Exhibit No. 109

Staff – Exhibit 109
Walters Direct
File No. WR-2023-0006

Exhibit No.:
Issue(s): *Rate of Return*
Witness: *Christopher C. Walters*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case No.: *WR-2023-0006 / SR-2023-0007*
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MISSOURI PUBLIC SERVICE COMMISSION

FINANCIAL AND BUSINESS ANALYSIS DIVISION

FINANCIAL ANALYSIS DEPARTMENT

DIRECT TESTIMONY
Cost of Service

OF

CHRISTOPHER C. WALTERS

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.

CASE NO. WR-2023-0006

Jefferson City, Missouri
May 2023

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CHRISTOPHER C. WALTERS

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CHRISTOPHER C. WALTERS

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is Christopher C. Walters. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q. Please state your occupation.

A. I am an Associate with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants in the field of public utility regulation.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of Staff of the Missouri Public Service Commission ("Commission"").

Q. Please describe your educational background and experience.

A. I received a Bachelor of Science Degree in Business Economics and Finance from Southern Illinois University Edwardsville. I have also received a Master of Business Administration Degree from Lindenwood University. I earned the Chartered Financial Analyst ("CFA") designation from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting and reporting analysis, corporate finance, economics, fixed income and equity valuation, derivatives, alternative investments, risk management, and professional and ethical conduct. I am a member of the CFA Institute and the CFA Society of St. Louis.

As an Associate at BAI, I perform detailed technical analyses and research to support regulatory projects including expert testimony covering various regulatory issues. Since my career at BAI began in 2011, I have held the positions of Analyst, Associate Consultant, Consultant, Senior Consultant, and Associate. Throughout my tenure, I have been involved with several regulated projects for electric, natural gas, and water and wastewater utilities, as well as competitive procurement of electric power and gas supply. My regulatory project work includes estimating the cost of equity capital, capital structure evaluations, assessing financial integrity, merger and acquisition related issues, risk management related issues, depreciation rate studies, and other revenue requirement issues.

BAI was formed in April 1995. BAI and its predecessor firm have participated in more than 700 regulatory proceedings in 40 states and Canada.

BAI provides consulting services in the economic, technical, accounting, and financial aspects of public utility rates and in the acquisition of utility and energy services through requests for proposal and negotiations, in both regulated and unregulated markets. Our clients include large industrial and institutional customers, some utilities and, on occasion, state regulatory agencies. We also prepare special studies and reports, forecasts, surveys and siting studies, and present seminars on utility-related issues.

In general, we are engaged in energy and regulatory consulting, economic analysis and contract negotiation. In addition to our main office in St. Louis, the firm also has branch offices in Corpus Christi, Texas; Detroit, Michigan; Louisville, Kentucky and Phoenix, Arizona.

Q. What is the purpose of your direct testimony?

A. The purpose of my testimony is to provide a recommendation to the Commission on behalf of Staff regarding the appropriate overall rate of return ("ROR") including a

reasonable capital structure, cost of debt, and return on common equity ("ROE") the Commission should authorize for Confluence Rivers Operating Company ("Confluence") in this general rate case.

My silence with regard to any position taken by Confluence in its application or direct testimony in this proceeding does not indicate my endorsement of that position.

II. SUMMARY

Q. Please summarize the rest of your testimony.

A. In Section III of my testimony, I review and analyze the regulated utility industry's access to capital, credit rating trends and outlooks, as well as the overall trend in the authorized ROE for utilities throughout the country. I conclude that the trend in authorized ROEs for utilities has declined over the last several years and has remained below 10.0% more recently. I also review the impact that the Federal Reserve's (the "Fed") monetary policy actions have had on the cost of capital.

In Section IV of my testimony, I outline how a fair ROE should be established, provide an overview of the market's perception of the Company's investment risk, comment on the Company's proposed capital structure, and present the analyses I relied on to estimate an appropriate ROE for Confluence. Based on the results of several cost of equity ("COE") estimation methods performed on publicly traded utility companies, I estimate the current fair market ROE for the Company to fall within the range of 9.20% to 9.80%, with a midpoint of 9.50%. As I explain in detail later in this testimony, there are significant differences in common equity ratios between what is being requested by the Company and the proxy group used to estimate the COE, as well as what has been awarded to other regulated utilities around the country. Given the Company's large negative retained earnings balance of approximately

$9.5 million at year-end 2022, its unique corporate structure by having to rely directly on affiliates for external capital structure and Confluence's size, I believe a hypothetical capital structure is warranted in this case. As such, I recommend the Commission authorize a capital structure with an equity ratio of no more than 50%.

In Section V, I conclude that Confluence should be authorized an overall ROR of 8.05%. This ROR is produced using my recommended capital structure of 50% equity and 50% debt, my recommended authorized ROE of 9.50%, and Confluence's embedded cost of debt of 6.60%.

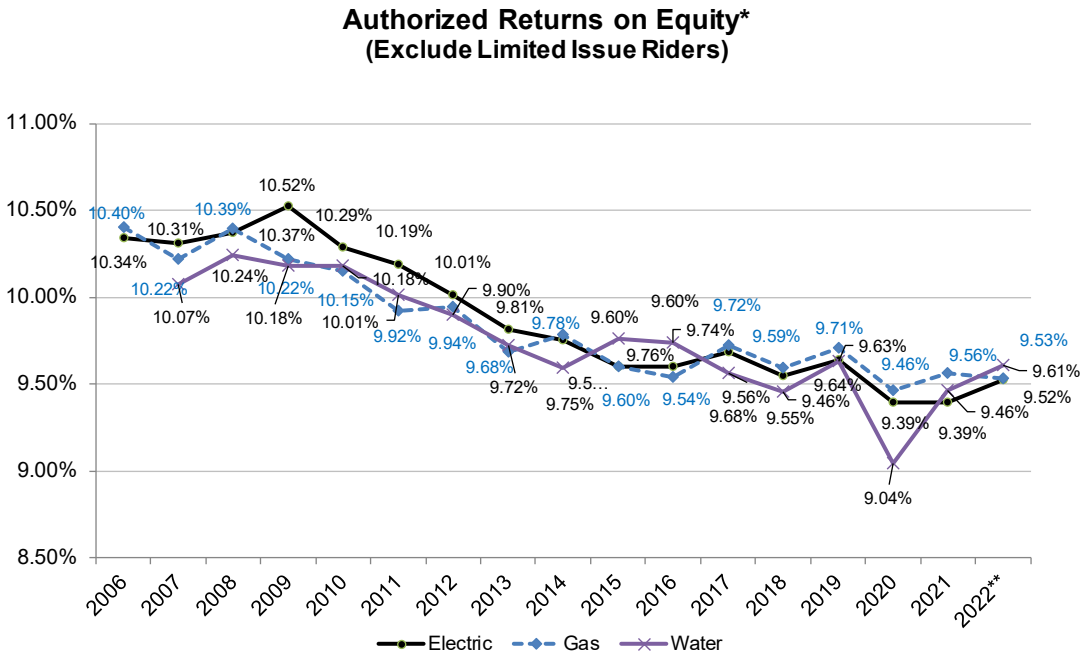
III. ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT

Regulated Utility Industry Authorized ROEs, Access to Capital, and Credit Strength

Q. Please describe the observable evidence on trends in authorized ROEs, utilities' credit standing, and utilities' access to capital to fund infrastructure investment.

A. Authorized ROEs for both electric and gas utilities have declined over the last 10 years, as illustrated in Figure CCW-1, and have been below 10.0% for about the last nine years.

FIGURE CCW-1



Source and Notes:

[1] *S&P Global Market Intelligence*, RRA Regulatory Focus, Major Rate Case Decisions -- January - December 2022, February 23, 2023 at page 3.

* Electric Returns exclude Limited Issue Riders.

* RRA excludes the 2017 Alaska ENSTAR decision from its calculations.

**Data represents January - December.

Q. Please describe the distribution of authorized ROEs for the last few years.

A. The distribution of authorized returns, annually, since 2016 is summarized in Table CCW-1.

TABLE CCW-1

Distribution of Authorized ROEs

		Natural Gas[1]				Water[2]			
Line	Year	Average	Median	Share of Decisions ≤ 9.5%	Share of Decisions ≤ 9.7%	Average	Median	Share of Decisions ≤ 9.5%	Share of Decisions ≤ 9.7%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	2016	9.52%	9.50%	52%	74%	9.74%	9.75%	12.50%	12.50%
2	2017	9.71%	9.60%	43%	74%	9.56%	9.63%	44.44%	44.44%
3	2018	9.73%	9.80%	53%	72%	9.46%	9.20%	53.33%	53.33%
4	2019	9.70%	10.23%	23%	57%	9.63%	9.73%	16.67%	16.67%
5	2020	9.42%	9.40%	68%	87%	9.04%	9.15%	83.33%	83.33%
6	2021	9.53%	9.52%	50%	74%	9.46%	9.60%	20.00%	20.00%
7	2022	9.50%	9.40%	53%	80%	9.61%	9.75%	37.50%	37.50%
8	2023	9.70%	9.60%	20%	80%	--	--	--	--

Source and Notes:
[1] S&P Global Market Intelligence, data through 4/7/23.
- Excludes limited issue rider cases.
[2] 2023 Data not available.

The distribution shows that over the last few years, the majority of authorized ROEs since 2016 have been below 9.7%, with many of those being below 9.5%.

Q. How has the authorized common equity ratio fluctuated over the same time period for utilities?

A. In general, the utility industry's common equity ratio has not really deviated too much from the range of 50.0% to 52.0%. As shown in Table CCW-2 below, I have provided the authorized common equity ratios for utilities around the country, excluding the reported common equity ratios for Arkansas, Florida, Indiana and Michigan. For my overall market analysis, I have excluded the reported authorized common equity ratios for these states because these jurisdictions include sources of capital outside of investor-supplied capital such as

accumulated deferred income taxes. As such, the reported common equity ratios in these states would result in a downward bias in the reported common equity ratios based on investor-supplied capital authorized for ratemaking purposes within my trend analysis.

TABLE CCW-2

Trends in State Authorized Common Equity Ratios
(Industry)

		Electric[1]		Natural Gas[1]		Water[1]	
Line	Year	Average	Median	Average	Median	Average	Median
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	2013	50.12%	51.03%	51.16%	50.43%	48.34%	45.79%
2	2014	50.28%	50.00%	51.90%	51.99%	49.69%	50.27%
3	2015	50.24%	50.48%	49.79%	50.33%	51.52%	51.36%
4	2016	49.70%	49.99%	51.85%	51.35%	50.65%	50.77%
5	2017	50.02%	49.85%	51.13%	51.76%	48.43%	46.09%
6	2018	50.60%	50.23%	52.58%	53.08%	52.41%	53.22%
7	2019	51.55%	51.37%	52.72%	52.22%	50.75%	50.35%
8	2020	50.94%	51.17%	52.34%	52.00%	49.75%	48.55%
9	2021	51.01%	52.00%	51.63%	52.00%	51.96%	52.73%
10	2022	51.50%	51.92%	51.84%	52.00%	51.53%	51.15%
11	Min	49.70%	49.85%	49.79%	50.33%	48.34%	45.79%
12	Max	51.55%	52.00%	52.72%	53.08%	52.41%	53.22%
11	Average	50.60%	50.80%	51.69%	51.72%	50.50%	50.03%
13	Median	50.44%	50.75%	51.85%	51.99%	50.70%	50.56%

Source and Notes:
[1] S&P Global Market Intelligence; data through December 31, 2022.
- Excludes Arkansas, Florida, Indiana and Michigan because they include non-investor capital.

Q. Have regulated utility companies been able to maintain relatively strong credit ratings during periods of declining authorized ROEs?

A. Yes. As shown below in Table CCW-3, there has generally been an improvement in the percentage of utilities rated BBB+ or higher since 2009.

TABLE CCW-3

S&P Ratings by Category
Natural Gas Utility Subsidiaries
(Year End)

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
A or higher	50%	50%	50%	50%	38%	33%	33%	44%	56%	33%	38%	38%	13%	15%
A-	0%	0%	0%	0%	38%	33%	33%	22%	11%	11%	38%	38%	38%	38%
BBB+	25%	25%	38%	38%	13%	22%	33%	33%	33%	44%	13%	13%	25%	30%
BBB	13%	13%	0%	0%	0%	0%	0%	0%	0%	11%	13%	13%	25%	18%
BBB-	13%	13%	13%	13%	13%	11%	0%	0%	0%	0%	0%	0%	0%	0%
Below BBB-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: S&P CAPITAL IQ and Market Intelligence, data through 12/31/22.
Note: Subsidiary ratings used.

Q. Have utilities been able to access external capital to support capital expenditure programs?

A. In Regulatory Research Associates' ("RRA") March 16, 2023 Utility Capital Expenditures report, *RRA Financial Focus*, a division of S&P Global Market Intelligence, made several relevant comments about utility investments generally:

- 2023 is anticipated to be a record year of utility industry capital investments, with the aggregated forecast for the 46 tracked energy utilities exceeding $171 billion in capex this year, according to the results of analysis by Regulatory Research Associates.

- 2023 forecast capital expenditures by the RRA-tracked energy utilities are expected to be the greatest spending magnitude of any year-to-date, with the anticipated aggregate capex rising more than 18% compared with the 2022 realized spending of $144 billion by these 46 tracked utilities.

- Capex in the years 2024 and 2025 is forecast to expand incrementally each year to $173.4 billion and $177.1 billion, respectively, on

spending growth in electric transmission, distribution and generation assets, as well as in the renewables sector.

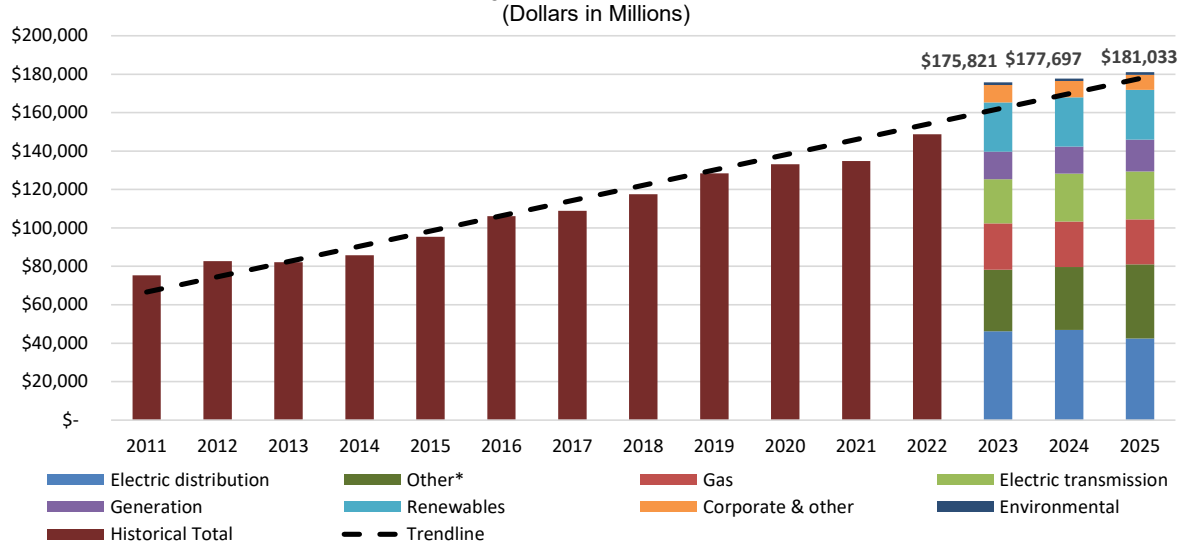
- The nation's electric, gas and water utilities are investing in infrastructure at record levels to upgrade aging transmission and distribution systems; build new gas, solar and wind generation; and implement new technologies, including those related to smart meter deployment, smart grid systems, cybersecurity measures, electric vehicles and battery storage. The considerable spending levels are expected to serve as the basis for solid profit expansion in the utility industry for the foreseeable future.

- Several catalysts are anticipated to impel elevated spending over the next several years, including replacement of aging infrastructure, state renewable portfolio standards, federal infrastructure investment plans and tax credits that incentivize conversion of the nation's power generation network to zero-carbon sources. The federal Inflation Reduction Act of 2022 is also expected to play a substantial role over the next decade.[1]

As shown in Figure CCW-2 below, capital expenditures for the regulated utilities have increased considerably over the period 2022 into 2023, and the forecasted capital expenditures remain elevated through the end of 2025.

[1] *S&P Global Market Intelligence, RRA Financial Focus*: "Seismic shift in capex plans reported by utilities for 2023 through 2025," March 16, 2023 (emphasis added).

FIGURE 2



*Other category consists of utilities that do not report capital expenditures by category: Avangrid, Hawaiian Electric, PG&E and Portland General Electric.
Source: *S&P Global Market Intelligence, RRA Financial Focus*, Utility Capital Expenditures Update, March 14, 2023, Tables 1 and 3.

As outlined in Figure CCW-2 above, and in the comments made by *RRA S&P Global Market Intelligence*, capital investments for the utility industry continue to stay at elevated levels, and these capital expenditures are expected to fuel utilities' profit growth into the foreseeable future.

Q. What is the significance of these findings?

A. This is clear evidence that the capital investments are enhancing shareholder value, and are attracting both equity and debt capital to the utility industry in a manner that allows for these elevated capital investments. While capital markets embrace these capital investments, regulatory commissions also must be careful to maintain reasonable prices and tariff terms and conditions to protect customers' need for reliable utility service but at competitive and affordable tariff prices

Q. Is there evidence of robust valuations of regulated utility equity securities?

A. Yes. Robust valuations are an indication that utilities can sell securities at high prices, which is a strong indication that they can access equity capital under reasonable terms and conditions, and at relatively low cost. As shown on Exhibit CCW-1, the historical valuation of utilities followed by *The Value Line Investment Survey* ("*Value Line*"), based on a price-to-earnings ("P/E") ratio, price-to-cash flow ("P/CF") ratio, and market price-to-book value ("M/B") ratio, indicates utility security valuations today are very strong and robust relative to the last several years. These strong valuations of utility stocks indicate that utilities have access to equity capital under reasonable terms and at lower costs.

Q. How is this observable market data used in forming your recommended authorized ROE and overall ROR?

A. Generally, authorized ROEs, credit standing, and access to capital have been quite robust for utilities over the last several years, even throughout the duration of the global pandemic. It is critical that the Commission ensure that utility rates are increased no more than necessary to provide fair compensation and maintain financial integrity.

Federal Reserve Monetary Policy

Q. Are the Federal Open Market Committee's ("FOMC") actions known to the market participants, and is it reasonable to believe they are reflected in the market's valuation of both debt and equity securities?

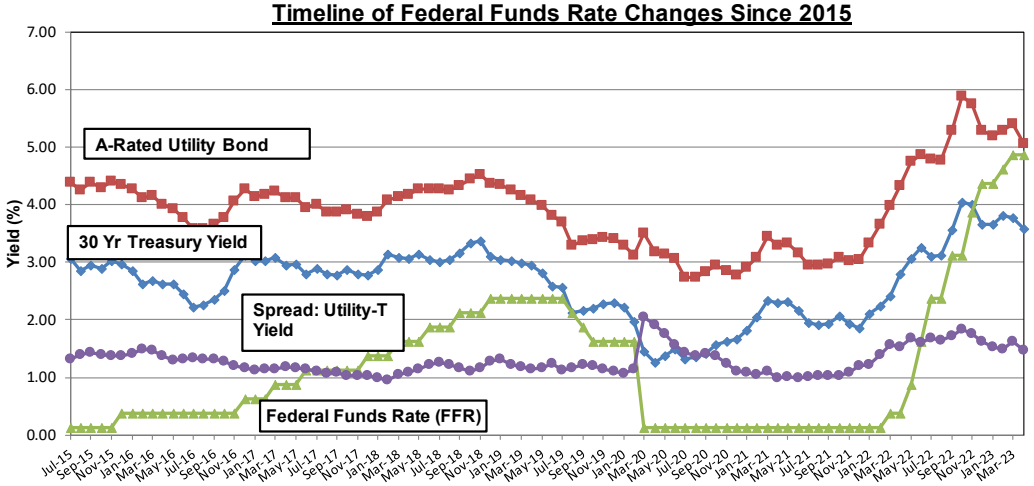
A. Yes. The Fed has been transparent about its efforts to support the economy to achieve maximum employment, and to manage long-term inflation to around a 2% level. The Fed has implemented procedures to support the economy's efforts to achieve these policy objectives. Specifically, the Fed had previously lowered the Federal Overnight Rate for

securities, and had engaged in a Quantitative Easing program where the Fed was buying, on a monthly basis, Treasury and mortgage-backed securities in order to moderate the demand in the marketplaces and support the economy. Currently, the Fed is unwinding its Quantitative Easing program and taking actions towards monetary policy normalization. Such monetary policy actions include raising the target federal funds rate and allowing maturing bonds to roll off its balance sheet.

An assessment of the market's reaction to the Fed's actions on the federal funds rate is shown below in Figure CCW-3.

FIGURE CCW-3

Timeline of Federal Funds Rate Changes Since 2015



Fed FFR Actions:

1	December 2015	0.25	→	0.50	13	March 2020	1.00	→	1.25
2	December 2016	0.50	→	0.75	14	March 2020	0.00	→	0.25
3	March 2017	0.75	→	1.00	15	March 2022	0.25	→	0.50
4	June 2017	1.00	→	1.25	16	May 2022	0.75	→	1.00
5	December 2017	1.25	→	1.50	17	June 2022	1.50	→	1.75
6	March 2018	1.50	→	1.75	18	July 2022	2.25	→	2.50
7	June 2018	1.75	→	2.00	19	September 2022	3.00	→	3.25
8	September 2018	2.00	→	2.25	20	November 2022	3.75	→	4.00
9	December 2018	2.25	→	2.50	21	December 2022	4.25	→	4.50
10	August 2019	2.00	→	2.25	22	February 2023	4.50	→	4.75
11	September 2019	1.75	→	2.00	23	March 2023	4.75	→	5.00
12	October 2019	1.50	→	1.75					

Sources:
Federal Reserve Bank of New York, https://apps.newyorkfed.org/markets/autorates/fed-funds-search-page
Board of Governors of the Federal Reserve System, https://www.federalreserve.gov/datadownload/
Moody's Credit Trends, https://credittrends.moodys.com/

As shown in Figure CCW-3 above, bond yields have increased over the last several months. However, they have started to decline in recent weeks.

