281.95	0.01%	4.62%	0.00%	0.07%	0.00%
TransDigm Group Inc	TDG	55.934	1254.38	70,161.96	0.14%			10.78%	0.02%
Teledyne Technologies Inc	TDY	46.356	655.57	30,389.39	0.06%			11.91%	0.01%
Bio-Techne Corp	TECH	156.569	72.09	11,287.04	0.02%	0.44%	0.00%	10.00%	0.00%
TE Connectivity PLC	TEL	289.513	205.69	59,549.98	0.12%	1.52%	0.00%	15.76%	0.02%
Teradyne Inc	TER	156.341	367.69	57,484.93		0.14%		31.44%	
Truist Financial Corp	TFC	1221.626	51.84	63,329.10	0.13%	4.01%	0.01%	18.20%	0.02%
Target Corp	TGT	454.191	144.49	65,626.07	0.13%	3.21%	0.00%	7.32%	0.01%
TJX Cos Inc/The	TJX	1104.704	157.34	173,814.20	0.35%	1.22%	0.00%	7.40%	0.03%
TKO Group Holdings Inc	TKO	74.968	181.81	13,629.87	0.03%	1.74%	0.00%	12.50%	0.00%
Thermo Fisher Scientific Inc	TMO	369.747	574.3	212,345.87	0.42%	0.33%	0.00%	9.91%	0.04%
T-Mobile US Inc	TMUS	1072.678	172.71	185,262.23	0.37%	2.36%	0.01%	9.00%	0.03%
Texas Pacific Land Corp	TPL	68.974	402.58	27,767.73	0.06%	0.60%	0.00%	16.50%	0.01%
Tapestry Inc	TPR	202.045	152.37	30,785.55	0.06%	1.05%	0.00%	13.18%	0.01%
Targa Resources Corp	TRGP	214.644	270.37	58,033.27	0.12%	1.85%	0.00%	16.09%	0.02%
Trimble Inc	TRMB	233.112	56.58	13,189.45	0.03%			18.50%	0.00%
T Rowe Price Group Inc	TROW	213.316	111.75	23,838.05	0.05%	4.65%	0.00%	6.01%	0.00%
Travelers Cos Inc/The	TRV	208.575	374.36	78,082.14	0.16%	1.34%	0.00%	3.70%	0.01%
Tractor Supply Co	TSCO	524.450	30.77	16,137.31	0.03%	3.12%	0.00%	5.80%	0.00%
Tesla Inc	TSLA	3949.547	311.21	1,229,138.64	2.45%			10.00%	0.24%
Tyson Foods Inc	TSN	282.120	57.96	16,351.70	0.03%	3.52%	0.00%	11.41%	0.00%
Trane Technologies PLC	TT	220.023	454.95	100,099.55	0.20%	0.92%	0.00%	15.08%	0.03%
Trade Desk Inc/The	TTD	427.000	18.04	7,703.08	0.02%			11.90%	0.00%
Take-Two Interactive Software Inc	TTWO	186.980	242.92	45,421.29				21.00%	
Texas Instruments Inc	TXN	913.248	275.74	251,818.92		2.06%		30.28%	
Textron Inc	TXT	171.987	85.26	14,663.60	0.03%	0.09%	0.00%	7.55%	0.00%
Tyler Technologies Inc	TYL	40.952	309.6	12,678.82	0.03%			13.50%	0.00%
United Airlines Holdings Inc	UAL	324.649	121.33	39,389.71	0.08%			9.00%	0.01%
Uber Technologies Inc	UBER	2035.599	70.36	143,224.75	0.29%			7.33%	0.02%
UDR Inc	UDR	321.264	38.16	12,259.44	0.02%	4.56%	0.00%	1.17%	0.00%
Universal Health Services Inc	UHS	53.288	168.44	8,975.77	0.02%	0.47%	0.00%	5.00%	0.00%
Ultra Beauty Inc	ULTA	42.989	512.83	22,046.21	0.04%			11.74%	0.01%
UnitedHealth Group Inc	UNH	908.144	414.4	376,335.04	0.75%	2.24%	0.02%	12.11%	0.09%
Union Pacific Corp	UNP	594.080	292.13	173,548.66	0.35%	1.94%	0.01%	4.91%	0.02%
United Parcel Service Inc	UPS	746.582	104.22	77,808.76	0.16%	6.29%	0.01%	9.31%	0.01%
United Rentals Inc	URI	62.242	1079.26	67,175.83	0.13%	0.73%	0.00%	11.98%	0.02%
US Bancorp	USB	1557.732	63.01	98,152.68	0.20%	3.30%	0.01%	10.66%	0.02%
Visa Inc	V	1704.113	366.13	623,926.78	1.24%	0.73%	0.01%	11.53%	0.14%
Veeva Systems Inc	VEEV	162.443	203.78	33,102.69	0.07%			10.50%	0.01%
VICI Properties Inc	VICI	1101.078	26.35	29,013.39	0.06%	6.83%	0.00%	6.53%	0.00%
Valero Energy Corp	VLO	287.927	312.9	90,092.50		1.53%		22.63%	
Veralto Corp	VLTO	243.793	94.17	22,958.02	0.05%	0.55%	0.00%	4.00%	0.00%
Vulcan Materials Co	VMC	129.579	268.57	34,800.96	0.07%	0.77%	0.00%	12.30%	0.01%
Verisk Analytics Inc	VRSK	130.156	194.85	25,360.90	0.05%	1.03%	0.00%	9.03%	0.00%
VeriSign Inc	VRSN	90.300	290.02	26,188.81	0.05%	1.12%	0.00%	6.50%	0.00%
Vertiv Holdings Co	VRT	384.988	241.57	93,001.59		0.10%		20.79%	
Vertex Pharmaceuticals Inc	VRTX	253.814	477.1	121,094.44				21.53%	
Vistra Corp	VST	337.182	148.19	49,967.07		0.62%		53.85%	
Ventas Inc	VTR	512.946	93.51	47,965.61		2.22%		22.00%	
Viatris Inc	VTRS	1164.553	17.56	20,449.54	0.04%	2.73%	0.00%	13.46%	0.01%
Verizon Communications Inc	VZ	4154.775	46.81	194,485.03	0.39%	6.05%	0.02%	3.68%	0.01%
Westinghouse Air Brake Technologies Corp	WAB	168.911	290.86	49,129.41	0.10%	0.43%	0.00%	8.05%	0.01%
Waters Corp	WAT	98.186	377.31	37,046.51	0.07%			13.06%	0.01%
Warner Bros Discovery Inc	WBD	2507.137	26.3	65,937.70	0.13%			9.50%	0.01%
Workday Inc	WDAY	201.000	160.34	32,228.34					
Western Digital Corp	WDC	365.972	544.84	199,396.22		0.11%		86.63%	
WEC Energy Group Inc	WEC	325.726	109.42	35,640.90	0.07%	3.48%	0.00%	8.04%	0.01%
Welltower Inc	WELL	720.745	234.44	168,971.45	0.34%	1.45%	0.00%	12.86%	0.04%
Wells Fargo & Co	WFC	3023.999	86.45	261,424.74	0.52%	2.31%	0.01%	19.35%	0.10%
Waste Management Inc	WM	401.576	226.55	90,976.99	0.18%	1.67%	0.00%	10.08%	0.02%
Williams Cos Inc/The	WMB	1222.857	71.54	87,483.19	0.17%	2.94%	0.01%	16.44%	0.03%
Walmart Inc	WMT	7958.079	111.2	884,938.40	1.76%	0.89%	0.02%	9.59%	0.17%

		[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Name	Ticker	Shares Outst'g	Price	Market Capitalization	Weight in Index	Estimated Dividend Yield	Cap-Weighted Dividend Yield	Long-Term Growth Est.	Cap-Weighted Long-Term Growth Est.
W R Berkley Corp	WRB	371.228	72.54	26,928.85	0.05%	0.55%	0.00%	7.02%	0.00%
Williams-Sonoma Inc	WSM	117.747	228.66	26,923.94	0.05%	1.33%	0.00%	10.33%	0.01%
West Pharmaceutical Services Inc	WST	70.376	340.96	23,995.32	0.05%	0.26%	0.00%	10.11%	0.00%
Willis Towers Watson PLC	WTW	92.872	335.92	31,197.54	0.06%	1.14%	0.00%	11.30%	0.01%
Weyerhaeuser Co	WY	720.736	25.03	18,040.02		3.36%		35.37%	
Wynn Resorts Ltd	WYNN	103.787	99.31	10,307.06	0.02%	1.01%	0.00%	10.55%	0.00%
Xcel Energy Inc	XEL	624.634	78.2	48,846.40	0.10%	3.03%	0.00%	18.18%	0.02%
ExxonMobil Holdings Corp	XOM	4144.456	155.44	644,214.17	1.28%	2.65%	0.03%	14.71%	0.19%
Xylem Inc/NY	XYL	233.487	116.97	27,310.95	0.05%	1.47%	0.00%	2.50%	0.00%
Block Inc	XYZ	535.195	81.24	43,479.24	0.09%			8.50%	0.01%
Yum! Brands Inc	YUM	275.621	153.28	42,247.22	0.08%	1.96%	0.00%	11.35%	0.01%
Zimmer Biomet Holdings Inc	ZBH	193.462	93.93	18,171.93	0.04%	1.02%	0.00%	5.54%	0.00%
Zebra Technologies Corp	ZBRA	47.633	293.82	13,995.64	0.03%			6.50%	0.00%
Zoetis Inc	ZTS	419.228	77.29	32,402.14	0.06%	2.74%	0.00%	8.83%	0.01%

Notes:

[1] Equals sum of Col. [9]

[2] Equals sum of Col. [11]

[3] Equals $([1] \times (1 + (0.5 \times [2]))) + [2]$

[4] Bloomberg Professional as of July 31, 2026

[5] Bloomberg Professional as of July 31, 2026

[6] Equals [4] x [5]

[7] Equals weight in S&P 500 based on market capitalization [6] if Growth Rate >0% and ≤20%

[8] Bloomberg Professional, as of July 31, 2026

[9] Equals [7] x [8]

[10] Bloomberg Professional and Value Line, as of July 31, 2026

[11] Equals [7] x [10]

Retention Ratio
Rothschild Combination Proxy Group

Company	Ticker	[1]	[2]
		All Div'ds to Net Prof (2029-31)	Retention Ratio (2029-31)
Atmos Energy Corporation	ATO	46.00%	54.00%
Chesapeake Utilities Corporation	CPK	38.00%	62.00%
NiSource Inc.	NI	50.00%	50.00%
Northwest Natural Gas Company	NWN	62.00%	38.00%
ONE Gas, Inc.	OGS	47.00%	53.00%
Southwest Gas Corporation	SWX	43.00%	57.00%
Spire Inc.	SR	60.00%	40.00%
American States Water Company	AWR	63.00%	37.00%
California Water Service Group	CWT	50.00%	50.00%
Middlesex Water Company	MSEX	49.00%	51.00%
H2O America (SJW Group)	HTO	51.00%	49.00%
Mean		50.82%	49.18%

Notes:

[1] Value Line reports dated April 3, 2026, and May 22, 2026.

[2] Equals 1 - [1]

Mr. Rothschild's Option-Implied Growth Rates - Combination Proxy Group
March 31, 2026 through June 30, 2026

Company	Ticker	2026/03/31	2026/04/07	2026/04/14	2026/04/21	2026/04/28	2026/05/05	2026/05/12	2026/05/19	2026/05/26	2026/06/02	2026/06/09	2026/06/16	2026/06/23	2026/06/30
American States Water Company	AWR	2.41%	2.73%	3.03%	4.12%	1.43%	2.06%	2.47%	2.19%	2.35%	3.87%	2.31%	2.08%	2.09%	3.57%
California Water Service Group	CWT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.26%	NA
Middlesex Water Company	MSEX	8.80%	NA	NA	NA	NA	3.37%	NA	NA	NA	NA	NA	NA	3.26%	4.19%
Atmos Energy Corp	ATO	2.88%	2.43%	2.97%	3.61%	2.95%	2.73%	3.11%	3.50%	2.13%	2.92%	3.36%	1.92%	2.29%	2.03%
NISource Inc.	NI	4.17%	4.35%	5.65%	5.25%	5.87%	5.39%	7.06%	4.25%	7.88%	6.12%	7.22%	6.94%	5.93%	7.54%
Chesapeake Utilities Corporation	CPK	2.01%	1.69%	1.95%	2.23%	1.70%	1.36%	1.31%	1.84%	2.01%	1.99%	1.30%	1.92%	1.76%	2.09%
Northwest Natural Holding Co.	NWN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ONE Gas Inc.	OGS	4.66%	5.29%	5.04%	5.52%	5.43%	6.61%	5.68%	5.18%	NA	3.55%	NA	NA	6.22%	6.79%
Spire Inc.	SR	1.86%	2.27%	NA	0.91%	1.63%	2.31%	NA	NA	5.29%	NA	4.49%	NA	4.25%	3.65%
Southwest Gas Corporation	SWX	NA	NA	NA	1.21%	1.19%	NA	NA	NA	NA	NA	NA	NA	NA	NA
H2O America	HTO	NA	NA	NA	NA	NA	NA	4.35%	NA	NA	NA	NA	NA	NA	NA
Minimum		1.86%	1.69%	1.95%	0.91%	1.19%	1.36%	1.31%	1.84%	2.01%	1.99%	1.30%	1.92%	1.76%	2.03%
Maximum		8.80%	5.29%	5.65%	5.52%	5.87%	6.61%	7.06%	5.18%	7.88%	6.12%	7.22%	6.94%	7.26%	7.54%
Mean		3.83%	3.13%	3.73%	3.26%	2.88%	3.40%	4.00%	3.40%	3.94%	3.69%	3.74%	3.22%	4.13%	4.27%
# of Companies in Proxy Group	11														
# of Companies Incl. in Avg.		7	6	5	7	7	7	6	5	5	5	5	4	8	7
# of Companies missing		4	5	6	4	4	4	5	6	6	6	6	7	3	4

Notes:

[1] Weeks designated with N/A indicate there was insufficient data to determine an option-implied growth rate.

[2] Source: Rothschild Workpapers: 2026.06 - Bulkey PG Betas - SELECT.xlsx; 2023-04-04-2026-06-30 - RFC Gas Proxy Group OptIVA Results - D.xlsx; and 2023-04-04-2026-06-30 - RFC Water Proxy Group OptIVA Results - D.xlsx

Mr. Rothschild's Option-Implied Growth Rates - Water Proxy Group
March 31, 2026 through June 30, 2026

Company	Ticker	2026/03/31	2026/04/07	2026/04/14	2026/04/21	2026/04/28	2026/05/05	2026/05/12	2026/05/19	2026/05/26	2026/06/02	2026/06/09	2026/06/16	2026/06/23	2026/06/30
American States Water Company	AWR	2.41%	2.73%	3.03%	4.12%	1.43%	2.06%	2.47%	2.19%	2.35%	3.87%	2.31%	2.08%	2.09%	3.57%
California Water Service Group	CWT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.26%	NA
Middlesex Water Company	MSEX	8.80%	NA	NA	NA	NA	3.37%	NA	NA	NA	NA	NA	NA	3.26%	4.19%
H2O America	HTO	NA	NA	NA	NA	NA	NA	4.35%	NA	NA	NA	NA	NA	NA	NA
Minimum		2.41%	2.73%	3.03%	4.12%	1.43%	2.06%	2.47%	2.19%	2.35%	3.87%	2.31%	2.08%	2.09%	3.57%
Maximum		8.80%	2.73%	3.03%	4.12%	1.43%	3.37%	4.35%	2.19%	2.35%	3.87%	2.31%	2.08%	7.26%	4.19%
Mean		5.60%	2.73%	3.03%	4.12%	1.43%	2.72%	3.41%	2.19%	2.35%	3.87%	2.31%	2.08%	4.20%	3.88%
# of Companies in Proxy Group	4														
# of Companies Incl. in Avg.		2	1	1	1	1	2	2	1	1	1	1	1	3	2
# of Companies missing		2	3	3	3	3	2	2	3	3	3	3	3	1	2

Notes:

[1] Weeks designated with N/A indicate there was insufficient data to determine an option-implied growth rate.

[2] Source: Rothschild Workpapers: 2026.06 - Bulkley PG Betas - SELECT.xlsx and 2023-04-04-2026-06-30 - RFC Water Proxy Group OptIVA Results - D.xlsx

Mr. Rothschild's Option-Implied Beta - Combination Proxy Group
March 31, 2026 through June 30, 2026

Company	Ticker	2026/03/31	2026/04/07	2026/04/14	2026/04/21	2026/04/28	2026/05/05	2026/05/12	2026/05/19	2026/05/26	2026/06/02	2026/06/09	2026/06/16	2026/06/23	2026/06/30
American States Water Company	AWR	0.40	0.47	0.49	0.60	0.39	0.43	0.48	0.45	0.47	0.62	0.49	0.45	0.45	0.57
California Water Service Group	CWT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96	NA
Middlesex Water Company	MSEX	0.95	NA	NA	NA	NA	0.67	NA	NA	NA	NA	NA	NA	0.70	0.74
Atmos Energy Corp	ATO	0.39	0.39	0.46	0.52	0.49	0.47	0.48	0.52	0.43	0.51	0.54	0.41	0.44	0.41
NSource Inc.	NI	0.55	0.61	0.73	0.70	0.76	0.73	0.89	0.64	0.97	0.85	0.96	0.90	0.79	0.94
Chesapeake Utilities Corporation	CPK	0.37	0.37	0.41	0.45	0.40	0.37	0.38	0.42	0.44	0.45	0.37	0.42	0.42	0.45
Northwest Natural Holding Co.	NWN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ONE Gas Inc.	OGS	0.53	0.60	0.64	0.69	0.68	0.80	0.73	0.69	NA	0.61	NA	NA	0.80	0.86
Spire Inc.	SR	0.35	0.40	NA	0.34	0.40	0.45	NA	NA	0.54	NA	0.74	NA	0.67	0.61
Southwest Gas Corporation	SWX	NA	NA	NA	0.35	0.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
H2O America	HTO	NA	NA	NA	NA	NA	0.72	NA	NA	NA	NA	NA	NA	NA	NA
Minimum		0.35	0.37	0.41	0.34	0.35	0.37	0.38	0.42	0.43	0.45	0.37	0.41	0.42	0.41
Maximum		0.95	0.61	0.73	0.70	0.76	0.80	0.89	0.69	0.97	0.85	0.96	0.90	0.96	0.94
Mean		0.50	0.47	0.55	0.52	0.49	0.56	0.61	0.54	0.57	0.61	0.62	0.54	0.65	0.65
# of Companies in Proxy Group	11														
# of Companies Incl. in Avg.		7	6	5	7	7	7	6	5	5	5	5	4	8	7
# of Companies missing		4	5	6	4	4	4	5	6	6	6	6	7	3	4

Notes:

[1] Weeks designated with N/A indicate there was insufficient data to determine an option-implied beta.

[2] Source: Rothschild Workpapers: 2026.06 - Bulkey PG Betas - SELECT.xlsx; 2023-04-04-2026-06-30 - RFC Gas Proxy Group OptIVA Results - D.xlsx; and 2023-04-04-2026-06-30 - RFC Water Proxy Group OptIVA Results - D.xlsx

Mr. Rothschild's Option-Implied Beta - Water Proxy Group
March 31, 2026 through June 30, 2026

Company	Ticker	2026/03/31	2026/04/07	2026/04/14	2026/04/21	2026/04/28	2026/05/05	2026/05/12	2026/05/19	2026/05/26	2026/06/02	2026/06/09	2026/06/16	2026/06/23	2026/06/30
American States Water Company	AWR	0.40	0.47	0.49	0.60	0.39	0.43	0.48	0.45	0.47	0.62	0.49	0.45	0.45	0.57
California Water Service Group	CWT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.96	NA
Middlesex Water Company	MSEX	0.95	NA	NA	NA	NA	0.67	NA	NA	NA	NA	NA	NA	0.70	0.74
H2O America	HTO	NA	NA	NA	NA	NA	NA	0.72	NA	NA	NA	NA	NA	NA	NA
Minimum		0.40	0.47	0.49	0.60	0.39	0.43	0.48	0.45	0.47	0.62	0.49	0.45	0.45	0.57
Maximum		0.95	0.47	0.49	0.60	0.39	0.67	0.72	0.45	0.47	0.62	0.49	0.45	0.96	0.74
Mean		0.67	0.47	0.49	0.60	0.39	0.55	0.60	0.45	0.47	0.62	0.49	0.45	0.70	0.66
# of Companies in Proxy Group	4														
# of Companies Incl. in Avg.		2	1	1	1	1	2	2	1	1	1	1	1	3	2
# of Companies missing		2	3	3	3	3	2	2	3	3	3	3	3	1	2

Notes:

[1] Weeks designated with N/A indicate there was insufficient data to determine an option-implied beta.