Q. Has the Fed made recent comments concerning monetary policy?

A. Yes. In its recent press release, the FOMC stated the following:

> The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decision-making by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.[2]

In a recent statement, FOMC also stated that:

> Recent indicators point to modest growth in spending and production. Job gains have been robust in recent months, and the unemployment rate has remained low. Inflation has eased somewhat but remains elevated.[3]

Q. What do independent economists' outlooks for future interest rates indicate?

A. Independent economists expect current capital costs to increase at mixed rates over the near term, while maintaining levels that are still low by historical standards. For example, independent projections show that the consensus in the federal funds rate will increase at a rate much faster than that of long-term interest rates as measured by the 30-year Treasury bond. Inflation, as measured through the Gross Domestic Product ("GDP") price index, is expected to cool off in the near to intermediate term.

The consensus projections for the next several quarters are provided in Table CCW-4 below.

[2] *https://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf*
[3] *https://www.federalreserve.gov/newsevents/pressreleases/monetary20230201a.htm*

TABLE CCW-4

Blue Chip Financial Forecasts
Projected Federal Funds Rate, 30-Year Treasury Bond Yields, and GDP Price Index

Publication Date	3Q 2021	4Q 2021	1Q 2022	2Q 2022	3Q 2022	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1Q 2024	2Q 2024	3Q 2024
Federal Funds Rate													
Nov-21	0.1	0.1	0.1	0.1	0.1	0.3	0.4						
Dec-21	**0.1**	0.1	0.1	0.1	0.3	0.4	0.6						
Jan-22		0.1	0.1	0.3	0.5	0.7	0.9	1.1					
Feb-22		0.1	0.2	0.5	0.8	1.0	1.3	1.5					
Mar-22		**0.1**	0.2	0.6	1.0	1.3	1.6	1.8					
Apr-22			0.1	0.8	1.4	1.8	2.2	2.4	2.6				
May-22			0.1	1.0	1.7	2.2	2.6	2.9	3.0				
Jun-22			**0.1**	1.0	1.9	2.4	2.8	3.0	3.1				
Jul-22				0.7	2.4	3.1	3.5	3.5	3.5	3.4			
Aug-22				0.8	2.5	3.2	3.5	3.5	3.4	3.3			
Sep-22				**0.8**	2.5	3.4	3.6	3.6	3.5	3.4			
Oct-22					2.1	3.8	4.3	4.4	4.3	4.2	3.9		
Nov-22					2.2	3.9	4.6	4.7	4.6	4.4	4.1		
Dec-22					**2.2**	4.0	4.7	4.9	4.8	4.6	4.4		
Jan-23						3.6	4.7	5.0	4.9	4.7	4.4	4.0	
Feb-23						3.7	4.7	5.0	4.9	4.7	4.3	4.0	
Mar-23						**3.7**	4.7	5.1	5.1	5.0	4.7	4.2	
Apr-23							4.5	5.0	5.1	4.9	4.6	4.2	3.8
T-Bond, 30 yr.													
Nov-21	1.9	2.2	2.3	2.4	2.5	2.6	2.7						
Dec-21	**1.9**	2.1	2.2	2.3	2.5	2.6	2.7						
Jan-22		2.0	2.1	2.2	2.4	2.5	2.7	2.8					
Feb-22		2.0	2.2	2.3	2.5	2.6	2.7	2.8					
Mar-22		**2.0**	2.2	2.5	2.6	2.7	2.9	3.0					
Apr-22			2.3	2.6	2.8	3.0	3.2	3.3	3.3				
May-22			2.3	2.9	3.1	3.2	3.4	3.5	3.5				
Jun-22			**2.3**	3.0	3.3	3.4	3.5	3.6	3.6				
Jul-22				3.0	3.5	3.6	3.7	3.8	3.8	3.8			
Aug-22				3.0	3.2	3.4	3.5	3.5	3.5	3.5			
Sep-22				**3.0**	3.1	3.4	3.5	3.6	3.6	3.6			
Oct-22					3.2	3.8	3.9	4.0	3.9	3.8	3.8		
Nov-22					3.3	4.0	4.1	4.1	4.0	3.9	3.9		
Dec-22					**3.3**	4.0	4.2	4.2	4.1	3.9	3.9		
Jan-23						3.9	4.0	4.0	3.9	3.9	3.8	3.8	
Feb-23						3.9	3.8	3.9	3.9	3.8	3.8	3.7	
Mar-23						**3.9**	3.9	4.0	3.9	3.9	3.8	3.8	
Apr-23							3.8	3.9	3.8	3.8	3.8	3.8	3.7
GDP Price Index													
Nov-21	5.7	3.4	2.7	2.6	2.5	2.4	2.3						
Dec-21	**5.9**	4.6	3.4	2.8	2.7	2.5	2.5						
Jan-22		4.6	3.7	3.1	2.8	2.6	2.5	2.5					
Feb-22		6.9	4.3	3.4	3.0	2.8	2.6	2.5					
Mar-22		**7.1**	4.8	3.8	3.1	2.8	2.6	2.5					
Apr-22			4.8	5.1	3.7	3.0	2.8	2.6	2.6				
May-22			8.0	5.6	4.0	3.4	3.0	2.8	2.6				
Jun-22			**8.1**	5.9	4.6	3.5	3.1	2.8	2.7				
Jul-22				5.9	5.2	3.9	3.4	2.8	2.7	2.6			
Aug-22				8.7	5.3	3.8	3.3	2.7	2.7	2.6			
Sep-22				**8.9**	4.9	4.1	3.3	2.7	2.7	2.5			
Oct-22					4.9	4.3	3.5	3.0	2.8	2.7	2.5		
Nov-22					4.1	4.6	3.8	3.1	2.7	2.7	2.3		
Dec-22					**4.3**	4.3	3.8	3.0	2.7	2.6	2.3		
Jan-23						4.3	3.6	3.0	2.7	2.5	2.3	2.2	
Feb-23						3.5	3.3	3.0	2.7	2.6	2.4	2.3	
Mar-23						**3.9**	3.2	2.8	2.6	2.5	2.5	2.3	
Apr-23							3.2	3.2	2.9	2.7	2.5	2.3	2.2

Source and Note:
Blue Chip Financial Forecasts, July 2021 through April 2023.
Actual Yields in Bold.

Further, the outlook for long-term interest rates in the intermediate to longer term is also impacted by the current Fed actions and the expectation that eventually the Fed's monetary actions will return to more normal levels. Long-term interest rate projections are illustrated in Table CCW-5 below.

TABLE CCW-5

30-Year Treasury Bond Yield Actual Vs. Projection

Description	Actual	2-Year Projected*	5- to 10-Year Projected
2019			
Q1	3.01%	3.50%	
Q2	2.78%	3.17%	3.6% - 3.8%
Q3	2.30%	2.70%	
Q4	2.30%	2.50%	3.2% - 3.7%
2020			
Q1	1.88%	2.57%	
Q2	1.38%	1.90%	3.0% - 3.8%
Q3	1.36%	1.87%	
Q4	1.62%	1.97%	2.8% - 3.6%
2021			
Q1	2.07%	2.23%	
Q2	2.26%	2.77%	3.5% - 3.9%
Q3	1.93%	2.63%	
Q4	1.95%	2.70%	3.4% - 3.8%
2022			
Q1	2.25%	2.87%	
Q2	3.04%	3.47%	3.8% - 3.9%
Q3	3.26%	3.63%	
Q4	3.90%	3.87%	3.9% - 4.0%
2023			
Q1	3.75%	3.77%	

Source and Note:
Blue Chip Financial Forecasts, January 2016 through April 2023.
*Average of all 3 reports in Quarter.

As outlined in Table CCW-5 above, the outlook for increases in interest rates has jumped more recently relative to 2020 and part of 2021, but is still relatively modest compared to time periods prior to the beginning of the worldwide pandemic. Indeed, relatively low capital market costs are expected to prevail at least in the near-term and out over the next five to ten years. While there is potential for some upward movement in the cost of capital, that upward movement is uncertain. In fact, as shown on Figure CCW-3 above, increases in the federal funds rate do not necessarily translate into increases in longer-term yields.

Market Sentiments and Utility Industry Outlook

Q. Please describe the credit rating outlook for regulated utilities.

A. Credit analysts are concerned about rate affordability, driven by increases in commodity costs within rate base or capital investments, increases in interest rates, and credit analysts' concerns about utility rate affordability to customers. Each of these current outlooks for the credit standing of utility companies is discussed related to S&P, Moody's and Fitch perspectives. Specifically, in a recent report, S&P states the following:

> The industry outlook remains negative and has been negative since early 2020. Over this timeframe downgrades have outpaced upgrades by more than 3:1 (see chart 8). While the industry's percentage of negative outlooks has decreased to about 15% from 35% at year-end 2020, prolonged inflationary risks or a deeper-than-expected recession could harm the industry's credit quality in 2023.

In S&P's North American regulated utility report, it notes the industry outlook remains negative. S&P notes that the credit quality of the industry has changed to BBB+ from an A- rating over the last few years. It notes that interest rates have increased for utilities and that utilities have increased the use of securitization bonds for recovering storm, hurricane and wildfire costs. S&P notes key assumptions in its forecasted outlook for utilities include inflation outlooks but expects inflation to decrease to around 4% by year-end 2023, continued

robust capital spending for utilities, projecting over $190 billion expected to be spent in 2023, and increasing asset sales by utilities reflecting sales in minority interests in utilities, and non-utility assets. S&P believes that the risks around their outlook include uncertainty about commodity prices, regulatory risks in responding to capital spending and other rate pressures by utility to allow them to recover their cost of service, and physical risks to utility infrastructures by weather events and wildfires.

Concern for customers to be able to afford to pay their bill, S&P notes the following related to the main risks about 2023 and beyond:

> Affordability of customer bill
>
> Customer bills may become less affordable because of rising commodity prices, interest rates, inflation, and capital spending. During 2022, Henry Hub natural gas prices, the U.S. benchmark, peaked at about $9 per mmBTU. Although prices have since retreated to about $4/mmBTU and the forward curve reflects $3.50-$4.50/mmBTU, they remain substantially higher than preinflation levels, pressuring the customer bill. While we estimate the industry's average electric bill represents only about 2.5% of after-tax household income, sharp increases and bill volatility often results in increasing customer dissatisfaction that can ultimately heighten regulatory scrutiny and constrain the industry's ability to effectively manage regulatory risk.[4]

More recently, Moody's Investors Service ("Moody's") changed the industry outlook to "Negative." Specifically, Moody's states:

> » **We have revised our outlook on the US regulated utilities sector to negative from stable.** We changed the outlook because of increasingly challenging business and financial conditions stemming from higher natural gas prices, inflation and rising interest rates. These developments raise residential customer affordability issues, increasing the level of uncertainty with regard to the timely recovery of costs for fuel and purchased power, as well as for rate cases more broadly.

[4] *S&P Global Ratings*: "Industry Top Trends: North America Regulated Utilities," January 23, 2023, at 4 (emphasis added).

* * *

> » **What could change our outlook:** The outlook could return to stable if the sector's regulatory support remains intact, natural gas prices settle at a level where most utilities are able to fully recover fuel and purchased power costs without a delay beyond 12 months, overall inflation moderates, interest rates stabilize and/or the sector's aggregate (FFO)-to-debt ratio remains between 14% to 15%. We could change our outlook to positive if utility regulation turns broadly more credit supportive resulting in timelier cash flow recovery or we expect the sector's aggregate (FFO)-to-debt ratio to rise above 17% on a sustained basis.[5]

Fitch Ratings ("Fitch") also revised its outlook for the utility sector due to the expectation for recession:

> Fitch Ratings sees high natural gas prices, record capital spending and rising interest rates among the cost pressures weighing on the U.S. utilities sector in 2023. The rating agency has a "deteriorating" outlook on the sector after years of a stable view.
>
> Other factors behind Fitch's outlook include the Edison Electric Institute predicting elevated levels of capital expenditures for U.S. electric utilities. EEI forecasts $154.7 billion of capital expenditures in 2022, $159.2 billion in 2023 and $155.2 billion in 2024, a sharp increase from $134.1 billion in 2021.
>
> Fitch is also mindful of how a "sharp escalation" in retail rates, which have increased 14% in 2022, and bill affordability will impact credit metrics. Higher natural gas prices are a key driver of this spike in retail rates.[6]

As outlined above, S&P, Moody's and Fitch all state concern about utilities' rates affordability as a critical aspect of utility credit rating. Rate affordability largely should be considered by the Commission in ensuring that while certain aspects of utilities' cost of service are increasing, and must be reflected in the development of rates, but other aspects such as fair

[5] *Moody's Investors Service Outlook*: "Regulated Electric and Gas Utilities – US; 2023 Outlook – Negative on higher natural gas prices, inflation and rising interest rates," November 10, 2022 at 1 (emphasis added).
[6] *S&P Capital IQ*^{Pro}: "Fitch sees various cost pressures behind 'deteriorating' US utilities outlook at 1, 11/14/2022 (emphasis added).

ROR including return on equity and ratemaking capital structure may have discretionary elements which the Commission should consider in awarding an overall ROR that is fair and reasonable to both the utility, its investors, and consistent with adjusting rates with a mind toward maintaining rate affordability to customers.

Additional Remarks

Q. P lease comment on Russia's invasion of Ukraine and its impact on the market.

A. In late February 2022, Russia invaded Ukraine. The response from the United States and several other countries around the world has included several rounds of economic sanctions on Russia. There is no denying the fact that the ongoing conflict in Ukraine and the economic sanctions levied on Russia have sparked a fair amount of volatility and uncertainty in capital markets around the world.

While the actual impact to the markets and global economy because of the current conflict remains to be seen, we can look at research on the markets during previous wars and armed combat situations to get an idea of what can be expected.

For example, a monograph published by the CFA Institute Research Foundation concluded as follows:

> Both wars and terrorist attacks tend to have only a transitory impact on financial markets, but clear exceptions test that tendency. The macroeconomic impact of wars tends to be significantly bigger in small economies and developing countries that cannot digest the negative effects of war as easily as large, open economies—such as that of the United States—can.[7]

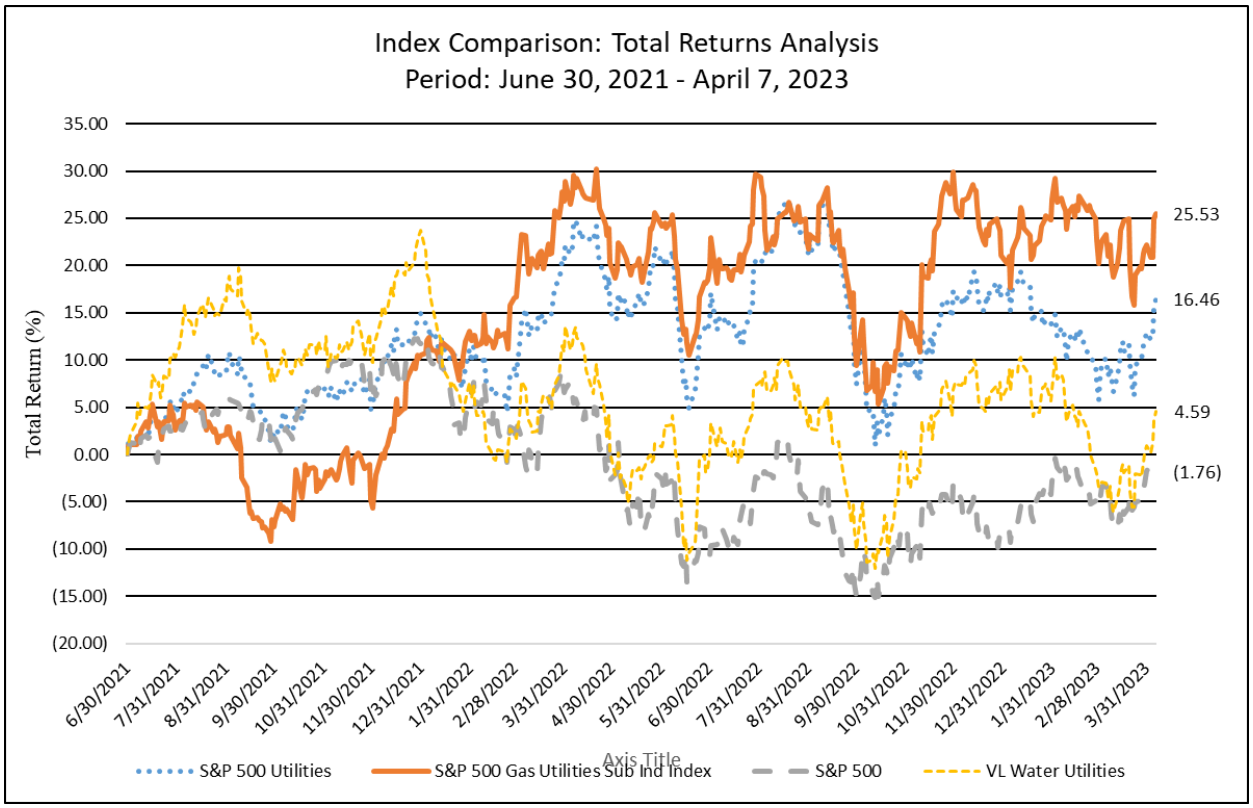
[7]Klement CFA, Joachim, CFA Institute Research Foundation, 2021, "Geo-Economics: The interplay of geopolitics, economics, and investments" at 46 (emphasis added).

While it is undeniable that a level of uncertainty exists because of the conflict in Ukraine, historical evidence indicates that the impact on financial markets is generally transitory.

Q. In light of higher levels of inflation, expectations of higher interest rates, and the war in Ukraine, how has the market perceived utilities as investment options?

A. Since the end of the second quarter 2021, utilities in general have outperformed the market. This is presented below in Figure CCW-4. This is indicative that utility valuations remain robust, even during a period of elevated inflation, rising interest rates, and uncertainty because of geopolitical events around the world.

FIGURE CCW-4



IV. RETURN ON EQUITY

Q. Please describe what is meant by a "utility's cost of common equity."

A. A utility's cost of common equity is the expected return that investors require on an investment in the utility. Investors expect to earn their required return from receiving dividends and through stock price appreciation.

Q. Please describe the framework for determining a regulated utility's cost of common equity.

A. In general, determining a fair cost of common equity for a regulated utility has been framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 (1923) and Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944). In these decisions, the Supreme Court found that just compensation depends on many circumstances and must be determined by fair and enlightened judgments based on relevant facts. The Court also found that a utility is entitled to such rates as would permit it to earn a return on a property devoted to the convenience of the public that is generally consistent with the same returns available in other investments of corresponding risk. The Court continued that the utility has "no constitutional rights to profits" such as those "realized or anticipated in highly profitable enterprises or speculative ventures,"[8] and defined the ratepayer/investor balance as follows:

> The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[9]

[8] *Bluefield,* 262 U.S. at 692-93.
[9] *Id*. at 693 (emphasis added).

As such, a fair ROR is based on the expectation that the utility costs reflect efficient and economical management, and the return will support its credit standing and access to capital, but the return will not be in excess of this level. From these standards, rates to customers will be just and reasonable, and compensation to the utility will be fair and support financial integrity and credit standing, under economic management of the utility.

Q. Please describe the methods you have used to estimate Confluence's cost of common equity.

A. I have used several models based on financial theory to estimate Confluence's cost of common equity. These models are: (1) a constant growth Discounted Cash Flow ("DCF") model using consensus analysts' growth rate projections; (2) a constant growth DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM").

Confluence's Investment Risk

Q. Please describe the market's assessment of Confluence's investment risk.

A. The market's assessment of a company's investment risk is generally described by credit rating analysts' reports. However, Confluence is not a rated entity. Notwithstanding the aforementioned, I have no reason to believe that Confluence would be rated much differently than the proxy group as a low-risk regulated water utility.

Confluence's Proposed Capital Structure

Q. What is Confluence's proposed capital structure?

A. Confluence's proposed capital structure is sponsored by Confluence witness Dylan D'Ascendis[10] and is summarized in Table CCW-6 below:

[10]Direct testimony of Dylan W. D'Ascendis.

TABLE CCW-6

Investor-Supplied Capital Structure

Description	Weight
Debt	31.44%
Common Equity	68.56%
Total	100.00%

Q. Do you have any comments on Confluence's proposed Capital structure?

A. Yes. Mr. D'Ascendis asserts that Confluence's actual structure consists of 68.56% equity. However, as provided in response to Staff Data Request 0183, the Company's actual equity ratio is 16.19% as of year-end 2022. Furthermore, I will discuss later, Confluence's proposed equity ratio significantly exceeds the equity ratio for the proxy group used to estimate the COE for Confluence. As shown in Exhibit CCW-2, the proxy group has an average common equity ratio of 46.3% (including short-term debt) and 46.4% (excluding short-term debt).

Q. Has a Commission recognized the need to align the COE with the capital structure?

A. Yes. In a recent Order, the Arkansas Public Service Commission imputed the capital structure of Southwestern Electric Power Company ("SWEPCO") to be more in-line with the comparable companies used to estimate the COE.[11] The adjustment was to recognize that there must be *congruence* between the COE and the capital structure. Specifically, the Order states as follows:

> Consistent with our ruling in Order No. 10 of Docket No. 06-101-U, the Commission holds that there should be congruence between the

[11]APSC Docket No. 21-170-U, Doc. No. 323, May 23, 2022, Order No. 14.

> estimated cost of equity and the [debt-to-equity ("DTE")] ratio, whereby a lower DTE ratio decreases financial risk and decreases the cost of equity. The evidence of record supports imputing the average capital structure of companies with comparable risk to SWEPCO for the purposes of determining SWEPCO's overall cost of capital.[12]

As I described above, the proxy group has an average common equity ratio of 46.3% (including short-term debt) and 46.4% (excluding short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*, respectively. Confluence's proposed equity ratio of 68.56% (excluding short-term debt) is more than 22 percentage points higher than that of the proxy group's comparable equity ratio and more than 52 percentage points higher than its actual equity ratio.

Furthermore, as I show above, authorized common equity ratios for regulated utilities have generally been in the range of 48.0% to 52.0% over the last several years.

Clearly, Confluence's requested equity ratio exceeds any rational measure and should be adjusted to a more reasonable level.

Q. How does Confluence's proposed capital structure compare to requested and/or authorized capital structure for its affiliate companies?

A. Confluence has two affiliate companies (Magnolia Utility Operating Company and Bluegrass Water Utility Operating Company) that have completed general rate cases where a capital structure was adopted for ratemaking purposes. In Case No. 2020-00290, Bluegrass Water Utility Operating Company proposed a hypothetical capital structure consisting of 50% debt and 50% equity. That capital structure was ultimately adopted by the Kentucky Public Service Commission in its Final Order issued on August 2, 2021.

[12] *Id*. at 25.

In Louisiana Public Service Commission Order No. U-35822 approving a filed Settlement agreement including a capital structure imputed at 60% equity and 40% debt for the first two test years of the formula rate plan with an imputed equity cap of 50% for the third test year.