[2] Source: Rothschild Workpapers: 2026.06 - Bulkley PG Betas - SELECT.xlsx and 2023-04-04-2026-06-30 - RFC Water Proxy Group OptIVA Results - D.xlsx

Mr. Rothschild's Constant Growth DCF Analysis - Sustainable Growth Rates - Combination Proxy Group

As Filed

	Line No.	Formula/Note	Based on Average Market Price For Year Ending 6/30/2026	Based on Market Price As Of 6/30/2026
Dividend Yield	[1]	Exhibit ALR-3, page 1	3.04%	2.97%
Total Estimate of Investor Anticipated Growth	[2]	Exhibit ALR-3, page 1	6.45%	6.59%
Increment to Dividend Yield for Growth to Next Year	[3]	Equals [1] x (0.5 x [2])	0.10%	0.10%
Required Return	[4]	Equals [1] + [2] + [3]	9.59%	9.66%

Mr. Rothschild's Constant Growth DCF Analysis - Sustainable Growth Rates - Combination Proxy Group

Adjusted to Use Projected EPS Growth Rates

	Line No.	Formula/Note	Based on Average Market Price For Year Ending 6/30/2026	Based on Market Price As Of 6/30/2026
Dividend Yield	[1]	Exhibit ALR-3, page 1	3.04%	2.97%
Mean Earnings Growth Rate	[2]	Zacks, S&P and Value	8.27%	8.27%
Increment to Dividend Yield for Growth to Next Year	[3]	Equals [1] x (0.5 x [2])	0.13%	0.12%
Required Return	[4]	Equals [1] + [2] + [3]	11.44%	11.36%

Zacks, S&P, and Value Line EPS Growth Rates
As of June 30, 2026

Company	Ticker	Value Line Earnings Growth	Zacks Earnings Growth	S&P Earnings Growth	Average Growth Rate
Atmos Energy Corporation	ATO	8.50%	6.80%	7.98%	7.76%
Chesapeake Utilities Corporation	CPK	10.00%	n/a	8.35%	9.18%
NiSource Inc.	NI	9.00%	6.60%	10.14%	8.58%
Northwest Natural Gas Company	NWN	6.50%	n/a	5.87%	6.18%
ONE Gas, Inc.	OGS	7.00%	6.20%	5.94%	6.38%
Southwest Gas Corporation	SWX	n/a	9.90%	13.20%	11.55%
Spire, Inc.	SR	8.50%	11.20%	10.76%	10.15%
American States Water Company	AWR	7.00%	6.90%	5.66%	6.52%
California Water Service Group	CWT	9.50%	10.60%	10.62%	10.24%
Middlesex Water Company	MSEX	8.00%	n/a	7.40%	7.70%
H2O America (SJW)	HTO	5.00%	7.50%	7.70%	6.73%
Mean					8.27%

Mr. Rothschild's Constant Growth DCF Analysis - Sustainable Growth Rates - Water Proxy Group

As Filed

	Line No.	Formula/Note	Based on Average Market Price For Year Ending 6/30/2026	Based on Market Price As Of 6/30/2026
Dividend Yield	[1]	Exhibit ALR-3, page 1	2.90%	2.66%
Total Estimate of Investor Anticipated Growth	[2]	Exhibit ALR-3, page 1	5.77%	6.10%
Increment to Dividend Yield for Growth to Next Year	[3]	Equals [1] x (0.5 x [2])	0.08%	0.08%
Required Return	[4]	Equals [1] + [2] + [3]	8.75%	8.84%

Mr. Rothschild's Constant Growth DCF Analysis - Sustainable Growth Rates - Water Proxy Group

Adjusted to Use Projected EPS Growth Rates

	Line No.	Formula/Note	Based on Average Market Price For Year Ending 6/30/2026	Based on Market Price As Of 6/30/2026
Dividend Yield	[1]	Exhibit ALR-3, page 1	2.90%	2.66%
Mean Earnings Growth Rate	[2]	Zacks, S&P and Value	7.80%	7.80%
Increment to Dividend Yield for Growth to Next Year	[3]	Equals [1] x (0.5 x [2])	0.11%	0.10%
Required Return	[4]	Equals [1] + [2] + [3]	10.81%	10.56%

Zacks, S&P, and Value Line EPS Growth Rates
As of June 30, 2026

Company	Ticker	Value Line Earnings Growth	Zacks Earnings Growth	S&P Earnings Growth	Average Growth Rate
American States Water Company	AWR	7.00%	6.90%	5.66%	6.52%
California Water Service Group	CWT	9.50%	10.60%	10.62%	10.24%
Middlesex Water Company	MSEX	8.00%	n/a	7.40%	7.70%
H2O America (SJW)	HTO	5.00%	7.50%	7.70%	6.73%
Mean					7.80%

Summary of Mr. Rothschild's Calculation of Beta

Applicant	Docket No.	Date	Beta Coefficients Source	Beta Coefficient	Notes
Pennsylvania American Water	Docket No. R-2020-3019369	7/31/2020	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.38 – 0.66	[1]
Dominion Energy South Carolina, Inc.	Docket No. 2020-125-E	9/30/2020	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.62 – 0.76	[2]
MDU- North Dakota	Case No. PU-20-379	12/31/2020	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.62 – 0.72	[3]
United Illuminating/Eversource	Docket No. 17-12-03RE11	3/31/2021	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.58 – 0.63	[4]
California Utilities	Docket A.21.05.001 <i>et. al.</i>	1/31/2022	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.73 – 0.78	[5]
Piedmont Natural Gas Company, Inc.	Docket No. 2022-89-G	7/12/2022	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.51 – 0.64	[6]
Pennsylvania American Water	R-2022-3031672 (Water) R-2022-3031673 (Wastewater)	7/29/2022	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.67 – 0.71	[7]
Aquarion Water Company	Docket No. 22-07-01	10/26/2022	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.63 – 0.82	[8]
United Illuminating	Docket No. 22-08-08	12/13/2022	Forward beta (Option-implied beta) & Hybrid beta (Average of Option-implied beta and Historical betas)	0.63 – 0.79	[9]
Connecticut Water	Docket No. 23-08-32	12/14/2023	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.81 – 0.88	[10]
Connecticut Natural Gas Corp & The Southern Connecticut Gas Co	Docket No. 23-11-02	2/8/2024	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.84 – 0.94	[11]
Tennessee-American Water Company	Docket No. 24-00032	9/17/2024	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.72 – 0.95	[12]
United Illuminating	Docket No. 24-10-04	2/14/2025	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.52 – 0.62	[13]
Pacific Gas and Electric	Application Nos. A.25-03-010, et al.	7/30/2025	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.56 – 0.66	[14]
Puget Sound Energy	Dockets UE-260005 & UG-260006	7/28/2026	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.38 – 0.64	[15]
Kentucky AWC	Case No. 2026-00094	8/7/2026	Forward beta (Option-implied beta) & Historical Blended beta (Weighted average of Historical betas over three time periods).	0.33 – 0.66	[16]

Notes:

[1] Pennsylvania Public Utilities Commission, Docket No. R-2020-3019369, Rothschild Direct Testimony, September 8, 2020, at 51.

[2] Public Service Commission of South Carolina, Docket No. 2020-125-E, Direct Testimony of Aaron Rothschild, November 10, 2020, at 54.

[3] North Dakota Public Service Commission, Case No. PU-20-379, Rothschild Direct Testimony, January 15, 2021, at 57.

[4] Connecticut Public Utilities Regulatory Authority, Docket No. 17-12-03RE11, April 26, 2021, at 64-65.

[5] California Public Utilities Commission, Docket A.21.05.001 *et. al.*, January 31, 2022, at 87.

[6] Public Service Commission of South Carolina, Docket No. 2022-89-G, July 12, 2022, at 97.

[7] Pennsylvania Public Utilities Commission, Docket No. R-2022-3031672, Rothschild Direct Testimony, July 29, 2022, at 94.

[8] Connecticut Public Utilities Regulatory Authority, Docket No. 22-07-01, October 26, 2022, at 95.

[9] Connecticut Public Utilities Regulatory Authority, Docket No. 22-08-08, December 13, 2022, at 115.

[10] Connecticut Public Utilities Regulatory Authority, Docket No. 23-08-32, December 14, 2023, Rothschild Direct Testimony, at 64.

[11] Connecticut Public Utilities Regulatory Authority, Docket No. 23-11-02, February 8, 2024, Rothschild Direct Testimony Regarding CNG, at 64; and Connecticut Public Utilities Regulatory Authority, Docket No. 23-11-02, February 8, 2024, Rothschild Direct Testimony Regarding SCG, at 64.

[12] Tennessee Public Utility Commission, Docket No. 54-00032, February 14, 2025, Rothschild Direct Testimony, at 67.

[13] Connecticut Public Utilities Regulatory Authority, Docket No. 24-10-04, February 14, 2025, Rothschild Direct Testimony, at 73.

[14] California Public Utilities Commission, Application Nos. A.25-03-10, et al., Rothschild Direct Testimony at 67.

[15] Washington Utilities and Transportation Commission, Dockets UE-260005 & UG-260006, Rothschild Response Testimony at 49.

[16] Kentucky Public Service Commission, Case No. 2026-00094, Rothschild Direct Testimony, at 49.

Mr. Rothschild CAPM Analysis - Combination Proxy Group

As Filed

		3-Month Treasury Bill		30-Year Treasury Bond	
		Historical Blended Beta	Forward Beta	Historical Blended Beta	Forward Beta
Risk-Free Rate	[1]	3.76%	3.76%	4.95%	4.95%
Beta	[2]	0.37	0.60	0.37	0.60
Risk Premium	[3]	4.95%	4.95%	3.76%	3.76%
Cost of Equity	[4]	5.61%	6.75%	6.35%	7.22%

Notes:

[1] Exhibit ALR-4, page 1

[2] Exhibit ALR-4, page 1

[3] Exhibit ALR-4, page 1

[4] Equals [1] + ([2] x [3])

Mr. Rothschild CAPM Analysis - Combination Proxy Group

**Adjusted Risk Free Rate (30-Year Treasury Bond), Historical Betas (5-Year), and
Market Risk Premium**

		30-Year Treasury Bond	
		Weighted Avg.	
		Weighted Avg.	Spot
Risk-Free Rate	[1]	4.95%	4.91%
Beta	[2]	0.62	0.62
Market Return	[3]	13.64%	13.64%
Risk Premium	[4]	8.68%	8.73%
Cost of Equity	[4]	10.37%	10.36%

Notes:

[1] Exhibit ALR-4, page 2

[2] Exhibit ALR-4, page 3

[3] Exhibit AEB-5-R

[4] Equals [3] - [1]

[5] Equals [1] + ([2] x [4])

Mr. Rothschild CAPM Analysis - Water Proxy Group

As Filed

		3-Month Treasury Bill		30-Year Treasury Bond	
		Historical Blended Beta	Forward Beta	Historical Blended Beta	Forward Beta
Risk-Free Rate	[1]	3.76%	3.76%	4.95%	4.95%
Beta	[2]	0.34	0.66	0.34	0.66
Risk Premium	[3]	4.95%	4.95%	3.76%	3.76%
Cost of Equity	[4]	5.46%	7.03%	6.24%	7.44%

Notes:

[1] Exhibit ALR-4, page 1

[2] Exhibit ALR-4, page 1

[3] Exhibit ALR-4, page 1

[4] Equals [1] + ([2] x [3])

Mr. Rothschild CAPM Analysis - Water Proxy Group

**Adjusted Risk Free Rate (30-Year Treasury Bond), Historical Betas (5-Year), and
Market Risk Premium**

		30-Year Treasury Bond	
		Weighted Avg.	
		Weighted Avg.	Spot
Risk-Free Rate	[1]	4.95%	4.91%
Beta	[2]	0.62	0.62
Market Return	[3]	13.64%	13.64%
Risk Premium	[4]	8.69%	8.73%
Cost of Equity	[4]	10.33%	10.31%

Notes:

[1] Exhibit ALR-4, page 2

[2] Exhibit ALR-4, page 3

[3] Exhibit AEB-5-R

[4] Equals [3] - [1]

[5] Equals [1] + ([2] x [4])

Market Value of the Capital Structure of the Proxy Group

Expressed in (\$000s)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]
		Debt												Preferred Equity		Common Equity		Market Value			
		Short-Term Debt				Debt Adj'd for Net Working Capital		Long-Term Debt	Book Value of Total Debt	Market Value of Long-Term Debt	Carrying Amount of Long-Term Debt	Adjustment to Book Value of Long-Term Debt	Market Value of Total Debt	Book Value of Preferred Equity	Market Value of Preferred Equity	Book Value of Common Equity	Market Value of Common Equity	Market Value Of the Firm	Debt Ratio	Preferred Equity Ratio	Common Equity Ratio
Company	Ticker	Current Assets	Current Liabilities	Current Long-Term Debt and Leases	Net Working Capital	Short-Term Debt	Debt Capital	Debt	Total Debt	Debt	Debt	Debt	Total Debt	Equity	Equity	Equity	Equity	Firm	Ratio	Ratio	Ratio
Combination Proxy Group																					
American States Water Company	AWR	\$231,074	\$174,612	\$10,271	\$66,733	\$0	\$0	\$ 928,106	\$938,377	\$790,820	\$794,310	-\$3,490	\$934,887	\$0	\$0	\$ 1,045,581	\$ 2,806,022	\$3,740,909	24.99%	0.00%	75.01%
Atmos Energy Corp	ATO	\$1,635,823	\$1,447,031	\$11,017	\$199,809	\$0	\$0	\$ 9,621,861	\$9,632,878	\$8,272,978	\$8,935,000	-\$662,022	\$8,970,856	\$0	\$0	\$ 14,282,892	\$ 27,113,817	\$36,084,673	24.86%	0.00%	75.14%
Chesapeake Utilities Corporation	CPK	\$237,000	\$529,900	\$136,700	-\$156,200	\$158,000	\$156,200	\$ 1,335,000	\$1,627,900	\$1,500,000	\$1,500,000	\$0	\$1,627,900	\$0	\$0	\$ 1,598,500	\$ 2,950,659	\$4,578,559	35.55%	0.00%	64.45%
California Water Service Group	CWT	\$354,428	\$418,164	\$3,483	-\$60,253	\$130,000	\$60,253	\$ 1,483,222	\$1,546,958	\$1,284,272	\$1,474,238	-\$189,966	\$1,356,992	\$0	\$0	\$ 1,689,404	\$ 2,582,093	\$3,939,085	34.45%	0.00%	65.55%
H2O America	HTO	\$190,593	\$273,378	\$23,504	-\$59,281	\$86,834	\$59,281	\$ 1,866,819	\$1,949,604	\$1,716,589	\$1,866,819	-\$150,230	\$1,799,374	\$0	\$0	\$ 1,540,771	\$ 1,754,091	\$3,553,465	50.64%	0.00%	49.36%
Middlesex Water Company	MSEX	\$41,766	\$93,795	\$8,450	-\$43,579	\$28,250	\$28,250	\$ 380,712	\$417,412	\$259,500	\$259,500	\$0	\$417,412	\$1,343	\$1,343	\$ 494,031	\$ 924,593	\$1,343,348	31.07%	0.10%	68.83%
NiSource Inc.	NI	\$2,377,200	\$3,457,400	\$29,400	-\$1,050,800	\$736,000	\$736,000	\$ 15,475,000	\$16,240,400	\$14,975,300	\$15,477,500	-\$502,200	\$15,738,200	\$0	\$0	\$ 9,450,100	\$ 19,927,685	\$35,665,885	44.13%	0.00%	55.87%
Northwest Natural Holding Co.	NWN	\$602,932	\$836,445	\$163,855	-\$69,658	\$171,989	\$69,658	\$ 2,347,188	\$2,580,701	\$1,383,100	\$1,534,900	-\$151,800	\$2,428,901	\$0	\$0	\$ 1,475,076	\$ 1,940,039	\$4,368,940	55.59%	0.00%	44.41%
ONE Gas Inc.	OGS	\$915,884	\$1,531,858	\$285,140	-\$330,834	\$737,400	\$330,834	\$ 2,363,638	\$2,979,612	\$2,500,000	\$2,356,038	\$143,962	\$3,123,574	\$0	\$0	\$ 3,440,123	\$ 4,634,926	\$7,758,500	40.26%	0.00%	59.74%
Southwest Gas Corporation	SWX	\$1,192,092	\$929,898	\$75,000	\$337,194	\$0	\$0	\$ 3,433,012	\$3,508,012	\$3,234,359	\$3,433,012	-\$198,653	\$3,309,359	\$0	\$0	\$ 3,961,119	\$ 5,776,156	\$9,085,515	36.42%	0.00%	63.58%
Spire Inc.	SR	\$1,038,500	\$1,713,300	\$488,100	-\$186,700	\$412,000	\$186,700	\$ 4,449,400	\$5,124,200	\$3,691,500	\$3,856,900	-\$165,400	\$4,958,800	\$242,000	\$242,000	\$ 3,190,700	\$ 4,887,238	\$10,088,038	49.16%	2.40%	48.45%
AVERAGE ROTHSCILD COMBINATION PROXY GROUP:																			38.83%	0.23%	60.94%
AVERAGE BULKLEY UPDATED PROXY GROUP:																			37.80%	0.01%	62.19%
Water Proxy Group																					
American States Water Company	AWR	\$231,074	\$174,612	\$10,271	\$66,733	\$0	\$0	\$ 928,106	\$938,377	\$790,820	\$794,310	-\$3,490	\$934,887	\$0	\$0	\$ 1,045,581	\$ 2,806,022	\$3,740,909	24.99%	0.00%	75.01%
California Water Service Group	CWT	\$354,428	\$418,164	\$3,483	-\$60,253	\$130,000	\$60,253	\$ 1,483,222	\$1,546,958	\$1,284,272	\$1,474,238	-\$189,966	\$1,356,992	\$0	\$0	\$ 1,689,404	\$ 2,582,093	\$3,939,085	34.45%	0.00%	65.55%
H2O America	HTO	\$190,593	\$273,378	\$23,504	-\$59,281	\$86,834	\$59,281	\$ 1,866,819	\$1,949,604	\$1,716,589	\$1,866,819	-\$150,230	\$1,799,374	\$0	\$0	\$ 1,540,771	\$ 1,754,091	\$3,553,465	50.64%	0.00%	49.36%
Middlesex Water Company	MSEX	\$41,766	\$93,795	\$8,450	-\$43,579	\$28,250	\$28,250	\$ 380,712	\$417,412	\$259,500	\$259,500	\$0	\$417,412	\$1,343	\$1,343	\$ 494,031	\$ 924,593	\$1,343,348	31.07%	0.10%	68.83%
AVERAGE ROTHSCILD WATER PROXY GROUP:																			35.29%	0.02%	64.69%

Notes:

[1] S&P Capital IQ Pro.

[2] S&P Capital IQ Pro.

[3] S&P Capital IQ Pro.

[4] Equals [1] - ([2] - [3])

[5] S&P Capital IQ Pro.

[6] Equals:

[A] 0 if [4] > 0

[B] ABS of [4] if [4] < 0 and ABS of [4] < [5]

[C] [5] if [4] < 0 and ABS of [4] > [5]

[7] S&P Capital IQ Pro.

[8] Equals [3] + [6] + [7]

[9] Company 10-Ks

[10] Company 10-Ks

[11] Equals [9] - [10]

[12] Equals [8] + [11]

[13] S&P Capital IQ Pro.

[14] Equals [13]

[15] S&P Capital IQ Pro.

[16] S&P Capital IQ Pro.

[17] Equals [12] + [14] + [16]

[18] Equals [12] / [17]

[19] Equals [14] / [17]

[20] Equals [16] / [17]

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

ELECTRONIC APPLICATION OF KENTUCKY-	)	
AMERICAN WATER COMPANY FOR AN	)	CASE NO. 2026-00094
ADJUSTMENT OF RATES	)	

REBUTTAL TESTIMONY OF WILLIAM A. LEWIS

September 16, 2026

1 **I. INTRODUCTION**

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

3 A. My name is William A. Lewis. My business address is 2300 Richmond Road, Lexington,
4 Kentucky 40502.

5 **Q. Did you previously submit Direct Testimony in this proceeding on behalf of**
6 **Kentucky-American Water Company (“Kentucky-American,” “KAWC” or the**
7 **“Company”) in this proceeding?**

8 A. Yes. I filed Direct Testimony in this proceeding on May 15, 2026.

9 **Q. What is the purpose of your Rebuttal Testimony in this proceeding?**

10 A. The purpose of my Rebuttal Testimony is to respond to the Office of the Attorney General
11 of the Commonwealth of Kentucky, Lexington-Fayette Urban County Government, and
12 Georgetown Municipal Water and Sewer Service (collectively, “AG/LFUCG/GMWSS”)
13 witness Defever’s proposed adjustments to the following operational and maintenance
14 (O&M) expenses: employee levels, employee compensation, and adjusting production
15 costs for unaccounted for water (“UFW”) loss. I also respond to Georgetown Municipal
16 Water and Sewer Service (“GMWSS”) witness Azevedo regarding account classifications,
17 GMWSS purchases from KAWC, and KAWC acquisitions.

18 **Q. Are you sponsoring any schedules or exhibits with your Rebuttal Testimony?**

19 A. No.

20 **II. EMPLOYEE LEVELS/LABOR EXPENSE**

21 **Q. AG/LFUCG/GMWSS witness Defever states that in the past several years the**
22 **Company has underspent what it has forecasted for labor expense and that it should**

1 **not be assumed that the Company will spend the amount it has forecasted for labor**
2 **expense. Please respond.**

3 A. The Company's work is completed with available resources which consist not only of full-
4 time employees, but also overtime, temporary employees, and contract employees. While
5 Mr. Defever focuses only on labor expense when comparing past forecasts to actual spend,
6 Company witness Prendergast explains in Rebuttal Testimony that in recent years the
7 Company's actual regular labor expense, overtime expense, and contracted services
8 expense *exceeded* the Company's forecasted/authorized amounts despite the forecasted
9 labor expense including vacancies. KAWC has two methods by which it can present the
10 cost structure to accomplish its work: (1) assume no vacancies and adjust overtime,
11 temporary employee and contractor expenses accordingly; or (2) assume a vacancy rate
12 and include increased expenses for overtime, temporary employee and contractor expenses
13 to complete the work. The Company has historically and consistently chosen the first
14 methodology and has presented its cost structure in this case in the same manner. Company
15 witness Robert Prendergast, in his Rebuttal Testimony, confirms that the Company did *not*
16 include increased expenses for overtime, temporary employees or contractor expenses
17 when calculating its forecasted labor expense.

18 **Q. Mr. Defever proposes a reduction of 5.4% to labor expense to reduce the revenue**
19 **requirement based on unfilled employment positions, or "vacancies." Do you agree**
20 **with this proposal?**

21 A. No. Mr. Defever's proposal adopts the second methodology, a reduction for employee
22 vacancies, but does not make the corresponding adjustment that provides for the increased
23 overtime and contract services costs associated with temporary help and contracted labor

1 that would be incurred to accomplish the same level of work, as contemplated by the
2 Company's proposed employee level. Therefore, his proposed reduction is incomplete and
3 insufficient to address the costs required to perform the work.

4 **Q. Has this topic been discussed in prior rate cases?**

5 A. Yes, AG witnesses have proposed similar reductions in prior KAWC rate cases (Case No.
6 1995-00554, Case No. 2004-00103, Case No. 2010-00036, Case No. 2018-00358, Case
7 No. 2023-00191, and Case No. 2025-00122) and the Commission has upheld the
8 Company's methodology in each case, recognizing that:

9 If vacant employee positions exist, work will either be shifted to
10 other employees and thus result in an increase in overtime costs or
11 Kentucky-American will hire additional temporary/contract labor.
12 Kentucky-American has shown that its forecasts for overtime and
13 temporary/contract labor have been reduced to reflect a full
14 workforce. The vacant employee positions to which the AG refers
15 will result in decreased direct labor costs, but that decrease will be
16 offset by increases in overtime or temporary labor costs.¹

17 In Case No. 2018-00358, the Commission stated the following on the employee vacancy
18 issue:

19 We are not persuaded by the Attorney General/LFUCG's
20 arguments. They are similar to arguments from the Attorney
21 General that we have rejected in prior Kentucky-American rate
22 proceedings in which we noted that the Attorney General considered
23 only the impact of employee vacancies on Kentucky-American's
24 labor forecast and did not consider the impact of the vacancies on
25 Kentucky-American's overtime and temporary/contract forecast.
26 We continue to adhere to this position. If vacant employee positions
27 exist, work will either be shifted to other employees and thus result
28 in an increase in overtime costs, or Kentucky-American will hire
29 additional temporary/contract labor.²

¹ Case No. 2010-00036, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Order, p. 25 (Dec. 14, 2010).

² Case No. 2018-00358, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Order, p. 39 (June 27, 2019).

1 And in Case No. 2023-00191, the Commission again rejected the AG’s proposed vacancy
2 adjustment, stating that the AG/LFUCG’s adjustment “does not account for an increase in
3 overtime or contractor labor to offset unfilled positions.”³ Most recently, in Case No. 2025-
4 00122, the Commission held:

5 The Commission has consistently found that unfilled positions be included
6 as Kentucky-American is actively seeking to fill those positions. The
7 vacancies are not an unreasonable amount, and the Attorney
8 General/LFUCG’s adjustment does not account for an increase in overtime,
9 contractor labor, or temporary employee labor to offset unfilled positions.
10 Kentucky American filed information about the vacancies as well as the
11 efforts to fill those positions and throughout the case updated current
12 vacancy status. The Commission notes that, while Kentucky-American’s
13 total payroll expenses are increasing in the test period, Kentucky-American
14 has demonstrated a lower forecasted amount of overtime, contractor labor,
15 and temporary employee labor expenses in the test period as a result of
16 assuming a full staffing level. This bilateral adjustment to assume full
17 staffing levels and reduce related expenses that would otherwise increase as
18 staffing levels decrease follows prior Commission precedent, and the
19 Commission finds Kentucky-American’s forecasted level of Payroll
20 Expense should be accepted.⁴

21 **Q. Do you believe the Commission should continue to follow its precedent on this issue?**

22 A. Yes, not only because it is grounded in precedent, but because it is based on the sound
23 principle that, if we are accomplishing our workload with a combination of regular time,
24 overtime, temporary labor and contractors, and we propose a full complement of
25 employees while making a commensurate reduction of overtime, temporary labor or
26 contractors, then Mr. Defever’s reduction would have to be accompanied by an increase in
27 overtime, temporary workers and/or contractors.