Q. What are your conclusions as it related to Confluence's proposed capital structure?

A. As I explain above, the Company's proposed equity ratio of 68.56% significantly exceeds its own actual equity ratio, the equity ratios of the proxy group, as well as what has been authorized to other regulated utilities throughout the country over the last several years by a significant margin. Given Confluence's large negative retained earnings balance of approximately $9.5 million at year-end 2022, its unique corporate structure, which relies directly on affiliates for external capital structure and Confluence's size, I believe a hypothetical capital structure is warranted in this case. As such, I recommend the Commission authorize a capital structure with an equity ratio of no more than 50%.

Development of Proxy Group

Q. Please briefly describe why a proxy group is needed in estimating the COE.

A. There are a few reasons why a proxy group is needed to estimate the COE. As an initial matter, to be consistent with the *Hope* and *Bluefield* standards, as described above, the allowed return should be commensurate with returns on investments in other firms of comparable risk. A proxy group of similarly situated companies of comparable risk is needed to meet this criteria.

Even if Confluence were a publicly traded company whose securities could be used to estimate its COE, there exists the potential for certain errors and biases making the reliance on

a single estimate undesirable and potentially less accurate. A proxy group of comparable risk companies adds reliability to the estimates by mitigating the potential for bias that may be introduced by measurement errors of model inputs.

Q. Please describe how you identified a proxy utility group that could be used to estimate Confluence's current market COE.

A. I relied on the same proxy group developed by Confluence witness Mr. D'Ascendis.

In addition to the proxy group of water utilities, I also considered natural gas distribution utility companies. The number of companies classified as water utilities by *Value Line* is only six. Hence, the pool of water utility companies is already limited even without any screening criteria. Moreover, due to the ongoing trend of consolidation in the utility sector, the count of available proxy companies is further decreasing. Considering the scarcity of companies that are eligible for inclusion in the proxy group, I also incorporated natural gas distribution companies in my proxy group.

Q. Are you aware of other jurisdictions that also consider the use of natural gas utilities in a proxy group for determining the authorized ROE for a water utility?

A. Yes. Several jurisdictions have explored the use of a broader proxy group to determine the ROE for water and wastewater utilities. The Massachusetts Department of Public Utilities ("MDPU"), the Florida Public Service Commission ("FPUC"), the Kentucky Public Service Commission ("KYPSC"), and the Iowa Utilities Board ("IUB") have all examined the outcomes of a proxy group that involves natural gas companies to establish the authorized ROE for water and wastewater utilities. For instance, the MDPU concluded in Docket No. 17-90 that

a natural gas utility proxy group was appropriate to demonstrate the investment risk comparability of the proxy group to Aquarion Water Company.[13]

Similarly, in Docket No. 20180006-WS, the FPUC changed the methodology to include a combined proxy group of natural gas and water utilities to calculate the authorized ROE for water and wastewater utilities in Florida.[14] The FPUC had previously used a natural gas-only proxy group but chose to use a combined proxy group to increase the size of the proxy group.

The KYPSC also noted in Case No. 2018-00358 for Kentucky-American Water Company that it has considered ROE results based on a proxy group consisting of both natural gas and water utilities. The KYPSC relied on two proxy groups, a water-only proxy group, and a combined proxy group that included natural gas utilities, to develop the DCF and CAPM models.[15]

Furthermore, in Docket Nos. RPU-2020-00101, TF-2020-0250, the IUB used analyses based on proxy groups composed of water and natural gas companies.[16]

Q. How does the investment risk of Confluence compare to that of the proxy group?

A. As shown on my Exhibit CCW-2, the proxy group has average credit ratings of A and A3 from S&P and Moody's, respectively. Because Confluence is not a rated entity, it is difficult to directly compare risk through credit ratings alone. However, I have no reason to

[13]Massachusetts Department of Public Utilities, Docket No. 17-90, Petition of Aquarion Water Company of Massachusetts, Inc., pursuant to G.L. c. 164, § 94, and G.L. c. 165, § 2, for Approval of a General Rate Increase as set forth in M.D.P.U. No. 3., October 31, 2018, p. 286-287.
[14]Docket No. 20180006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of ROE for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-2018-0327-PAA-WS, at 7.
[15]Case No. 2018-00358, In the matter of: Electronic Application of Kentucky-American Water Company for an Adjustment of Rates, Order, June 27, 2019, at 66.
[16]State of Iowa Department of Commerce Utilities Board, Docket Nos. RPU-2020-00101, TF -2020-0250, June 28, 2021, at 24-25.

believe that Confluence would be rated much differently than the proxy group as a low-risk regulated water utility.

As shown on the same exhibit, the proxy group has an average common equity ratio of 46.3% (including short-term debt) and 46.4% (excluding short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*, respectively. Confluence's requested common equity ratio of 68.56% significantly exceeds the proxy group's equity ratio as described above.

Given the differences in common equity ratios between Confluence and the proxy group, as well as what has generally been authorized to regulated utilities throughout the country, an ROE in the lower half of my range would be warranted should Confluence be granted an equity ratio in-line with its request.

DCF Model

Q. Please describe the DCF model.

A. The DCF model posits that a stock price equals the sum of the present value of expected future cash flows discounted at the investor's required ROR or cost of capital. This model is expressed mathematically as follows:

$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \ldots . \frac{D_\infty}{(1+K)^\infty} \qquad \text{(Equation 1)}$$

P_0 = Current stock price
D = Dividends in periods 1 - ∞
K = Investor's required return

This model can be rearranged in order to estimate the discount rate or investor-required return, known as "K." If it is reasonable to assume that earnings and dividends will grow at a constant rate, then Equation 1 can be rearranged as follows:

$$K = D_1/P_0 + G \qquad \text{(Equation 2)}$$

K = Investor's required return
D_1 = Dividend in first year
P_0 = Current stock price
G = Expected constant dividend growth rate

Equation 2 is referred to as the annual "constant growth" DCF model.

Q. Please describe the inputs to your constant growth DCF model.

A. As shown in Equation 2 above, the DCF model requires a current stock price, the expected dividend, and the expected growth rate in dividends.

Q. What stock price have you relied on in your constant growth DCF model?

A. I relied on the average of the weekly high and low stock prices of the utilities in the proxy group over a 13-week period ending on April 7, 2023. An average stock price is less susceptible to market price variations than a price at a single point in time. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not reflect the stock's long-term value.

Q. What dividend did you use in your constant growth DCF model?

A. I used the most recently paid quarterly dividend as reported in *Value Line*.[17] This dividend was annualized (multiplied by 4) and adjusted for next year's growth to produce the D_1 factor for use in Equation 2 above. In other words, I calculate D_1 by multiplying the annualized dividend (D_0) by (1+G).

Q. What dividend growth rates have you used in your constant growth DCF model?

A. There are several methods that can be used to estimate the expected growth in dividends. However, regardless of the method, for purposes of determining the market-required

[17] *The Value Line Investment Survey*.

ROE, one must attempt to estimate investors' expectations about what the dividend, or earnings growth rate will be and not what an individual investor or analyst may use to make individual investment decisions.

As predictors of future returns, securities analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[18] That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more likely to influence investors' decisions, which are captured in observable stock prices, than growth rates derived only from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional securities analysts' earnings growth estimates as a proxy for investors' dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, MI, and Yahoo! Finance.[19] All such projections were available on April 7, 2023, and all were reported online.

Each growth rate projection is based on a survey of independent securities analysts. There is no clear evidence whether a particular analyst is most influential on general market investors. Therefore, a single analyst's projection does not predict investor outlooks as reliably as does a consensus of market analysts' projections. The consensus of estimates is a simple arithmetic average, or mean, of surveyed analysts' earnings growth forecasts. A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analysts' forecasts is a good proxy for investor expectations.

[18] *See*, e.g., David Gordon, Myron Gordon, and Lawrence Gould, Choice Among Methods of Estimating Share Yield, The Journal of Portfolio Management, Spring 1989.
[19] www.zacks.com; www.capitaliq.spglobal.com; www.finance.yahoo.com, all accessed on April 7, 2023.

The growth rates I used in my DCF analysis are shown in Exhibit CCW-3. The average growth rate for my proxy group is 6.72% and a median growth rate of 6.41%.

Q. What are the results of your constant growth DCF model?

A. As shown in Exhibit CCW-4, the average and median constant growth DCF returns for my proxy group (including natural gas utilities) for the 13-week analysis are 9.65% and 9.65%, respectively. The average and median constant growth DCF returns for the water utilities within my proxy group are 9.53% and 9.45%, respectively.

Q. Do you have any comments on the results of your constant growth DCF analysis?

A. Yes. The constant growth DCF analysis for my proxy group is based on a group average long-term growth rate of 6.72%. The three- to five-year growth rates are approximately 68% higher than the projected long-term projected GDP growth rate of 4.00%, described below. As I explain in detail below, a utility's growth rate cannot exceed the growth rate of the economy in which it provides services in perpetuity, which is the time period assumed by the DCF model.

Q. How did you identify the long-term projected GDP growth rate?

A. Although there may be short-term peaks, the long-term sustainable growth rate for a utility stock cannot exceed the growth rate of the economy in which it sells its goods and services. The long-term maximum sustainable growth rate for a utility investment is limited by the projected long-term GDP growth rate as that reflects the projected long-term growth rate of the economy as a whole. *Blue Chip Economic Indicators* projects that over the next five (5) and ten (10) years, the U.S. nominal GDP will grow at an annual rate of

approximately 4.00%.[20] As such, the average nominal growth rate over the next ten (10) years is around 4.00%, which I believe is a reasonable proxy of long-term growth.

Later in this testimony, I discuss academic and investment practitioner support for using the projected long-term GDP growth outlook as a maximum long-term growth rate projection. Using the long-term GDP growth rate as a conservative projection for the maximum growth rate is logical, and is generally consistent with academic and economic practitioner accepted practices.

Sustainable Growth DCF

Q. Please describe what the sustainable growth DCF method is and how you estimated a sustainable growth rate for your sustainable growth DCF model.

A. The sustainable growth rate, also referred to as the internal growth rate, is determined by the proportion of the utility's earnings that is retained and reinvested in its plant and equipment. These reinvested earnings enhance the earnings base, also known as the rate base. The earnings grow as the plant, funded by the reinvested earnings, is put into operation, allowing the utility to receive its authorized return on the additional rate base investment.

The internal growth approach is linked to the percentage of earnings retained within the company, as opposed to being paid out as dividends. The earnings retention ratio is calculated as 1 minus the dividend payout ratio. As the payout ratio decreases, the retention ratio increases, leading to stronger growth as the company funds more investments using retained earnings.

The payout ratios of the proxy group are shown in my Exhibit CCW-5. These dividend payout ratios and earnings retention ratios then can be used to develop a long-term growth rate driven by earnings retention.

[20]Blue Chip Economic Indicators March 10, 2023, at page 14.

The data used to estimate the long-term sustainable growth rate is based on the Company's current market-to-book ratio and on *Value Line*'s three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in Exhibit CCW-6, the average and median sustainable growth rates for the proxy group using this internal growth rate model are 5.99% and 5.60%, respectively.

Q. What is the DCF estimate using these sustainable growth rates?

A. A DCF estimate based on these sustainable growth rates is developed in Exhibit CCW-7. As shown there, and using the same formula in Equation 2 above, a sustainable growth DCF analysis produces proxy group average and median DCF results (including natural gas utilities) for the 13-week period of 8.91% and 8.91%, respectively. The average and median sustainable growth DCF returns for the water utilities within my proxy group are 7.79% and 7.62%, respectively.

Multi-Stage Growth DCF Model

Q. Have you conducted any other DCF studies?

A. Yes. As previously noted, the DCF model is intended to represent the present value of an endless series of future cash flows. Nevertheless, the initial constant growth DCF that I created is based on analyst growth rate projections, providing a plausible representation of rational investment expectations over the next three to five years. The limitation of this constant growth DCF model is that it cannot reflect a reasonable expectation of a shift in growth from a high or low short-term rate to a rate that aligns more with long-term sustainable growth. To accommodate changing growth expectations, I conducted a multi-stage DCF analysis.

Q. Why do you believe growth rates can change over time?

A. The growth rate projections for the next three to five years by analysts are subject to change as the outlook for utility earnings growth evolves. Utility companies experience fluctuations in their investment cycles. When these companies are undertaking substantial investments, the growth of their rate base accelerates, leading to an increase in earnings growth. However, once a major construction cycle reaches completion or plateaus, the growth in the utility rate base slows down, and its earnings growth rate declines from an abnormally high three to five-year rate to a lower, sustainable growth rate.

As construction cycles become longer in duration, even with an aggressive construction plan, the growth rate of the utility will naturally slow due to a decrease in rate base growth, as the utility has limited human and capital resources to expand its construction activities. Therefore, the three to five-year growth rate projection should be viewed as a long-term sustainable growth rate, but not without considering the current market conditions, industry trends, and determining whether the three- to five-year growth outlook is feasible and sustainable.

Q. Please describe your multi-stage DCF model.

A. The multi-stage DCF model reflects the possibility of non-constant growth for a company over time. The multi-stage DCF model reflects three growth periods: (1) a short-term growth period consisting of the first five (5) years; (2) a transition period, consisting of the next five (5) years (6 through 10); and (3) a long-term growth period starting in year 11 and extending into perpetuity.

For the short-term growth period, I relied on the consensus of analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor reflecting the

difference between the analysts' growth rates and the long-term sustainable growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable long-term growth rate.

Q. Why is the GDP growth projection a reasonable proxy for the maximum sustainable long-term growth rate?

A. Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. Utilities' earnings and dividend growth is created by increased utility investment in its rate base. Examples of what can drive such investment are service area economic growth, system reliability upgrades, or state and federal green energy initiatives.

Q. Is there research that supports your position that, over the long-term, a Company's earnings and dividends cannot grow at a rate greater than the growth of the U.S. GDP?

A. Yes. This concept is supported in published analyst literature and academic work. Specifically, in a textbook titled "Fundamentals of Financial Management," published by Eugene Brigham and Joel F. Houston, the authors state as follows:

> The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).[21]

The use of the economic growth rate is also supported by investment practitioners as outlined as follows:

[21] *Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298 (emphasis added).

Estimating Growth Rates

> One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.
>
> * * *
>
> Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.[22]

Q. How did you determine a long-term growth rate that reflects the current consensus of independent market participants?

A. I relied on the consensus of long-term GDP growth projections as projected by independent economists. *Blue Chip Economic Indicators* publishes the consensus for GDP growth projections twice a year. These projections reflect current outlooks for GDP and are likely to be influential on investors' expectations of future growth outlooks. The consensus of projected GDP growth is about 4.00% over the next ten (10) years.[23]

Q. Do you consider other sources of projected long-term GDP growth?

A. Yes, and these alternative sources corroborate the consensus analysts' projections I relied on. Several projections are shown in Table CCW-7 below.

[22]Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook at 51 and 52.
[23]Blue Chip Economic Indicators March 10, 2023, at page 14.

TABLE 7

GDP Forecasts

Source	Projected Period	Real GDP	Inflation	Nominal GDP
Blue Chip Economic Indicators [1]	5-10 Yrs	1.9%	2.1%	4.0%
EIA - Annual Energy Outlook[2]	27 Yrs	1.9%	2.3%	4.3%
Congressional Budget Office[3]	30 Yrs	1.6%	2.1%	3.7%
Moody's Analytics[4]	31 Yrs	2.0%	2.0%	4.0%
Social Security Administration[5]	78 Yrs			4.1%
Economist Intelligence Unit[6]	29 Yrs	1.7%	2.2%	3.9%

Sources:

[1]Blue Chip Economic Indicators, March 10, 2023 at 14.

[2]U.S. EnergyInformation Administration (EIA), Annual Energy Outlook 2023, September, 2022.

[3]Congressional Budget Office, Long-Term Budget Outlook, July 2022.

[4]Moody's Analytics Forecast, downloaded January 17, 2023.

[5]Social Security Administration, "2022 OASDI Trustees Report," Table VI.G4, June 2, 2022.

[6]S&P MI, Economist Intelligence Unit, downloaded on April 5, 2023.

As shown in the table above, the real GDP and the inflation fall in the range of 1.6% to 2.0% and 2.0% to 2.3%, respectively. This results in a nominal GDP in the range of 3.7% to 4.3%. Therefore, the nominal GDP growth projections made by these independent sources support my use of 4.00% as a reasonable estimate of market participants' expectations for long-term GDP growth.

Q. What stock price, dividend, and growth rates did you use in your multi-stage DCF analysis?

A. I relied on the same 13-week average stock prices and the most recent quarterly dividend payment data discussed above. For the first stage, I used the consensus of analysts' growth rate projections discussed above in my constant growth DCF model. The first stage

covers the first five years, consistent with the time horizon of the securities analysts' growth rate projections. The second stage, or transition stage, begins in year six (6) and extends through year ten (10). The second stage growth transitions the growth rate from the first stage to the third stage using a straight linear trend. For the third stage, or long-term sustainable growth stage, starting in year 11, I used a 4.00% long-term sustainable growth rate based on the consensus of economists' long-term projected nominal GDP growth rate.

Q. What are the results of your multi-stage DCF model?

A. As shown in Exhibit CCW-8, the average and median DCF estimates for my proxy group using the 13-week average stock price are 7.37% and 7.43%, respectively. The average and median multi-stage DCF returns for the water utilities within my proxy group are 6.50% and 6.69%, respectively.

Q. Please summarize the results from your DCF analyses.

A. The DCF results are summarized in Table CCW-8 below. The DCF results are summarized in Table CCW-8. It is my opinion that a reasonable ROE based on these results is 9.20%.

TABLE CCW-8

Summary of DCF Results

	Total Proxy Group		Water Only	
Description	**Average**	**Median**	**Average**	**Median**
Constant Growth DCF Model	9.65%	9.65%	9.53%	9.45%
Sustainable Growth DCF Model	8.91%	8.91%	7.79%	7.62%
Multi-Stage DCF Model	7.37%	7.43%	6.50%	6.69%

Risk Premium Model

Q. Please describe your bond yield plus risk premium model.

A. This model is based on the principle that investors require a higher return to assume greater risk. Common equity investments have greater risk than bonds because bonds have more security of payment in bankruptcy proceedings than common equity and the coupon payments on bonds represent contractual obligations. In contrast, companies are not required to pay dividends or guarantee returns on common equity investments. Therefore, common equity securities are considered to be riskier than bond securities.

This risk premium model is based on two estimates of an equity risk premium. First, I quantify the difference between regulatory commission-authorized returns on common equity and contemporary U.S. Treasury bonds. The difference between the authorized ROE and the Treasury bond yield is the risk premium. I estimated the risk premium on an annual basis for each year since January 1986. The authorized ROEs were based on regulatory commission-authorized returns for utility companies. Authorized returns are typically based on expert witnesses' estimates of the investor-required return at the time of the proceeding.

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields by Moody's. I selected the period 1986 through 2021 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Exhibit CCW-9, which shows the market-to-book ratio since 1986 for the utility industry was consistently above a multiple of 1.0x. Over this period, an analyst can infer that authorized ROEs were sufficient to support market prices that at least exceeded book value. This is an indication that commission-authorized returns on common equity supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Exhibit CCW-10, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.64%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current ROE for a risk premium methodology.

I assessed the five-year and ten-year rolling average risk premiums over the study period to gauge the variability over time of risk premiums. These rolling average risk premiums mitigate the impact of anomalous market conditions and skewed risk premiums over an entire business cycle. As shown on my Exhibit CCW-10, the five-year rolling average risk premium over Treasury bonds ranged from 4.17% to 7.17%, while the ten-year rolling average risk premium ranged from 4.30% to 6.92%.

As shown on my Exhibit CCW-11, the average indicated equity risk premium over contemporary "A" rated Moody's utility bond yields was 4.28%. The five-year and ten-year rolling average risk premiums ranged from 2.80% to 5.97% and 3.11% to 5.75%, respectively.

Q. Do you believe that the time period used to derive these equity risk premium estimates is appropriate to form accurate conclusions about contemporary market conditions?

A. Yes. Contemporary market conditions can change dramatically during the period that rates determined in this proceeding will be in effect. A relatively long period of time where stock valuations reflect premiums to book value indicates that the authorized ROEs and the corresponding equity risk premiums were supportive of investors' return expectations and provided utilities access to the equity markets under reasonable terms and conditions. Further, this time period is long enough to smooth abnormal market movement that might distort equity risk premiums. While market conditions and risk premiums do vary over time, this historical time period is a reasonable period to estimate contemporary risk premiums.

Q. Please explain other market evidence you relied on in determining an appropriate equity risk premium.

A. The equity risk premium should reflect the market's perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Exhibit CCW-12, where I show the yield spread between utility bonds and Treasury bonds since 1980. As shown in this schedule, the average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.49% and 1.91%, respectively.

A current 13-week average "A" rated utility bond yield of 5.25% when compared to the current Treasury bond yield of 3.72%, as shown in Exhibit CCW-13, page 1, implies a yield

spread of 1.53%. This current utility bond yield spread is higher than the long-term average spread for "A" rated utility bonds of 1.49%. The 13-week average yield on "Baa" rated utility bonds is 5.53%. This indicates a current spread for the "Baa" rated utility bond yield of 1.81%, which is slightly lower than the long-term average of 1.91%.

Q. What is your recommended return for the Company based on your risk premium study?

A. Considering the current economic environment, current levels of interest rates as well as interest rate projections, a move toward a more normalized equity risk premium is warranted.

A risk premium between the 50th and 75th percentile (i.e., the third quartile) of the rolling five-year average risk premiums would be appropriate in the current market. The third quartile would be for the observations that are equal to or above the 50th percentile observation, and equal to or below the 75th percentile. I believe the average of the third quartile represents a reasonable risk premium. As such, I believe an equity risk premium over Treasury yields of 5.93% is appropriate given the current economic environment and interest rate projection of 3.70%. Adding this risk premium to the projected Treasury yield of 3.70% produces a COE estimate of 9.63%.

Applying a similar methodology as described above, the average of the third quartile produces an equity risk premium of 4.53%. The A-rated utility bond yield has averaged 5.25% over the 13-week period ending April 7, 2023 while the Baa-rated utility bond yield has averaged 5.53% over the same period. Adding this risk premium to the 13-week A-rated utility bond yield of 5.25% produces an estimated COE of 9.78%. Adding this risk premium to the 13-week Baa-rated utility bond yield of 5.53% produces an estimated COE of 10.06%.

The A-rated utility bond yield has averaged 5.43% over the 26-week period ending April 7, 2023 while the Baa-rated utility bond yield has averaged 5.72% over the same period. Adding this risk premium to the 26-week A-rated utility bond yield of 5.43% produces an estimated COE of 9.96%. Adding this risk premium to the 26-week Baa-rated utility bond yield of 5.72% produces an estimated COE of 10.25%.

The results of my risk premium analyses are summarized in Table CCW-9. Based on these results, I conclude that a reasonable ROE based on my risk premium analyses is 9.80%.