³ Case No. 2023-00191, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Order, pp. 15-16 (May 3, 2024).

⁴ Case No. 2025-00122, *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Order, pp. 19-20 (December 16, 2025).

1 **Q. What is the Company's current staffing level?**

2 A. As of August 31, 2026, the Company has 171 full time employees. I note that the Company
3 anticipates bringing on 11 employees from Black Mountain Utility District when that
4 acquisition closes later this year.

5 **Q. Does the Company intend to fill its current unfilled positions?**

6 A. Yes, the Company intends to fill its current unfilled positions, and all current vacancies are
7 in active recruitment with the exception of three positions which will open for active
8 recruitment later this year. My response to AG 2-008 Supplemental, filed on September
9 16, 2026, identifies unfilled positions as of August 31, 2026.

10 **III. EMPLOYEE COMPENSATION**

11 **Q. Mr. Defever recommends that the Commission remove 50% of the Company's APP**
12 **and 70% of the Company's LTPP. What is his basis for proposing to remove these**
13 **expenses?**

14 A. Mr. Defever concludes that the financial metrics tied to 50% of the Company's APP and
15 to 70% of the Company's LTPP not only primarily benefit shareholders, but may also be
16 in direct contradiction to the goals of improved customer service, safety, and reduced rates.
17 As such, Mr. Defever contends that the costs of the performance compensation tied to
18 financial goals should be borne by shareholders. Mr. Defever notes that his
19 recommendation is consistent with the Commission's prior findings on the issue of
20 performance compensation.

21 **Q. Why does KAWC believe full recovery of APP and LTPP is appropriate in this case,**
22 **notwithstanding the Commission's findings in the Company's prior rate cases?**

1 A. The Company believes the record supports recovery of APP and LTPP as reasonable
2 components of total market-based compensation. The testimony provided in this
3 proceeding demonstrates that the Company's financial performance measures encourage
4 employee behaviors that improve efficiency, control costs, support infrastructure
5 investment, and ultimately benefit customers. As such, KAWC believes these
6 compensation costs are properly recoverable as a reasonable cost of providing utility
7 service.

8 **Q. Do you agree with Mr. Defever's conclusion that use of financial metrics in the**
9 **Company's APP and LTPP only or primarily benefit shareholders?**

10 A. No, I do not. Mr. Defever incorrectly assumes that financial performance goals benefit
11 shareholders to the exclusion of customers. In reality, the Company's financial and
12 operational objectives are closely linked. Financial performance metrics encourage
13 employees to manage operations efficiently, control costs, and deploy capital effectively,
14 all of which benefit customers through improved service, reliability, and long-term
15 affordability. A financially healthy utility is also better positioned to attract capital at
16 reasonable cost and continue investing in the infrastructure required to provide safe and
17 reliable water service.⁵ Rather than creating a conflict between shareholder and customer
18 interests, the Company's performance compensation program aligns the interests of
19 customers, employees, and investors by rewarding outcomes that support *both* operational
20 excellence and financial discipline that only financial goals can create.

21 **Q. Does Mr. Defever contend the total market-based compensation paid to the**
22 **Company's employees, including APP and LTPP, is unreasonable?**

⁵ Direct Testimony of John M. Watkins, pp. 29-31.

1 A. No. Mr. Defever does not claim or present any basis to conclude that the market-based
2 total compensation paid to Company employees is unreasonable or otherwise imprudent,
3 nor does he present any testimony that contradicts the Direct Testimony of Company
4 witness Mr. Robert Mustich and I have presented that KAWC's total market-based
5 compensation is a reasonable and necessary cost incurred to serve customers. Mr. Mustich
6 has demonstrated that KAWC employees' total target compensation, which *includes*
7 performance pay, is slightly *below* the market for similarly skilled employees. That finding
8 has not been refuted. As I noted in my Direct Testimony, the Company must be able to
9 attract and retain experienced personnel to help ensure the Company can continue to
10 provide safe and reliable service to customers and total compensation that is near market
11 is a critical component of attracting this talent. The Company's total market-based
12 compensation, including performance pay, is a necessary cost to provide service to
13 customers and therefore, all of it should be recoverable through rates. Performance pay is
14 a variable component of total market-based compensation, not pay made in addition to
15 KAWC employees' reasonable compensation; it must be included to make KAWC
16 employees' total market-based compensation reasonable.

17 **Q. Does Mr. Defever's recommendation account for the share of performance**
18 **compensation awarded to KAWC's union employees?**

19 A. No. Mr. Defever does not address the fact that a portion of the Company's APP is provided
20 to union employees pursuant to union contracts. As a result, his proposed disallowance
21 would apply equally to compensation costs that KAWC is contractually obligated to
22 provide under those agreements.

1 **Q. Has the Commission recognized the important role union contracts play in setting**
2 **employee compensation?**

3 A. Yes. The Commission, in discussing health care costs, recognized that when “expense is
4 negotiated as part of a collective bargaining agreement, the Commission has consistently
5 allowed for the utility to recover for the full amount of an arm’s length negotiated
6 agreement with its employee union.”⁶ Additionally, the Commission has “generally found
7 that benefits that are provided under union contracts, given the arms-length negotiating that
8 lead to them, generally indicates that costs agreed to were necessary to attract and retain
9 the employees, and therefore, that the costs are reasonable.”⁷

10 **Q. Do KAWC’s union contracts, in respect to performance compensation, meet the**
11 **conditions the Commission has outlined for such benefits?**

12 A. Yes. As Mr. Mustich explained, APP is a component of employees' total compensation.
13 For KAWC's union employees, participation in the APP is established through arm's-length
14 collective bargaining agreements between the Company and the union. Accordingly, APP
15 is not a discretionary payment made in addition to employees' compensation; it is a
16 negotiated component of the total compensation package the Company has agreed to
17 provide. Consistent with the Commission's treatment of other collectively bargained
18 compensation and benefits, the costs associated with that negotiated compensation are
19 reasonable, necessary to attract and retain qualified employees, and should be recoverable
20 in rates.

⁶ Case No. 2025-00122, Order issued Dec. 16, 2025 at 26.

⁷ *In the Matter of: Electronic Application of Jackson Purchase Energy Corporation for a General Adjustment of Rates and Other General Relief* (Case No. 2024-00085) (Ky. PSC Feb. 28, 2025).

1 **Q. Does Mr. Defever express any other concerns about the Company's performance**
2 **compensation plan?**

3 A. Yes. Mr. Defever, at page 14 of his Direct Testimony, asserts that an incentive
4 compensation program cannot effectively motivate employee performance if all employees
5 receive payouts every year. He reasons that, because all eligible employees received awards
6 during the past five years, employees may view the payments as expected compensation
7 rather than incentives tied to performance. In his view, the program therefore operates as a
8 bonus plan and does not produce corresponding customer benefits.

9 **Q. Does the fact that all KAWC employees consistently receive performance**
10 **compensation demonstrate that the plan does not motivate employee performance?**

11 A. No. The fact that employees consistently receive performance compensation goes directly
12 to the important role performance compensation plays in employees' Total Compensation,
13 as Mr. Mustich explains on pages 7 and 8 of his Direct Testimony. The mere fact that
14 participants received a payout does not mean the plan now lacks incentive value. Under
15 Mr. Defever's reasoning, an incentive plan would cease to be an incentive whenever
16 employees consistently perform well enough to earn a payout. I do not believe that
17 conclusion is consistent with how performance-based compensation programs operate in
18 practice. Moreover, while Mr. Defever's analysis focuses on whether all employees receive
19 a payout, he fails to look at the level of achievement associated with that payout. Under the
20 Company's APP, payouts vary based on performance against established goals. Employees
21 therefore have a direct financial incentive not only to meet performance expectations but
22 also to exceed them.

1 The relevant question, then, is not whether the plan paid out, but how performance
2 affected the level of payout. As I stated in my Direct Testimony, the level of payout related
3 to performance compensation has varied from year to year based on meeting or exceeding
4 targets, but the organization's performance has resulted in the payment of performance
5 compensation typically equal to or greater than the target level. The specific variances in
6 payouts year by year, and by goal, were provided to Mr. Defever in AG 1-111 (see
7 Confidential Attachment). It is the ability for the payouts for each goal to flex above target
8 and up to 200% that motivates employees to put forth additional effort. It is important to
9 note that KAWC is only seeking recovery of 100% of performance compensation as part
10 of rates, any performance compensation above that level is covered by KAWC's
11 shareholder. Mr. Defever ignores this point.

12 **Q. How would the Company fare in attracting a qualified workforce if APP and LTPP**
13 **were removed from employee compensation?**

14 A. Mr. Mustich has prepared an analysis demonstrating KAWC's total market-based
15 employee compensation would be far below market without the APP and LTPP levels Mr.
16 Defever contends should not be included in rates. The Company would have a difficult
17 time retaining employees much less attracting new employees at pay levels that are 14%
18 to 16% below market-based compensation for the Midwest and National markets. This is
19 not a theoretical problem. A recent survey of Kentucky's water and wastewater workforce,
20 conducted by Kentucky Water Resources Research Institute, University of Kentucky and
21 published August 2022, identified significant gaps in qualified employees in the Bluegrass
22 State and noted that pay gap was a driver.⁸

⁸ A copy of the survey is available at <https://kwri.uky.edu/kentucky-water-workforce-survey>

1 **Q. Would Mr. Defever’s recommendation to remove APP and LTPP from recoverable**
2 **costs be impacted if the Company changed its compensation structure?**

3 A. I think so. As I discussed in my Direct Testimony at 52, lines 12-22 to 45, lines 3-16, if
4 the Company included the disputed portion of compensation in employees’ fixed base pay
5 rather than awarding it through the variable APP and LTPP components, it appears Mr.
6 Defever would not be proposing to adjust the amount the Company has forecasted as the
7 appropriate level of market-based compensation to be recovered from customers. Mr.
8 Defever does not dispute the Company’s demonstration that its total market-based
9 employee compensation, including the portion embedded in performance pay, is
10 reasonable and prudent. Mr. Defever only disputes the manner in which the Company pays
11 part of the compensation.

12 Changing the manner of compensating employees to remove the disputed method
13 (APP and LTPP) and placing all of the compensation in fixed base pay should result in
14 recovering one hundred percent (100%) of the higher base pay in the revenue requirement.
15 However, making this adjustment would not be in the long-term interest of our customers
16 because it would remove the strong incentive APP and LTPP provide employees to
17 proactively work towards efficiency. The Company’s performance compensation goals
18 would only focus on operational goals without the counter-balancing goals of managing
19 KAWC’s financial performance. In my experience, the APP and LTPP metrics focus
20 employees on managing the business more efficiently.

1 **Q. Have the APP and LTPP financial metrics focused employees on managing the**
2 **business more efficiently?**

3 A. Yes. In order to achieve financial performance pay goals, such as targeted earnings per
4 share (“EPS”) performance, employees must continuously work to maintain and improve
5 operating efficiency. This has and will continue to result in tangible and material cost
6 savings that would otherwise be incurred by customers. The financial components of APP
7 and LTPP incentivize employees to identify these savings opportunities because
8 controlling operating costs is essential to achieving a targeted EPS, which, in turn helps to
9 maintain the affordability of our service for our customers.

10 **Q. Can you quantify the customer savings KAWC’s customers receive as a result of**
11 **KAWC’s use of performance compensation linked to financial metrics?**

12 A. As I explained in my Direct Testimony, performance compensation tied to financial goals
13 helps to encourage employees at every level to identify operating efficiencies, control
14 costs, and avoid unnecessary expenditures. While those efforts cannot be distilled into a
15 single metric, the result is reflective in KAWC’s overall cost performance and expenses.

16 **Q. Please explain.**

17 A. Though benefits of performance compensation that is tied to financial goals are realized
18 throughout the Company, the practical results of those incentives can be viewed in
19 comparing the operating costs of KAWC to its peers. Looking at the data presented by
20 KAWC witness Joseph Weiss in his Direct Testimony at Exhibit JSW-2, it is clear that
21 KAWC operates more efficiently than the Company’s utility peers on a per customer basis.

22 **Q. What does Mr. Weiss’ data show about KAWC’s costs compared to other large,**
23 **investor-owned utilities?**

1 A. KAWC witness Weiss provided a comparison of service company administrative and
2 general (“A&G”) costs across 22 service companies, as set out in his Exhibit JSW-2, Table
3 6, including PPL Corporation (utilizes service companies that provide services to Kentucky
4 Utilities Company and Louisville Gas and Electric), Duke Energy Corporation (utilizes a
5 service company that provides services to Duke Kentucky), NiSource Inc. (utilizes a
6 service company that provides services to Columbia Gas of Kentucky), and American
7 Electric Power Company, Inc (utilizes a service company that provides services to
8 Kentucky Power Company). That comparison demonstrates that KAWC’s Service
9 Company costs, which include the impacts of cost savings driven by performance
10 compensation tied to financial metrics that are being requested in this case, are near the
11 bottom of the utility companies studied, beating all of the utility holding companies that
12 operate in Kentucky. Further, KAWC’s Service Company costs per customer are only 57%
13 of one of the companies identified, \$70 lower per customer.

14 **Q. Does Mr. Weiss present other data that speaks to the operational efficiencies of**
15 **KAWC?**

16 A. Yes. KAWC witness Weiss provided a comparison of 14 water companies, who do not
17 purchase 100% of their water. This comparison focused on total operation and maintenance
18 (“O&M”) costs per customer, as set out in his Exhibit JSW-2, Table 10. Compared to this
19 group KAWC has the second lowest total O&M cost per customer. Further, KAWC’s total
20 O&M costs per customer are 29% below the comparison group average, \$134 lower per
21 customer. While a control group within a utility is not feasible, the practical evidence
22 detailed above shows that compensation tied to financial performance promotes
23 efficiencies and cost discipline that benefits customers through lower rates.

1 **IV. UNACCOUNTED-FOR-WATER (“UFW”)**

2 **Q. Mr. Defever recommends that the Commission reduce fuel and power expense,**
3 **chemical expense, purchase water expense, and waste disposal expense by 2.49%,**
4 **which is the percentage Mr. Defer calculates as the level the Company exceeds the**
5 **15% UFW loss threshold. Do you agree with Mr. Defever’s recommendation?**

6 A. While I do not contest an adjustment being made to those cost categories for UFW loss
7 above the 15% threshold, I do disagree with the UFW loss percentage Mr. Defever used to
8 calculate his adjustment in that he included the Livingston system and the Nexus systems
9 (Clinton and Middlesboro) in his calculation of KAWC’s UFW loss percentage.

10 **Q. Why do you disagree with including Livingston, Clinton and Middlesboro into the**
11 **UFW loss percentage calculation?**

12 A. Conditions that result in elevated water loss are generally created over many years, and for
13 Livingston, Clinton and Middlesboro, these conditions would have developed under prior
14 ownership. Although KAWC has now assumed operational responsibility for these
15 systems, meaningful reductions in water loss require time to assess system conditions,
16 identify sources of loss, prioritize capital improvements, and implement corrective actions.
17 Including the water loss for those systems for the purpose of calculating an adjustment to
18 the Company’s production costs improperly attributes the effects of historical
19 infrastructure conditions and prior management decisions to the Company and penalizes
20 KAWC for inherited water loss immediately upon acquisition. Such an outcome could
21 discourage utilities from acquiring and rehabilitating water systems that have elevated
22 water loss.

23 A more reasonable approach is to evaluate KAWC’s UFW performance based on
24 losses that the Company had a meaningful opportunity to influence by providing an

1 appropriate transition period before acquired-system water loss is included in the UFW
2 loss percentage used to apply an adjustment to production costs. As such, KAWC proposes
3 that newly acquired water systems should be excluded from the UFW production cost
4 adjustment and in the Company's next rate case the Company will inform the Commission
5 of its efforts to reduce UFW loss in the acquired systems and address the issue of whether
6 UFW loss in the acquired systems should be included in any UFW adjustment to
7 production costs at that time.

8 **Q. Does including Livingston, Clinton and Middlesboro into the UFW loss calculation**
9 **materially increase KAWC's UFW loss level?**

10 A. Yes, it does. As shown in the response to PSC 4-5, using the most recent 12-month rolling
11 average (August 2025-July 2026), KAWC's UFW loss excluding the recent acquisitions is
12 17.59%, compared to 17.81% including those acquisitions.

13 **Q. Will the variance between the UFW loss percentage with and without the recent**
14 **acquisitions continue to increase over time?**

15 A. Yes, as can be seen on pages 2 and 3 of the attachment to PSC 4-5, the UFW percentage
16 for Livingston and Clinton/Middlesboro are 75.48% and 54.76%, respectively. As
17 additional months are added to the 12-month rolling average, the variance between the
18 UFW loss level excluding recent acquisitions (page 1 of attachment PSC 4-5) and with
19 acquisitions (page 4 of PSC 4-5) will increase.

20 **Q. What is the appropriate UFW loss percentage to apply for purposes of adjusting the**
21 **forecasted production costs for UFW loss?**

22 A. For purposes of adjusting the forecasted production costs for UFW loss, the most recent
23 12-month rolling average UFW loss data available, which excludes recently acquired

1 systems, should be applied. Please reference the Company's responses to PSC 4-5
2 (Attachment, page 1) and AG 2-18 Supplemental for this data through July 2026.⁹

3 **V. RESPONSE TO GMWSS WITNESS, MR. AZEVEDO**

4 **Q. Are you also providing rebuttal testimony to address the direct testimony of Mr.**
5 **Azevedo of GMWSS?**

6 A. Yes.

7 **Q. Have you investigated Mr. Azevedo's claim that the GMWSS account at 900 Cherry**
8 **Blossom Way does not have the correct customer classification?**

9 A. Yes. As explained in KAWC's response to PSC 4-14, after being notified of a possible
10 issue, KAWC examined all accounts GMWSS has with KAWC. With the exception of
11 one account GMWSS has at Burton Road, all GMWSS accounts are properly classified
12 after moving the Cherry Blossom account to Other Public Authority ("OPA"). I have made
13 multiple attempts to communicate directly with Mr. Azevedo to review all of the GMWSS
14 accounts and to discuss future communication points of contact between KAWC and
15 GMWSS. To date, my requests to meet with Mr. Azevedo have gone unanswered. But I
16 note that GMWSS indicated in its response to PSC 1-1 that it is not asking the Commission
17 to spend its time and resources on this issue, and the Company agrees with that.

18 **Q. How do you respond to Mr. Azevedo's testimony regarding the increase in the**
19 **Company's Sale for Resale rate since January 1, 2025?**

20 A. The Company's rates are based on the cost of service for each particular customer
21 classification as demonstrated in rate cases. Based on the cost of service demonstrated in
22 the Company's 2025 rate case and in this rate case, yes, it is true that the cost of providing

⁹ The Company will submit an update to PSC 4-5/ AG 2-18 to include water loss data through August 2026 once the August data is available.

1 service to our customers, including our Sale for Resale customers, has increased. He is
2 also correct that the Commission's decision in the Company's 2025 case increased the Sale
3 for Resale rate more than the Company requested.

4 **Q. Did GMWSS purchase an unusually high amount of water from KAWC in February**
5 **and March of 2026 at what is known as the Champion Way interconnection that links**
6 **KAWC's system to GMWSS' system?**

7 A. Yes. However, unfortunately, GMWSS did not contact KAWC leadership to notify
8 KAWC of that increase which was planned for by GMWSS. As a result of that, KAWC's
9 billing system flagged it as extraordinary high use and automatically sent bills based on
10 estimated use rather than actual use. This is exactly what should happen when unexplained
11 high usage occurs as a way to protect the customer in case there is a meter problem or some
12 sort of water loss issue. Upon learning this extraordinary use was actual use, KAWC
13 revised its billings to GMWSS. GMWSS promptly paid those bills, and that account is
14 now current.

15 **Q. Are you aware that GMWSS is considering increased purchased from nearby water**
16 **providers to meet its projected need?**

17 A. Yes. In fact, as explained in KAWC's responses to PSC 4-14, KAWC responded to a
18 GMWSS request for proposals to meet projected need. KAWC is ready, willing, able to
19 work with GMWSS to meet that need and is willing to discuss a special contract rate with
20 GMWSS to accommodate the need as best we can. We have informed GMWSS of our
21 willingness to be a solution for them. In fact, KAWC's proposed solution will reduce
22 GMWSS' estimated capital cost to its customers by nearly \$25 Million. Of course, any sort
23 of special contract would need to be submitted to and approved by the Commission before

1 becoming effective and we have informed GMWSS of that fact. If GMWSS chooses to
2 meet its future needs via some sort of solution that does not involve KAWC, certainly, that
3 is GMWSS' prerogative.

4 **Q. Do you agree that KAWC's acquisition of water systems is a "major hurdle" for water**
5 **regionalization.**

6 A. Of course not. Just the opposite is true. The General Assembly's stated goal of
7 encouraging regionalization and consolidation of water systems is set forth at KRS
8 224A.310¹⁰ referencing both the Kentucky Infrastructure Authority and the Kentucky
9 Division of Water. KRS 224A.300¹¹ states the same goal, as well as KRS 74.361.¹² For
10 Commission precedent on this issue, in approving KAWC's acquisition of the Eastern
11 Rockcastle Water Association several years ago, the Commission noted it was following
12 the General Assembly's guidance, which encourages the regionalization and consolidation
13 of water and wastewater systems.¹³ The Commission itself has encouraged KAWC to
14 become a regional water provider.¹⁴ Finally, in approving KAWC's acquisition of the
15 Livingston system earlier this year, the Commission stated, "Finally, in accordance with
16 KRS 224.A300(1) and KRS 74.361(1), the public policy of Kentucky is to encourage
17 regionalization, consolidation, and merger of water utilities. The proposed transaction

¹⁰ <https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=54165>

¹¹ <https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=54160>

¹² <https://apps.legislature.ky.gov/law/statutes/statute.aspx?id=24403>

¹³ Case No. 2017-00383, *Joint Application of Eastern Rockcastle Water Association, Inc. and Kentucky-American Water Company for the Transfer of Control and Assets*, January 19, 2018 Order, p. 9.

¹⁴ Case No. 2012-00096, *Application of Kentucky-American Water Company for a Certificate of Convenience and Necessity Authorizing Construction of the Northern Division Connection*, February 28, 2013, Order, p. 19; Case No. 89-438, *Notice of Adjustment of Rates of Kentucky-American Water Company*, June 28, 1990, Order, p. 24("The Commission has and will continue to encourage Kentucky-American to become a regional supplier of water . . .").

1 carries out that public policy.”¹⁵ All of this is in contrast to this part of Mr. Azavedo’s
2 testimony.

3 **VI. CONCLUSION**

4 **Q. Does this conclude your rebuttal testimony?**

5 **A. Yes.**

¹⁵ Case No. 2025-00364, *Application of the City of Livingston and Kentucky-American Water Company for the Transfer of Control and Assets*, February 10, 2026 Order, p. 15.

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF FAYETTE)

The undersigned, William A. Lewis, being duly sworn, deposes and says that he is the Vice President of Operations for Kentucky-American Water Company, that he has personal knowledge of the matters set forth in the accompanying testimony for which he is identified as the responsible witness, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

ull

William A. Lewis

Subscribed and sworn to before me, a Notary Public in and before said County and State,
this 8th day of September, 2026.

Molly McCleese Van Over
Notary Public

My Commission Expires:

July 31, 2029

Notary ID: KYNP26988

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

ELECTRONIC APPLICATION OF KENTUCKY-	)	
AMERICAN WATER COMPANY FOR AN	)	CASE NO. 2026-00094
ADJUSTMENT OF RATES	)	

REBUTTAL TESTIMONY OF JEFFREY NEWCOMB

September 16, 2026

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² Id. at 40.

1 **Q. Does Mr. Defever identify customer protections for the Commission’s consideration?**

2 A. No. Mr. Defever does not propose any specific customer protections as part of his direct
3 testimony. However, in response to Commission’s Staff First Request for Information,
4 question 1, Mr. Defever clarifies that he is indeed referring to the limitations implemented
5 as part of the QIP, including: (1) limitations on the miles of pipeline replaced annually,
6 (2) types of pipelines that could be replaced, (3) restriction to projects that are related to
7 replacing aging mains, and (4) annual cost limitations allowed to flow through the proposed
8 SIP. While he identifies certain limitations to the QIP, he does not state how those
9 limitations operate as appropriate customer protections or explain why or how imposing
10 the same or similar limitations upon the SIP as the former QIP would protect customers.

11 **Q. Please elaborate.**

12 A. Mr. Defever appears to conflate restrictions on scope of eligible investments with customer
13 protection, but they are not one in the same. A restriction that reduces the scope and scale
14 of the SIP would undermine the mechanism’s purpose.

15 **Q. Why would imposing restrictions from the former QIP undermine the purpose of the**
16 **SIP?**

17 A. As discussed in my Direct Testimony, the Commission, in its Order in Case No. 2025-
18 00122, found that the “QIP program no longer serves Kentucky-American’s initial purpose
19 of facilitating recovery for the approved capital expenditures while reducing the frequency
20 of rate cases[,]” specifically noting the “frequency of rate cases” filed by Kentucky-
21 American and the QIP’s inconsistent use. Further, placing the same restrictions on the SIP
22 as were in place for the Company’s prior QIP would not provide a meaningful customer
23 protection and would risk recreating a similar outcome as with the QIP, which is that the

1 mechanism would no longer serve its intended purpose of facilitating recovery of capital
2 while reducing the frequency of rate cases.

3 **Q. What would be the practical effect of narrowing the scope of SIP-eligible**
4 **investments?**

5 A. Narrowing the scope and decreasing the scale of the SIP would essentially shift the
6 recovery of otherwise SIP-eligible capital from the proposed rider mechanism to base rates.
7 This approach is not a customer protection and would reduce the Company's ability to
8 extend the time between GRCs. This shift would also ultimately remove the intended
9 benefits of the SIP that extend to customers, KAWC, and other stakeholders while also
10 making the SIP no longer responsive to the Commission's feedback on the QIP regarding
11 "frequency of rate cases."

12 **Q. Why do SIP-eligible assets have such a large impact on frequency of rate cases?**

13 A. The percentage of the Company's total capital plan eligible for recovery in the SIP rider
14 mechanism, and the depreciation rates associated with that eligible capital, has a significant
15 influence on the frequency of water GRCs. The primary driver of GRCs since the inception
16 of the QIP has been capital investments not eligible for recovery between rate cases through
17 a capital rider mechanism, so the scope and scale of the proposed SIP is necessary to
18 achieve its intended purpose and use.

19 **Q. Mr. Defever raises a general concern about specific situations that may cause KAWC**
20 **to file a rate case sooner than anticipated. Are those circumstances inconsistent with**
21 **the intent of the SIP?**

1 A. No. The referenced circumstances³ are those of such a nature that the SIP cannot
2 reasonably anticipate or account for in advance. These caveats are appropriate and prudent
3 because they involve potentially transformative events that may significantly impact SIP
4 assumptions and are more appropriately addressed in a separate proceeding or general rate
5 case. As a regulated utility, KAWC has an obligation to provide safe and adequate service
6 to its customers at just and reasonable rates. Periodic rate changes are necessary to support
7 the Company's continued provision of safe and adequate service to its customers. The way
8 that KAWC changes its base rates is through the rate case process. The caveats to the SIP
9 rider mechanism being able to reduce the frequency of GRCs, as stated in my Direct
10 Testimony and identified by witness Defever, are therefore necessary to ensure the financial
11 integrity of KAWC and to support the Company's continued provision of safe and adequate
12 service to its customers. The ability to sustain financial integrity and consistently invest in
13 improving its system over time is in the long-term best interest of customers. Some
14 caveats, like acquisitions or Certificate of Public Convenience and Necessity ("CPCN")
15 projects, simply defer Commission determination to another case. The Company does not
16 currently expect any of these conditions between now and 2029, but it is important to
17 recognize that these significant changes or intervening circumstances are possible and may
18 necessitate a GRC sooner than 2029.

19 **Q. Does the proposed SIP already include meaningful protections for KAWC's**
20 **customers?**

³ Direct Testimony of Jeffrey Newcomb, pp. 8-9 (explaining that KAWC's "next GRC could be as late as 2029 absent significant changes or intervening circumstances, including but not limited to, major acquisitions, significant capital investments deemed ineligible for recovery through the SIP rider mechanism, significant changes to billing determinants, or significant changes to operating expenses where no tracker or rider mechanism(s) exist.")

A. Yes. Meaningful customer protections are inherent in the Commission’s continued and focused oversight, as well as the proposed SIP design. Those protections include advance review of the Company’s capital forecast, recurring Commission and stakeholder review of the Annual Filings, the role of the Balancing Adjustment, and separate approval of investments that require a CPCN or are the result of an acquisition.

Q. Please discuss how the proposed SIP provides the opportunity for ongoing Commission review?

A. The Commission, in its Order in Case No. 2018-00358 that established the QIP, found that “a 90-day period is sufficient to review the annual filings.” With this in mind, KAWC designed the proposed SIP to allow for at least 90 days of review for both SIP Annual Filings and Balancing Adjustments. When combined with the minimum 7-month review period of the current GRC, the table below highlights the total number of months that proposed SIP-eligible investments and rates will be subject to review during the initial rolling 3-year period:

Review Opportunity	SIP 1.0 (GRC)	SIP 1.1	SIP 1.2
SIP-1.0 (GRC) Annual Filing	7	7	7
SIP-1.1 Annual Filing	3	3	3
SIP-1.0 (GRC) Balancing Adjustment	3	3	3
SIP-1.2 Annual Filing		3	3
SIP-1.1 Balancing Adjustment		3	3
SIP-1.2 Balancing Adjustment			3
Total Months Subject to Review	13	19	22

Q. Is the rolling three-year capital forecast review an important customer protection?

A. Yes. The rolling and continuous nature of the proposed SIP provides an opportunity for ongoing review of the Company’s rolling 3-year capital forecast, which enables the

Commission and other stakeholders to voice and address concerns earlier and in a much more focused proceeding than that of a general rate case.

Q. How does the Company propose to treat SIP-eligible investments that require additional Commission approval?

A. SIP-eligible investments that are subject to further Commission action, such as those which require a CPCN or are the result of an acquisition, would not be automatically included in the SIP plan unless and until approved by the Commission for recovery through the SIP. This preserves the Commission's ability to evaluate these circumstances on a case-by-case basis and ensures that regulatory requirements applicable to those circumstances are addressed properly.

Q. How is the Balancing Adjustment a customer protection?

A. The Balancing Adjustment, in addition to being an additional review opportunity, is a customer protection because it is symmetrical between the customers and the Company, which helps to ensure that customers pay no more and no less than the actual costs of capital, depreciation, and taxes associated with the qualified infrastructure investments for any given SIP Period. For example, in the instant case, KAWC has proposed a means to return to customers the QIP overcollection that remained following the Commission's order terminating QIP, as discussed by Company witness Robert Prendergast. The Balancing Adjustment also supports the proposal that a proposed rate be implemented in the event an Order approving a SIP rider rate is not issued by the rate effective date, which will help minimize the size of the future Balancing Adjustment for a given SIP Period.

1 **Q. What is Mr. Rothschild’s recommendation?**

2 A. Like Mr. Defever, Mr. Rothschild does not reject the Company’s proposal but recommends
3 that investments recovered through the SIP be authorized a return on equity (“ROE”) 10
4 basis points below the ROE authorized for base rates should the Commission approve the
5 SIP.

6 **Q. Is an ROE adjustment to KAWC’s proposed SIP appropriate, as recommended by**
7 **Mr. Rothschild?**

8 A. No, reducing the ROE that applies to KAWC’s proposed SIP is not appropriate, as it could
9 impact KAWC’s competitiveness for investment dollars and disincentivize use of the SIP.
10 The Company could replicate the intended purpose and use of the SIP rider mechanism by
11 filing annual GRCs that utilize a future test period. While that approach would allow
12 recovery at the Commission-authorized ROE for base rates, it would not provide the same
13 regulatory efficiencies, customer benefits, or reduce the frequency of rate cases that the
14 proposed SIP is designed to achieve.

15 **Q. You mentioned that a reduced ROE could disincentivize KAWC’s use of the SIP.**
16 **Please explain.**

17 A. Mr. Rothschild does not suggest a reduction to the ROE authorized for base rates, and
18 therefore the Company could instead seek recovery through filing annual GRCs that utilize
19 a future test period to avoid such a reduction. While that path would enable the Company
20 to recover its full ROE, it would not achieve the Commission’s objective of reducing the
21 frequency of rate case filings⁴ or provide the same benefits to customers as the proposed

⁴ Case No. 2025-00122, (Ky. PSC Dec. 16, 2025) Final Order at 44. (“Based on the evidence in this case, the Commission finds the QIP program no longer serves Kentucky-American’s initial intended purpose of facilitating recovery for the approved capital expenditures while reducing the frequency of rate cases.”) citing Case No. 2018-00358, (Ky. PSC June 27, 2019), Final Order at 74-75.

1 SIP rider mechanism. Therefore, I think it is inappropriate to disincentivize the use of SIP
2 by reducing the ROE that applies to SIP investments. Company witness Ann Bulkley
3 further addresses why Mr. Rothschild's proposal is not appropriate.

4 **Q. Has Mr. Rothschild established a sufficient basis for his recommendation?**

5 A. No. Mr. Rothschild simply points to examples of other mechanisms in Kentucky that
6 include true-ups and adjust the ROE but does not establish why the adjustment is
7 appropriate for KAWC's SIP. He further states that this adjustment is "long-standing"
8 Commission practice.

9 **Q. Why is Mr. Rothschild mistaken when he points to the inclusion of a true-up with the**
10 **SIP as support for his recommendation about an ROE reduction?**

11 A. As discussed in my Direct Testimony and above, the SIP's Balancing Adjustment functions
12 primarily as a true-up mechanism and an important form of customer protection, not a
13 reduction of risk for the Company. First, as to the accuracy of SIP investment forecasts
14 each year, the Balancing Adjustment serves to protect customers by aligning SIP revenue
15 collected from customers with specific investments put into service during a calendar year.
16 This ensures customers are only paying for investments that are providing service to
17 customers. Second, KAWC has seen year-over-year growth in billing determinants, as
18 demonstrated on Exhibits 25 and 26 and sponsored by Company witness Rea, so Mr.
19 Rothschild is just incorrect that the Balancing Adjustment reduces risk. The Balancing
20 Adjustment is a customer protection.

COMMONWEALTH OF KENTUCKY)
) SS:
COUNTY OF FAYETTE)


Jeffrey Newcomb

Molly McCleese Van Over
Notary Public

July 31, 2029

Notary ID: KYNP26988

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

ELECTRONIC APPLICATION OF KENTUCKY-	)	
AMERICAN WATER COMPANY FOR AN	)	CASE NO. 2026-00094
ADJUSTMENT OF RATES	)	

REBUTTAL TESTIMONY OF ROBERT PRENDERGAST

September 16, 2026

1 **I. INTRODUCTION**

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

3 A. My name is Robert Prendergast. My business address is 1 Water Street, Camden, NJ 08102.

4 **Q. Did you previously submit Direct Testimony in this proceeding on behalf of Kentucky-**
5 **American Water Company (“Kentucky-American,” “KAWC” or the “Company”) in this**
6 **proceeding?**

7 A. Yes. I filed Direct Testimony in this proceeding on May 15, 2026.

8 **Q. Has your role with the Company changed since you filed Direct Testimony?**

9 A. Yes. On June 22, 2026, I was promoted to Director, Rates & Regulatory.

10 **Q. What are your duties as Director, Rates & Regulatory?**

11 A. As Director, Rates & Regulatory, my duties consist of reviewing, preparing, and assisting in
12 regulatory filings and related activities for Kentucky-American Water. I am also responsible for
13 collaborating with KAWC state operations to ensure accurate expense and capital information for
14 regulatory activity in my state.

15 **Q. What is the purpose of your Rebuttal Testimony in this proceeding?**

16 A. The purpose of my Rebuttal Testimony is to respond to the Office of the Attorney General of the
17 Commonwealth of Kentucky, Lexington-Fayette Urban County Government, and Georgetown
18 Municipal Water and Sewer Service (“AG/LFUCG/GMWSS”) witness Defever’s proposed
19 revenue requirement adjustments for:

- 20 • Labor Vacancies
- 21 • Overtime
- 22 • Annual Performance Pay (“APP”) for Union Employees
- 23 • Temporary Help
- 24 • Severance

- 1 • Other Benefits Expense: Employee Stock Purchase Program (“ESPP”) and 401(k)
- 2 Expense
- 3 • External, Government, and Legislative Affairs (Lobbying Adjustment)
- 4 • Support Services Business Development
- 5 • Membership Dues
- 6 • Board of Director Fees
- 7 • Rate Case Expense

8 **Q. Are you sponsoring any schedules or exhibits with your Rebuttal Testimony?**

9 A. Yes. I am sponsoring exhibits Exhibit RP-1R, Exhibit RP-2R, and Exhibit RP-3R.

10 **II. RESPONSE TO MR. DEFEVER’S PAYROLL ADJUSTMENTS**

11 **Q. What recommendation has Mr. Defever made related to KAWC’s payroll expense?**

12 A. Mr. Defever recommends making a 5.4% adjustment to the Company’s direct and allocated payroll
 13 expense. His adjustment reduces KAWC payroll by \$944,583 and Service Company payroll by
 14 \$536,370. The reduction to payroll results in corresponding adjustments of \$111,663 and \$370,388
 15 to payroll taxes and employee benefits, respectively, based on Mr. Defever’s Exhibit_JD-1.

Line No.	Description	Forecasted Test Period	Reference
1	OAG/LFUCG/GMWSS Adjustment to Payroll	(\$1,480,953)	Exhibit JD-1, Schedule C-1
2	OAG/LFUCG/GMWSS Benefit Expense Ratio	<u>25.01%</u>	Exhibit JD-1, Schedule C-14
3	OAG/LFUCG/GMWSS Payroll Benefit Adjustment	<u>(\$370,388)</u>	Line 1 X Line 2
4	OAG/LFUCG/GMWSS Payroll Tax Ratio	<u>7.54%</u>	Exhibit JD-1, Schedule C-15
16	5 OAG/LFUCG/GMWSS Payroll Tax Adjustment	<u>(\$111,663)</u>	Line 1 X Line 4

17 **Q. On what basis does Mr. Defever make his recommendations?**

18 A. Mr. Defever bases his recommendation on information provided in KAWC’s response to PSC First
 19 Set, question 24, which identifies the Company’s historical budgeted and actual number of full and
 20 part-time employees, and those for the base and forecasted test year. He further alleges that the

1 Company has provided no support or evidence for a corresponding adjustment to overtime and/or
2 contract services.

3 **Q. Do you agree with these adjustments?**

4 A. No, I do not, and the Commission should reject them. The vacancy adjustment is inappropriate for
5 several reasons. First, Mr. Defever's adjustment is inconsistent with established Commission
6 precedent on the treatment of vacancies. Second, Mr. Defever's adjustment is particularly
7 inappropriate because he fails to make corresponding upwards adjustment to overtime and/or
8 contract services¹ which are necessarily incurred to perform work that any vacancy would cause.
9 Thirdly, the Company did analyze the impact of actual versus allowed payroll, overtime and
10 contract services, which is discussed below. Lastly, there are numerous errors in Mr. Defever's
11 workpapers which I will discuss below.

12 **A. AG/LFUCG/GMWSS WITNESS DEFEVER'S PROPOSITION IS INCONSISTENT**
13 **WITH COMMISSION PRECEDENT**

14 **Q. You mention that Mr. Defever's adjustment is inconsistent with established precedent. Please**
15 **discuss.**

16 A. As discussed by KAWC witness William A. Lewis, AG witnesses have proposed similar iterations
17 of vacancy adjustments in previous KAWC cases, all of which have been rejected by the
18 Commission. The Commission has consistently upheld KAWC's methodology over several cases.²

¹ Temporary Help is a line item component of KAWC's Contract Services expense, which also comprises other contracted labor and services that support KAWC. Please see KAWC's response to PSC DR 4-4 which explains KAWC's Contract Services expense's interaction with staffing levels.

² See Rebuttal Testimony of William A. Lewis, pp. 3; Case No. 1995-00554, In The Matter Of Notice Of Adjustment of the Rates of Kentucky-American Water Company Effective On And After February 29, 1996; Case No. 2004-00103, In the Matter of Adjustment of Rates of Kentucky American Water Company; Case No. 2010-00036, Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year, Order, p. 25 (Dec. 14, 2010); Case No. 2018-00358, Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year, Order, p. 39 (June 27, 2019); Case No. 2023-00191, Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year, Order, pp. 15-16 (May 3, 2024); Case No. 2025-00122, Application of Kentucky-American

1 **B. VACANCY ADJUSTMENT IMPACTS TO OVERTIME AND CONTRACT**
2 **SERVICES**

3 **Q. Do vacancies necessarily result in lower labor costs?**

4 A. No. As discussed by Mr. Lewis, when positions remain unfilled, the Company must continue to
5 perform work necessary to provide safe and reliable service to its customers. To do so, the Company
6 must rely upon overtime and contracted services to supplement its workforce. These alternatives
7 are often more expensive. In addition, the Company is projecting 30,040 overtime hours in this
8 case per Exhibit 37, Schedule G-2, even though there were 32,244 overtime hours projected during
9 the base period, and 36,320 overtime hours in 2025.

10 **C. ANALYSIS OF ACTUALS AND AUTHORIZED PAYROLL**

11 **Q. Has KAWC provided any evidence regarding the relationship between vacancies, overtime,**
12 **and contracted services?**

13 A. Yes. Contrary to Mr. Defever's contention³, the Company provided an analysis of its actual vs
14 allowed labor, overtime, and contracted temporary employees by month in its response to PSC 3-
15 11, Exhibit RP-1R and is providing an updated analysis including an additional 32 months of data
16 as Exhibit RP-2R. That analysis demonstrates that for each year from 2022 through August 2026
17 the Company's **actual** regular labor, overtime, and contracted services have **exceeded** the
18 Commission authorized amounts for those categories. This analysis demonstrates that a vacancy
19 adjustment would not reduce overall labor costs but actually increase them. This also demonstrates
20 that customers are not incurring undue labor costs; to the contrary, the Company's actual labor
21 costs have not been fully captured in rates. This analysis proves that the past Commission precedent
22 has a lower cost to the customers and therefore the proposed vacancy adjustment should be
23 disallowed.

Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year, Order, pp. 19-20 (December 16, 2025).

³ Direct Testimony of John Defever ("Defever Direct") at p. 10.

1 **D. ERRORS IN THE PROPOSED ADJUSTMENT**

2 **Q. Aside from failing to account for overtime and contracted services, does Mr. Defever make**
3 **any errors with regard to his proposed vacancy calculation?**

4 A. Yes. Mr. Defever makes several errors when calculating his proposed vacancy adjustment that I
5 discuss below.

6 **Q. Mr. Defever included the Service Company in his vacancy adjustment; why is it**
7 **inappropriate to include a vacancy adjustment for Service Company?**

8 A. Because the Service Company charges are directly charged to KAWC for work incurred at actual
9 cost, Service Company charges do not include any vacancies. Only actual payroll paid to Service
10 Company personnel is charged to the Company. It is inappropriate to include the Service Company
11 payroll expense in his vacancy adjustment.

12 **Q. Is Mr. Defever's calculation accurate even if a vacancy adjustment was to be applied to**
13 **Service Company?**

14 A. No. In addition to including Service Company payroll expense in his vacancy adjustment
15 calculation, Mr. Defever's calculations for doing so are also incorrect because he uses KAWC-
16 specific headcount data.

17 **Q. Why is KAWC-specific headcount irrelevant and inapplicable to Service Company?**

18 A. As mentioned above, Service Company charges KAWC for actual services performed and costs
19 incurred directly. Therefore, the Company would only be billed for the actual Service Company
20 work performed. By applying a KAWC-specific vacancy percentage to Service Company payroll
21 expense, Mr. Defever inflates his proposed adjustment. Further, the application of Mr. Defever's
22 proposed 5.4% vacancy rate has no factual basis for application to Service Company and artificially
23 reduces costs that were actually incurred to provide services to KAWC.

1 **Q. Does Mr. Defever's adjustment account for the Support Services value provided by Service**
2 **Company to KAWC?**

3 A. No. Mr. Defever applies the same 5.4% vacancy factor to the \$9.9 million that was billed from
4 Support Services to KAWC without any reasoning for the adjustment or any supporting data that
5 would justify an adjustment to Support Services payroll expense. Furthermore, Mr. Defever
6 ignores Company Witness Joseph Weiss's Direct Testimony (Page 6-7) which states that Support
7 Services has saved KAWC more than \$6.8 million in managerial and professional services from
8 the work completed by shared services personnel in 2025.

9 **Q. How should the Commission view Mr. Defever's adjustment to Service Company's payroll**
10 **expense?**

11 A. The Commission should reject Mr. Defever's adjustment to Support Services payroll expense as it
12 is unreasonable, inaccurate, and blindly applies an unrelated adjustment to the payroll expense
13 billed to KAWC by Support Services.

14 **Q. Does Mr. Defever's vacancy adjustment properly account for other necessary adjustments?**

15 A. No. Mr. Defever applies the 5.4% vacancy percentage to Kentucky-American's direct overall
16 payroll expense of \$17,492,276, while also proposing a variety of adjustments to overtime,
17 incentive pay, lobbying, benefits and payroll tax. Essentially, Mr. Defever has calculated the
18 payroll expense adjustments for vacancies, overtime, lobbying, APP/LTPP, and the rest of his
19 payroll adjustments as if these adjustments are independent and do not impact each other, when
20 they in fact affect the same underlying expense. Therefore, the result is that Mr. Defever is double
21 counting a portion of his adjustments because his vacancy starting point of \$17.5 million includes
22 payroll (base, overtime, APP, LTPP), group insurance, other benefits (including 401k, DCP, ESPP,
23 and more), pension, OPEBs and payroll taxes.

Q. Please explain what you mean by Mr. Defever is “double counting.”

A. Since Mr. Defever is making a vacancy adjustment to this all-in payroll amount of \$17.5 million, to accurately calculate the total impact of the vacancy adjustment and Mr. Defever’s payroll adjustment, one would need to either: (1) remove the amounts that are being subjected to other adjustments (i.e. overtime, incentive compensation, group insurance, pension, OPEB, lobbying) from the vacancy adjustment calculation, or (2) adjust the starting point for each and every payroll adjustment made by Mr. Defever. The table below shows option (1) which strips out the amounts associated with Mr. Defever’s other adjustments, but either methodology leads to the same conclusion-- that Mr. Defever is double counting a portion of his adjustments because he fails to consider how his vacancy adjustment impacts his other payroll adjustments and therefore significantly overstates his proposed adjustment.