TABLE CCW-9

Summary of Risk Premium Results

Description	
Projected Treasury Yield	9.63%
13-Week Yields	
A-Rated Utility Bond	9.78%
Baa-Rated Utility Bond	10.06%
26-Week Yields	
A-Rated Utility Bond	9.96%
Baa-Rated Utility Bond	10.25%

Capital Asset Pricing Model ("CAPM")

Q. Please describe the CAPM.

A. The CAPM method of analysis is based upon the theory that the market-required ROR for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:

$R_i = R_f + B_i \times (R_m - R_f)$ where:

R_i = Required return for stock i
R_f = Risk-free rate
R_m = Expected return for the market portfolio
B_i = Beta - Measure of the risk for stock

The term "beta" in the equation represents the stock-specific risk that cannot be reduced through diversification. In a well-diversified portfolio, specific risks related to individual stocks can be reduced by balancing the portfolio with securities that offset the impact of firm-specific factors, such as business cycle, competition, product mix, and production limitations.

Non-diversifiable risks, on the other hand, are related to market conditions and are referred to as systematic risks. These risks cannot be reduced through diversification and are considered market risks. Conversely, non-systematic risks, also known as business risks, can be reduced through diversification.

According to the CAPM, the market does not compensate investors for taking on risks that can be diversified away. Thus, investors are only compensated for taking on systematic, or non-diversifiable, risks. Beta is a measure of these systematic risks.

Q. Please describe the inputs to your CAPM.

A. The CAPM requires an estimate of the market risk-free rate, the company's beta, and the market risk premium.

Q. What did you use as an estimate of the market risk-free rate?

A. As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield is 3.70%.[24] The current 30-year Treasury bond yield is 3.72%, as shown in Exhibit

[24]Blue Chip Financial Forecast March 31, 2023.

CCW-13 at page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.70% for my CAPM analysis.

Q. Why did you use long-term treasury bond yields as an estimate of the risk-free rate?

A. Treasury securities are backed by the full faith and credit of the United States government, so long-term Treasury bonds are considered to have negligible credit risk. Also, long-term Treasury bonds have an investment horizon similar to that of common stock. As a result, investor-anticipated long-run inflation expectations are reflected in both common stock required returns and long-term bond yields. Therefore, the nominal risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term bond yield is a reasonable estimate of the nominal risk-free rate included in common stock returns.

Treasury bond yields, however, do include risk premiums related to future inflation and liquidity. In this regard, a Treasury bond yield is not entirely risk-free. Risk premiums related to unanticipated inflation and interest rates reflect systematic market risks. Consequently, for a company with a beta less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

Q. What beta did you use in your analysis?

A. As shown in Exhibit CCW-14, the current proxy group average and median Value Line beta estimates are 0.85 and 0.85, respectively. In my experience, these beta estimates are abnormally high and are unlikely to be sustained over the long-term. As such, I have also reviewed the historical average of the proxy group's *Value Line* betas. The historical

average *Value Line* beta since 2014 is 0.75 and has ranged from 0.64 to 0.83. Prior to the recent pandemic, the high end of this range was 0.76.

In addition to *Value Line*, I have also included adjusted beta estimates as provided by Market Intelligence's Beta Generator Model. This model relied on a five-year period on a weekly basis ending April 7, 2023. The average and median Market Intelligence betas are 0.72 and 0.72, respectively. Market Intelligence betas as calculated using its Beta Generator Model are adjusted using the Vasicek method and calculated using the S&P 500 as the proxy for the investable market. This is in stark contrast with the *Value Line* beta estimates that are adjusted using a constant weighting of 67%/35% to the raw beta/market beta and use the New York Stock Exchange as the proxy for the investable market. Because I rely on the S&P 500 to estimate the expected return on the investable market, it makes sense to rely on beta estimates that are calculated using the S&P 500 as the benchmark for the market. Further, as S&P explains:

> The Vasicek Method is a superior alternative to the Bloomberg Beta adjustment. The Bloomberg adjustment is not appropriate for a vast number of situations, as it assigns constant weighting regardless of the standard error in the raw beta estimation (Bloomberg Beta = 1/3*market beta + 2/3*Raw Beta). Given the statistical fact that a larger sample size yields a smaller error, the Vasicek method more appropriately adjusts the raw beta via weights determined by the variance of the individual security versus the variance of a larger sample of comparable companies. The weights are designed to bring the raw beta closer to whichever beta estimation has the smallest error. This is a feature the Bloomberg beta cannot replicate.[25]

Q. How did you derive your market risk premium estimates?

[25]S&P Market Intelligence, Beta Generator Model. Notably, while S&P makes reference to the Bloomberg method of applying 2/3 and 1/3 weights to the raw beta and market beta, respectively, the comparison still applies to *Value Line's* methodology of applying 67% and 35% weights. Both methods are forms of the Blume adjustment. While the weights are slightly different between the Bloomberg and *Value Line* methods, they are similar and apply a constant weight without any regard to accuracy. As such, the criticisms of the betas offered by S&P apply to both Bloomberg betas and *Value Line* betas.

A. My market risk premium estimates are derived using two general approaches: a risk premium approach and a DCF approach. I also consider the normalized market risk premium of 6.00% with the normalized risk-free rate of 3.87% as recommended by Kroll, formerly known as Duff & Phelps.[26]

Q. Please describe your market risk premium estimate derived using the risk premium methodology.

A. The forward-looking risk premium-based estimate was derived by estimating the expected return on the market (as represented by the S&P 500) and subtracting the risk-free rate from this estimate. I estimated the expected return on the S&P 500 by adding an expected inflation rate to the long-term historical arithmetic average real return on the market. The real return on the market represents the achieved return above the rate of inflation.

The Kroll *2022 SBBI Yearbook* estimates the historical arithmetic average real market return over the period 1926 to 2021 to be 9.20%.[27] A current consensus for projected inflation, as measured by the Consumer Price Index ("CPI"), is 2.30%.[28] Using these estimates, the expected market return is 11.71%.[29] The market risk premium then is the difference between the 11.71% expected market return and the projected risk-free rate of 3.70%, or 8.01%.

Q. Please describe your market risk premium estimates derived using the DCF methodology.

A. I employed two versions of the constant growth DCF model to develop estimates of the market risk premium. I first employed the Federal Energy Regulatory Commission's

[26] Kroll, and its predecessor Duff & Phelps, is a provider of economic, financial, and valuation data that is often relied on by finance professionals and cited in ROR testimony.
[27] Kroll, 2022 SBBI Yearbook at 146.
[28] Blue Chip Financial Forecast March 31, 2023.
[29] [(1 +9.20%) ∗ (1 + 2.30%) - 1] ∗ 100.

("FERC") method of estimating the expected return on the market that was established in its Opinion No. 569-A. FERC's method for estimating the expected return on the market is to perform a constant growth DCF analysis on each of the dividend paying companies of the S&P 500 index. The growth rate component is based on the average of the growth projections excluding companies with growth rates that were negative or greater than 20%.[30] The weighted average growth rate for the remaining companies is 8.70%. After reflecting the FERC prescribed method of adjusting the dividend yield by (1+ 0.5g), the weighted average expected dividend yield is 2.09%. Thus, the DCF-derived expected return on the market is the sum of those two components, or 10.79%. The market risk premium then is the expected market return of 10.79% less the projected risk-free rate of 3.70%, or 7.10%.

My second DCF-based market risk premium estimate was derived by performing the same DCF analysis described above, except I used all companies in the S&P 500 index rather than just the dividend paying companies. The weighted average growth rate for these companies is 9.70%. After reflecting the FERC prescribed method of adjusting the dividend yield by (1+ 0.5g), the weighted average expected dividend yield is 1.68%. Thus, the DCF-derived expected return on the market is the sum of those two components, or 11.38%. The market risk premium then is the expected market return of 11.38% less the projected risk-free rate of 3.70%, or approximately 7.70%.

The average expected market return based on the DCF model is 11.09% and the average market risk premium based on the two DCF estimates is 7.40%.

Q. How do your expected market returns compare to current expectations of financial institutions?

[30]Opinion No. 569-A, at p. 210.

A. As shown in Table CCW-10, my average expected market return of 10.89%[31] exceeds long-term market expectations of several financial institutions.

TABLE CCW-10

Long-Term Expected Return on the Market

Source	Term	Expected Return Large Cap Equities
BlackRock Capital Management[1]	30 Years	8.20%
JP Morgan Chase[2]	10 - 15 Years	7.90%
Vanguard[3]	10 Years	4.7% - 6.7%
Research Affiliates[4]	10 Years	5.80%

Sources:
[1]BlackRock Investment Institute, September 2022 report.
[2]JP Morgan Chase, Long-Term Capital Market Assumptions, 2023 Report.
[3]Vanguard economic and market outlook for 2023: Beating back inflation.
[4]Research Affiliates, Asset Allocation Interactive. Retrieved 12/31/2022.

When compared to the expected market returns of financial institutions above, my average expected market return of 10.89% is higher than all of the above projections. For these reasons, my expected market returns, and the associated market risk premiums, should be considered reasonable, if not high-end estimates.

[31] 10.89% = (9.87% + 11.09% + 11.71%) / 3.

Q. How do your estimated market risk premiums compare to that estimated by Kroll?

A. The Kroll analysis indicates a market risk premium falls somewhere in the range of 6.00% to 7.46%. My market risk premium estimates are in the range of 6.00% to 8.01%.

Q. How does Kroll measure a market risk premium?

A. Kroll's range is based on several methodologies. First, Kroll estimated a market risk premium of 7.46% based on the difference between the total market return on common stocks (S&P 500) less the income return on 20-year Treasury bond investments over the 1926-2021 period.[32]

Second, Kroll used the Ibbotson & Chen supply-side model which produced a market risk premium estimate of 6.22%.[33] The Ibbotson & Chen supply-side model estimates the equity risk premium based on three pieces of historical data (inflation, income return, and growth in real earnings per share), and investor expectations of growth in the P/E ratio. Kroll explains that the historical market risk premium based on the S&P 500 was influenced by an abnormal expansion of P/E ratios relative to earnings and dividend growth. In order to control for the volatility of extraordinary events and their impacts on P/E ratios, Kroll takes into consideration the three-year average P/E ratio as the current P/E ratio. Therefore, Kroll adjusted this market risk premium estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings.

Finally, Kroll develops its own recommended equity, or market risk premium, by employing an analysis that takes into consideration a wide range of economic information,

[32]Kroll, 2022 SBBI Yearbook at 199.
[33]*Id.* at 207.

multiple risk premium estimation methodologies, and the current state of the economy by observing measures such as the level of stock indices and corporate spreads as indicators of perceived risk. Based on this methodology, and utilizing a "normalized" risk-free rate of 3.87%, Kroll concludes that the current expected, or forward-looking, market risk premium is 6.00%, implying an expected return on the market of 9.87%.[34]

Q. What are the results of your CAPM analysis?

A. As shown in Exhibit CCW-15, I have provided the results of nine different applications of the CAPM. The first three results presented are based on the proxy group's current average *Value Line* beta of 0.85. The results of the CAPM based on these inputs range from 8.94% to 10.47%.

The next set of three results presented are based on the proxy group's historical *Value Line* beta of 0.75. The results of the CAPM based on these inputs range from 8.38% to 9.71%.

The last set of three results presented are based on the proxy group's current S&P Global Market Intelligence beta of 0.72. The results of the CAPM based on these inputs range from 8.16% to 9.43%. My CAPM results are summarized in Table CCW-11.

[34]Kroll, *Kroll Increases U.S. Normalized Risk-Free Rate from 3.0% to 3.5%, but Spot 20-Year U.S. Treasury Yield Preferred When Higher*, June 16, 2022. The current 20-year yield of 3.87% exceeds the "normalized" yield of 3.5%. In accordance with Kroll's prescribed method, the greater of the two shall be used, i.e., 3.87%.

TABLE CCW-11

CAPM Results Summary

Description	Current VL Beta	Historical VL Beta	Current MI Beta
D&P Normalized Method	8.94%	8.38%	8.16%
Risk Premium Method	10.47%	9.71%	9.43%
FERC DCF	9.96%	9.26%	9.00%

Q. What is your recommended return for Confluence based on your CAPM?

A. Based on the results summarized above, I recommend a CAPM return estimate of 9.40%.

Return on Equity Summary

Q. Based on the results of your ROE analyses described above, what ROE do you recommend for Confluence?

A. The results of my analyses are summarized in Table CCW-12.

TABLE CCW-12

Return on Common Equity Summary

Description	Results
DCF	9.20%
Risk Premium	9.80%
CAPM	9.40%

Based on my analyses described above, I estimate Confluence's current market COE to be in the reasonable range of 9.20% to 9.80%. I recommend that the Commission grant Confluence an authorized ROE of 9.50%, which is the midpoint of my recommended range.

V. CONCLUSION

Q. What are your conclusions and recommendations as it relates to a fair ROR for Confluence?

A. I conclude that Confluence should be authorized an overall ROR of 8.05%. This ROR is produced using my recommended capital structure of 50% equity and 50% debt, my recommended ROE of 9.50%, and Confluence's embedded cost of debt of 6.60%.

Q. Does this conclude your direct testimony?

A. Yes it does.

465960

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Confluence Rivers Utility Operating Company, Inc.'s Request for Authority to Implement a General Rate Increase for Water Service and Sewer Service Provided in Missouri Service Areas	)))))	Case No. WR-2023-0006

AFFIDAVIT OF CHRISTOPHER C. WALTERS

STATE OF MISSOURI)
) ss.
COUNTY OF ST. LOUIS)

COMES NOW CHRISTOPHER C. WALTERS and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony of Christopher C. Walters*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

CHRISTOPHER C. WALTERS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of St. Louis, State of Missouri, at my office in Chesterfield, on this 26th day of May 2023.

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2025
Commission # 13706793

Notary Public

Qualifications of Christopher C. Walters

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Christopher C. Walters. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am an Associate with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants in the field of public utility regulation.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EMPLOYMENT EXPERIENCE.

A I received a Bachelor of Science Degree in Business Economics and Finance from Southern Illinois University Edwardsville. I have also received a Master of Business Administration Degree from Lindenwood University.

As an Associate at BAI, I perform detailed technical analyses and research to support regulatory projects including expert testimony covering various regulatory issues. Since my career at BAI began in 2011, I have held the positions of Analyst, Associate Consultant, Consultant, Senior Consultant, and Associate. Throughout my tenure, I have been involved with several regulated projects for electric, natural gas and water and wastewater utilities, as well as competitive procurement of electric power and gas supply. My regulatory project work includes estimating the cost of equity capital, capital structure evaluations, assessing financial integrity, merger and acquisition related issues, risk management related issues, depreciation rate studies, and other revenue requirement issues.

BAI was formed in April 1995. BAI and its predecessor firm have participated in more than 700 regulatory proceedings in 40 states and Canada.

BAI provides consulting services in the economic, technical, accounting, and financial aspects of public utility rates and in the acquisition of utility and energy services through RFPs and negotiations, in both regulated and unregulated markets. Our clients include large industrial and institutional customers, some utilities and, on occasion, state regulatory agencies. We also prepare special studies and reports, forecasts, surveys and siting studies, and present seminars on utility-related issues.

In general, we are engaged in energy and regulatory consulting, economic analysis and contract negotiation. In addition to our main office in St. Louis, the firm also has branch offices in Corpus Christi, Texas; Detroit, Michigan; Louisville, Kentucky and Phoenix, Arizona.

Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

A Yes. I have sponsored testimony before state regulatory commissions including: Arizona, Arkansas, Delaware, Florida, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Nevada, New Mexico, Ohio, Oklahoma, Utah, and Wyoming. In addition, I have also sponsored testimony before the City Council of New Orleans and an affidavit before the FERC.

Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the Chartered Financial Analyst (“CFA”) designation from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting and reporting analysis,

corporate finance, economics, fixed income and equity valuation, derivatives, alternative investments, risk management, and professional and ethical conduct. I am a member of the CFA Institute and the CFA Society of St. Louis.

Brubaker & Associates, Inc.
Testimony Filed Since
2015
by Christopher C. Walters

Date Filed	State	Docket No.	Utility	Type	Subjects	On Behalf Of
5/8/2020	MA	D.P.U. 19-120	NSTAR GAS COMPANY D/B/A EVERSOURCE ENERGY	Surrebuttal	Rate of Return / Capital Structure	United States Department of Defense and all other Federal Executive Agencies
3/30/2020	MA	D.P.U. 19-120	NSTAR GAS COMPANY D/B/A EVERSOURCE ENERGY	Direct / Responsive	Rate of Return / Capital Structure	United States Department of Defense and all other Federal Executive Agencies
1/21/2020	MO	ER-2019-0335	AMEREN MISSOURI	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Missouri Industrial Energy Consumers
12/4/2019	MO	ER-2019-0335	AMEREN MISSOURI	Direct / Responsive	Rate of Return / Capital Structure	Missouri Industrial Energy Consumers
12/2/2019	MI	U-20561	DTE ELECTRIC COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
11/12/2019	MI	U-20359	INDIANA MICHIGAN POWER COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
11/6/2019	MI	U-20561	DTE ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure / Regulatory Plan / Tree Trimming Expense	Association of Businesses Advocating Tariff Equity
11/1/2019	WY	30026-2-GR-19 (Record No. 15267)	BLACK HILLS WYOMING GAS, LLC D/B/A BLACK HILLS ENERGY	Direct / Responsive	Stipulations / Agreements / Settlements	Federal Executive Agencies
10/22/2019	MD	9610	BALTIMORE GAS AND ELECTRIC COMPANY	Surrebuttal	Rate of Return / Capital Structure	United States Department of Defense and all other Federal Executive Agencies
10/17/2019	MI	U-20359	INDIANA MICHIGAN POWER COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
10/4/2019	WY	30026-2-GR-19 (Record No. 15267)	BLACK HILLS WYOMING GAS, LLC D/B/A BLACK HILLS ENERGY	Direct / Responsive	Rate of Return / Capital Structure	Federal Executive Agencies
9/24/2019	AR	19-008-U	SOUTHWESTERN ELECTRIC POWER COMPANY	Surrebuttal	Rate of Return / Capital Structure	The Office of the Arkansas Attorney General Leslie Rutledge
9/10/2019	MD	9610	BALTIMORE GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	United States Department of Defense and all other Federal Executive Agencies
9/10/2019	IA	RPU-2019-0001	INTERSTATE POWER AND LIGHT COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Iowa Business Energy Coalition
9/4/2019	NV	19-06002	SIERRA PACIFIC POWER COMPANY D/B/A NV ENERGY	Direct / Responsive	Rate of Return / Capital Structure	Switch, Ltd.
8/1/2019	IA	RPU-2019-0001	INTERSTATE POWER AND LIGHT COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Iowa Business Energy Coalition
7/16/2019	AR	19-008-U	SOUTHWESTERN ELECTRIC POWER COMPANY	Direct / Responsive	Rate of Return / Capital Structure	The Office of the Arkansas Attorney General Leslie Rutledge
4/26/2019	LA	UD-18-07	ENTERGY NEW ORLEANS, INC.	Surrebuttal	Rate of Return / Capital Structure	Air Products and Chemicals, Inc.
4/22/2019	OK	PUD 201800140	OKLAHOMA GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Federal Executive Agencies
3/1/2019	MI	U-20298	DTE GAS COMPANY	Direct / Responsive	TCJA	Association of Businesses Advocating Tariff Equity
2/21/2019	MI	U-20276	UPPER PENINSULA POWER COMPANY	Direct / Responsive	Rate of Return / Capital Structure; Revenue Credits	Association of Businesses Advocating Tariff Equity and Calumet Electronics Corporation
2/1/2019	LA	UD-18-07	ENTERGY NEW ORLEANS, INC.	Direct / Responsive	Rate of Return / Capital Structure	Air Products and Chemicals, Inc.
1/16/2019	KY	2018-00294 / 2018-00295	KENTUCKY UTILITIES COMPANY / LOUISVILLE GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	United States Department of Defense and all other Federal Executive Agencies
11/28/2018	MI	U-20162	DTE ELECTRIC COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
11/7/2018	MI	U-20162	DTE ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
9/4/2018	LA	U-34794	CLECO CORPORATE HOLDINGS LLC AND CLECO POWER LLC	Direct / Responsive	Ring Fence Conditions	Packaging Corporation of America
8/31/2018	IA	RPU-2018-0003	MIDAMERICAN ENERGY COMPANY	Surrebuttal	Rate of Return / Capital Structure	The Iowa Business Energy Coalition
8/28/2018	UT	17-035-69	ROCKY MOUNTAIN POWER	Direct / Responsive	Income Taxes - TCJA; Credit Metrics	Utah Industrial Energy Consumers
8/24/2018	IA	RPU-2018-0003	MIDAMERICAN ENERGY COMPANY	Surrebuttal	Wind Generation	The Iowa Business Energy Coalition
8/3/2018	IL	18-0463	AMEREN ILLINOIS COMPANY D/B/A AMEREN ILLINOIS	Rebuttal / Cross-Answering	Credit Metrics; Rate of Return / Capital Structure	Illinois Industrial Energy Consumers, Citizens Utility Board and Federal Executive Agencies
8/3/2018	IA	RPU-2018-0003	MIDAMERICAN ENERGY COMPANY	Direct / Responsive	Rate of Return / Capital Structure	The Iowa Business Energy Coalition
6/5/2018	IL	18-0463	AMEREN ILLINOIS COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Illinois Industrial Energy Consumers, Citizens Utility Board and Federal Executive Agencies
5/2/2018	OK	PUD 201700496	OKLAHOMA GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Federal Executive Agencies
2/1/2018	FL	20170179-GU	FLORIDA CITY GAS	Direct / Responsive	Rate of Return / Capital Structure	Federal Executive Agencies
10/30/2017	MI	U-18370	INDIANA MICHIGAN POWER COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
10/12/2017	MI	U-18370	INDIANA MICHIGAN POWER COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
9/22/2017	MI	U-18255	DTE ELECTRIC COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
8/29/2017	MI	U-18255	DTE ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
7/21/2017	MN	E-015/GR-16-664	MINNESOTA POWER	Surrebuttal	Rate of Return / Capital Structure	Large Power Intervenors
5/31/2017	MN	E015/GR-16-664	MINNESOTA POWER	Direct / Responsive	Rate of Return / Capital Structure	Large Power Intervenors
3/3/2017	KY	2016-00371	LOUISVILLE GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	United States Department of Defense and all other Federal Executive Agencies
1/20/2017	MI	U-18124	CONSUMERS ENERGY COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
12/22/2016	MI	U-18124	CONSUMERS ENERGY COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
11/21/2016	OH	16-0395-EL-SSO; 16-0396-EL-ATA; 16-0397-EL-AAM	DAYTON POWER AND LIGHT COMPANY	Direct / Responsive	Plant In Service Riders / Surcharges / Trackers	Sierra Club
11/18/2016	DE	16-0163	SUEZ WATER DELAWARE INC.	Direct / Responsive	Rate of Return / Capital Structure	State of Delaware Division of the Public Advocate
8/24/2016	MI	U-17990	CONSUMERS ENERGY COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
7/22/2016	MI	U-17990	CONSUMERS ENERGY COMPANY	Direct / Responsive	Rate of Return / Capital Structure; Revenue Requirement	Association of Businesses Advocating Tariff Equity
7/14/2016	US	ER-16-____-000	VARIOUS UTILITIES	Direct / Responsive	Rate of Return / Capital Structure	Alcoa Power Generating Inc.
3/21/2016	OK	PUD 201500273	OKLAHOMA GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Federal Executive Agencies
1/12/2016	MI	U-17882	CONSUMERS ENERGY COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity

Brubaker & Associates, Inc.
Testimony Filed Since
2015
by Christopher C. Walters

Date Filed	State	Docket No.	Utility	Type	Subjects	On Behalf Of
12/4/2015	MI	U-17882	CONSUMERS ENERGY COMPANY	Direct / Responsive	Rate of Return / Capital Structure; Revenue Requirement	Association of Business Advocating Tariff Equity
11/24/2015	AR	15-015-U	ENTERGY ARKANSAS, INC.	Surrebuttal	Rate of Return / Capital Structure	Federal Executive Agencies
9/29/2015	AR	15-015-U	ENTERGY ARKANSAS, INC.	Direct / Responsive	Rate of Return / Capital Structure	Federal Executive Agencies
7/9/2015	KS	15-WSEE-115-RTS	WESTAR ENERGY, INC. AND KANSAS GAS AND ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Kansas Industrial Consumers Group, Inc.; Occidental Chemical Corporation; CCPS Transportation, LLC; Spirit AeroSystems, Inc.; Coffeyville Resources Refining & Marketing, LLC; The Goodyear Tire & Rubber Company; Unified School District #259 and Kansas Association of School Boards
6/15/2015	MI	U-17767	DTE ELECTRIC COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
5/22/2015	MI	U-17767	DTE ELECTRIC COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
5/18/2015	MI	U-17735	CONSUMERS ENERGY COMPANY	Rebuttal / Cross-Answering	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity
4/24/2015	MI	U-17735	CONSUMERS ENERGY COMPANY	Direct / Responsive	Rate of Return / Capital Structure	Association of Businesses Advocating Tariff Equity

Confluence Rivers

Water Utilities
(Valuation Metrics)

Price to Earnings (P/E) Ratio [1]

Line	Company	17-Year Average	2022 [2]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Amer. States Water	25.16	33.30	33.60	31.50	41.00	34.05	25.71	25.59	24.73	20.10	17.17	14.30	15.36	15.73	21.20	22.59	24.00	27.73
2	Amer. Water Works	23.55	30.10	22.60	35.40	33.30	27.31	33.79	27.71	20.51	20.02	19.90	16.71	16.80	14.61	15.64	18.92	N/A	N/A
3	Essential Utilities	19.30	23.10	28.00	28.00	35.90	21.75	22.04	20.80	17.50	16.09	15.87	15.93	14.36	13.21	12.54	13.59	15.87	13.52
4	California Water	25.06	26.50	31.40	31.40	31.00	30.30	26.90	29.65	24.77	19.69	20.13	17.88	21.28	20.30	19.69	19.77	26.06	29.24
5	Middlesex Water	25.12	31.10	48.70	36.70	31.50	22.18	28.39	25.65	19.11	18.49	19.70	20.83	21.73	17.81	21.02	19.80	21.59	22.72
6	SJW Corp.	25.14	26.60	27.70	26.90	44.30	32.75	18.84	15.68	16.64	11.19	24.34	20.37	21.17	29.12	28.67	26.24	33.43	23.51
7	Average	23.89	28.45	32.00	31.65	36.17	28.05	25.94	24.18	20.54	17.60	19.52	17.67	18.45	18.46	19.79	20.15	24.19	23.34
8	Median	23.78	28.35	29.70	31.45	34.60	28.80	26.31	25.62	19.81	19.09	19.80	17.29	18.99	16.77	20.35	19.78	24.00	23.51

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	17-Year Average	2022 [2/a]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
9	Amer. States Water	15.22	26.86	23.89	24.21	25.69	20.64	16.36	15.34	14.09	11.82	10.41	8.13	8.07	8.26	10.09	10.38	11.76	12.74
10	Amer. Water Works	11.92	19.31	15.34	18.27	16.14	13.99	15.64	13.80	10.55	10.07	9.41	8.26	7.74	6.29	6.77	7.26	N/A	N/A
11	Essential Utilities	15.23	15.47	16.44	19.21	22.17	18.49	15.72	15.22	14.32	13.20	13.48	12.67	12.21	10.68	11.07	12.82	16.54	19.24
12	California Water	11.88	15.90	15.74	12.51	16.74	13.26	12.56	12.79	10.49	9.50	9.28	7.87	8.85	9.51	9.92	10.09	12.51	14.44
13	Middlesex Water	15.52	26.39	28.73	19.22	21.20	15.06	17.51	16.29	11.85	11.33	11.81	12.06	12.47	11.05	10.78	11.51	12.58	13.98
14	SJW Corp.	11.37	12.06	12.84	11.42	20.38	18.13	10.29	8.45	7.98	6.43	9.40	8.10	8.39	10.29	10.53	11.68	15.13	11.75
15	Average	13.57	19.33	18.83	17.47	20.39	16.60	14.68	13.65	11.54	10.39	10.63	9.51	9.62	9.34	9.86	10.62	13.71	14.43
16	Median	13.31	17.61	16.09	18.74	20.79	16.60	15.68	14.51	11.20	10.70	9.91	8.19	8.62	9.90	10.31	10.95	12.58	13.98

Market Price to Book Value (MP/BV) Ratio [1]

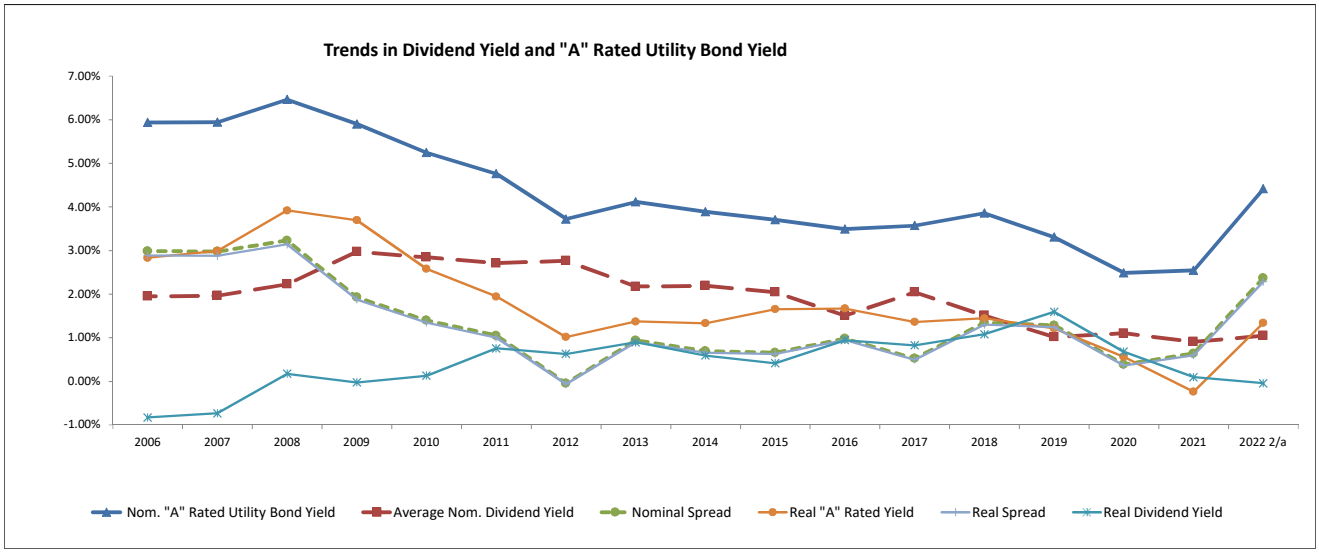
Line	Company	17-Year Average	2022 [2/b]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
17	Amer. States Water	2.94	4.55	4.68	4.65	4.95	3.86	3.35	3.07	3.10	2.38	2.17	1.71	1.59	1.72	1.77	1.95	2.22	2.22
18	Amer. Water Works	2.19	3.69	3.99	3.72	3.17	2.65	2.67	2.48	1.92	1.75	1.55	1.40	1.20	0.95	0.85	0.81	N/A	N/A
19	Essential Utilities	2.63	2.26	2.32	2.22	2.22	3.12	3.02	3.02	2.74	2.69	2.85	2.42	2.45	2.23	2.19	2.33	3.10	3.49
20	California Water	2.18	2.54	2.81	2.65	3.22	2.71	2.61	2.18	1.74	1.79	1.64	1.62	1.70	1.76	1.90	1.93	2.11	2.16
21	Middlesex Water	2.42	4.31	4.49	3.15	3.78	2.87	2.80	2.64	1.83	1.71	1.72	1.63	1.62	1.54	1.47	1.76	1.87	1.96
22	SJW Corp.	1.92	1.94	1.92	1.88	2.06	1.90	2.39	1.95	1.64	1.60	1.71	1.63	1.66	1.78	1.70	2.03	2.69	2.24
23	Average	2.38	3.21	3.37	3.05	3.23	2.85	2.80	2.56	2.16	1.99	1.94	1.74	1.70	1.66	1.65	1.80	2.40	2.41
24	Median	2.30	3.12	3.40	2.90	3.19	2.79	2.73	2.56	1.87	1.77	1.71	1.63	1.64	1.74	1.74	1.94	2.22	2.22

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, April 9, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, April 8, 2022.
[2] The Value Line Investment Survey, April 7, 2023.
Notes:
[a] Based on the average of the high and low price and the projected Cash Flow per share.
[b] Based on the average of the high and low price and the projected Book Value per share.

Confluence Rivers

Water Utilities
(Valuation Metrics)

Line	Company	17-Year Average (1)	2022 2/a	2021	2020	2019 (2)	2018 (3)	2017 (4)	2016 (5)	2015 (6)	2014 (7)	2013 (8)	2012 (9)	2011 (10)	2010 (11)	2009 (12)	2008 (13)	2007 (14)	2006 (15)
		Dividend Yield[1]																	
1	Amer. States Water	2.39%	1.75%	1.61%	1.58%	1.46%	2.20%	2.21%	2.20%	2.21%	2.63%	2.75%	3.15%	3.20%	2.98%	2.94%	2.86%	2.46%	2.47%
2	Amer. Water Works	2.44%	1.65%	1.47%	1.63%	1.80%	2.02%	2.46%	2.02%	2.46%	2.53%	2.05%	3.43%	3.11%	3.85%	4.20%	1.92%	N/A	N/A
3	Essential Utilities	2.50%	2.41%	2.19%	2.29%	2.28%	2.35%	2.57%	2.35%	2.57%	2.53%	2.36%	2.80%	2.85%	3.11%	3.09%	2.80%	2.11%	1.81%
4	California Water	2.64%	1.66%	1.49%	1.75%	1.55%	2.30%	2.88%	2.30%	2.88%	2.77%	3.12%	3.45%	3.36%	3.24%	3.07%	3.12%	2.97%	2.94%
5	Middlesex Water	3.09%	1.21%	1.18%	1.67%	1.65%	2.28%	3.33%	2.28%	3.33%	3.65%	3.71%	3.96%	4.02%	4.23%	4.71%	3.99%	3.69%	3.67%
6	SJW Corp.	2.36%	2.06%	2.07%	2.12%	1.87%	2.01%	2.53%	2.01%	2.53%	2.64%	2.68%	2.95%	2.94%	2.78%	2.84%	2.27%	1.74%	2.02%
7	**Average**	**2.57%**	**1.79%**	**1.67%**	**1.84%**	**1.77%**	**2.20%**	**2.66%**	**2.20%**	**2.66%**	**2.79%**	**2.78%**	**3.29%**	**3.25%**	**3.36%**	**3.48%**	**2.83%**	**2.59%**	**2.58%**
8	Median	2.48%	1.71%	1.55%	1.71%	1.73%	2.24%	2.55%	2.24%	2.55%	2.64%	2.71%	3.29%	3.16%	3.17%	3.08%	2.83%	2.46%	2.47%
9	20-Yr Treasury Yields[3]	3.19%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
10	20-Yr TIPS[3]	1.03%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
11	Implied Inflation[b]	2.14%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
12	**Real Dividend Yield[c]**	**0.42%**	**-0.83%**	**-0.73%**	**0.17%**	**-0.02%**	**0.13%**	**0.76%**	**0.63%**	**0.90%**	**0.59%**	**0.42%**	**0.94%**	**0.83%**	**1.08%**	**1.59%**	**0.68%**	**0.10%**	**-0.04%**
	Utility																		
13	**Nominal "A" Rated Yield[4]**	**4.65%**	**4.74%**	**3.10%**	**3.05%**	**3.77%**	**4.25%**	**4.00%**	**3.93%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.46%**	**6.04%**	**6.53%**	**6.07%**	**6.07%**
14	**Real "A" Rated Yield**	**2.46%**	**2.05%**	**0.67%**	**1.37%**	**1.94%**	**2.14%**	**2.07%**	**2.34%**	**2.33%**	**2.04%**	**2.08%**	**1.76%**	**2.58%**	**3.13%**	**4.11%**	**4.31%**	**3.49%**	**3.36%**
	Spreads (Utility Bond - Stock)																		
15	**Nominal[d]**	**2.08%**	**2.95%**	**1.43%**	**1.21%**	**2.00%**	**2.05%**	**1.34%**	**1.73%**	**1.45%**	**1.48%**	**1.70%**	**0.84%**	**1.79%**	**2.10%**	**2.56%**	**3.70%**	**3.48%**	**3.49%**
16	**Real[e]**	**2.03%**	**2.87%**	**1.40%**	**1.19%**	**1.96%**	**2.01%**	**1.31%**	**1.71%**	**1.43%**	**1.45%**	**1.66%**	**0.82%**	**1.75%**	**2.05%**	**2.52%**	**3.63%**	**3.39%**	**3.40%**
	Spreads (Treasury Bond - Stock)																		
17	**Nominal[f]**	**0.62%**	**1.51%**	**0.31%**	**-0.49%**	**0.64%**	**0.82%**	**-0.01%**	**0.03%**	**-0.12%**	**0.28%**	**0.34%**	**-0.75%**	**0.37%**	**0.67%**	**0.63%**	**1.54%**	**2.31%**	**2.41%**
18	**Real[g]**	**0.60%**	**1.47%**	**0.30%**	**-0.48%**	**0.62%**	**0.81%**	**-0.01%**	**0.03%**	**-0.11%**	**0.28%**	**0.33%**	**-0.73%**	**0.37%**	**0.65%**	**0.62%**	**1.50%**	**2.26%**	**2.35%**



Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, April 9, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, April 8, 2022.
[2] The Value Line Investment Survey, April 7, 2023.
[3] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[4] www.moodys.com, Bond Yields and Key Indicators, through December 31, 2022.

Notes:
[a] Based on the average of the high and low price and the projected Dividends Declared per share, published in the Value Line Investment Survey.
[b] Line 16 = (1 + Line 14) / (1 + Line 15) - 1.
[c] Line 17 = (1 + Line 12) / (1 +Line 16) - 1.
[d] The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 18 - Line 12).
[e] The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 19 - Line 17)
[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 14 - Line 12).
[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 15 - Line 17)

Confluence Rivers

Water Utilities
(Valuation Metrics)

Line	Company	Dividend per Share[1] 17-Year Average	2022 [2]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Amer. States Water	0.80	1.53	1.40	1.28	1.16	0.64	0.55	0.91	0.87	0.83	0.76	0.64	0.55	0.52	0.51	0.50	0.48	0.46
2	Amer. Water Works	1.35	2.57	2.36	2.15	1.96	1.21	0.90	1.47	1.33	1.21	0.84	1.21	0.90	0.86	0.82	0.40	N/A	N/A
3	Essential Utilities	0.64	1.11	1.04	0.97	0.91	0.54	0.50	0.74	0.69	0.63	0.58	0.54	0.50	0.47	0.44	0.41	0.38	0.35
4	California Water	0.68	1.00	0.92	0.85	0.79	0.63	0.62	0.69	0.67	0.65	0.64	0.63	0.62	0.60	0.59	0.59	0.58	0.58
5	Middlesex Water	0.82	1.18	1.11	1.04	0.98	0.74	0.73	0.81	0.78	0.76	0.75	0.74	0.73	0.72	0.71	0.70	0.69	0.68
6	SJW Corp.	0.84	1.44	1.36	1.28	1.20	0.71	0.69	0.81	0.78	0.75	0.73	0.71	0.69	0.68	0.66	0.65	0.61	0.57
7	**Average**	**0.84**	**1.47**	**1.37**	**1.26**	**1.17**	**0.74**	**0.67**	**0.91**	**0.85**	**0.81**	**0.72**	**0.74**	**0.67**	**0.64**	**0.62**	**0.54**	**0.55**	**0.53**
8	**Industry Average Growth**	**7.72%**	**7.81%**	**8.19%**	**8.14%**	**56.81%**	**11.82%**	**-26.51%**	**6.09%**	**5.92%**	**12.34%**	**-3.61%**	**11.82%**	**3.69%**	**3.27%**	**15.03%**	**-1.43%**	**4.18%**	

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, April 9, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, April 8, 2022.
[2] The Value Line Investment Survey, April 7, 2023.

Confluence Rivers

Water Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 17-Year Average (1)	2022 [2] (2)	2021 (3)	2020 (4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)
1	Amer. States Water	1.52	2.11	2.55	2.33	2.15	1.72	1.88	1.62	1.60	1.57	1.61	1.41	1.12	1.11	0.81	0.78	0.81	0.67
2	Amer. Water Works	2.28	4.51	6.95	3.91	3.60	3.15	2.38	2.62	2.64	2.39	2.06	2.11	1.72	1.53	1.25	1.10	-2.14	-0.97
3	Essential Utilities	1.04	1.77	1.67	1.12	1.05	1.08	1.35	1.32	1.14	1.20	1.16	0.87	0.83	0.72	0.62	0.58	0.57	0.56
4	California Water	1.19	1.77	1.96	1.97	1.40	1.36	1.40	1.01	0.94	1.19	1.02	1.02	0.86	0.91	0.98	0.95	0.75	0.67
5	Middlesex Water	1.33	2.39	2.07	2.18	1.95	1.96	1.38	1.38	1.22	1.13	1.03	0.90	0.84	0.96	0.72	0.89	0.87	0.82
6	SJW Corp.	1.65	2.43	2.03	2.14	1.45	1.82	2.86	2.57	1.85	2.54	1.12	1.18	1.11	0.84	0.81	1.08	1.04	1.19
7	**Average**	**1.50**	**2.50**	**2.87**	**2.28**	**1.93**	**1.85**	**1.88**	**1.75**	**1.57**	**1.67**	**1.33**	**1.25**	**1.08**	**1.01**	**0.86**	**0.90**	**0.32**	**0.49**
8	**Industry Average Growth**	**16.42%**	**-13.06%**	**26.23%**	**17.67%**	**4.60%**	**-1.42%**	**6.94%**	**12.03%**	**-6.29%**	**25.25%**	**6.78%**	**15.58%**	**6.88%**	**17.06%**	**-3.75%**	**183.61%**	**-35.33%**	

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, April 9, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, April 8, 2022.

[2] The Value Line Investment Survey, April 7, 2023.