Description	Forecasted Test Period	Vacancy Adjustment Factor	Vacancy Adjustment	Notes
Kentucky American Payroll	\$17,492,276	-5.40%	(\$944,583)	Exhibit JD-1, Schedule C-1 uses an "all in" payroll amount to calculate the vacancy adjustment from Attorney General’s Second Request, Item 69
Overtime	(1,734,301)	-5.40%	93,652	Exhibit JD-1, Schedule C-2
Group Insurance	(2,670,470)	-5.40%	144,205	Exhibit JD-1, Schedule C-14
Other Benefits	(1,145,761)	-5.40%	61,871	Exhibit JD-1, Schedule C-14
Pension Expense	(101,814)	-5.40%	5,498	Exhibit JD-1, Schedule C-14
Gen Taxes	(993,342)	-5.40%	53,640	Exhibit JD-1, Schedule C-15
OPEB Expense	593,498	-5.40%	(32,049)	Exhibit JD-1, Schedule C-14
Proposed disallowance of APP	(468,081)	-5.40%	25,276	Exhibit JD-1, Schedule C-3
Proposed disallowance of LTPP	(153,932)	-5.40%	8,312	Exhibit JD-1, Schedule C-3
Lobbying/External Affairs Positions	(473,472)	-5.40%	25,567	Exhibit JD-1, Schedule C-12
Adjusted Kentucky American Payroll	\$10,344,601	-5.40%	(\$558,608)	Revised vacancy adjustment to eliminate payroll double counting
			(\$385,974)	Adjustment Reduction

Q. Does the Company agree with Mr. Defever’s payroll adjustment?

A. No. While the Company does not accept Mr. Defever’s adjustments as being appropriate or accurate, if the Commission were to apply a vacancy adjustment, Mr. Defever’s vacancy adjustment should be reduced by \$385,974 as shown in the table above.

Q. What errors arise from Mr. Defever’s calculation of flow through payroll tax and benefit adjustments?

1 A. Mr. Defever's vacancy adjustment calculation and subsequent flow through payroll tax and benefit
2 calculations, overstate the impact to the proposed benefits and payroll tax adjustments. Mr. Defever
3 applies his vacancy adjustment to an all-in payroll expense which includes group insurance,
4 pension, OPEBs, payroll taxes, other benefits, and payroll (base, overtime, APP and LTPP). He
5 then takes his all-in vacancy adjustment, which includes reductions to payroll taxes and benefits,
6 and then applies his calculated benefit and payroll tax expense ratios. The application of these
7 benefit and payroll tax ratios to an adjustment that already includes his 5.4% vacancy adjustment
8 is incorrect and overstates the adjustment to payroll tax by \$53,765 (\$267,926 - \$241,083) and to
9 benefits of \$252,654 (\$414,192 - \$161,538). Mr. Defever's flow through payroll tax and benefit
10 adjustments should be reduced by \$306,419 (\$53,765 + \$252,654).

11 **Q. How should the Commission address Mr. Defever's vacancy adjustment?**

12 A. The Commission should reject Mr. Defever's vacancy adjustment, but if the Commission accepts
13 this adjustment, Mr. Defever's adjustment should be recalculated based on the analysis provided in
14 Exhibit RP-3R. Mr. Defever's vacancy adjustment fails to provide a corresponding upwards
15 adjustment to overtime or contracted services for the implied vacancies calculated by his
16 adjustment. His testimony and analysis ignore the Company's response to PSC 3-11 which
17 illustrates that the Company offsets vacancies through overtime and contracted services, and has
18 spent a greater amount on regular labor, overtime, and contracted services than the Company has
19 been authorized in 2024 and 2025. Further, Mr. Defever's calculation of his vacancy adjustment is
20 incorrect because he misapplies his vacancy factor to Support Services payroll expense and
21 overstates the impact of his APP & LTPP, overtime, "lobbying", and flow through payroll tax and
22 benefit adjustments which, in turn, inflates the impact on KAWC. Accordingly, both Mr. Defever's
23 payroll vacancy adjustment and corresponding adjustments to benefits expense and payroll taxes
24 should be denied.

25 **Q. Did the Company look at the impact of vacancies compared to overtime and contract services**
26 **in any other years?**

1 A. Yes, please refer to Exhibit RP-2R which shows that the actual base payroll, overtime and contract
2 services is higher than the authorized base payroll, overtime and contract services each year from
3 2022 through 2025. This means that the last four years the actual expense is higher than the
4 authorized amount because the Company has had vacancies. This also proves that any vacancy
5 adjustment would cause the overtime and contract services to increase costs above the proposed
6 level in this case. Mr. Defever ignored the response to PSC 3-11 and made reductions to all three
7 expense categories (payroll, Overtime and Contract Services).

8 **Q. Did the Company recalculate Mr. Defever's adjustments to payroll?**

9 A. Yes, please refer to Exhibit RP-3R, page 2 of 5, which recalculates his proposed adjustments by
10 removing the double counting and other issues I have identified in his calculations.

11 **III. RESPONSE TO MR. DEFEVER'S OVERTIME ADJUSTMENT**

12 **Q. What recommendation has Mr. Defever made to KAWC's overtime expense?**

13 A. Mr. Defever recommends using a 5-year average of overtime expense. He justifies his use of a 5-
14 year average stating that overtime expense "fluctuated throughout the last five years."⁴

15 **Q. What issues arise from Mr. Defever's use of a 5-year average of overtime expense?**

16 A. First, the Company's overtime expense has increased 77% since 2021 and exhibits a compound
17 annual growth rate of 15.41% between 2021 and 2025. With the exception of 2024, the Company's
18 overtime expense has increased every year. These are hardly the characteristics of an expense that
19 "fluctuates." Second, Mr. Defever's adjustment to overall overtime expense completely ignores
20 the position-by-position methodology that the Company utilizes in its forecasted test period. Third,
21 Mr. Defever makes this adjustment to overtime expense while also making corresponding
22 adjustments to both labor and temporary help. Fourth, Mr. Defever's adjustment ignores the fact
23 that his adjustment to payroll included overtime in the starting point, which makes this proposed

⁴ Defever Direct at p. 11.

adjustment a duplicate adjustment. Lastly, Mr. Defever takes the total overtime, which includes expense and capital, and makes his proposed adjustment in full to the expense amount.

Q. Is Mr. Defever's use of a 5-year average of overtime expense more accurate than the Company's calculation methodology?

A. No. Mr. Defever's methodology of using a 5-year average to determine the Company's overtime expense is substantially less accurate, especially given the facts outlined above. As described in my direct testimony, the Company calculates overtime on a position-by-position basis within the Company's labor exhibit.⁵ Each position's overtime hours are calculated based on a three-year average of that specific position's historical overtime hours and adjusted to remove any non-recurring projects. Overtime hours are paid at three different multiples to base rates (1.5x, 2.0x, or 2.5x) which are determined based on the timing of the work performed (normal overtime, weekend, or holiday, respectively). The overtime multiplier for the forecast is based on a three-year average from 2023 through 2025. Each employee's overtime gross expense is calculated by multiplying the employee's hourly rate of pay by the overtime multiplier, then by their specific position's overtime hours. This methodology utilizes more recent overtime data and is based on the actual employees included in the forecasted test year to calculate the overtime that is needed to complete the Company's planned work.

Q. Even if his 5-year average approach were used, are there errors in Mr. Defever's calculation?

A. Yes. Mr. Defever's use of a 5-year average of historical total overtime expense creates two issues with his calculations. First, Mr. Defever uses historical overtime expense as if overtime expense does not naturally increase due to merit increases. Overtime is calculated based on employee pay, which increases annually due to rising employee wages. Not adjusting historical overtime for merit increases fails to recognize the basis for calculating overtime. Second, Mr. Defever is calculating his 5-year average using the total overtime dollars, both capital and expense. Therefore, his

⁵ Direct Testimony of Robert Prendergast, p. 7.

overtime adjustment needs to be corrected to remove the capital dollars because Mr. Defever's Exhibit JD-1, Schedule C pages 1 and 2 reflect only the expense yet Mr. Defever's adjustment is made to total overtime and therefore is overstated. Making these two adjustments for merit and the overtime capitalization percentage used in the case would result in an overtime O&M adjustment that would increase the revenue requirement by \$7,992. These calculations can be found in Exhibit RP-3R, page 3 of 5.

Q. How does Mr. Defever's overtime adjustment impact the Company's labor forecast?

A. Mr. Defever's overtime adjustment directly impacts the Company's labor forecast because the Company has forecast labor, including overtime and contracted services, based on the premise that any downwards adjustment to labor for vacancies should have an offsetting upward adjustment to overtime and contracted services expense. The Company's response to PSC 3-11 and the updated exhibit provided in Exhibit RP-2R shows that in years where the Company has not had a full complement of employees it has used overtime and contracted services to complete work and that the actual expense of labor, overtime, and contracted services has exceeded the authorized amounts for all years since 2022.

Q. How should the Commission address Mr. Defever's overtime adjustment?

A. The Commission should reject Mr. Defever's overtime adjustment in total. His calculation ignores the impact of employee wage increases, as well as the capitalization of overtime labor. If the Commission were to consider a vacancy adjustment in this case there should be an upwards adjustment to overtime labor described in the Company's response to PSC 4-2. This adjustment is calculated using 2025 overtime hours and the current employee count. The 2025 overtime hours are the most accurate projection of overtime the Company could expect moving forward. This results in an upward adjustment of \$1,232,780 of expense, as calculated in the attachment to KAWC's response to PSC 4-2.

1 **IV. ANNUAL PERFORMANCE PAY FOR LOCAL UNION**
2 **EMPLOYEES**

3 **Q. What recommendations did Mr. Defever make regarding APP expense?**

4 A. Mr. Defever recommends disallowing all incentive compensation related to financial goals.

5 **Q. Do you agree with Mr. Defever's recommendation?**

6 A. No. I do not agree with Mr. Defever's recommendation for the same reasons company
7 witness Mr. Lewis details in his rebuttal testimony.

8 **Q. Do you have additional concerns with Mr. Defever's recommendation regarding**
9 **incentive compensation?**

10 A. Yes. Mr. Defever's recommendation is based on removing costs that the Company is
11 contractually obligated to pay to certain KAWC union employees. If the Commission
12 accepts Mr. Defever's recommendation, the payroll costs that the KAWC union
13 represented employees should be added back into rates because the Company is
14 contractually obligated to provide that compensation.

15 **Q. Did you calculate the amount of union pay for KAWC employees that would be**
16 **attributable to KAWC union APP?**

17 A. Yes. The amount of incentive compensation Mr. Defever removed from the Company's
18 APP that should be added back to is \$192,706.

19 **V. OTHER BENEFITS EXPENSE: EMPLOYEE STOCK PURCHASE**
20 **PROGRAM ("ESPP")**

21 **Q. What recommendations did Mr. Defever make regarding Other Benefits Expense?**

22 A. Mr. Defever proposed removing: (1) \$49,477 related to ESPP program expenses, and (2) \$30,477
23 related to 401(k) expenses for employees that are also covered under a defined benefit plan.

1 **ESPP Expense**

2 **Q. What does Mr. Defever say in support of his recommendation to remove the ESPP expense?**

3 A. Mr. Defever cites a prior Commission decision stating it “is unreasonable to recover this expense
4 from ratepayers as they receive no benefit from the program”.⁶

5 **Q. Do you agree with Mr. Defever’s recommended adjustment to remove the ESPP program
6 expense from the Company’s test year?**

7 A. No, I do not. The ESPP is a valuable benefit to KAWC’s employees, and Mr. Defever highlights
8 that 50% of KAWC’s 206 eligible employees choose to participate.⁷ Through ESPP, employees
9 gain a stake in American Water, and by extension KAWC, and have a vested interest in KAWC’s
10 success.

11 As identified by Company witness Robert Mustich, the ESPP is part of his Target Total
12 Remuneration analysis.⁸ Mr. Mustich shows that KAWC’s Total Remuneration to its employees
13 is 8% below the national market median and 5% below the Mid-West regional market median.⁹
14 KAWC’s ESPP is utilized by 50% of KAWC employees and contributes to keeping their Total
15 Remuneration closer, but still well below the median levels of companies KAWC competes with
16 to recruit and retain employees. ESPP as a non-base pay form of employee compensation is an
17 efficient and cost effective way for customers to compensate KAWC employees.

18 The ESPP discount is only available to employees while they are employed with KAWC, making
19 it an effective retention tool for the Company. The employees that participated in the Company’s
20 ESPP in 2025 had an average tenure with American Water of 10.7 years of service. Therefore, this
21 cost effective non-base compensation program helps to retain employees while total market
22 renumeration is below national and Mid-West regional market medians.

⁶ Defever Direct at 16, line 9 to 18.

⁷ *Id.* at 16, line 4 to 7 (citing Kentucky-American’s response to the Attorney General’s First Request, No. 92).

⁸ Direct Testimony of Robert Mustich, Confidential Exhibit RVM-1, pp. 10-11.

⁹ Mustich Direct at 6, Tables 1-2.

VI. 401K EXPENSE ASSOCIATED WITH PENSION WIND-DOWN

Q. Does Mr. Defever address KAWC's 401(k) expense associated with its Pension-Wind Down?

A. Yes. Mr. Defever recommends an adjustment for the to remove the 401(k) expense for Kentucky-American and Service Company allocated employees who also participate in the Company's defined benefit retirement plan (i.e., "Pension" or "DBP") in the amount of \$30,477.

Q. Do you agree with Mr. Defever's recommended adjustment to 401(k) expense for the Company's test year?

A. No, I do not. The Company disagrees with Mr. Defever's characterization of the expense as duplicative. In Case No. 2018-00358, the Commission recognized that Pension plans and 401(k) plans should be evaluated in context for adjustments to duplicative benefits. In this case, this expense should be viewed as a cost associated with the pension's wind-down because it is representative of transitioning American Water's employees from the Company's locked Pension to the 401(k) that now serves as the Company's standard retirement benefit.

There are only 11 employees who have a pension benefit and the actual amount of expense included in the forecasted test year for employees enrolled in a non-frozen benefit plan is \$30,477, which is minimal in terms of customer impact. These employees were relatively new hires during American Water's transition from a pension to 401(k) benefit structure. However, continuing to honor this benefit helps ensure a smooth transition to the Company's 401(k) benefit plan and helps retain a small number of legacy employees who have been with the Company for close to 20 years or more. Of the 11 employees who have a pension plan benefit, 5 are union employees, which would require a renegotiation of the CBA to strip these employees of their pension benefit plan.

Q. How has the Company managed its benefit costs for all employees in light of the Pension wind-down?

A. The Company has actively managed compensation and benefit costs for all employees. The Company's retirement plans are one component of an employee's overall compensation.

Throughout the past two decades, the Company has modified retirement benefits to control costs, including closing the defined benefit plan to new hires in 2006, eliminating the availability of retiree medical benefits for non-collective bargaining unit new hires in 2002, and for the collective bargaining unit new hires in 2006.

The Company's retirement benefits underwent a significant change in 2006 when a defined contribution plan ("DCP") replaced the defined benefit plan for all employees hired after January 1, 2006, union employees hired between January 1, 2001 and December 31, 2005 had their pension benefit frozen and were also moved to the DCP. As of January 1, 2023, American Water split the Pension Plan into two separate plans (Active and Inactive). The Inactive Plan contains all retirees prior to July 1, 2017. Savings are achieved from the longer amortization period available under the Inactive Plan, which reduces the Amortization of Unrecognized Losses for the year and therefore lowers the expense level.

Q. What is the practical result as employees who participate in the Pension retire?

A. As these employees retire, and the Pension phases out, the costs associated with maintenance of the plan decline. However, until that point, KAWC must continue to honor its commitment to these remaining, long-serving employees, who are tied to its former benefit structure. The chart below demonstrates that KAWC's Pension Service expense has significantly declined over the past 7 years. This trend reflects the natural phase-out of the plan as employees retire and the declining service expenses associated with the plan.

KAWC PSC Cases	2018-00358	2023-00191	2025-00122	2026-00094
Pension Service Expense Filed	\$399,519	\$117,960	\$82,145	\$82,914
Pension Eligible Employees	53	22	15	11

Q. Why is it reasonable for KAWC to recover the Pension costs as the plan winds down?

A. Again, these remaining costs represent commitments made under a prior benefit structure that serve our longest tenured employees, and which was offered as a standard practice benefit in the industry

1 at the time. Therefore, these costs are reasonable and reflect the Company's transition from an
2 outdated benefit structure to more modern cost-efficient plans, helping to ensure that customers
3 benefit from lower long-term costs while still honoring commitments to KAWC's longest serving
4 employees.

5 **Q. Did Mr. Defever adjust the total compensation for his proposed adjustments to 401(k) and**
6 **ESPP?**

7 A. No, he did not. By not eliminating his proposed adjustments to the starting point of the vacancy
8 adjusted and the benefit adjustment, he is double counting his adjustment and causing additional
9 impacts to the flow through of benefits and payroll taxes.

10 **VII. BENEFIT AND PAYROLL TAX FLOW THROUGH**

11 **Q. Did Mr. Defever make any flow through changes based on his other payroll adjustments.**

12 A. Mr. Defever calculates two flow through adjustments for payroll tax and benefits to attempt to
13 account for the impact of his other payroll adjustments to payroll, overtime, incentive
14 compensation, lobbying, etc. However, as I mentioned previously in this rebuttal, Mr. Defever's
15 payroll adjustments are incorrect because of the impact of his vacancy adjustment on his other
16 adjustments including these flow through calculations.

17 **Q. Are there other errors that arise from Mr. Defever's calculation of benefit flow through**
18 **adjustment?**

19 A. Yes. For the benefit flow through adjustment, Mr. Defever uses a percentage of 25.01%, which is
20 derived by taking the Company's group insurance, OPEB, Pension, and other benefits expense in
21 the forecast test year and dividing by the Company's forecasted test year salaries and wages. This
22 percentage is incorrect because Mr. Defever is including \$30,477 in 401k expense and \$49,477 in
23 ESPP expense that he has proposed to adjust out of other benefits. In addition, Mr. Defever
24 incorrectly includes pension and OPEB expense in his benefit percentage.

25 **Q. Why is it incorrect to include Pension and OPEB expense in his benefit percentage?**

1 A. Pension and OPEB expense is calculated and set based on the assumptions that the Company's
2 Actuary, WTW, performs and would not change based on any payroll adjustments, especially since
3 the pension and OPEB plans are closed plans and not impacted by vacancies or new hires.

4 **Q. Does Mr. Defever incorrectly include any other expenses in his benefit percentage?**

5 A. Yes. Mr. Defever also includes Other Welfare, Employee Awards, Employee Physical Exams,
6 Safety Incentive Awards, Tuition Aid, Training and Referral Bonus expenses, none of which are
7 impacted by vacancies.

8 **Q. Did you find any other errors in the way Mr. Defever calculated his benefit percentage?**

9 A. Yes. Mr. Defever also fails to incorporate his own adjustments into the salaries and wages
10 denominator that he is using to calculate his benefit expense ratio. As shown in Exhibit RP-3R,
11 page 4 of 5, Mr. Defever's salaries and wages calculation needs to be adjusted to reflect the removal
12 of his double counting. Making these corrections would change Mr. Defever's benefit expense
13 ratio from 25.01% to 29.34%.

14 **Q. Are there issues that arise from Mr. Defever's calculation of payroll tax flow through
15 adjustment?**

16 A. Yes. For the payroll tax flow through adjustment, Mr. Defever uses a percentage of 7.54%, which
17 is derived by taking the Company's payroll tax expense in the forecast test year and dividing by
18 the Company's forecasted test year salaries and wages. This percentage is incorrect because Mr.
19 Defever is including \$10,738 in Federal Unemployment Tax Act ("FUTA") expense and \$5,363
20 in State Unemployment Tax Act ("SUTA") expense. These expenses should be excluded from
21 payroll taxes as even partial employees would arrive at the max cap almost immediately. In
22 addition, Mr. Defever fails to incorporate his own adjustments into the salaries and wages
23 denominator that he is using to calculate his payroll tax ratio. As shown in Exhibit RP-3R, page 5
24 of 5, Mr. Defever's salaries and wages calculation needs to be adjusted to reflect the removal of his
25 double counting. Making these corrections would change Mr. Defever's payroll tax ratio from
26 7.54% to 8.09%.

1 **Q. Did Mr. Defever make any other incorrect adjustments in payroll tax?**

2 A. Yes, In his starting point of \$3,553,422, Mr. Defever pulled the positive amount for Severance
3 (D11 in the Severance tab) instead of the adjustment amount of (\$100,447) which is found in cell
4 D15 on the Severance tab. This error causes a swing of over \$200,894 if corrected.

5 **Q. How should the Commission address Mr. Defever's pass through adjustments?**

6 A. If the Commission accepts Mr. Defever's pass through adjustments, the Commission should
7 remove the double counting of Mr. Defever's adjustments in the Company Payroll Expense
8 denominator and use the actual payroll and benefit expenses that would be impacted. That
9 correction would entail removing Pension, OPEB, FUTA, SUTA, and if accepted, the adjustments
10 that Mr. Defever made to APP, LTPP, 401k and ESPP expense.

11 **VIII. SEVERANCE**

12 **Q. What recommendation has Mr. Defever made for severance expense?**

13 A. Mr. Defever recommends eliminating the entirety of the Company's \$100,477 severance expense,
14 stating that ratepayers shouldn't be responsible for costs related to employees that are no longer
15 providing service and that severance is a "generous benefit".

16 **Q. Do you agree with Mr. Defever's severance expense?**

17 A. No. Mr. Defever's characterization of severance as a "generous benefit" completely misconstrues
18 the purpose of severance payments. Severance should be viewed as the upfront cost of prudent
19 workforce restructuring. The recovery of severance allows the Company to confidently make
20 restructuring decisions that could make the Company more efficient to the benefit of customers.

21 **Q. How should the Commission address Mr. Defever's severance adjustment?**

22 A. The Commission should reject Mr. Defever's severance adjustment.

23 **IX. TEMPORARY HELP EXPENSE**

24

1 **Q. What recommendation has Mr. Defever made for temporary help expense?**

2 A. Mr. Defever recommends a 5-year average to calculate Temporary Help Expense because this
3 expense has fluctuated.¹⁰ This adjustment results in a decrease of \$100,808.

4 **Q. Do you agree with Mr. Defever's adjustment to Temporary Help expense?**

5 A. No. Mr. Defever's argument that the temporary help expense has fluctuated is flawed. Based on
6 the Company's historical financials, Temporary Help Expense has increased every year since 2021
7 with the exception of 2024.

8 In addition, Mr. Defever's use of a five-year average incorporates data from 2021 and 2022, years
9 where the impact of COVID can still be attributed.

10 **Q. How did the Company forecast Temporary Help Expense?**

11 A. The Company kept Temporary Help Expense flat from its actual 2025 expense and only adjusted
12 the expense to incorporate an adjustment for the Company's three acquisitions.

13 **Q. Do you believe the Company's forecast for Temporary Help Expense is more accurate than**
14 **Mr. Defever's 5-year average?**

15 A. Yes. The Company's use of recent actual financial data to forecast Temporary Help Expense is
16 more accurate than Mr. Defever's use of a 5-year average, which incorporates outdated financial
17 information that reflects the impact of the COVID 19 pandemic.