Confluence Rivers

Water Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending 2019[1] (1)	2020[2] (2)	2021[3] (3)	2022[4] (4)	2023[4] (5)	3 - 5 yr[4] Projection (6)
1	Amer. States Water	0.96x	0.82x	0.88x	0.72x	0.84x	1.19x
2	Amer. Water Works	0.64x	0.70x	0.74x	0.64x	0.68x	0.89x
3	Essential Utilities	0.79x	0.68x	0.84x	0.74x	0.74x	1.00x
4	California Water	0.56x	0.55x	0.84x	0.64x	0.63x	0.67x
5	Middlesex Water	0.73x	0.66x	0.84x	0.71x	0.70x	0.68x
6	SJW Corp.	0.72x	0.65x	0.78x	0.74x	0.53x	0.56x
7	Average	0.73x	0.68x	0.82x	0.70x	0.69x	0.83x
8	Median	0.72x	0.67x	0.84x	0.72x	0.69x	0.79x

Sources:
[1] The Value Line Investment Survey, January 10, 2020.
[2] The Value Line Investment Survey, April 9, 2021.
[3] The Value Line Investment Survey, April 8, 2022.
[4] The Value Line Investment Survey, April 7, 2023.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

Confluence Rivers

Water Utilities
(Valuation Metrics)

Percent Dividends to Book Value[1]

Line	Company	17-Year Average	2022 [2/a]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Amer. States Water	6.30%	7.97%	7.54%	7.36%	7.20%	6.98%	6.85%	6.76%	6.85%	6.28%	5.98%	5.38%	5.07%	5.13%	5.21%	5.57%	5.45%	5.47%
2	Amer. Water Works	4.08%	6.08%	6.04%	6.04%	5.70%	5.49%	5.38%	5.03%	4.71%	4.42%	3.17%	4.82%	3.73%	3.65%	3.58%	1.56%	0.00%	0.00%
3	Essential Utilities	6.47%	5.44%	5.08%	5.08%	5.06%	7.53%	7.17%	7.10%	7.06%	6.80%	6.72%	6.79%	6.99%	6.93%	6.77%	6.52%	6.56%	6.32%
4	California Water	5.29%	4.22%	4.64%	4.64%	4.98%	4.94%	4.98%	5.02%	5.00%	4.96%	5.10%	5.58%	5.72%	5.69%	5.83%	6.02%	6.27%	6.34%
5	Middlesex Water	6.25%	5.21%	5.25%	5.25%	6.24%	6.01%	6.12%	6.03%	6.09%	6.24%	6.37%	6.47%	6.50%	6.49%	6.90%	7.01%	6.89%	7.17%
6	SJW Corp.	4.36%	3.99%	3.99%	3.99%	3.85%	3.58%	4.61%	3.93%	4.14%	4.22%	4.58%	4.83%	4.86%	4.95%	4.83%	4.61%	4.69%	4.53%
7	Average	5.46%	5.49%	5.42%	5.39%	5.51%	5.75%	5.85%	5.64%	5.64%	5.49%	5.32%	5.64%	5.48%	5.47%	5.52%	5.22%	4.98%	4.97%
8	Median	5.54%	5.33%	5.17%	5.17%	5.38%	5.75%	5.75%	5.53%	5.54%	5.60%	5.54%	5.48%	5.40%	5.41%	5.52%	5.79%	5.86%	5.89%

Dividends to Earnings Ratio[1]

Line	Company	17-Year Average	2022 [2/b]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
9	Amer. States Water	0.56	0.73	0.55	0.55	0.54	0.62	0.53	0.56	0.55	0.53	0.47	0.45	0.49	0.47	0.62	0.65	0.59	0.68
10	Amer. Water Works	0.53	0.57	0.34	0.55	0.54	0.57	0.68	0.56	0.50	0.51	0.41	0.57	0.52	0.56	0.66	0.36	N/A	N/A
11	Essential Utilities	0.66	0.63	0.62	0.87	0.87	0.79	0.59	0.56	0.61	0.53	0.50	0.61	0.61	0.66	0.71	0.70	0.68	0.63
12	California Water	0.62	0.56	0.47	0.43	0.56	0.55	0.51	0.68	0.71	0.55	0.63	0.62	0.72	0.66	0.61	0.62	0.77	0.86
13	Middlesex Water	0.68	0.49	0.54	0.48	0.50	0.46	0.62	0.59	0.64	0.68	0.73	0.83	0.87	0.75	0.99	0.79	0.80	0.83
14	SJW Corp.	0.58	0.59	0.67	0.60	0.83	0.62	0.36	0.32	0.42	0.30	0.65	0.60	0.62	0.81	0.81	0.60	0.58	0.47
15	Average	0.61	0.60	0.53	0.58	0.64	0.60	0.55	0.54	0.57	0.51	0.57	0.61	0.64	0.65	0.73	0.62	0.68	0.70
16	Median	0.60	0.58	0.54	0.55	0.55	0.59	0.56	0.56	0.58	0.53	0.56	0.61	0.61	0.66	0.69	0.63	0.68	0.68

Cash Flow to Capital Spending Ratio[1]

Line	Company	17-Year Average	2022 [2/c]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
17	Amer. States Water	0.97	0.72	0.93	0.94	0.78	0.82	0.96	0.76	1.17	1.41	1.06	1.40	1.00	1.00	0.81	0.76	1.14	0.74
18	Amer. Water Works	0.66	0.64	1.08	0.72	0.78	0.70	0.64	0.71	0.79	0.89	0.79	0.81	0.71	0.81	0.64	0.45	- 0.10	0.15
19	Essential Utilities	0.79	0.74	0.72	0.65	0.75	0.68	0.79	0.96	0.91	1.03	1.05	0.76	0.76	0.75	0.77	0.72	0.77	0.61
20	California Water	0.70	0.64	0.72	0.65	0.77	0.55	0.56	0.49	0.60	0.89	0.86	0.76	0.73	0.65	0.73	0.77	0.85	0.63
21	Middlesex Water	0.88	0.71	0.72	0.54	0.80	0.66	0.73	0.75	1.24	1.32	1.37	1.14	0.98	0.81	0.94	0.72	0.90	0.58
22	SJW Corp.	0.65	0.74	0.62	0.71	0.63	0.65	0.72	0.69	0.74	0.88	0.62	0.52	0.75	0.42	0.70	0.64	0.35	0.62
23	Average	0.77	0.70	0.80	0.70	0.75	0.68	0.73	0.73	0.91	1.07	0.96	0.90	0.82	0.74	0.77	0.68	0.65	0.56
24	Median	0.76	0.72	0.72	0.68	0.77	0.67	0.72	0.73	0.85	0.96	0.96	0.79	0.75	0.78	0.75	0.72	0.81	0.61

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, April 9, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, April 8, 2022.
[2] The Value Line Investment Survey, April 7, 2023.

Notes:
[a] Based on the projected 2022 Dividends Declared per share and Book Value per share, published in The Value Line Investment Survey, April 7, 2023.
[b] Based on the projected 2022 Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey, April 7, 2023.
[c] Based on the projected 2022 Cash Flow per share and Capital Spending per share, published in The Value Line Investment Survey, April 7, 2023.

Confluence Rivers

Natural Gas Utilities
(Valuation Metrics)

Price to Earnings (P/E) Ratio [1]

Line	Company	17-Year Average	2022 [2]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	17.49	19.50	19.30	22.30	23.22	21.75	22.04	20.80	17.50	16.09	15.87	15.93	14.36	13.21	12.54	13.59	15.87	13.52
2	Chesapeake Utilities	19.20	24.70	26.30	21.57	24.74	22.94	27.84	21.77	19.15	17.70	15.62	14.81	14.16	12.21	14.20	14.15	16.72	17.85
3	New Jersey Resources	17.38	18.80	17.50	17.70	24.33	15.64	22.38	21.25	16.61	11.73	15.98	16.83	16.76	14.98	14.93	12.27	21.61	16.13
4	NiSource Inc.	19.70	17.20	19.50	18.67	21.32	19.34	NMF	23.18	37.34	22.74	18.89	17.87	19.36	15.33	14.34	12.07	18.82	19.16
5	Northwest Nat. Gas	20.75	18.40	17.60	24.96	30.85	26.63	NMF	26.92	23.69	20.69	19.38	21.08	19.02	16.97	15.17	18.08	16.74	15.85
6	ONE Gas Inc.	21.33	19.50	18.60	21.71	25.27	23.06	23.47	22.74	19.79	17.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	18.55	N/A	14.30	14.89	28.28	22.64	27.92	21.71	17.95	18.03	18.90	16.94	18.48	16.81	14.96	15.90	17.18	11.86
8	Southwest Gas	17.37	14.20	15.30	16.80	21.30	20.61	22.21	21.64	19.35	17.86	15.76	15.00	15.69	13.97	12.20	20.27	17.26	15.94
9	Spire Inc.	18.77	15.70	19.00	51.12	22.79	16.74	19.82	19.61	16.49	19.80	21.25	14.46	13.05	13.74	13.39	14.31	14.19	13.60
10	UGI Corp.	15.57	12.70	12.90	13.80	23.40	17.77	20.84	19.33	17.71	15.81	15.44	16.38	15.03	10.86	10.30	13.30	15.14	13.97
11	WGL Holdings Inc.	16.71	N/A	N/A	N/A	N/A	N/A	25.40	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12	Average	18.33	17.86	18.03	22.35	24.55	20.71	23.55	21.73	20.23	17.58	17.53	16.46	16.29	14.32	13.46	14.76	16.91	15.33
13	Median	17.83	18.40	18.10	20.12	23.87	21.18	22.38	21.64	17.95	17.83	17.11	16.15	16.22	14.48	13.80	13.91	16.73	15.66

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	17-Year Average	2022 [2/a]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
14	Atmos Energy	9.21	11.87	10.99	13.11	13.35	12.02	11.99	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
15	Chesapeake Utilities	10.44	14.66	14.20	12.31	14.17	12.24	13.78	12.06	10.16	9.25	8.12	7.46	7.35	6.36	9.48	7.88	8.58	9.40
16	New Jersey Resources	11.97	11.55	11.56	11.10	15.98	11.44	14.45	13.94	11.71	8.95	11.29	12.29	12.71	11.32	11.34	9.15	13.76	11.01
17	NiSource Inc.	7.89	8.17	7.89	7.83	8.81	8.91	12.11	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
18	Northwest Nat. Gas	12.43	8.70	8.57	10.10	13.13	11.75	59.72	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
19	ONE Gas Inc.	10.56	9.95	9.32	10.85	12.75	11.85	11.89	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	10.57	N/A	9.26	7.54	12.38	10.72	12.33	10.88	10.70	10.57	11.57	10.95	11.98	10.78	9.57	10.38	11.23	8.32
21	Southwest Gas	6.49	7.39	6.87	7.05	8.92	9.32	9.10	7.41	6.56	6.35	5.94	5.55	5.60	4.91	3.84	4.89	5.42	5.28
22	Spire Inc.	9.72	8.34	7.55	14.01	11.27	9.60	10.39	10.32	8.47	12.03	13.76	8.80	8.08	8.12	8.58	8.95	8.46	8.46
23	UGI Corp.	7.99	7.20	9.56	7.39	12.95	9.01	10.09	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
24	WGL Holdings Inc.	9.17	N/A	N/A	N/A	N/A	N/A	12.92	11.36	9.59	8.46	9.83	9.03	9.52	8.34	7.17	7.68	8.39	7.81
25	Average	9.61	9.76	9.58	10.13	12.37	10.69	16.25	10.69	9.45	9.04	9.21	8.47	8.55	7.60	7.38	7.62	8.64	7.88
26	Median	8.70	8.70	9.29	10.47	12.85	11.08	12.11	11.10	9.46	8.84	8.66	8.31	7.80	7.24	7.71	7.78	8.42	7.82

Market Price to Book Value (MP/BV) Ratio [1]

Line	Company	17-Year Average	2022 [2/b]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
27	Atmos Energy	1.59	1.65	1.59	1.95	2.10	2.03	2.16	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
28	Chesapeake Utilities	2.07	2.68	2.77	2.27	2.69	2.50	2.51	2.28	2.19	2.12	1.83	1.66	1.61	1.40	1.37	1.64	1.84	1.85
29	New Jersey Resources	2.27	2.35	2.26	1.90	2.75	2.63	2.70	2.52	2.28	2.13	2.05	2.33	2.31	2.09	2.16	1.92	2.17	2.01
30	NiSource Inc.	1.55	1.92	1.86	1.95	2.09	1.92	1.96	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
31	Northwest Nat. Gas	1.85	1.56	1.45	1.98	2.38	2.35	2.41	1.92	1.63	1.59	1.56	1.72	1.70	1.78	1.73	1.96	2.05	1.69
32	ONE Gas Inc.	1.69	1.72	1.57	1.90	2.20	1.93	1.89	1.67	1.26	1.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	2.05	N/A	1.54	1.52	2.06	2.11	2.29	1.79	1.77	2.07	2.27	2.21	2.59	2.38	1.95	2.08	2.21	1.93
34	Southwest Gas	1.54	1.45	1.32	1.49	1.84	1.79	2.13	1.96	1.68	1.68	1.61	1.51	1.43	1.24	0.97	1.20	1.46	1.46
35	Spire Inc.	1.56	1.43	1.47	1.67	1.78	1.63	1.65	1.64	1.44	1.33	1.34	1.51	1.46	1.39	1.68	1.71	1.66	1.71
36	UGI Corp.	1.99	1.39	1.64	1.87	2.92	2.30	2.62	2.41	2.29	1.97	1.69	1.45	1.75	1.55	1.66	2.01	2.16	2.21
37	WGL Holdings Inc.	1.81	N/A	N/A	N/A	N/A	N/A	2.69	2.45	2.15	1.69	1.71	1.66	1.63	1.50	1.45	1.59	1.64	1.59
38	Average	1.82	1.80	1.75	1.85	2.28	2.12	2.27	2.05	1.85	1.74	1.70	1.67	1.69	1.54	1.47	1.62	1.78	1.70
39	Median	1.69	1.65	1.58	1.90	2.15	2.07	2.29	1.96	1.77	1.69	1.65	1.58	1.62	1.45	1.56	1.67	1.75	1.70

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022

[2] The Value Line Investment Survey, February 24, 2023.

Notes:

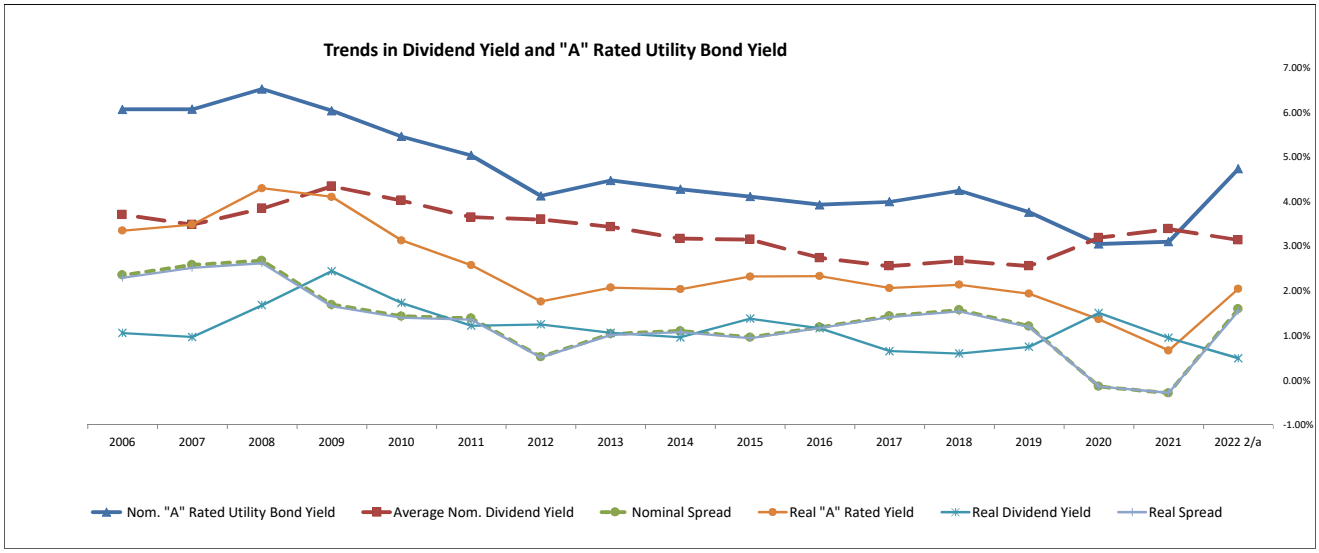
[a] Based on the average of the high and low price for year and the projected Cash Flow per share, published in The Value Line Investment Survey.

[b] Based on the average of the high and low price for the year and the projected Book Value per share, published in The Value Line Investment Survey.

Confluence Rivers

Natural Gas Utilities
(Valuation Metrics)

Line	Company	17-Year Average (1)	2022 2/a (2)	2021 (3)	2020 (4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)
		Dividend Yield[1]																	
1	Atmos Energy	3.40%	2.46%	2.63%	2.19%	2.08%	2.23%	2.27%	2.39%	2.88%	3.11%	3.53%	4.13%	4.19%	4.70%	5.34%	4.78%	4.16%	4.66%
2	Chesapeake Utilities	2.68%	1.61%	1.50%	1.86%	1.68%	1.76%	1.69%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.22%	3.25%	3.50%	3.47%	2.50%	2.61%	2.69%	2.86%	3.14%	3.50%	3.71%	3.38%	3.33%	3.69%	3.46%	3.35%	3.02%	3.19%
4	NiSource Inc.	3.95%	3.33%	3.60%	3.41%	2.86%	3.10%	2.79%	2.76%	3.53%	2.69%	3.30%	3.84%	4.53%	5.66%	7.64%	5.69%	4.29%	4.21%
5	Northwest Nat. Gas	3.57%	3.86%	3.90%	3.33%	2.81%	3.05%	3.02%	3.28%	4.01%	4.14%	4.22%	3.83%	3.85%	3.63%	3.73%	3.27%	3.12%	3.73%
6	ONE Gas Inc.	2.60%	3.08%	3.21%	2.70%	2.25%	2.46%	2.37%	2.32%	2.71%	2.28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	3.48%	N/A	4.88%	4.76%	3.66%	3.62%	3.20%	3.64%	3.95%	3.40%	3.14%	3.22%	2.81%	3.00%	3.43%	3.08%	2.81%	3.15%
8	Southwest Gas	2.93%	3.20%	3.65%	3.28%	2.60%	2.74%	2.46%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
9	Spire Inc.	3.78%	3.89%	3.79%	3.38%	2.95%	3.10%	3.09%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.91%	3.94%	4.43%	4.34%
10	UGI Corp.	2.90%	3.61%	3.25%	3.56%	2.16%	2.09%	2.01%	2.35%	2.50%	2.61%	3.01%	3.68%	3.30%	3.48%	3.23%	2.85%	2.69%	2.96%
11	WGL Holdings Inc.	3.91%	N/A	N/A	N/A	N/A	N/A	2.56%	2.94%	3.41%	4.24%	3.94%	3.89%	4.06%	4.37%	4.62%	4.22%	4.19%	4.48%
12	**Average**	**3.34%**	**3.14%**	**3.39%**	**3.19%**	**2.56%**	**2.68%**	**2.56%**	**2.74%**	**3.16%**	**3.17%**	**3.44%**	**3.61%**	**3.65%**	**4.03%**	**4.35%**	**3.85%**	**3.49%**	**3.71%**
13	Median	3.37%	3.25%	3.55%	3.35%	2.55%	2.68%	2.56%	2.76%	3.14%	3.11%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
14	20-Yr Treasury Yields[3]	3.19%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
15	20-Yr TIPS[3]	1.03%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
16	Implied Inflation[b]	2.14%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
17	**Real Dividend Yield[c]**	**1.17%**	**0.49%**	**0.95%**	**1.51%**	**0.75%**	**0.60%**	**0.65%**	**1.17%**	**1.38%**	**0.96%**	**1.06%**	**1.25%**	**1.22%**	**1.73%**	**2.45%**	**1.68%**	**0.97%**	**1.06%**
	Utility																		
18	**Nominal "A" Rated Yield[4]**	**4.65%**	**4.74%**	**3.10%**	**3.05%**	**3.77%**	**4.25%**	**4.00%**	**3.93%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.46%**	**6.04%**	**6.53%**	**6.07%**	**6.07%**
19	**Real "A" Rated Yield**	**2.46%**	**2.05%**	**0.67%**	**1.37%**	**1.94%**	**2.14%**	**2.07%**	**2.34%**	**2.33%**	**2.04%**	**2.08%**	**1.76%**	**2.58%**	**3.13%**	**4.11%**	**4.31%**	**3.49%**	**3.36%**
	Spreads (Utility Bond - Stock)																		
20	**Nominal[d]**	**1.31%**	**1.60%**	**-0.29%**	**-0.14%**	**1.21%**	**1.57%**	**1.44%**	**1.19%**	**0.96%**	**1.11%**	**1.04%**	**0.52%**	**1.39%**	**1.43%**	**1.69%**	**2.68%**	**2.59%**	**2.36%**
21	**Real[e]**	**1.29%**	**1.56%**	**-0.28%**	**-0.14%**	**1.19%**	**1.54%**	**1.41%**	**1.17%**	**0.94%**	**1.08%**	**1.01%**	**0.51%**	**1.36%**	**1.40%**	**1.66%**	**2.62%**	**2.52%**	**2.30%**
	Spreads (Treasury Bond - Stock)																		
22	**Nominal[f]**	**-0.15%**	**0.16%**	**-1.41%**	**-1.84%**	**-0.15%**	**0.34%**	**0.09%**	**-0.52%**	**-0.61%**	**-0.10%**	**-0.32%**	**-1.06%**	**-0.03%**	**0.00%**	**-0.24%**	**0.51%**	**1.42%**	**1.28%**
23	**Real[g]**	**-0.14%**	**0.15%**	**-1.38%**	**-1.81%**	**-0.15%**	**0.34%**	**0.09%**	**-0.51%**	**-0.60%**	**-0.10%**	**-0.31%**	**-1.04%**	**-0.03%**	**0.00%**	**-0.23%**	**0.50%**	**1.39%**	**1.25%**



Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022
[2] The Value Line Investment Survey, February 24, 2023.
[3] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[4] www.moodys.com, Bond Yields and Key Indicators, through December 31, 2022.

Notes:
[a] Based on the average of the high and low price for the year and the projected Dividends Declared per share published in the Value Line Investment Survey.
[b] Line 16 = (1 + Line 14) / (1 + Line 15) - 1.
[c] Line 17 = (1 + Line 12) / (1 +Line 16) - 1.
[d] The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 18 - Line 12).
[e] The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 19 - Line 17)
[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 14 - Line 12).
[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 15 - Line 17)

Confluence Rivers

Natural Gas Utilities
(Valuation Metrics)

Line	Company	17-Year Average (1)	2022 [2] (2)	2021 (3)	2020 (4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)	2018 CAGR (19)	2017 CAGR (20)
		Dividend per Share[1]																			
1	Atmos Energy	1.59	2.72	2.30	1.48	1.40	1.94	1.80	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26	2.89%	3.30%
2	Chesapeake Utilities	1.10	2.03	1.69	1.07	1.01	1.39	1.26	1.19	1.12	1.07	1.01	0.96	0.91	0.87	0.83	0.81	0.78	0.77	3.97%	4.58%
3	New Jersey Resources	0.85	1.45	1.27	0.86	0.81	1.11	1.04	0.98	0.93	0.86	0.81	0.77	0.72	0.68	0.62	0.56	0.51	0.48	5.70%	7.28%
4	NiSource Inc.	0.89	0.94	0.84	1.02	0.98	0.78	0.70	0.64	0.83	1.02	0.98	0.94	0.92	0.92	0.92	0.92	0.92	0.92	-1.08%	-2.45%
5	Northwest Nat. Gas	1.76	1.93	1.91	1.85	1.83	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	2.05%	2.78%
6	ONE Gas Inc.	1.56	2.48	2.16	0.84	N/A	1.84	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.58%	25.99%
7	South Jersey Inds.	0.85	N/A	1.19	0.96	0.90	1.13	1.10	1.06	1.02	0.96	0.90	0.83	0.75	0.68	0.61	0.56	0.51	0.46	6.11%	8.25%
8	Southwest Gas	1.44	2.48	2.26	1.46	1.32	2.08	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82	6.33%	8.34%
9	Spire Inc.	1.82	2.74	2.49	1.76	1.70	2.25	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40	3.18%	3.75%
10	UGI Corp.	0.80	1.41	1.32	0.79	0.74	1.02	0.96	0.93	0.89	0.79	0.74	0.71	0.68	0.60	0.52	0.50	0.48	0.46	5.47%	7.02%
11	WGL Holdings Inc.	1.63	N/A	N/A	1.72	1.66	N/A	2.02	1.93	1.83	1.72	1.66	1.59	1.55	1.50	1.47	1.41	1.37	1.35	N/A	3.77%
12	**Average**	**1.29**	**2.02**	**1.74**	**1.25**	**1.24**	**1.54**	**1.50**	**1.40**	**1.34**	**1.25**	**1.24**	**1.18**	**1.13**	**1.08**	**1.04**	**1.00**	**0.96**	**0.93**	**4.62%**	**6.60%**
13	**Industry Average Growth**	**5.52%**	**15.89%**	**38.90%**	**1.58%**	**-19.95%**	**2.76%**	**6.99%**	**5.03%**	**6.50%**	**1.58%**	**4.67%**	**4.35%**	**4.34%**	**4.47%**	**4.20%**	**3.83%**	**3.13%**			

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022
[2] The Value Line Investment Survey, February 24, 2023.

Confluence Rivers

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 17-Year Average (1)	2022 [2] (2)	2021 (3)	2020 (4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)
1	Atmos Energy	3.16	5.60	5.12	4.72	4.35	4.00	3.60	3.38	3.09	2.96	2.50	2.10	2.26	2.16	1.97	2.00	1.94	2.00
2	Chesapeake Utilities	2.63	4.75	4.70	4.21	3.72	3.45	2.68	2.86	2.68	2.47	2.26	1.99	1.91	1.82	1.43	1.39	1.29	1.15
3	New Jersey Resources	1.65	2.50	2.16	2.07	1.96	2.72	1.73	1.61	1.78	2.08	1.37	1.36	1.29	1.23	1.20	1.35	0.78	0.93
4	NiSource Inc.	1.17	1.45	1.35	1.32	1.31	1.30	0.39	1.00	0.63	1.67	1.57	1.37	1.05	1.06	0.84	1.34	1.14	1.14
5	Northwest Nat. Gas	2.14	2.60	2.50	2.30	2.19	2.33	-1.94	2.12	1.96	2.16	2.24	2.22	2.39	2.73	2.83	2.57	2.76	2.35
6	ONE Gas Inc.	3.15	4.05	3.85	3.68	3.51	3.25	3.02	2.65	2.24	2.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	1.36	N/A	1.65	1.68	1.12	1.38	1.23	1.34	1.44	1.57	1.52	1.52	1.45	1.35	1.19	1.14	1.05	1.23
8	Southwest Gas	2.92	3.50	3.80	4.14	3.94	3.68	3.62	3.18	2.92	3.01	3.11	2.86	2.43	2.27	1.94	1.39	1.95	1.98
9	Spire Inc.	2.98	3.95	4.96	1.44	3.52	4.33	3.43	3.24	3.16	2.35	2.02	2.79	2.86	2.43	2.92	2.64	2.31	2.37
10	UGI Corp.	1.90	2.50	2.96	2.67	2.28	2.74	2.29	2.05	2.01	1.92	1.59	1.17	1.37	1.59	1.57	1.33	1.18	1.10
11	WGL Holdings Inc.	2.56	N/A	N/A	N/A	N/A	N/A	3.11	3.27	3.16	2.68	2.31	2.68	2.25	2.27	2.53	2.44	2.09	1.94
12	**Average**	**2.30**	**3.43**	**3.31**	**2.82**	**2.79**	**2.92**	**2.11**	**2.43**	**2.28**	**2.27**	**2.05**	**2.01**	**1.93**	**1.89**	**1.84**	**1.76**	**1.65**	**1.62**
13	**Industry Average Growth**	**5.30%**	**3.88%**	**17.07%**	**1.18%**	**-4.39%**	**38.59%**	**-13.26%**	**6.50%**	**0.54%**	**10.67%**	**2.13%**	**4.13%**	**1.87%**	**2.61%**	**4.79%**	**6.67%**	**1.82%**	

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022

[2] The Value Line Investment Survey, February 24, 2023.

Confluence Rivers

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending 2019[1] (1)	2020[2] (2)	2021[3] (3)	2022[4] (4)	2023[4] (5)	3 - 5 yr[4] Projection (5)
1	Atmos Energy	0.53x	0.53x	0.53x	0.54x	0.54x	0.69x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	0.96x	0.90x	0.96x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.59x	0.72x	0.57x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.56x	0.57x	0.59x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.61x	0.68x	0.76x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.85x	0.88x	1.06x
7	South Jersey Inds.	0.48x	0.47x	0.49x	N/A	N/A	N/A
8	Southwest Gas	0.62x	0.53x	0.61x	0.84x	0.92x	0.90x
9	Spire Inc.	0.65x	0.65x	0.70x	0.80x	0.71x	0.93x
10	UGI Corp.	1.33x	1.54x	1.66x	1.42x	1.40x	1.43x
11	Average	0.79x	0.73x	0.77x	0.80x	0.81x	0.88x
12	Median	0.66x	0.65x	0.69x	0.80x	0.72x	0.90x

Sources:

[1] The Value Line Investment Survey, February 28, 2020.

[2] The Value Line Investment Survey, Feb 26, 2021.

[3] The Value Line Investment Survey, February 25, 2022

[4] The Value Line Investment Survey, February 24, 2023.

Notes:

Based on the projected Cash Flow per share and Capital Spending per share.

Confluence Rivers

Natural Gas Utilities
(Valuation Metrics)

Percent Dividends to Book Value[1]

Line	Company	17-Year Average	2022 [2/a]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	5.04%	4.07%	4.19%	4.26%	4.36%	4.53%	4.90%	5.04%	4.96%	4.81%	4.92%	5.28%	5.44%	5.55%	5.61%	5.75%	5.82%	6.25%
2	Chesapeake Utilities	5.15%	4.31%	4.15%	4.23%	4.53%	4.39%	4.23%	4.35%	4.78%	5.18%	5.25%	5.39%	5.42%	5.49%	5.60%	6.71%	6.66%	6.95%
3	New Jersey Resources	7.22%	7.63%	7.92%	6.60%	6.85%	6.87%	7.26%	7.21%	7.16%	7.45%	7.60%	7.86%	7.69%	7.72%	7.48%	6.42%	6.54%	6.40%
4	NiSource Inc.	5.63%	6.39%	6.69%	6.64%	5.99%	5.96%	5.46%	5.08%	6.89%	5.22%	5.22%	5.25%	5.19%	5.22%	5.25%	5.34%	4.97%	5.02%
5	Northwest Nat. Gas	6.50%	6.03%	5.66%	6.57%	6.69%	7.16%	7.27%	6.30%	6.53%	6.58%	6.59%	6.57%	6.55%	6.44%	6.43%	6.41%	6.39%	6.32%
6	ONE Gas Inc.	4.37%	5.30%	5.04%	5.14%	4.96%	4.73%	4.48%	3.88%	3.41%	2.44%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	6.99%	N/A	7.53%	7.21%	7.53%	7.63%	7.34%	6.53%	6.98%	7.04%	7.12%	7.09%	7.26%	7.13%	6.69%	6.40%	6.22%	6.09%
8	Southwest Gas	4.44%	4.64%	4.80%	4.87%	4.79%	4.90%	5.25%	5.14%	4.82%	4.57%	4.33%	4.16%	3.98%	3.90%	3.89%	3.83%	3.74%	3.80%
9	Spire Inc.	5.87%	5.58%	5.56%	5.63%	5.25%	5.06%	5.09%	5.06%	5.07%	5.04%	5.31%	6.22%	6.30%	6.53%	6.56%	6.74%	7.33%	7.43%
10	UGI Corp.	5.59%	5.02%	5.34%	6.65%	6.30%	4.82%	5.28%	5.65%	5.72%	5.14%	5.07%	5.35%	5.77%	5.41%	5.35%	5.72%	5.82%	6.54%
11	WGL Holdings Inc.	6.86%	N/A	N/A	N/A	N/A	N/A	6.88%	7.21%	7.33%	7.14%	6.73%	6.45%	6.60%	6.57%	6.72%	6.71%	6.88%	7.13%
12	Average	5.82%	5.44%	5.69%	5.78%	5.72%	5.60%	5.77%	5.59%	5.78%	5.51%	5.82%	5.96%	6.02%	6.00%	5.96%	6.00%	6.04%	6.19%
13	Median	5.72%	5.30%	5.45%	6.10%	5.62%	4.98%	5.28%	5.14%	5.72%	5.18%	5.28%	5.80%	6.03%	5.99%	6.02%	6.41%	6.30%	6.36%

Dividends to Earnings Ratio[1]

Line	Company	17-Year Average	2022 [2/b]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
14	Atmos Energy	0.56	0.49	0.49	0.49	0.48	0.49	0.50	0.50	0.50	0.50	0.56	0.66	0.60	0.62	0.67	0.65	0.66	0.63
15	Chesapeake Utilities	0.48	0.43	0.39	0.40	0.42	0.40	0.47	0.42	0.42	0.43	0.45	0.48	0.48	0.48	0.58	0.58	0.61	0.67
16	New Jersey Resources	0.55	0.58	0.63	0.61	0.61	0.41	0.60	0.61	0.52	0.41	0.59	0.57	0.56	0.55	0.52	0.41	0.65	0.51
17	NiSource Inc.	0.82	0.65	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.61	0.62	0.69	0.88	0.87	1.10	0.69	0.81	0.81
18	Northwest Nat. Gas	0.65	0.74	0.77	0.83	0.87	0.81	- 0.97	0.88	0.95	0.86	0.82	0.81	0.73	0.62	0.57	0.59	0.52	0.59
19	ONE Gas Inc.	0.55	0.61	0.60	0.59	0.57	0.57	0.56	0.53	0.54	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	0.65	N/A	0.74	0.71	1.04	0.82	0.89	0.79	0.71	0.61	0.59	0.54	0.52	0.50	0.51	0.49	0.48	0.37
21	Southwest Gas	0.52	0.71	0.63	0.55	0.55	0.57	0.55	0.57	0.55	0.49	0.42	0.41	0.44	0.44	0.49	0.65	0.44	0.41
22	Spire Inc.	0.68	0.69	0.52	1.73	0.67	0.52	0.61	0.60	0.58	0.75	0.84	0.59	0.56	0.65	0.52	0.56	0.63	0.59
23	UGI Corp.	0.45	0.56	0.46	0.49	0.50	0.37	0.42	0.45	0.44	0.41	0.46	0.60	0.50	0.38	0.33	0.38	0.41	0.41
24	WGL Holdings Inc.	0.64	N/A	N/A	N/A	N/A	N/A	0.65	0.59	0.58	0.64	0.72	0.59	0.69	0.66	0.58	0.58	0.65	0.69
25	Average	0.59	0.61	0.59	0.70	0.63	0.55	0.55	0.60	0.65	0.56	0.61	0.59	0.59	0.58	0.59	0.56	0.59	0.57
26	Median	0.59	0.61	0.61	0.60	0.59	0.54	0.56	0.59	0.55	0.50	0.59	0.59	0.56	0.58	0.54	0.58	0.62	0.59

Cash Flow to Capital Spending Ratio[1]

Line	Company	17-Year Average	2022 [2/c]	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
27	Atmos Energy	0.65	0.54	0.58	0.52	0.53	0.55	0.62	0.59	0.60	0.65	0.55	0.59	0.68	0.77	0.78	0.81	0.94	0.82
28	Chesapeake Utilities	0.75	0.96	0.81	0.78	0.62	0.39	0.50	0.50	0.53	0.71	0.65	0.79	1.12	1.10	1.14	0.83	0.82	0.45
29	New Jersey Resources	1.22	0.59	0.62	0.71	0.51	0.85	0.70	0.59	0.67	1.79	1.46	1.48	1.51	1.55	1.75	2.11	1.67	2.14
30	NiSource Inc.	0.75	0.56	0.68	0.66	0.61	0.58	0.41	0.59	0.53	0.56	0.57	0.65	0.75	1.11	1.06	0.94	1.11	1.37
31	Northwest Nat. Gas	0.92	0.61	0.68	0.66	0.69	0.71	0.14	1.01	1.12	1.15	0.98	1.01	1.33	0.55	1.02	1.35	1.21	1.34
32	ONE Gas Inc.	0.86	0.85	0.86	0.83	0.89	0.84	0.87	0.92	0.86	0.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	0.82	N/A	0.55	0.54	0.40	0.73	0.81	0.76	0.50	0.53	0.51	0.58	0.70	0.75	1.01	1.67	1.70	1.40
34	Southwest Gas	0.86	0.84	0.86	0.69	0.53	0.56	0.68	0.83	0.84	0.99	1.05	0.90	0.82	1.37	1.28	0.85	0.78	0.72
35	Spire Inc.	1.05	0.80	0.75	0.42	0.44	0.77	0.72	0.96	0.92	0.98	0.78	0.95	1.53	1.61	1.93	1.64	1.42	1.28
36	UGI Corp.	1.46	1.42	1.32	1.59	1.22	1.64	1.29	1.35	1.48	1.53	1.32	1.52	1.28	1.36	1.52	1.72	1.62	1.69
37	WGL Holdings Inc.	1.02	N/A	N/A	N/A	N/A	N/A	0.61	0.56	0.60	0.63	0.71	0.93	1.02	1.60	1.60	1.60	1.17	1.18
38	Average	0.95	0.80	0.77	0.74	0.64	0.76	0.67	0.79	0.79	0.94	0.86	0.94	1.07	1.18	1.31	1.35	1.24	1.24
39	Median	0.79	0.80	0.72	0.67	0.57	0.72	0.68	0.76	0.67	0.79	0.74	0.92	1.07	1.23	1.21	1.48	1.19	1.31

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.
Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022
[2] The Value Line Investment Survey, February 24, 2023.
Notes:
[a] Based on the projected Dividends Declared per share and Book Value per share, published in The Value Line Investment Survey.
[b] Based on the projected Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey.
[c] Based on the projected Cash Flow per share and Capital Spending per share, published in The Value Line Investment Survey.

Confluence Rivers

Proxy Group

Line	Company	Credit Ratings[1] S&P (1)	Credit Ratings[1] Moody's (2)	Common Equity Ratios MI[1] (3)	Common Equity Ratios Value Line[2] (4)
1	American States Water Company	A+	N/A	50.7%	53.9%
2	American Water Works Company, Inc.	A	Baa1	60.6%	41.4%
3	California Water Service Group	A+	N/A	52.5%	52.7%
4	Essential Utilities, Inc.	A	Baa2	55.3%	47.3%
5	Middlesex Water Company	A	N/A	47.5%	54.4%
6	SJW Group	A-	N/A	62.1%	40.9%
7	Atmos Energy Corporation	A-	A1	51.1%	61.6%
8	New Jersey Resources Corporation	N/A	A1	37.2%	43.0%
9	NiSource Inc.	BBB+	Baa2	31.6%	33.5%
10	Northwest Natural Holding Company	A+	Baa1	38.2%	47.2%
11	ONE Gas, Inc.	A-	A3	35.8%	39.0%
12	Spire Inc.	A-	Baa2	37.8%	43.2%
13	UGI Corporation	N/A	A3	41.6%	44.7%
14	**Average**	**A**	**A3**	**46.3%**	**46.4%**
15	**Median**			**47.5%**	**44.7%**
16	**Confluence Rivers[3]**	**N/A**	**N/A**		**68.6%**

Sources:

Note: If credit rating/common equity ratio unavailable for utility, subsidary data used.

[1] S&P Global Market Intelligence, Downloaded on April 7, 2023.

[2] *The Value Line Investment Survey* , February 24 and April 7, 2023.

[3] Schedule DWD-9, page 1.

Confluence Rivers

Consensus Analysts' Growth Rates

Line	Company	Zacks Estimated Growth %[1] (1)	Zacks Number of Estimates (2)	MI Estimated Growth %[2] (3)	MI Number of Estimates (4)	Yahoo! Finance Estimated Growth %[3] (5)	Yahoo! Finance Number of Estimates (6)	Average of Growth Rates (7)
1	American States Water Company	N/A	N/A	N/A	N/A	4.40%	N/A	4.40%
2	American Water Works Company, Inc.	8.08%	N/A	7.72%	3	8.28%	N/A	8.03%
3	California Water Service Group	N/A	N/A	N/A	N/A	11.70%	N/A	11.70%
4	Essential Utilities, Inc.	6.00%	N/A	6.14%	2	6.60%	N/A	6.25%
5	Middlesex Water Company	N/A	N/A	N/A	N/A	2.70%	N/A	2.70%
6	SJW Group	N/A	N/A	14.00%	1	9.80%	N/A	11.90%
7	Atmos Energy Corporation	7.48%	N/A	7.98%	2	7.80%	N/A	7.75%
8	New Jersey Resources Corporation	6.00%	N/A	7.23%	4	6.00%	N/A	6.41%
9	NiSource Inc.	6.80%	N/A	7.00%	5	N/A	N/A	6.90%
10	Northwest Natural Holding Company	4.30%	N/A	4.83%	3	2.80%	N/A	3.98%
11	ONE Gas, Inc.	5.00%	N/A	5.33%	3	5.00%	N/A	5.11%
12	Spire Inc.	4.22%	N/A	4.14%	3	6.10%	N/A	4.82%
13	UGI Corporation	8.00%	N/A	8.00%	1	6.20%	N/A	7.40%
14	**Average**	**6.21%**	**N/A**	**7.24%**	**3**	**6.45%**	**N/A**	**6.72%**
15	**Median**							**6.41%**

Sources:

[1] Zacks, http://www.zacks.com/, downloaded on April 7, 2023.

[2] S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on April 7, 2023.

[3] Yahoo! Finance, http://www.finance.yahoo.com/, downloaded on April 7, 2023.

Confluence Rivers

Constant Growth DCF Model
(Consensus Analysts' Growth Rates)

Line	Company	13-Week AVG Stock Price[1] (1)	Analysts' Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	American States Water Company	$90.97	4.40%	$1.59	1.82%	6.22%
2	American Water Works Company, Inc.	$147.50	8.03%	$2.62	1.92%	9.95%
3	California Water Service Group	$59.20	11.70%	$1.04	1.96%	13.66%
4	Essential Utilities, Inc.	$44.91	6.25%	$1.15	2.72%	8.96%
5	Middlesex Water Company	$80.84	2.70%	$1.25	1.59%	4.29%
6	SJW Group	$76.99	11.90%	$1.52	2.21%	14.11%
7	Atmos Energy Corporation	$113.91	7.75%	$2.96	2.80%	10.55%
8	New Jersey Resources Corporation	$51.18	6.41%	$1.56	3.24%	9.65%
9	NiSource Inc.	$27.34	6.90%	$1.00	3.91%	10.81%
10	Northwest Natural Holding Company	$48.18	3.98%	$1.94	4.19%	8.17%
11	ONE Gas, Inc.	$79.39	5.11%	$2.60	3.44%	8.55%
12	Spire Inc.	$70.89	4.82%	$2.88	4.26%	9.08%
13	UGI Corporation	$37.64	7.40%	$1.44	4.11%	11.51%
14	**Average**	**$71.46**	**6.72%**	**$1.81**	**2.94%**	**9.65%**
15	**Median**					**9.65%**
16	**Water Util Average**					**9.53%**
17	**Water Util Median**					**9.45%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on April 7, 2023.
[2] Exhibit CCW-3
[3] *The Value Line Investment Survey*, February 24 and April 7, 2023.

Confluence Rivers

Payout Ratios

Line	Company	Dividends Per Share		Earnings Per Share		Payout Ratio	
		2021	Projected	2021	Projected	2021	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
1	American States Water Company	$1.40	$2.30	$2.55	$3.40	54.90%	67.65%
2	American Water Works Company, Inc.	$2.36	$3.80	$6.95	$6.10	33.96%	62.30%
3	California Water Service Group	$0.92	$1.35	$1.96	$2.75	46.94%	49.09%
4	Essential Utilities, Inc.	$1.04	$1.65	$1.67	$2.35	62.28%	70.21%
5	Middlesex Water Company	$1.11	$1.60	$2.07	$3.00	53.62%	53.33%
6	SJW Group	$1.36	$1.80	$2.03	$3.25	67.00%	55.38%
7	Atmos Energy Corporation	$2.50	$3.90	$5.12	$7.85	48.83%	49.68%
8	New Jersey Resources Corporation	$1.36	$1.95	$2.16	$3.45	62.96%	56.52%
9	NiSource Inc.	$0.88	$1.12	$1.37	$2.10	64.23%	53.33%
10	Northwest Natural Holding Company	$1.92	$1.98	$2.56	$3.25	75.00%	60.92%
11	ONE Gas, Inc.	$2.32	$3.15	$3.85	$5.60	60.26%	56.25%
12	Spire Inc.	$2.60	$3.45	$4.96	$5.50	52.42%	62.73%
13	UGI Corporation	$1.35	$1.65	$2.96	$3.55	45.61%	46.48%
14	**Average**	**$1.62**	**$2.28**	**$3.09**	**$4.01**	**56.00%**	**57.22%**

Source:
The Value Line Investment Survey, February 24 and April 7, 2023.

Confluence Rivers

Sustainable Growth Rate

Line	Company	3 to 5 Year Projections										Sustainable Growth Rate
		Dividends Per Share	Earnings Per Share	Book Value Per Share	Book Value Growth	ROE	Adjustment Factor	Adjusted ROE	Payout Ratio	Retention Rate	Internal Growth Rate	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	American States Water Company	$2.30	$3.40	$24.55	4.76%	13.85%	1.02	14.17%	67.65%	32.35%	4.58%	5.56%
2	American Water Works Company, Inc.	$3.80	$6.10	$57.25	6.08%	10.66%	1.03	10.97%	62.30%	37.70%	4.14%	8.46%
3	California Water Service Group	$1.35	$2.75	$29.50	5.07%	9.32%	1.02	9.55%	49.09%	50.91%	4.86%	4.86%
4	Essential Utilities, Inc.	$1.65	$2.35	$25.95	4.01%	9.06%	1.02	9.23%	70.21%	29.79%	2.75%	5.15%
5	Middlesex Water Company	$1.60	$3.00	$23.70	2.04%	12.66%	1.01	12.79%	53.33%	46.67%	5.97%	7.25%
6	SJW Group	$1.80	$3.25	$42.50	3.65%	7.65%	1.02	7.78%	55.38%	44.62%	3.47%	3.47%
7	Atmos Energy Corporation	$3.90	$7.85	$79.40	4.86%	9.89%	1.02	10.12%	49.68%	50.32%	5.09%	8.95%
8	New Jersey Resources Corporation	$1.95	$3.45	$24.75	6.27%	13.94%	1.03	14.36%	56.52%	43.48%	6.24%	7.96%
9	NiSource Inc.	$1.12	$2.10	$17.50	4.64%	12.00%	1.02	12.27%	53.33%	46.67%	5.73%	6.19%
10	Northwest Natural Holding Company	$1.98	$3.25	$36.20	3.16%	8.98%	1.02	9.12%	60.92%	39.08%	3.56%	5.60%
11	ONE Gas, Inc.	$3.15	$5.60	$64.45	6.65%	8.69%	1.03	8.97%	56.25%	43.75%	3.92%	4.75%
12	Spire Inc.	$3.45	$5.50	$67.10	6.21%	8.20%	1.03	8.44%	62.73%	37.27%	3.15%	3.68%
13	UGI Corporation	$1.65	$3.55	$32.25	4.15%	11.01%	1.02	11.23%	46.48%	53.52%	6.01%	6.02%
14	**Average**	**$2.28**	**$4.01**	**$40.39**	**4.74%**	**10.45%**	**1.02**	**10.69%**	**57.22%**	**42.78%**	**4.58%**	**5.99%**
15	**Median**											**5.60%**

Sources and Notes:
Cols. (1), (2) and (3): *The Value Line Investment Survey* , February 24 and April 7, 2023.
Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/number of years projected) - 1.
Col. (5): Col. (2) / Col. (3).
Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)).
Col. (7): Col. (6) * Col. (5).
Col. (8): Col. (1) / Col. (2).
Col. (9): 1 - Col. (8).
Col. (10): Col. (9) * Col. (7).
Col. (11): Col. (10) + Page 2 Col. (9).