18 **Q. How should the Commission address Mr. Defever's temporary help expense adjustment?**

19 A. The Commission should reject Mr. Defever's adjustment.

20 **Q. How does Mr. Defever's Temporary Help adjustment impact the Company's labor forecast?**

21 A. Mr. Defever's Temporary Help adjustment directly impacts the Company's labor forecast because
22 the Company has forecast labor, including overtime, and Contracted Services expense, of which
23 Temporary Help is a line item, based on the premise that any downwards adjustment to labor for
24 vacancies should have an offsetting upward adjustment to overtime and temporary help (contracted

¹⁰ Defever Direct at p. 18.

1 services) expense. The Company's response to PSCDR3-11 and the updated exhibit provided in
2 Exhibit RP-2R shows that in year's where the Company has not had a full complement of
3 employees it has used overtime and contracted services to complete work and that the actual
4 expense of labor, overtime, and contracted services has exceeded the authorized amounts for all
5 years since 2022.

6 **X. SUPPORT SERVICES BUSINESS DEVELOPMENT**

7

8 **Q. Does Mr. Defever address KAWC's business development expense?**

9 A. Yes. Mr. Defever recommends an adjustment to remove Service Company business development
10 costs allocated to the Company in the amount of \$291,898.

11 **Q. Do you agree with Mr. Defever's recommended adjustment to remove Service Company**
12 **business development costs from the Company's test year?**

13 A. No, I do not. Mr. Defever's cited the Order to Case No. 2025-00122 that disallowed this expense
14 and then cited Case No. 2023-00191, in which the Commission disallowed the shared services
15 business development expense stating that the shared services business development expenses were
16 not specifically justified, and that allocated business development expenses are not specific to
17 Kentucky-American's development efforts. The Company explained how business development
18 expenses benefit customers of Kentucky-American in response to AG 2-60. These costs, directly
19 and indirectly, support activities that strengthen KAWC and help mitigate the costs to be recovered
20 on a per customer basis. Business development also enhances American Water's purchasing power
21 through facilitating growth within its footprint and spurs activities that contribute to local
22 economies. Additionally, business development supports activities that help the Company build
23 relationships with local community leaders and businesses that can lead to better communications
24 in emergencies, sharing of best practices, and providing support for local community needs.

1 **Q. Please provide additional details describing how Service Company business development**
2 **activities benefit customers and the broader communities that KAWC serve.**

3 A. Business development activities directly and indirectly benefit KAWC customers because they help
4 grow our customer base, which enables the Company to spread system investment costs and
5 operating expenses across a larger customer group, thereby mitigating the costs to be recovered per
6 customer. For example, the recently approved Nexus transaction,¹¹ provides a clear example of the
7 benefits of Service Company business development. The acquisition, sourced and executed at the
8 Service Company level, expands KAWC's footprint and creates additional economies of scale
9 directly benefiting KAWC and its customers. Per "KAWC 2026 Rate Case - Exhibits (25, 26, 37)
10 Revenue WP Support" provided in the Company's Response to PSCDR1-1, the 5,221 additional
11 Nexus customers as of 12/31/2027 reduces the Company's proposed \$59.8M of O&M from
12 \$462.40 to \$444.45, an \$18 drop in O&M per customer. If we were to add in the impact of the
13 Black Mountain and Livingston acquired customers, which were both supported by the Service
14 Company business development teams, the additional 3,325 and 151 customers, respectively,
15 would reduce the Company's proposed O&M per customer from \$462.40 to \$433.26.

Customers as of 12/31/2027¹

KAWC	129,339	129,339	129,339
Nexus		5,221	5,221
BMUD			3,325
Livingston			151
Total	129,339	134,560	138,036

Proposed O&M²	\$59,805,797	\$59,805,797	\$59,805,797
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O&M per customer	\$462.40	\$444.45	\$433.26
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Notes:

1. Company's Response to PSCDR1-1, "KAWC 2026 Rate Case - Exhibits (25, 26, 37) Revenue WP Support"
2. Company's Response to PSCDR1-1, "KAWC 2026 Rate Case - Revenue Requirement and Conversion Factor"

¹¹ *Verified Joint Application of American Water Works, Kentucky-American Water Company, et. al.*, Case No. 2025-00171 (Ky. PSC, Sept. 9, 2025).

1 The Service Company business development organization assists the local Kentucky-
2 American business development team throughout the acquisition process, methodically working
3 with the Kentucky-American business development team from early acquisition outreach to
4 acquisition integration. The Service Company team assists by completing due diligence on potential
5 acquisitions, working to gather financial and system information that help determine what
6 investments the Company will need to make to improve these aging and troubled water systems.
7 The Service Company business development team also drives the integration process of our
8 acquisitions, helping to ensure that the system and its customers have a smooth transition into
9 Kentucky-American ownership.

10 Growth within American Water's footprint creates economies of scale that benefit KAWC
11 customers. As the footprint grows, both in Kentucky and nationwide, certain shared costs can be
12 distributed across a larger number of customers. American Water's relatively large scale is a great
13 benefit to KAWC customers who receive operational benefits of being part of the 3.5 million
14 metered customers we serve nationally. During the period 2015 through the end of 2024, American
15 Water has added nearly 420,000 customer equivalent connections to our operating platform, which
16 represents ~12% of our customer total. Due in part to the customer base expanding by
17 approximately 14,000 customers during that time period the Company has managed to keep the
18 level of O&M expense, net of production costs, since 2014, below the corresponding rate of
19 inflation over the same period. Again, as mentioned above, new customers added in Kentucky or,
20 in fact, anywhere in American Water's national footprint, will help spread a portion of operating
21 expenses from Service Company that would otherwise be allocated to KAWC's customer base.

22 The growing customer base also enhances American Water's purchasing power capabilities,
23 which allows American Water greater negotiating leverage to purchase goods and services in bulk
24 quantities at competitive prices, for the benefit of all customers including Kentucky-American
25 customers. On its own, KAWC is a relatively small utility, with approximately 139,500 water

1 service connections¹²; therefore, this customer base would limit KAWC's ability to absorb costs.
2 Again, as a part of American Water's growing presence across its footprint, KAWC customers gain
3 access to cost efficiencies it would otherwise incur standing alone.

4 In addition, through the improvements in the operations of the wastewater and water
5 utilities that the Company acquires, business development activities achieve public policy
6 objectives of improving the quality of the water consumed by customers and the quality of the
7 public bodies of water into which wastewater effluent is discharged.

8 For these reasons, the Company's business development costs are not speculative and
9 provide a demonstrable benefit to KAWC customers. I believe that the Commission should
10 approve the Company's full business development costs.

11 **XI. LOBBYING EXPENSES**

12 **Q. Does Mr. Defever make an adjustment for Lobbying?**

13 A. Yes. Mr. Defever recommends an adjustment to disallow \$473,472 for expenses that he associates
14 with lobbying, grouping in government affairs, regulatory policy and political advocacy expense
15 and associated employee salaries in the future test year.

16 **Q. Do you agree with Mr. Defever's recommended adjustment to remove the expenses associated**
17 **with KAWC Government and External Affairs employees?**

18 A. No. The employees associated with Mr. Defever's adjustment have External and Government
19 Affairs titles. The employees with titles including External Affairs operate in their role completely
20 or proportionally outside of government affairs or lobbying activities. These External Affairs
21 employees' primary role is to communicate with the customers and municipalities that we serve,
22 providing information and responding to inquiries regarding main breaks, work being completed,
23 scheduled maintenance, etc.

¹² Lewis Direct Testimony, p. 3, line 11.

1 **Q. How should the Commission address Mr. Defever's lobbying expense adjustment?**

2 A. The Commission should disallow Mr. Defever's lobbying expense adjustment in its entirety.
3 However, should the Commission adopt Mr. Defever's lobbying adjustment, then the lobbying
4 adjustment should be reduced to remove 50% of the Sr. Manager, Government & External Affairs
5 and VP, Chief Legislative & External Affairs Officer, and the entirety of the Lead, External Affairs
6 position salary from the adjustment. Removing the expense associated with External Affairs from
7 Mr. Defever's lobbying adjustment decreases the adjustment from \$473,472 to \$275,511.

8 **Q. Does Mr. Defever's proposed adjustment impact the proposed vacancy adjustment?**

9 A. Yes. As discussed previously, Mr. Defever includes the total payroll and related in his proposed
10 vacancy adjustment. By not removing the proposed adjustment for what he terms "lobbying", he
11 is eliminating 100% in this proposed adjustment and an additional 5.4% in the vacancy adjustment,
12 which then impacts the payroll tax and benefit adjustments. Mr. Defever is clearly making an
13 adjustment multiple times to the same expense.

14
15 **XII. RATE CASE EXPENSE**

16 **Q. Did Mr. Defever propose adjustments for Rate Case expense?**

17 A. Yes. Mr. Defever recommended an amortization period of three years versus the two years
18 proposed in the application for rate case expense in the current case. This results in a \$238,227
19 expense reduction.

20 **Q. Do you agree with the adjustment to Rate Case expense?**

21 A. No. Mr. Defever's recommended three-year amortization for the current case, does not align with
22 the time frames of the last several Kentucky-American rate cases. The Commission should reject
23 Mr. Defever's proposed amortization period.

XIII. BOARD OF DIRECTORS FEES

Q. Did Mr. Defever propose adjustments for Board of Directors Fees?

A. Yes. Mr. Defever recommended an adjustment to reduce Board of Directors fees by \$47,223. In his testimony, Mr. Defever cites an obscure case from Connecticut, a state nearly 800 miles away, where it was ruled that Board of Directors fees should be split 75/25 between shareholders and ratepayers. However, in his response to PSC 1-2, Mr. Defever acknowledges that the Commission has never approved an adjustment to Board of Director Fees.¹³

Q. Do you agree with the adjustment to Board of Directors Fees?

A. No. Mr. Defever states that the Board of Directors Fees primarily serve the interests of the Company's shareholders, and that they are the primary beneficiaries of the cost. However, Mr. Defever ignores the Board of Director minutes provided in the Company's response to AG 1-62, which provided the KAWC Board of Directors meeting minutes. These minutes show that the Board of Directors discussed capital improvements, safety initiatives, community outreach, and the Company's H2O Help to Others program which continues to assist limited income customers. In addition, the Board of Directors minutes show discussions around the Company's operations and financials. The Board of Directors provide oversight, feedback, and a check to the Company's operations. This oversight benefits customers by helping the Company prudently manage its operations and capital investments, that are required to provide clean, reliable drinking water.

Q. Are you aware of the Commission disallowing Board of Directors fees from the Company or any other regulated utility in the state of Kentucky?

A. No, I am not aware of any adjustment to Board of Directors fees in the state of Kentucky.

Q. How should the Commission address Mr. Defever's Board of Directors fees adjustment?

A. The Commission should disallow Mr. Defever's adjustment in its entirety.

¹³ In his response to the Commission's Data Request 1-2, Mr. Defever also provides two cases from Arizona, a state over 1,000 miles away from Kentucky, where the Arizona Corporation Commission disallowed Board of Director fees.

XIV. MEMBERSHIP AND DUES EXPENSES

Q. Did Mr. Defever propose adjustments related to Membership and Dues expense?

A. Yes. Mr. Defever recommended a reduction of \$53,012 to Memberships and Dues expense. His justification for eliminating almost the entirety of the membership and dues expense for organizations that participate in image building/advocacy is that the Company cannot identify the portion of the dues paid to these organizations that these independent organizations spend on image building and advocacy.

Q. Do you agree with Mr. Defever's adjustment to membership and dues expense?

A. No, I do not. Mr. Defever's recommendation assumes that the entirety of the dues paid to these civic and regional organizations go to advocating for KAWC and its interests, which is wrong. While these organizations may engage in image building and advocacy activities, they do so on behalf of their regions, their member communities, and the broader interests of Kentuckians, not on behalf of KAWC.

While KAWC is a dues-paying member of these organizations, the Company's participation is not for the support of image building and advocacy activities provided by these organizations. Rather, KAWC participates to provide support to the communities we serve and to contribute to regional initiatives that help strengthen local economic activity and our relationships with the communities we serve. KAWC's participation with these organizations helps ensure that KAWC remains engaged with our customers and the communities we serve and at the forefront of local initiatives that may impact KAWC facilities or operations.

Furthermore, the Company has described the benefits to ratepayers that each of these memberships offers in the Company's response to AG 1-22. Participation in these membership organizations helps KAWC connect with the communities and people it serves.

XV. CONCLUSION

Q. Does this conclude your rebuttal testimony?

1 A. Yes.

VERIFICATION

STATE OF KENTUCKY

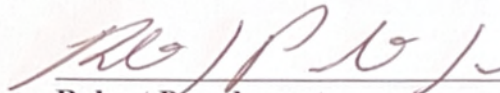
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) SS:

COUNTY OF FAYETTE

)

The undersigned, Robert Prendergast, being duly sworn, deposes and says that he is Director, Rates & Regulatory for American Water Works Service Company, Inc., that he has personal knowledge of the matters set forth in the accompanying testimony for which he is identified as the responsible witness, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.


Robert Prendergast

Subscribed and sworn to before me, a Notary Public in and before said County and State,
this 11th day of September, 2026.


Notary Public

My Commission Expires:

July 31, 2029

Notary ID: KYNP26988

**KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2026-00094
COMMISSION STAFF'S THIRD REQUEST FOR INFORMATION**

Witness: Robert Prendergast / William A. Lewis

11. Refer to Kentucky-American's response to the Attorney General's First Request for Information (Attorney General's First Request), Item 38, Attachment KAW_R_AGDR1_NUM038_062626, page 3. Refer also to Kentucky-American's Response to Staff's Second Request, Item 27. For the calendar year 2025, Kentucky-American's forecasted headcount was 166, yet the actual employee count consistently lagged throughout the year, ending with a 153-employee headcount at the beginning of 2026. Provide the exact dollar amount of revenues collected from ratepayers during 2025, on a monthly basis, for these vacant positions in Excel spreadsheet format with all formulas, rows, and columns fully accessible and unprotected.

Response:

Please see KAW_R_PSCDR3_NUM011_073026_Attachment for an analysis of actual vs allowed labor, overtime, and contracted temporary employees by month for 2025. Please note that while regular labor falls short of the authorized amounts, the overtime and contracted services expenses are higher than authorized. The total of labor, overtime and contracted services in actuals exceeds the authorized amount in both 2024 and 2025.

Kentucky-American Water Company
Case No. 2026-00094
KAW_R_PSCDR3_NUM011_073026_Attachment
Analysis of Actual vs Authorized Labor related expenses

Actual					Authorized				
2024	Labor	Overtime	Cont Svcs**	Total	2024	Labor	Overtime	Cont Svcs**	Total
January	\$627,927	\$75,778	\$77,826	\$781,531	January	\$553,554	\$45,706	\$37,572	\$636,832
February	543,979	47,084	64,560	655,623	February*	616,767	71,121	39,201	727,089
March	553,804	78,670	91,629	724,103	March	616,767	71,121	39,201	727,089
April	602,643	55,190	214,231	872,064	April	616,767	71,121	39,201	727,089
May	588,516	71,578	51,566	711,660	May	616,767	71,121	39,201	727,089
June	276,968	55,250	92,197	424,415	June	616,767	71,121	39,201	727,089
July	824,829	61,974	97,223	984,026	July	616,767	71,121	39,201	727,089
August	581,918	64,167	56,631	702,717	August	616,767	71,121	39,201	727,089
September	547,350	56,119	76,975	680,443	September	616,767	71,121	39,201	727,089
October	614,571	54,742	109,026	778,339	October	616,767	71,121	39,201	727,089
November	543,327	73,503	69,272	686,102	November	616,767	71,121	39,201	727,089
December	586,103	74,735	76,629	737,467	December	616,767	71,121	39,201	727,089
Total	\$6,891,935	\$768,791	\$1,077,766	\$8,738,491	Total	\$7,337,995	\$828,036	\$468,778	\$8,634,809

Actual					Authorized				
2025	Labor	Overtime	Cont Svcs**	Total	2025	Labor	Overtime	Cont Svcs**	Total
January	\$604,714	\$87,088	\$90,477	\$782,280	January	\$616,767	\$71,121	\$39,201	\$727,089
February	549,437	98,382	84,829	732,647	February	616,767	71,121	39,201	727,089
March	611,447	67,379	84,596	763,422	March	616,767	71,121	39,201	727,089
April	590,961	67,954	98,562	757,477	April	616,767	71,121	39,201	727,089
May	591,293	97,302	145,643	834,239	May	616,767	71,121	39,201	727,089
June	580,962	62,013	117,877	760,852	June	616,767	71,121	39,201	727,089
July	604,235	73,020	84,395	761,649	July	616,767	71,121	39,201	727,089
August	605,683	85,307	110,094	801,085	August	616,767	71,121	39,201	727,089
September	615,492	74,696	126,384	816,572	September	616,767	71,121	39,201	727,089
October	636,036	116,254	124,760	877,050	October	616,767	71,121	39,201	727,089
November	588,256	81,002	106,205	775,463	November	616,767	71,121	39,201	727,089
December	712,362	97,392	129,276	939,030	December	616,767	71,121	39,201	727,089
Total	\$7,290,877	\$1,007,789	\$1,303,099	\$9,601,765	Total	\$7,401,209	\$853,451	\$470,407	\$8,725,067

*Case No. 2023-00191's Forecasted Test Year began 2/1/2024 and ended 1/31/2025

**Contracted services for contracted accounting, audit, legal, and outplacement expenses have been excluded from actual and authorized amounts

Kentucky-American Water Company
Case No. 2026-00094
Analysis of Actual vs Authorized Labor related expenses
KAW_RT_Prendergast_091626_Exhibit RP-2R

Actual					Authorized					Variance
2022	Labor	Overtime	Cont Svcs	Total	2022	Labor	Overtime	Cont Svcs	Total	Total
January	\$514,498	\$65,136	\$24,293	\$603,928	January	\$553,554	\$45,706	\$37,572	\$636,832	(\$32,904)
February	458,699	35,778	40,268	534,745	February	553,554	45,706	37,572	636,832	(102,087)
March	568,489	46,451	51,055	665,995	March	553,554	45,706	37,572	636,832	29,163
April	531,878	38,402	20,549	590,829	April	553,554	45,706	37,572	636,832	(46,003)
May	607,771	39,897	28,273	675,941	May	553,554	45,706	37,572	636,832	39,110
June	607,375	43,640	34,959	685,975	June	553,554	45,706	37,572	636,832	49,144
July	541,338	77,681	45,295	664,315	July	553,554	45,706	37,572	636,832	27,483
August	549,208	54,047	16,000	619,255	August	553,554	45,706	37,572	636,832	(17,577)
September	583,247	51,872	40,130	675,250	September	553,554	45,706	37,572	636,832	38,419
October	528,141	53,307	7,092	588,541	October	553,554	45,706	37,572	636,832	(48,291)
November	626,855	65,880	12,625	705,359	November	553,554	45,706	37,572	636,832	68,528
December	605,450	136,575	9,940	751,966	December	553,554	45,706	37,572	636,832	115,134
Total	\$6,722,950	\$708,667	\$330,481	\$7,762,098	Total	\$6,642,643	\$548,466	\$450,869	\$7,641,978	\$120,120

Actual					Authorized					Variance
2023	Labor	Overtime	Cont Svcs	Total	2023	Labor	Overtime	Cont Svcs	Total	Total
January	\$610,743	\$105,150	\$22,743	\$738,635	January	\$553,554	\$45,706	\$37,572	\$636,832	\$101,803
February	555,071	72,096	38,050	665,217	February	553,554	45,706	37,572	636,832	28,386
March	631,184	83,571	17,881	732,636	March	553,554	45,706	37,572	636,832	95,804
April	598,083	84,232	17,075	699,390	April	553,554	45,706	37,572	636,832	62,558
May	619,086	58,106	47,509	724,701	May	553,554	45,706	37,572	636,832	87,870
June	549,423	84,826	94,876	729,125	June	553,554	45,706	37,572	636,832	92,294
July	533,644	68,178	87,336	689,158	July	553,554	45,706	37,572	636,832	52,327
August	465,761	50,971	69,663	586,395	August	553,554	45,706	37,572	636,832	(50,437)
September	547,409	58,815	96,293	702,518	September	553,554	45,706	37,572	636,832	65,686
October	566,425	57,846	127,405	751,676	October	553,554	45,706	37,572	636,832	114,845
November	585,227	63,120	101,137	749,485	November	553,554	45,706	37,572	636,832	112,653
December	557,397	120,585	309,673	987,656	December	553,554	45,706	37,572	636,832	350,824
Total	\$6,819,453	\$907,497	\$1,029,641	\$8,756,591	Total	\$6,642,643	\$548,466	\$450,869	\$7,641,978	\$1,114,613

Actual					Authorized					Variance
2024	Labor	Overtime	Cont Svcs	Total	2024	Labor	Overtime	Cont Svcs	Total	Total
January	\$627,927	\$75,778	\$77,826	\$781,531	January	\$553,554	\$45,706	\$37,572	\$636,832	\$144,700
February	543,979	47,084	64,560	655,623	February	616,767	71,121	39,201	727,089	(71,466)
March	553,804	78,670	91,629	724,103	March	616,767	71,121	39,201	727,089	(2,986)
April	602,643	55,190	214,231	872,064	April	616,767	71,121	39,201	727,089	144,975
May	588,516	71,578	51,566	711,660	May	616,767	71,121	39,201	727,089	(15,429)
June	276,968	55,250	92,197	424,415	June	616,767	71,121	39,201	727,089	(302,674)
July	824,829	61,974	97,223	984,026	July	616,767	71,121	39,201	727,089	256,937
August	581,918	64,167	56,631	702,717	August	616,767	71,121	39,201	727,089	(24,372)
September	547,350	56,119	76,975	680,443	September	616,767	71,121	39,201	727,089	(46,645)
October	614,571	54,742	109,026	778,339	October	616,767	71,121	39,201	727,089	51,250
November	543,327	73,503	69,272	686,102	November	616,767	71,121	39,201	727,089	(40,987)
December	586,103	74,735	76,629	737,467	December	616,767	71,121	39,201	727,089	10,378
Total	\$6,891,935	\$768,791	\$1,077,766	\$8,738,491	Total	\$7,337,995	\$828,036	\$468,778	\$8,634,809	\$103,682

Actual					Authorized					Variance
2025	Labor	Overtime	Cont Svcs	Total	2025	Labor	Overtime	Cont Svcs	Total	Total
January	\$604,714	\$87,088	\$90,477	\$782,280	January	\$616,767	\$71,121	\$39,201	\$727,089	\$55,191
February	549,437	98,382	84,829	732,647	February	616,767	71,121	39,201	727,089	5,559
March	611,447	67,379	84,596	763,422	March	616,767	71,121	39,201	727,089	36,333
April	590,961	67,954	98,562	757,477	April	616,767	71,121	39,201	727,089	30,388
May	591,293	97,302	145,643	834,239	May	616,767	71,121	39,201	727,089	107,150
June	580,962	62,013	117,877	760,852	June	616,767	71,121	39,201	727,089	33,763
July	604,235	73,020	84,395	761,649	July	616,767	71,121	39,201	727,089	34,560
August	605,683	85,307	110,094	801,085	August	616,767	71,121	39,201	727,089	73,996
September	615,492	74,696	126,384	816,572	September	616,767	71,121	39,201	727,089	89,483
October	636,036	116,254	124,760	877,050	October	616,767	71,121	39,201	727,089	149,961
November	588,256	81,002	106,205	775,463	November	616,767	71,121	39,201	727,089	48,374
December	712,362	97,392	129,276	939,030	December	616,767	71,121	39,201	727,089	211,941
Total	\$7,290,877	\$1,007,789	\$1,303,099	\$9,601,765	Total	\$7,401,209	\$853,451	\$470,407	\$8,725,067	\$876,698

Actual					Authorized					Variance
2026	Labor	Overtime	Cont Svcs	Total	2026	Labor	Overtime	Cont Svcs	Total	Total
January	\$670,359	\$93,502	\$205,263	\$969,123	January	\$639,698	\$81,787	\$84,535	\$806,019	\$163,104
February	621,149	127,408	49,286	797,843	February	639,698	81,787	84,535	806,019	(8,176)
March	679,516	64,080	154,644	898,240	March	639,698	81,787	84,535	806,019	92,221
April	691,538	66,289	112,052	869,879	April	639,698	81,787	84,535	806,019	63,860
May	697,442	86,812	117,047	901,301	May	639,698	81,787	84,535	806,019	95,282
June	805,522	90,811	253,080	1,149,413	June	639,698	81,787	84,535	806,019	343,394
July	790,875	93,940	90,616	975,430	July	639,698	81,787	84,535	806,019	169,411
August	732,063	88,655	132,708	953,426	August	639,698	81,787	84,535	806,019	147,407
Total	\$5,688,462	\$711,495	\$1,114,698	\$7,514,656	Total	\$5,117,582	\$654,293	\$676,276	\$6,448,152	\$1,066,504

Line No.	Description	Forecasted Test Period	Source
		(A)	
1			
2	<u>OAG/LFUCG/GMWSS Adjustments:</u>		
3	Payroll Expense	\$1,480,953	Schedule C-1
4	Overtime Expense	175,146	Schedule C-2
5	Incentive Compensation	1,997,770	Schedule C-3
6	Employee Stock Purchase Plan Discount	49,477	Schedule C-4
7	Severance Expense	100,447	Schedule C-5
9	Temporary Help	100,808	Schedule C-6
10	Unaccounted For Water	341,582	Schedule C-7
11	Rate Case Expense	238,227	Schedule C-8
12	Business Development Expense	291,898	Schedule C-9
13	Board of Directors Expense	47,223	Schedule C-10
14	401(k) Expense	30,477	Schedule C-11
15	Lobbying Expense	473,472	Schedule C-12
16	Membership Dues	53,012	Schedule C-13
17	Benefits Expense	414,192	Schedule C-14
18	Payroll Tax	267,926	Schedule C-15
20	Total O&M	<u>\$6,062,612</u>	

Line No.	Description	Forecasted Test Period	Source	Variance
		(A)		
1				
2	<u>OAG/LFUCG/GMWSS Adjustments:</u>			
3	Payroll Expense	\$558,608		(\$922,344)
4	Overtime Expense	(7,992)		(183,138)
5	Incentive Compensation	1,997,770		-
6	Employee Stock Purchase Plan Discount	49,477		-
7	Severance Expense	100,447		-
9	Temporary Help	100,808		-
10	Unaccounted For Water	341,582		-
11	Rate Case Expense	238,227		-
12	Business Development Expense	291,898		-
13	Board of Directors Expense	47,223		-
14	401(k) Expense	30,477		-
15	Lobbying Expense	473,472		-
16	Membership Dues	53,012		-
17	Benefits Expense	161,538		(252,654)
18	Payroll Tax	214,162		(53,765)
20	Total O&M	<u>\$4,650,710</u>		<u>(\$1,411,900)</u>

Line No.	Description	Forecasted Test Period	Reference
1	Kentucky American Payroll	\$ 17,492,276	Attorney General's Second Request, Item 69
2	Service Company Payroll	\$ 9,932,777	Attorney General's Second Request, Item 69
3	Total Payroll	\$ 27,425,053	Line 1 + Line 2
4	OAG/LFUCG/GMWSS Recommended Reduction	-5.40%	Testimony
5	Kentucky American Payroll	\$ (944,583)	Line 1 X Line 4
6	Service Company Payroll	\$ (536,370)	Line 2 X Line 4
7	Total OAG/LFUCG/GMWSS Adjustment	\$ (1,480,953)	Line 5 + Line 6

Kentucky American Proposed	
Description	Forecasted Test Period
Kentucky American Payroll	\$17,492,276
Overtime	(1,734,301) (a)
Group Insurance	(2,670,470) (b)
Other Benefits	(1,145,761) (b)
Pension Expense	(101,814) (b)
Gen Taxes	(993,342) (c)
OPEB Expense	593,498 (b)
Proposed disallowance of APP	(468,081) (d)
Proposed disallowance of LTPP	(153,932) (e)
Lobbying/External Affairs Positions	(473,472) (f)
Adjusted Kentucky American Payroll	10,344,601
Service Company Payroll	- (g)
Total Base Payroll (inc. Incentives)	\$10,344,601
OAG/LFUCG/GMWSS Recommended Reduction	-5.40%

B	C	G
Description		Forecast Year (12 Months Ending December 31, 2027)
Labor	Schedule D-2.3	\$13,174,387
Group Insurance expense	Schedule D-2.3	2,670,470
Other benefits	Schedule D-2.3	1,145,761
Pension expense	Schedule D-2.3	101,814
General taxes	Schedule D-2.3	993,342
OPEB expense	Schedule D-2.3	(593,498)
		\$17,492,276

Breakdown of Labor Expense	
Base Payroll	\$10,865,453
Overtime	1,152,869
APP	936,162
LTPP	219,903
Total	\$13,174,387

Kentucky American Payroll	(\$558,608)
Service Company Payroll	-
Total KAWC Adjustment	(\$558,608)

	2026														
Budget	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG		
Actual	168	168	168	168									168.0		
Difference	(15)	(14)	(18)	(15)									152.5		(16)
Vacancy Average 2021-2025 (B-4)														5.4%	
Vacancy Percentage															

The chart shows that the Company averaged 8.4 vacancies (or 5.4%) during the period of May 2021 – April 2026. However, even as recently as 2026, the Company has averaged 16 vacancies.

³ Kentucky-American's response to the Commission Staff's First Request for Information ("Staff's First Request"). No. 24; Kentucky-American's response to the Attorney General's First Request for Information ("Attorney General's First Request"). No. 137.

Note (a): Overtime is excluded from this calculation as a separate adjustment is already made in the OT tab (double counted)
(b): Group Insurance and Other Benefits are excluded from this calculation as separate adjustments for these are already made in the Benefits tab (double counted)
(c): General Taxes are excluded from this calculation as a separate adjustment for this is already made in the Payroll Tax tab (double counted)
(d): Proposed disallowance of APP is excluded from this calculation as a separate adjustment is already made in remove 50% of KAWC APP (double counted)
(e): Proposed disallowance of LTPP is excluded from this calculation as a separate adjustment is already made in remove 70% of KAWC LTPP (double counted)
(f): Lobbying/External Affairs Positions is excluded from this calculation as a separate adjustment is already made in the Lobbying tab (double counted)
(g): Service Company Payroll is being removed from Total Payroll as the OAG Recommended vacancy reduction is only applicable to Kentucky American Water Company. The methodology used to calculate the 5.4% vacancy rate was based on KAWC headcount.

Line No.	Description	Forecasted Test Period	Reference
			Attorney General's First Request, Item 142
1	Company Amount	\$ 1,734,301	
2	OAG/LFUCG/GMWSS Amount	<u>\$ 1,559,155</u>	Line 9
3	OAG/LFUCG/GMWSS Adjustment	<u><u>\$ (175,146)</u></u>	Line 2 - Line 1
4	Attorney General's First Request, Item 142	2021	\$ 1,126,681
5	Attorney General's First Request, Item 142	2022	\$ 1,353,622
6	Attorney General's First Request, Item 142	2023	\$ 1,721,548
7	Attorney General's First Request, Item 142	2024	\$ 1,595,298
8	Attorney General's First Request, Item 142	2025	\$ 1,998,625
9	Five Year Average		<u>\$ 1,559,155</u>

Includes Cap Credits



Line No.	Description	Forecasted Test Period	Reference
1	Company Amount	\$1,734,301	Attorney General's First Request, Item 142
2	KAWC 5 Year Average (adjusted for merit inc.)	<u>1,746,324</u>	Line 17
3	KAWC Adjustment (includes capitalized OT)	<u><u>\$12,023</u></u>	Line 2 - Line 1
4	Capitalization Percentage	33.5%	Labor Exhibit
5	Capitalization Dollars	<u>\$4,031</u>	Line 3 * Line 4
6	KAWC OT O&M Adjustment	<u><u>\$7,992</u></u>	Line 3 - Line 5
7		2021	Total OT \$1,126,681
8		2022	1,353,622
9		2023	1,721,548
10		2024	1,595,298
11		2025	<u>1,998,625</u>
12	Five Year Average		<u>\$1,559,155</u>
13			
14		Year	Union Merit Incr
15		2024	2.5% (a) \$38,979
16		2025	3.0% (b) 47,944
17		2026	3.0% (c) 49,382
		2027	3.0% (c) 50,864
			Adjusted Annual OT \$1,598,134 1,646,078 1,695,460 1,746,324

Note (a):
(b):
(c):

Line No.	Description	Forecasted Test Period	Reference	Line No.	Description	Forecasted Test Period	Reference
1	OAG/LFUCG/GMWSS Adjustment to Payroll and Overtime	\$ (1,656,099)	Schedule C-1 & C-2	1	KAWC Adjustment to Payroll and Overtime	(\$550,616)	
2	Benefit Expense Ratio	25.01%	Line 6	2	Benefit Expense Ratio	29.34%	Line 6
3	OAG/LFUCG/GMWSS Adjustment	\$ (414,192)	Line 1 X Line 2	3	KAWC Adjustment	(\$161,538)	Line 1 X Line 2
4	Company FTP Benefits Expense	\$ 3,294,927	Line 11	4	Company FTP Benefits Expense	\$3,546,011	Line 23
5	Company Payroll Expense	\$ 13,174,387	Exhibit 37, Schedule C-1	5	Company Payroll Expense	\$12,086,894	Payroll Tab (Base Payroll (inc. OT and allowed Incentives)
6	Benefit Expense Ratio	25.01%	Line 4/Line 5	6	Benefit Expense Ratio	29.34%	Line 4/Line 5
7	Pension	\$ 101,814	Exhibit 37, Schedule C-1	7	Pension	As Filed \$101,814 Adjustments (\$101,814) (a)	Adjusted \$0
8	OPEB	\$ (593,498)	Exhibit 37, Schedule C-1	8	OPEB	(593,498) (b)	-
9	Group Insurance	\$ 2,670,470	Exhibit 37, Schedule C-1	9	Group Insurance	2,670,470	2,670,470
10	Other Benefits	\$ 1,116,141	Exhibit 37, Schedule C-1	10			
11	Total	\$ 3,294,927		11	401k Expense	365,726 (30,477) (c)	335,249
				12	DCP Expense	531,224	531,224
				13	ESPP Expense	25,578 (49,477) (d)	(23,899)
				14	Retiree Medical Exp	32,967	32,967
				15	Other Welfare	47,272 (47,272) (e)	-
				16	Employee Awards	3,057 (3,057) (e)	-
				17	Emp Physical Exams	10,050 (10,050) (e)	-
				18	Safety Incentive Awards	(943) 943 (e)	-
				19	Tuition Aid	25,316 (25,316) (e)	-
				20	Training	68,839 (68,839) (e)	-
				21	Referral Bonus	7,055 (7,055) (e)	-
				22	Adjusted Other Benefits	\$1,116,141 (\$240,600)	\$875,541
				23	Total	\$3,294,927 \$251,084	\$3,546,011

Note (a): Adjustment made because the pension accrual calculated by WTW, the Company's actuary, would not be impacted by vacancies or any other adjustment.
(b): Adjustment made because the OPEB accrual calculated by WTW, the Company's actuary, would not be impacted by vacancies or any other adjustment.
(c): Adjustment made to as-filed 401k expense to exclude the OAG proposed adjustment made in the 401(k) tab so as not to double count
(d): Adjustment made to as-filed ESPP expense to exclude the ESPP proposed adjustment made in the 401(k) tab so as not to double count
(e): Vacancies would not impact these amounts.

Payroll Tax

Line No.	Description	Forecasted Test Period	Reference
1	OAG/LFUCG/GMWSS Adjustments to Incentive Incentive Payroll Overtime, Compensation, Severance	\$ (3,553,422)	Schedule C-1 & C-2
2	Payroll Tax Ratio	7.54%	Line 6
3	OAG/LFUCG/GMWSS Adjustment	\$ (267,926)	Line 1 X Line 2
4	Company FTP Payroll Taxes	\$ 993,342	KAWC 2026 Income Tax Exhibit Link In Tab
5	Company Payroll Expense	\$ 13,174,387	Exhibit 37, Schedule C-1
6	Payroll Tax Ratio	7.54%	Line 4/Line 5

Line No.	Description	Forecasted Test Period	Reference
1	KAWC Adjustments to Incentive Incentive Payroll Overtime, Compensation, Severance	(\$2,648,833) (a)	Payroll, OT, Incentive, Severance tabs AG's number deducts the severance adjustment in this number, rather than adding it.
2	Payroll Tax Ratio	8.09%	Line 9 (\$558,608)
3	KAWC Adjustment	(\$214,162)	Line 1 X Line 2 \$7,992 (\$1,997,770) (\$100,447)
4	Company FTP Payroll Taxes	\$993,342	KAWC 2026 Income Tax Exhibit Link In Tab
5		FUTA (10,738) (b)	Labor Exhibit
6		SUTA (5,363) (c)	Labor Exhibit
7	Adjusted Company FTP Payroll Taxes	\$977,241	
8	Company Payroll Expense	\$12,086,894	
9	Payroll Tax Ratio	8.09%	

	As filed	Adjustments	Adjusted
Base Payroll	\$10,865,453	(\$473,472) (d)	\$10,391,981
Overtime	1,152,869	7,992 (e)	1,160,861
APP	936,162	(468,081) (f)	468,081
LTPP	219,903	(153,932) (g)	65,971
Total	\$13,174,387	(\$1,087,493)	\$12,086,894

Note (a): KAWC Adjustments includes KAWC proposed payroll and Overtime adjustments. Additionally, it includes OAG proposed adjustments to Incentive Compensation and Severance. This also corrects a formula error with Severance in the original JD-1 calculation where severance was being added instead of removed.

(b): FUTA being excluded from payroll taxes as even partial employees would arrive at the max cap almost immediately

(c): SUTA being excluded from payroll taxes as even partial employees would arrive at the max cap almost immediately

(d): Lobbying and External Affairs positions are removed from as-filed Base Payroll expense as this expense has already been removed in the Lobbying tab

(e): As-filed Overtime expense adjusted by the Overtime adjustment calculated in the OT tab (prevents a double count)

(f): As-filed APP expense adjusted by the APP adjustment calculated in the Incentive Comp tab (prevents a double count)

(g): As-filed LTPP expense adjusted by the LTPP adjustment calculated in the Incentive Comp tab (prevents a double count)

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

ELECTRONIC APPLICATION OF KENTUCKY-	)	
AMERICAN WATER COMPANY FOR AN	)	CASE NO. 2026-00094
ADJUSTMENT OF RATES	)	

REBUTTAL TESTIMONY OF CHARLES B. REA

September 16, 2026

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

2 A. My name is Charles B. Rea. My business address is 1 Water Street, Camden, NJ 08102.

3 **Q. Did you previously submit direct testimony in this proceeding on behalf of Kentucky-**
4 **American Water Company, Inc. (“Kentucky-American,” “KAWC” or the**
5 **“Company”) in this proceeding?**

6 A. Yes. I filed Direct Testimony in this proceeding on May 15, 2026.

7 **Q. What is the purpose of your rebuttal testimony in this proceeding?**

8 A. The purpose of my rebuttal testimony is to provide two updates to the Company’s proposed
9 billing determinants used in the development of proposed rates and the development of the
10 revenue forecast for present rates and proposed rates that I describe at pages 15-20 of my
11 Direct Testimony, and to address concerns raised by Georgetown Municipal Water and
12 Sewer Service (“GMWSS”) regarding the Company’s rate for Sales for Resale customers
13 and specifically the collection of fixed costs associated with providing service to GMWSS.

14 **Q. Are you sponsoring any schedules or exhibits with your Rebuttal Testimony?**

15 A. I am not sponsoring any rebuttal exhibits with my direct testimony. The changes to billing
16 determinants I am proposing will appear as changes in the Company’s updated exhibits.

17 **UPDATES TO BILLING DETERMINATES**

18 **Q. Please describe the first update to the Company’s proposed billing determinants.**

19 A. The first update results from reclassifying a GMWSS account from the Sales for Resale
20 customer class to the Other Public Authorities customer class. This reduces Sales for
21 Resale meter units for 2” meters by 12 and reduces total annual usage by 2,568 thousand
22 gallons and increases billing determinants for Other Public Authorities by the same
23 amount. This results in a reduction in Sales for Resale present rate revenues of \$23,239

1 and a reduction in proposed rate revenues of \$24,511. The offsetting increase in present
2 rate revenues and proposed rate revenues for the Other Public Authorities class are \$22,534
3 and \$22,331 respectively for a net reduction of \$705 in present rate revenues and \$2,180
4 in proposed rate revenues, excluding changes in late payment fees.

5 **Q. Please describe the second update to the Company's proposed billing determinants.**

6 A. The second update reclassifies most of the 3/4" meter billing determinants in the
7 Middlesboro/Clinton district to 5/8" meters. Specifically, the Company is moving 5,340
8 3/4" meter billing units for residential, 660 3/4" meter billing units for commercial, and 144
9 3/4" meter billing units for the Other Public Authorities class to the 5/8" meter classification.
10 Usage amounts by customer class are unaffected, and present rate revenues are also
11 unaffected. The total reduction in proposed rate revenues from this reclassification of
12 meter billing units is \$57,672 for the residential class, \$7,128 for the commercial class, and
13 \$1,566 for the Other Public Authorities class, for a total reduction of \$66,356 excluding
14 changes in late payment fees.

15 **SALES FOR RESALE RATES**

16 **Q. Have you reviewed GMWSS's response to Staff Data Request Number 1-7?**

17 A. I have.

18 **Q. What is your understanding of GMWSS's response to Staff 1-7?**

19 A. My understanding of the response is that GMWSS is asserting that they should have a
20 reduced rate at the end of this proceeding because, 1) rates for Sales for Resale customers
21 were perhaps set incorrectly by the Commission at the end of the last KAWC rate case and
22 that rates for Sales for Resale customers should naturally be less than residential and
23 commercial rates, and 2) because there are no fixed costs associated with providing service

1 to GMWSS, as GMWSS alleges, there should not be any fixed cost recovery included in
2 the rate that GMWSS pays.

3 **Q. Is it common practice to set rates for individual customers based on the specific costs**
4 **associated with serving that customer?**

5 A. No, it is not general or common practice to set rates for individual customers based on the
6 specific fixed and variable cost, or lack thereof, associated with serving a specific
7 customer.

8 **Q. What is common practice in this regard for setting rates?**

9 A. Common and accepted practice in the utility industry for ratemaking purposes in this regard
10 is to develop a cost of service study that allocates fixed costs to customer classes based on
11 usage characteristics, meter and service sizes, and the level of transmission or distribution
12 mains used to serve customers in any given class. Customers are organized into customer
13 classes for the purpose of allocating costs in this manner. In this case, GMWSS is included
14 in the Sales for Resale customer class as they are a Sales for Resale customer.

15 **Q. Has the Company provided such a cost of service study in this proceeding?**

16 A. It has, and that cost of service analysis is fully described in my Direct Testimony and is
17 provided as Exhibit 26 (Cost of Service Study for Water Service).

18 **Q. Has any witness in this case challenged the Company's cost of service analysis?**

19 A. They have not.

1 **Q. Does the fact that KAWC has not planned or reserved specific production capacity to**
2 **serve GMWSS relieve GMWSS from paying for the fixed costs associated with**
3 **production capacity?**

4 A. It does not. It could easily be said that production capacity is never planned or reserved
5 for any specific customer. Costs in a class cost of service study are allocated across all
6 customers. The fact that incremental investments were not needed to serve GMWSS at the
7 Champion Way interconnection also does not mean that GMWSS should not pay for fixed
8 costs because any new customer coming on the KAWC system can make the same claim.
9 All customers under traditional ratemaking are allocated some level of fixed costs
10 consistent with accepted cost of service principles and are expected to pay for that level of
11 costs in rates.

12 **Q. Does the nature of the service being provided to GMWSS, namely that service is not**
13 **on-demand, not instantaneous, and pending water availability provide a reason for**
14 **giving GMWSS a lower rate?**

15 A. Possibly, but only to the extent that this service becomes fundamentally different than the
16 service for any other customer on the system, and only to the extent that it can be
17 demonstrated that GMWSS did not receive service from the Company at times other
18 customers did under similar circumstances.

19 **CONCLUSION**

20 **Q. Does this conclude your rebuttal testimony?**

21 A. Yes.

VERIFICATION

STATE OF ILLINOIS

)

) SS:

COUNTY OF ROCK ISLAND

)

The undersigned, Charles Rea, being duly sworn, deposes and says that he is Vice President, Enterprise-Wide Regulatory Pricing & Affordability for American Water Works Service Company, Inc., that he has personal knowledge of the matters set forth in the accompanying testimony for which he is identified as the responsible witness, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.

Charles Rea

Charles Rea

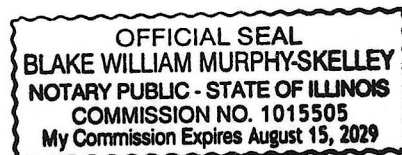
Subscribed and sworn to before me, a Notary Public in and before said County and State,
this 10th day of September, 2026.

Blake William Murphy-Skelley

Notary Public

My Commission Expires:

08/15/2029



**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

IN THE MATTER OF:

ELECTRONIC APPLICATION OF KENTUCKY-	)	
AMERICAN WATER COMPANY FOR AN	)	CASE NO. 2026-00094
ADJUSTMENT OF RATES	)	

REBUTTAL TESTIMONY OF JOHN M. WATKINS

September 16, 2026

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

2 A. My name is John M. Watkins. My business address is 1 Water Street, Camden, NJ 08102.

3 **Q. Did you previously submit direct testimony in this proceeding on behalf of Kentucky-**
4 **American Water Company, Inc. (“Kentucky-American,” “KAWC” or the**
5 **“Company”) in this proceeding?**

6 A. Yes. I filed Direct Testimony in this proceeding on May 15, 2026.

7 **Q. What is the purpose of your rebuttal testimony in this proceeding?**

8 A. The purpose of my rebuttal testimony is to Support the Company’s updated total revenue
9 requirement and revenue deficiency and address Mr. Defever’s and Mr. Rothschild’s
10 recommended adjustments to Cash Working Capital and Common Equity percentage filed
11 on the behalf of the Office of the Attorney General of the Commonwealth of Kentucky
12 (“OAG”), the Lexington-Fayette Urban County Government (“LFUCG”) and the
13 Georgetown Municipal Water and Sewer Service (“GMWSS”). I also address updates to
14 Rate Base.

15 **Q. Are you sponsoring any schedules or exhibits with your Rebuttal Testimony?**

16 A. Yes, I am sponsoring the Exhibit JMW-1R attached to my Direct Testimony and the
17 Company’s Base Period Update being filed contemporaneously with the Company’s
18 rebuttal testimony which includes Exhibit 37 Schedule A through Exhibit 37 Schedule N.
19 I am also sponsoring Exhibits JMW-2R and JMW-3R.

20 **UPDATED REVENUE REQUIREMENT**

21 **Q. What is the Company’s as filed total revenue requirement and revenue deficiency?**

22 A. The Company’s proposed revenue requirement, equal to the cost of providing service, is

1 approximately \$180.17 million for the forecasted test year, which is the 12 months ending
2 December 31, 2027, as originally filed May 15, 2026. The Company's as-filed revenue
3 deficiency is approximately \$17.68 million, which is an approximate 10.88 percent
4 deficiency, in water service revenues.

5 **Q. Are there updates to the Company's originally filed total revenue requirement?**

6 A. Yes. The Company's total revenue requirement for the forecasted test year, equal to the
7 cost of providing service, is approximately \$180.2 million, as updated in this testimony
8 and the Base Period Update that is being filed contemporaneously with my testimony. The
9 Company's updated revenue deficiency is approximately \$17.67 million, which is an
10 approximate 10.87 percent deficiency, in water service revenues as shown in Exhibit JMW-

11 1R. The updated total revenue requirement reflects updates to the following:

- 12 1) Revenues
- 13 2) Fuel & Power, Chemicals & Waste Disposal
- 14 3) Support Services
- 15 4) Uncollectible Expense
- 16 5) Property Tax Expense
- 17 6) Depreciation & Amortization
- 18 7) Rate Base
- 19 8) Capital Structure

20 A summary of the impacts from these updates has been included as the cover page to the
21 Company's Base Period Update being filed contemporaneously with the Company's
22 rebuttal testimony.

1 **Q. Please summarize the update to Revenues.**

2 A. The updated revenue is discussed in detail by Company witness Rea in his rebuttal
3 testimony. There were two adjustments. The first was the reclass of one account in the
4 City of Georgetown from the Sales for Resale customer class to the Other Public
5 Authorities customer class. The result of this change was a decrease of present rate
6 revenues of \$705. The second adjustment was to account for meters that were billing at
7 the 3/4" rate but should have been 5/8" rate. Under the previous company's tariff, those
8 rates were the same and there is no impact to the present rate revenues. Under the
9 Company's proposed rates they are different. Proposed rates are lower by \$66,356 for this
10 adjustment.

11 **Q. Please summarize the update to Production Cost expense.**

12 A. The updated total revenue requirement and revenue deficiency reflects a downward
13 adjustment of approximately \$132,000 to Fuel and Power, Chemicals, and Waste Disposal
14 Expense in the forecasted test year. Through the discovery process, KAWC identified that
15 there was a linking issue found in the exhibits that needed to be corrected (originally
16 discovered in KAWC's response to PSC 2-69 on the same issue related to uncollectible
17 expense mentioned further in my testimony).

18 **Q. Please summarize the update to Support Services expense.**

19 A. The updated total revenue requirement and revenue deficiency reflects an upward
20 adjustment of approximately \$14,000 to the Support Services Expense in the forecasted
21 test year. Additional analysis was performed within this exhibit, and the Company
22 discovered a formula issue that has been corrected and has also removed expense related

1 to charitable contributions that was allocated to KAWC that should not have been included
2 in this case.

3 **Q. Please summarize the update to Uncollectible expense.**

4 A. The updated total revenue requirement and revenue deficiency reflects a downward
5 adjustment of approximately \$8,600 to the Uncollectible Expense in the forecasted test
6 year. Through the discovery process, as noted above, the Company identified a linking
7 issue found in the exhibit that needed to be corrected (see KAWC's response to PSC 2-69).

8 **Q. Please summarize the update to Property Tax expense.**

9 A. The updated total revenue requirement and revenue deficiency reflects an upward
10 adjustment of approximately \$24,000 to Property Tax Expense in the forecasted test year.
11 This adjustment is a result of the increase in rate base (UPIS) mentioned in further detail
12 in my testimony below.

13 **Q. Please summarize the update to Depreciation & Amortization expense.**

14 The updated total revenue requirement and revenue deficiency reflects an upward
15 adjustment of approximately \$136,000 to Depreciation & Amortization Expense in the
16 forecasted test year. The amount attributable to Depreciation expense is approximately
17 \$76,000 which is a result of the increase to UPIS for the Water Service Corporation of
18 Kentucky mentioned in further detail in my testimony below. The increase to amortization
19 expense is approximately \$60,000 and is also related to the Water Service Corporation of
20 Kentucky as the Company has updated its rate base to include a regulatory asset for tank
21 painting as mentioned in my testimony below.

1 **Q. Please summarize the update to Rate Base.**

2 A. At the time of filing, the Company anticipated that the acquisition of Water Service
3 Corporation of Kentucky (“WSC KY”) would close in April 2026. The closing was delayed
4 until June 2026, in turn, affecting rate base. Accordingly, the WSC KY calculation has
5 been updated to reflect actual amounts as of the June 2026 closing date. The calculation
6 for the City of Livingston was also updated to reflect actual amounts as of its April 2026
7 closing date. In addition, the Company revised the anticipated closing date for the Black
8 Mountain Utility District acquisition from October 2026 to September 2026. In total, the
9 acquisition update resulted in an increase to rate base of \$1.8 million, primarily due to an
10 increase in WSC KY UPIS assets and a regulatory asset for tank painting, as shown on
11 Exhibit 37, Schedule B-1, Schedule B-2, Schedule B-3 and Schedule B-8.

12 **Q. Please summarize the update to Capital Structure.**

13 A. The 13-month average capital structure for the forecast period ending December 31, 2027,
14 has been updated to reflect changes to long-term debt and equity. The Company issued
15 \$50 million of long-term debt on May 15, 2026 with a coupon rate of 5.20% and a maturity
16 date of April 1, 2036 (10-year Note). At the time of filing, the Company anticipated issuing
17 \$50 million of long-term debt, split evenly between a 10-year loan and a 30-year loan, with
18 coupon rates of 5.203% and 5.945% respectively. In addition, for the \$15 million
19 September 2026 issuance, the Company updated the coupon rate to 5.739% from the rates
20 at filing (as stated above) and revised the assumed term to a 10-year loan rather than a
21 combination of 10-year and 30-year loans. These updates reflect more current assumptions
22 given the near-term issuance date. The change in coupon rates, associated issuance costs,
23 and term resulted in an overall decrease in the cost of long-term debt of -0.048%. For

equity, the Company received an equity infusion of \$9.4 million due to the Nexus acquisition in June 2026. At the time of filing, the Company anticipated an equity infusion of \$10 million to occur in September 2026. The decrease in equity amount of \$0.6 million and decrease in equity ratio to 52.24% is reflected in the forecast period ending December 31, 2027. The overall rate of return decreased to 7.910% from 7.940%.

CASH WORKING CAPITAL

Q. What is Cash Working Capital (“CWC”)?

A. CWC is the amount of funds a utility needs available to pay its day-to-day operating expenses. The purpose of CWC, for ratemaking purposes, is to reflect the difference in timing between when a utility pays its operating expenses for service rendered and when it receives revenues (i.e. payment) from its customers.

Q. Please explain why this timing difference is important.

A. To the extent that there is a timing difference between when the utility pays its operating expenses for services rendered to customers and when the utility receives payment for the service, a utility must bridge the funding gap until it receives revenues from customers. Under this circumstance, which I refer to as a “lag”, the utility uses sources of funding other than customer supplied funds to bridge the gap. This other source of funding incurs additional expense in the form of financing costs.

Q. Please further explain the “lag” position.

A. By way of example, say that a utility must pay its employees and other operating expenses on the first day of the month but does not receive customer revenues until the final day. For the time that exists between when operating expenses are paid by the utility and when revenues are received, the utility must fund those expenses itself.

1 **Q. Has the Company included a CWC allowance in its rate base claim?**

2 A. No. KAWC is not seeking to recover any CWC in rate base.

3 **Q. Have you reviewed Mr. Defever’s testimony regarding his proposed adjustment to**
4 **cash working capital?**

5 A. Yes, I have.

6 **Q. Are there any issues with his proposal?**

7 A. Yes. The primary issue is that Mr. Defever is proposing an adjustment to an item that the
8 Company is not seeking to recover. Because the Company is not seeking CWC, there is
9 no CWC amount to adjust. Mr. Defever, however, relies on the lead-lag study developed for
10 KAWC’s prior rate case and applies it to this case without examining whether the
11 underlying inputs remain unchanged. This approach does not provide a reliable basis for
12 calculating CWC for the forecasted test period in this case.

13 **Q. Have you reviewed the lead and lag days from the last two cases?**

14 A. Yes, attached as Exhibit JMW-2R, is a comparison of the lead/lag days from the cases
15 2023-00191 and 2025-00122.

16 **Q. Are the days the same within the two studies?**

17 A. No. The comparison in JMW-2R demonstrates that lead/lag factors approved in one case
18 cannot simply be applied in another case.

19 **Q. Does using the lead lag days from Mr. Defever’s adjustment and the authorized**
20 **amounts from the last case produce the amount allowed in Case No. 2025-00122?**

21 A. No, it does not, and this fact demonstrates that Mr. Defever’s proposed adjustments in this
22 case, which are based on his adjustments from the prior case, should not be adopted. Per
23 page 46-47 of the Order in Case No. 2025-00122, “The Commission calculated its own

1 CWC, which it finds reasonable.” Exhibit JMW-3R starts with Mr. Defever’s study and
2 replaces his current proposed case numbers with the last authorized numbers for O&M,
3 property and income taxes, interest expense and preferred dividends. The result shows that
4 the calculated CWC amount does not tie to the authorized amount from the last case.
5 Clearly using a methodology that does not tie to the last authorized amount shows that Mr.
6 Defever’s analysis is unreasonable and not consistent with the Commission’s approved
7 calculation.

8 **Q. Should the Commission use Mr. Defever’s proposed adjustments to apply a Cash**
9 **Working Capital adjustment?**

10 A. No, Exhibit JMW-3R demonstrates that there are inconsistencies between Mr. Defever’s
11 adjustments and the Commission-approved study from KAWC’s last rate case.

12 **Q. How should the Commission determine KAWC’s CWC amounts?**

13 A. The Commission should accept KAWC’s CWC amount of \$0. A \$0 amount would avoid
14 reliance on Mr. Defever’s inaccurate lead-lag assumptions.

15 **COMMON EQUITY PERCENTAGE**

16 **Q. Does Mr. Rothschild propose a change to the Common Equity percentage in this case?**

17 A. Yes. Mr. Rothschild’s recommends an adjustment to 51.17% from the filed 52.29%.

18 **Q. Do you agree with Mr. Rothschild’s recommended adjustment?**

19 A. No, I do not. Mr. Rothschild’s stated reason for the adjustment is that the Company has a
20 “significantly higher common equity ratio” than the consolidated capital structure.

21 **Q. Has the Commission previously set KAWC’s capital structure on a stand-alone or**
22 **consolidated basis?**

A. The Commission in Case No. 2025-00122 and Case No. 2023-00191 used the KAWC stand-alone actual capital structure.

Q. Why is that relevant to this case?

A. Because Mr. Rothschild recommends reducing the Company's common equity ratio based on the fact that he believes KAWC's common equity ratio is higher than that of its parent. However, the Commission has used the Company's stand alone capital structure in the past, and not the consolidated capital structure of its parent.

Q. What was the previously authorized capital structure in the last case?

A. As stated in my Direct Testimony on pages 26-27, Table 1 (replicated below), shows the authorized capital structure determined in Case No. 2025-00122, for the components, carrying amounts, weightings, cost rates, weighted costs and overall WACC. All of the information in Table 1 is based on the stand alone capital structure of the Company.

Table 1

Authorized Cost of Capital				
Component	Carrying Amount	Weighting	Cost Rate	WACC
Short-Term Debt	\$8,737,619	1.31%	4.16%	0.05%
Long-Term Debt	\$307,484,166	46.10%	4.69%	2.16%
Preferred Stock	\$2,201,080	0.33%	8.50%	0.03%
Common Equity	\$348,570,987	52.26%	9.70%	5.07%
Total Capitalization	\$666,993,852	100.00%		7.31%

1 **Q. Is KAWC’s previously authorized capital structure much different than its currently**
2 **proposed equity percentage?**

3 A. No, the capital structure last authorized by the Commission was 52.26% and the
4 Company’s proposed amount in this case is 52.29%. These amounts are nearly identical.

5 **Q. Is KAWC’s proposed common equity ratio an outlier compared to common equity**
6 **ratios ordered by the Commission?**

7 A. No, it is not. Again, as stated in my Direct Testimony on pages 31-32, the Company
8 provided Table 2 (replicated below), that provides a review of the ordered common equity
9 percentages for Kentucky utilities over the past four years. This table shows that Kentucky-
10 American’s current and proposed common equity ratios are reasonable in comparison.
11 Table 2 reflects these publicly disclosed ordered common equity percentages for other
12 Kentucky utilities, of the 12 cases shown 8 have higher equity percentages when compared
13 to KAWC. Also, the proposed capital structure is nearly identical to the capital structure
14 approved in KAWC’s most recent rate case.

15 **Table 2**

Utility	Docket No.	Filed Equity %	Ordered Equity %	Order Date	Case Resolution
Kentucky Power (Electric)	2025-00257	46.10%	46.10%	26-Feb	Settlement
Duke (Gas)	2025-00125	52.70%	52.70%	25-Dec	Settlement
LG&E (Gas)	2025-00114	52.90%	53.00%	26-Feb	Settlement
LG&E (Electric)	2025-00114	52.90%	53.00%	26-Feb	Settlement
KU (Electric)	2025-00113	52.90%	52.80%	26-Feb	Settlement
Duke (Electric)	2024-00354	52.70%	52.70%	25-Oct	Litigated
Delta (Gas)	2024-00346	52.80%	52.80%	25-Jul	Settlement
Atmos (Gas)	2024-00276	60.90%	53.50%	25-Aug	Litigated
Columbia (Gas)	2024-00092	52.60%	52.60%	24-Dec	Settlement
Kentucky Power (Electric)	2023-00159	41.60%	41.30%	24-Jan	Settlement
Duke (Electric)	2022-00372	52.50%	52.20%	23-Oct	Litigated
Water Service (Water)	2022-00147	49.70%	50.10%	23-Apr	Litigated

16
17 **Q. Did the Company’s capital structure change in the Base Year update?**

18 A. Yes, Table 3 below, shows the updated capital structure for the Company.

Table 3

Cost of Capital Summary				
13-Month Average For Forecast Period Ending December 31, 2027				
Component	Carrying Amount	Weighting	Cost Rate	WACC
Short-Term Debt	\$3,595,268	0.45%	3.32%	0.02%
Long-Term Debt	\$372,400,971	47.02%	4.80%	2.25%
Preferred Stock	\$2,246,360	0.28%	8.50%	0.02%
Common Equity	\$413,784,740	52.24%	10.75%	5.62%
Total Capitalization	\$792,027,339	100.00%		7.91%

Q. Is KAWC’s previously authorized capital structure much different than its updated proposed equity percentage?

A. No, the capital structure last authorized by the Commission was 52.26% and the Company’s updated amount in this case is 52.24%. These amounts are nearly identical.

Q. What does KAWC believe should be used for the equity percentage?

A. The Company believes the updated 52.24% equity ratio should be used as that is the equity percentage for the forecasted test year.

Q. Why should the Commission reject Mr. Rothschild’s proposed equity ratios and instead accept KAWC’s updated capital structure instead?

A. First, the Company’s proposed 52.24% equity ratio reflects its forecasted test year structure and therefore represents what will be used to finance its operations during the rate effective period. Second, the proposed ratio is consistent with Commission’s historical treatment of the Company’s capital structure and as noted above, is nearly identical to the percentages authorized in Case No. 2025-00122. Finally, Mr. Rothschild has not demonstrated that KAWC’s forecasted test year capital structure is unreasonable, and his recommendation is inconsistent with Commission precedent which has authorized the use of actual stand alone percentages.

1

CONCLUSION

2 **Q. Does this conclude your rebuttal testimony?**

3 **A. Yes.**

STATE OF KENTUCKY)
) SS:
COUNTY OF FAYETTE)


John Watkins

Molly McCleese Van Over
Notary Public

Notary ID: KYNP26988

Kentucky American Water
Case No 2026-00094
Summary of Forecast Year Revisions filed September 2026

Exhibit JMW-1R

Item	Requested Revenue Increase	Requested Revenue Increase Change	Explanation
Original Filing Case No 2026-00094	\$17,684,459		
Revenues:			
Present Rate Revenues	17,683,749	(709)	GMWSS customer reclassification - SFR to OPA
O&M Expense:			
Production Costs	17,551,383	(132,366)	Updated expenses related to production costs (fuel & power, chemicals & waste disposal) due to a linking issue in Exhibits
Support Services	17,565,310	13,926	Correction of service company expense due to a formula error in exhibit as well as the removal of allocated expense related to charitable contributions
Uncollectible Expense	17,556,722	(8,588)	Per Staff's 2nd Data Request #69 - updated uncollectible expense due to a linking issue in exhibit
General/Income Taxes:			
Current State Income Tax	17,567,005	10,284	Revenue requirement update
Current Federal Income Tax	17,608,037	41,032	Revenue requirement update
General Taxes	17,632,186	24,149	Update to property tax expense related to the adjustment to rate base noted below
Depreciation & Amortizations:			
Depreciation	17,708,610	76,424	Update to depreciation expense related to the adjustment to rate base (UPIS) noted below
Amortization	17,768,647	60,037	Update for amortization of Water Service Corporation deferred tank painting
Rate Base & Rate of Return:			
Rate Base	17,965,106	196,460	Per Staff's 3rd Data Request #5 - updated rate base related to the Water Service Corporation of Kentucky acquisition and the City of Livingston acquisition
Rate of Return	17,667,989	(297,117)	Rate of Return update
Difference	(\$16,470)	(\$16,470)	
Base Period Update revenue requirement	\$17,669,653		
Variance	(1,664)		

		Exhibit JMW-2R		
	2025-00122	2023-00191		
	Post Payment	Post Payment		
	or	or		
	(Lead) Days (1)	(Lead) Days (2)		Variance
Average Median Service Days	14.90	13.55		1.35
Number of Days between the Reading Date and the Billing Date	4.10	4.40		(0.30)
Number of Days between the Billing Date and the Date the Bills are Paid	20.10	19.80		0.30
Total Average Days	39.10	37.75		1.35
Salaries & Wages	9.50	11.50		(2.00)
Fuel, Power and Electric	24.20	24.60		(0.40)
Chemicals	33.20	28.50		4.70
Purchased Water	38.80	44.00		(5.20)
Waste Disposal	51.50	75.70		(24.20)
Service Company Charges	50.70	25.60		25.10
Contracted Services	50.70	25.60		25.10
Group Insurance	10.50	10.50		0.00
OPEB	64.50	(97.50)		162.00
Other Benefits	16.10	16.00		0.10
Pensions	(10.80)	(4.20)		(6.60)
Insurance Other Than Group	(96.70)	(90.70)		(6.00)
Rents	(23.70)	24.30		(48.00)
Maintenance Service & Supplies	15.70	50.30		(34.60)
Office Supplies & Services	32.60	31.80		0.80
Employee Related Exp, Travel & Ent	35.50	59.50		(24.00)
Building Maintenance & Services	23.90	31.40		(7.50)
Postage Printing & Stationary	12.70	28.20		(15.50)
Telecommunication	41.10	36.20		4.90
Miscellaneous Expense	34.60	9.50		25.10
Transportation	53.30	46.90		6.40
Other Customer Accounting	56.20	65.00		(8.80)
Property Taxes	299.80	238.40		61.40
Utility Tax	(186.00)	(152.00)		(34.00)
Payroll Taxes	9.50	11.50		(2.00)
Income Taxes - Current - SIT	30.30	28.80		1.50
Income Taxes - Current - FIT	30.30	28.80		1.50
Interest Expense - Long - Term Debt	89.40	89.30		0.10
Interest Expense - Short - Term Debt	10.30	14.50		(4.20)
Preferred Dividends	15.80	15.60		0.20
Average Days Interval between Date Expenses are Incurred and Date of Payment	76.56	56.91		19.65
Net Interval	(37.46)	(19.16)		(18.30)
Note (1): Days used per Defever's workpapers. Defever's days used with the authorized amounts equals a CWC of \$8,416,136. The Commission Order used \$4,459,395. The variance is \$3,956,741.				
(2): Per Case No. 2023-00191, using Company's filed workpapers making adjustment per Commission Order. Company's support equals \$4,920,000. Commission Order was \$4,961,885. Variance is \$41,885.				

Line No.	Description	Days	Forecasted Test Period	
1	Total Operating Funds		\$75,792,834	Line 44
2	Average Daily Operating Funds		207,652	Line 1/365
3	Composite Average Days Interval Between:			
4	(A) Date Service Furnished and Date Collections Deposited	39.10		
5	(B) Date Expenses Incurred and Date of Payment	79.63		Line 45
6	(C) Net Interval	(40.53)	(\$8,416,136)	Line 4 - Line 5 Line 2 X Line 6

Line No.	Description	Amount (A)	Adjustments [c] (B)	Total Amount (C)	Post Payment or (Lead) Days (D)	Dollar Days (E)
7	Salaries & Wages	\$9,050,528		\$9,050,528	9.50	\$85,980,020
8	Fuel, Power and Electric	5,573,104		5,573,104	24.20	134,869,124
9	Chemicals	4,512,002		4,512,002	33.20	149,798,464
10	Purchased Water	196,627		196,627	38.80	7,629,111
11	Waste Disposal	696,250		696,250	51.50	35,856,893
12	Service Company Charges	13,102,623		13,102,623	50.70	664,303,005
13	Contracted Services	1,597,098		1,597,098	50.70	80,972,893
14	Group Insurance	1,923,171		1,923,171	10.50	20,193,296
15	OPEB	(727,095)		(727,095)	64.50	(46,897,628)
16	Other Benefits	733,137		733,137	16.10	11,803,506
17	Pensions	198,279		198,279	(10.80)	(2,141,412)
18	Insurance Other Than Group	2,062,603		2,062,603	(96.70)	(199,453,727)
19	Rents	61,441		61,441	(23.70)	(1,456,152)
20	Regulatory Expense					
21	Maintenance Service & Supplies	2,991,634		2,991,634	15.70	46,968,659
22	Amortization					
23	Uncollectibles					
24	Office Supplies & Services	324,583		324,583	32.60	10,581,410
25	Employee Related Exp, Travel & Ent	236,418		236,418	35.50	8,392,839
26	Building Maintenance & Services	1,628,524		1,628,524	23.90	38,921,724
27	Postage Printing & Stationary	23,896		23,896	12.70	303,477
28	Telecommunication	325,955		325,955	41.10	13,396,751
29	Miscellaneous Expense	1,120,191		1,120,191	34.60	38,758,602
30	Transportation	600,250		600,250	53.30	31,993,306
31	Other Customer Accounting	86,842		86,842	56.20	4,880,521
32	Total O & M Expenses	46,318,062	0	46,318,062		1,135,654,682
33	Depreciation and Amortization					
34	Property Taxes	11,967,657		11,967,657	299.80	3,587,903,487
35	Utility Tax	212,689		212,689	(186.00)	(39,560,198)
36	Payroll Taxes	685,772		685,772	9.50	6,514,834
37	Income Taxes - Current - SIT	206,847		206,847	30.30	6,267,456
38	Income Taxes - Current - FIT	1,461,145		1,461,145	30.30	44,272,686
39	Deferred Income Taxes					
40	Interest Expense - Long - Term Debt	14,407,067		14,407,067	89.40	1,287,991,808
41	Interest Expense - Short - Term Debt	333,497		333,497	10.30	3,435,018
42	Preferred Dividends	200,098		200,098	15.80	3,161,551
43	Net Income		0	0	0.00	0
44	Net Operating Funds	\$75,792,834	\$0	\$75,792,834		\$6,035,641,324
45	Average Days Interval between Date Expenses are Incurred and Date of Payment					79.63