Confluence Rivers

Sustainable Growth Rate

Line	Company	13-Week Average Stock Price[1] (1)	2021 Book Value Per Share[2] (2)	Market to Book Ratio (3)	Common Shares Outstanding (in Millions)[2] 2021 (4)	Common Shares Outstanding (in Millions)[2] 3-5 Years (5)	Growth (6)	S Factor[3] (7)	V Factor[4] (8)	S * V (9)
1	American States Water Company	$90.97	$18.57	4.90	36.94	37.50	0.25%	1.23%	79.59%	0.98%
2	American Water Works Company, Inc.	$147.50	$40.18	3.67	181.61	200.00	1.62%	5.95%	72.76%	4.33%
3	California Water Service Group	$59.20	$21.92	2.70	53.72	50.00	- 1.19%	- 3.21%	62.98%	- 2.02%
4	Essential Utilities, Inc.	$44.91	$20.50	2.19	252.87	285.00	2.01%	4.41%	54.35%	2.40%
5	Middlesex Water Company	$80.84	$20.99	3.85	17.52	18.00	0.45%	1.74%	74.04%	1.29%
6	SJW Group	$76.99	$34.28	2.25	30.18	30.00	- 0.10%	- 0.22%	55.47%	- 0.12%
7	Atmos Energy Corporation	$113.91	$59.71	1.91	132.42	170.00	4.25%	8.11%	47.58%	3.86%
8	New Jersey Resources Corporation	$51.18	$17.18	2.98	94.95	100.00	0.87%	2.58%	66.43%	1.72%
9	NiSource Inc.	$27.34	$13.33	2.05	404.30	415.00	0.44%	0.89%	51.24%	0.46%
10	Northwest Natural Holding Company	$48.18	$30.04	1.60	31.13	38.00	3.38%	5.42%	37.65%	2.04%
11	ONE Gas, Inc.	$79.39	$43.81	1.81	53.63	57.00	1.02%	1.85%	44.82%	0.83%
12	Spire Inc.	$70.89	$46.74	1.52	51.70	55.00	1.04%	1.57%	34.07%	0.54%
13	UGI Corporation	$37.64	$25.27	1.49	209.84	210.00	0.01%	0.02%	32.87%	0.01%
14	**Average**	**$71.46**	**$30.19**	**2.53**	**119.29**	**128.12**	**1.39%**	**3.07%**	**54.91%**	**1.68%**

Sources and Notes:
[1] S&P Global Market Intelligence, Downloaded on April 7, 2023.
[2] *The Value Line Investment Survey* , February 24 and April 7, 2023.
[3] Expected Growth in the Number of Shares, Column (3) * Column (6).
[4] Expected Profit of Stock Investment, [1 - 1 / Column (3)].

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Constant Growth DCF Model
(Sustainable Growth Rate)

Line	Company	13-Week AVG Stock Price[1] (1)	Sustainable Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	American States Water Company	$90.97	5.56%	$1.59	1.85%	7.41%
2	American Water Works Company, Inc.	$147.50	8.46%	$2.62	1.93%	10.39%
3	California Water Service Group	$59.20	4.86%	$1.04	1.84%	6.71%
4	Essential Utilities, Inc.	$44.91	5.15%	$1.15	2.69%	7.84%
5	Middlesex Water Company	$80.84	7.25%	$1.25	1.66%	8.91%
6	SJW Group	$76.99	3.47%	$1.52	2.04%	5.52%
7	Atmos Energy Corporation	$113.91	8.95%	$2.96	2.83%	11.78%
8	New Jersey Resources Corporation	$51.18	7.96%	$1.56	3.29%	11.25%
9	NiSource Inc.	$27.34	6.19%	$1.00	3.88%	10.07%
10	Northwest Natural Holding Company	$48.18	5.60%	$1.94	4.25%	9.86%
11	ONE Gas, Inc.	$79.39	4.75%	$2.60	3.43%	8.18%
12	Spire Inc.	$70.89	3.68%	$2.88	4.21%	7.90%
13	UGI Corporation	$37.64	6.02%	$1.44	4.06%	10.07%
14	**Average**	**$71.46**	**5.99%**	**$1.81**	**2.92%**	**8.91%**
15	**Median**					**8.91%**
16	**Water Util Average**					**7.79%**
17	**Water Util Median**					**7.62%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on April 7, 2023.
[2] Exhibit CCW-6, page 1.
[3] *The Value Line Investment Survey* , February 24 and April 7, 2023.

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Multi-Stage Growth DCF Model

Line	Company	13-Week AVG Stock Price[1] (1)	Annualized Dividend[2] (2)	First Stage Growth[3] (3)	Second Stage Growth Year 6 (4)	Year 7 (5)	Year 8 (6)	Year 9 (7)	Year 10 (8)	Third Stage Growth[4] (9)	Multi-Stage Growth DCF (10)
1	American States Water Company	$90.97	$1.59	4.40%	4.33%	4.27%	4.20%	4.13%	4.07%	4.00%	5.81%
2	American Water Works Company, Inc.	$147.50	$2.62	8.03%	7.36%	6.68%	6.01%	5.34%	4.67%	4.00%	6.38%
3	California Water Service Group	$59.20	$1.04	11.70%	10.42%	9.13%	7.85%	6.57%	5.28%	4.00%	6.99%
4	Essential Utilities, Inc.	$44.91	$1.15	6.25%	5.87%	5.50%	5.12%	4.75%	4.37%	4.00%	7.07%
5	Middlesex Water Company	$80.84	$1.25	2.70%	2.92%	3.13%	3.35%	3.57%	3.78%	4.00%	5.36%
6	SJW Group	$76.99	$1.52	11.90%	10.58%	9.27%	7.95%	6.63%	5.32%	4.00%	7.39%
7	Atmos Energy Corporation	$113.91	$2.96	7.75%	7.13%	6.50%	5.88%	5.25%	4.63%	4.00%	7.43%
8	New Jersey Resources Corporation	$51.18	$1.56	6.41%	6.01%	5.61%	5.20%	4.80%	4.40%	4.00%	7.69%
9	NiSource Inc.	$27.34	$1.00	6.90%	6.42%	5.93%	5.45%	4.97%	4.48%	4.00%	8.56%
10	Northwest Natural Holding Company	$48.18	$1.94	3.98%	3.98%	3.99%	3.99%	3.99%	4.00%	4.00%	8.18%
11	ONE Gas, Inc.	$79.39	$2.60	5.11%	4.93%	4.74%	4.56%	4.37%	4.19%	4.00%	7.65%
12	Spire Inc.	$70.89	$2.88	4.82%	4.68%	4.55%	4.41%	4.27%	4.14%	4.00%	8.45%
13	UGI Corporation	$37.64	$1.44	7.40%	6.83%	6.27%	5.70%	5.13%	4.57%	4.00%	8.90%
14	**Average**	**$71.46**	**$1.81**	**6.72%**	**6.27%**	**5.81%**	**5.36%**	**4.91%**	**4.45%**	**4.00%**	**7.37%**
15	**Median**										**7.43%**
16	**Water Util Average**										**6.50%**
17	**Water Util Median**										**6.69%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on April 7, 2023.
[2] *The Value Line Investment Survey*, February 24 and April 7, 2023.
[3] Exhibit CCW-3
[4] *Blue Chip Economic Indicators March 10, 2023, at page 14.*

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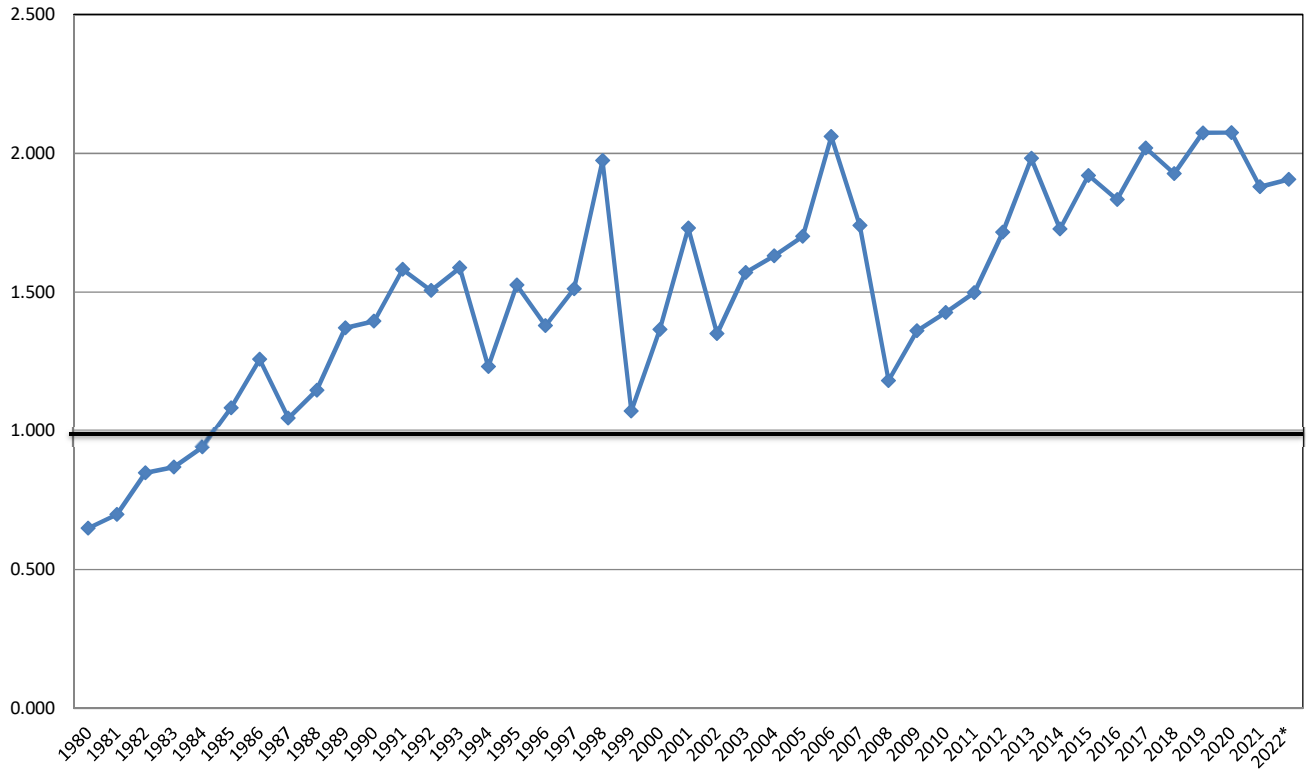
Common Stock Market/Book Ratio



Source:
1980 - 2000: Mergent Public Utility Manual.
2001 - 2015: AUS Utility Reports, multiple dates.
2016 - 2021: Value Line Investment Survey, multiple dates.
* Value Line Investment Survey Reports,January 20, February 10, February 24, and March 10, 2023.

Confluence Rivers

Equity Risk Premium - Treasury Bond

Line	Year	Authorized Gas Returns[1] (1)	30 yr. Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.46%	7.80%	5.66%		
2	1987	12.74%	8.58%	4.16%		
3	1988	12.85%	8.96%	3.89%		
4	1989	12.88%	8.45%	4.43%		
5	1990	12.67%	8.61%	4.06%	4.44%	
6	1991	12.46%	8.14%	4.32%	4.17%	
7	1992	12.01%	7.67%	4.34%	4.21%	
8	1993	11.35%	6.60%	4.75%	4.38%	
9	1994	11.35%	7.37%	3.98%	4.29%	
10	1995	11.43%	6.88%	4.55%	4.39%	4.42%
11	1996	11.19%	6.70%	4.49%	4.42%	4.30%
12	1997	11.29%	6.61%	4.68%	4.49%	4.35%
13	1998	11.51%	5.58%	5.93%	4.73%	4.55%
14	1999	10.66%	5.87%	4.79%	4.89%	4.59%
15	2000	11.39%	5.94%	5.45%	5.07%	4.73%
16	2001	10.95%	5.49%	5.46%	5.26%	4.84%
17	2002	11.03%	5.43%	5.60%	5.45%	4.97%
18	2003	10.99%	4.96%	6.03%	5.47%	5.10%
19	2004	10.59%	5.05%	5.54%	5.62%	5.25%
20	2005	10.46%	4.65%	5.81%	5.69%	5.38%
21	2006	10.40%	4.87%	5.53%	5.70%	5.48%
22	2007	10.22%	4.83%	5.39%	5.66%	5.55%
23	2008	10.39%	4.28%	6.11%	5.68%	5.57%
24	2009	10.22%	4.07%	6.15%	5.80%	5.71%
25	2010	10.15%	4.25%	5.90%	5.81%	5.75%
26	2011	9.92%	3.91%	6.01%	5.91%	5.81%
27	2012	9.94%	2.92%	7.02%	6.24%	5.95%
28	2013	9.68%	3.45%	6.23%	6.26%	5.97%
29	2014	9.78%	3.34%	6.44%	6.32%	6.06%
30	2015	9.60%	2.84%	6.76%	6.49%	6.15%
31	2016	9.54%	2.60%	6.94%	6.68%	6.29%
32	2017	9.72%	2.90%	6.83%	6.64%	6.44%
33	2018	9.59%	3.11%	6.48%	6.69%	6.48%
34	2019	9.71%	2.58%	7.13%	6.83%	6.57%
35	2020	9.46%	1.56%	7.90%	7.05%	6.77%
36	2021	9.56%	2.05%	7.51%	7.17%	6.92%
37	2022 [3]	9.53%	3.12%	6.42%	7.08%	6.86%
38	**Average**	**10.83%**	**5.19%**	**5.64%**	**5.61%**	**5.60%**
39	**Minimum**				**4.17%**	**4.30%**
40	**Maximum**				**7.17%**	**6.92%**

Sources:
[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - December 2022
February 23, 2023 at page 3.
[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.
[3] Data represents January - December, 2022.

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Equity Risk Premium - Utility Bond

Line	Year	Authorized Gas Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.46%	9.58%	3.88%		
2	1987	12.74%	10.10%	2.64%		
3	1988	12.85%	10.49%	2.36%		
4	1989	12.88%	9.77%	3.11%		
5	1990	12.67%	9.86%	2.81%	2.96%	
6	1991	12.46%	9.36%	3.10%	2.80%	
7	1992	12.01%	8.69%	3.32%	2.94%	
8	1993	11.35%	7.59%	3.76%	3.22%	
9	1994	11.35%	8.31%	3.04%	3.21%	
10	1995	11.43%	7.89%	3.54%	3.35%	3.16%
11	1996	11.19%	7.75%	3.44%	3.42%	3.11%
12	1997	11.29%	7.60%	3.69%	3.49%	3.22%
13	1998	11.51%	7.04%	4.47%	3.64%	3.43%
14	1999	10.66%	7.62%	3.04%	3.64%	3.42%
15	2000	11.39%	8.24%	3.15%	3.56%	3.45%
16	2001	10.95%	7.76%	3.19%	3.51%	3.46%
17	2002	11.03%	7.37%	3.66%	3.50%	3.50%
18	2003	10.99%	6.58%	4.41%	3.49%	3.56%
19	2004	10.59%	6.16%	4.43%	3.77%	3.70%
20	2005	10.46%	5.65%	4.81%	4.10%	3.83%
21	2006	10.40%	6.07%	4.33%	4.33%	3.92%
22	2007	10.22%	6.07%	4.15%	4.43%	3.96%
23	2008	10.39%	6.53%	3.86%	4.32%	3.90%
24	2009	10.22%	6.04%	4.18%	4.27%	4.02%
25	2010	10.15%	5.47%	4.68%	4.24%	4.17%
26	2011	9.92%	5.04%	4.88%	4.35%	4.34%
27	2012	9.94%	4.13%	5.81%	4.68%	4.55%
28	2013	9.68%	4.48%	5.20%	4.95%	4.63%
29	2014	9.78%	4.28%	5.50%	5.22%	4.74%
30	2015	9.60%	4.12%	5.48%	5.38%	4.81%
31	2016	9.54%	3.93%	5.61%	5.52%	4.94%
32	2017	9.72%	4.00%	5.72%	5.50%	5.09%
33	2018	9.59%	4.25%	5.34%	5.53%	5.24%
34	2019	9.71%	3.77%	5.94%	5.62%	5.42%
35	2020	9.46%	3.05%	6.41%	5.80%	5.59%
36	2021	9.56%	3.10%	6.46%	5.97%	5.75%
37	2022 [3]	9.53%	4.72%	4.81%	5.79%	5.65%
38	**Average**	**10.83%**	**6.55%**	**4.28%**	**4.26%**	**4.23%**
39	**Minimum**				**2.80%**	**3.11%**
40	**Maximum**				**5.97%**	**5.75%**

Sources:
[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - December 2022
February 23, 2023 at page 3.
[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.
[3] Data represents January - December, 2022.

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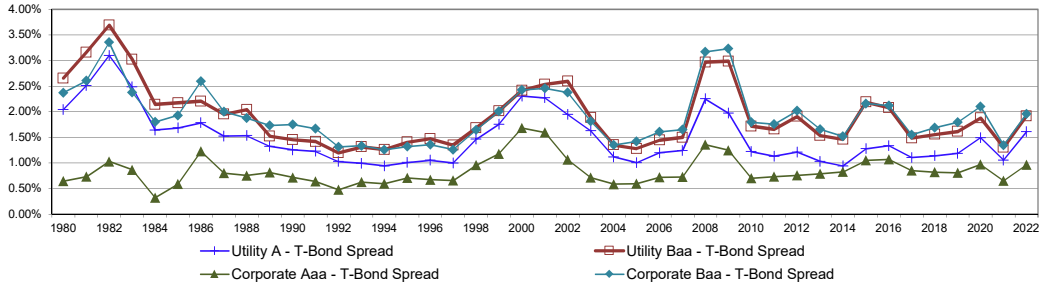
Bond Yield Spreads

Line	Year	T-Bond Yield[1] (1)	Public Utility Bond A[2] (2)	Public Utility Bond Baa[2] (3)	Public Utility Bond A-T-Bond Spread (4)	Public Utility Bond Baa-T-Bond Spread (5)	Corporate Bond Aaa[3] (6)	Corporate Bond Baa[3] (7)	Corporate Bond Aaa-T-Bond Spread (8)	Corporate Bond Baa-T-Bond Spread (9)	Utility to Corporate Baa Spread (10)	Utility to Corporate A-Aaa Spread (11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.87%	6.07%	6.32%	1.20%	1.44%	5.59%	6.48%	0.71%	1.61%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%
39	2018	3.11%	4.25%	4.67%	1.14%	1.56%	3.93%	4.80%	0.82%	1.69%	-0.13%	0.32%
40	2019	2.58%	3.77%	4.19%	1.18%	1.61%	3.39%	4.38%	0.81%	1.79%	-0.18%	0.38%
41	2020	1.56%	3.05%	3.44%	1.49%	1.87%	2.53%	3.66%	0.96%	2.10%	-0.22%	0.53%
42	2021	2.05%	3.10%	3.36%	1.05%	1.30%	2.70%	3.39%	0.65%	1.34%	-0.04%	0.40%
43	2022 [4]	3.12%	4.72%	5.03%	1.61%	1.91%	4.08%	5.07%	0.96%	1.96%	-0.04%	0.65%
44	**Average**	**6.14%**	**7.62%**	**8.05%**	**1.49%**	**1.91%**	**6.98%**	**8.05%**	**0.84%**	**1.92%**	**0.00%**	**0.65%**

Yield Spreads
Treasury Vs. Corporate & Treasury Vs. Utility



Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
[2] The utility yields for the period 1980-2000 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.
The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.
The utility yields for the period 2010-2022 were obtained from http://credittrends.moodys.com/.
[3] The corporate yields for the period 1980-2009 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The corporate yields from 2010-2022 were obtained from http://credittrends.moodys.com/.
[4] Data represents January - December, 2022

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13-Week Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	04/07/23	3.61%	5.01%	5.34%
2	03/31/23	3.67%	5.21%	5.52%
3	03/24/23	3.64%	5.29%	5.59%
4	03/17/23	3.60%	5.27%	5.55%
5	03/10/23	3.70%	5.34%	5.61%
6	03/03/23	3.90%	5.45%	5.72%
7	02/24/23	3.93%	5.49%	5.74%
8	02/17/23	3.88%	5.39%	5.65%
9	02/10/23	3.83%	5.27%	5.54%
10	02/03/23	3.63%	5.08%	5.34%
11	01/27/23	3.64%	5.11%	5.39%
12	01/20/23	3.66%	5.16%	5.46%
13	01/13/23	3.61%	5.15%	5.44%
14	**Average**	**3.72%**	**5.25%**	**5.53%**
15	**Spread To Treasury**		**1.53%**	**1.81%**

Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[2] http://credittrends.moodys.com/.

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26-Week Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	04/07/23	3.61%	5.01%	5.34%
2	03/31/23	3.67%	5.21%	5.52%
3	03/24/23	3.64%	5.29%	5.59%
4	03/17/23	3.60%	5.27%	5.55%
5	03/10/23	3.70%	5.34%	5.61%
6	03/03/23	3.90%	5.45%	5.72%
7	02/24/23	3.93%	5.49%	5.74%
8	02/17/23	3.88%	5.39%	5.65%
9	02/10/23	3.83%	5.27%	5.54%
10	02/03/23	3.63%	5.08%	5.34%
11	01/27/23	3.64%	5.11%	5.39%
12	01/20/23	3.66%	5.16%	5.46%
13	01/13/23	3.61%	5.15%	5.44%
14	01/06/23	3.67%	5.28%	5.59%
15	12/30/22	3.97%	5.53%	5.83%
16	12/23/22	3.82%	5.42%	5.72%
17	12/16/22	3.53%	5.15%	5.43%
18	12/09/22	3.56%	5.17%	5.45%
19	12/02/22	3.56%	5.26%	5.54%
20	11/25/22	3.74%	5.46%	5.74%
21	11/18/22	3.92%	5.66%	5.95%
22	11/10/22	4.03%	5.86%	6.16%
23	11/04/22	4.27%	6.05%	6.35%
24	10/28/22	4.15%	5.96%	6.27%
25	10/21/22	4.33%	6.19%	6.49%
26	10/14/22	3.99%	5.89%	6.19%
27	**Average**	**3.80%**	**5.43%**	**5.72%**
28	**Spread To Treasury**		**1.63%**	**1.92%**

Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[2] http://credittrends.moodys.com/.

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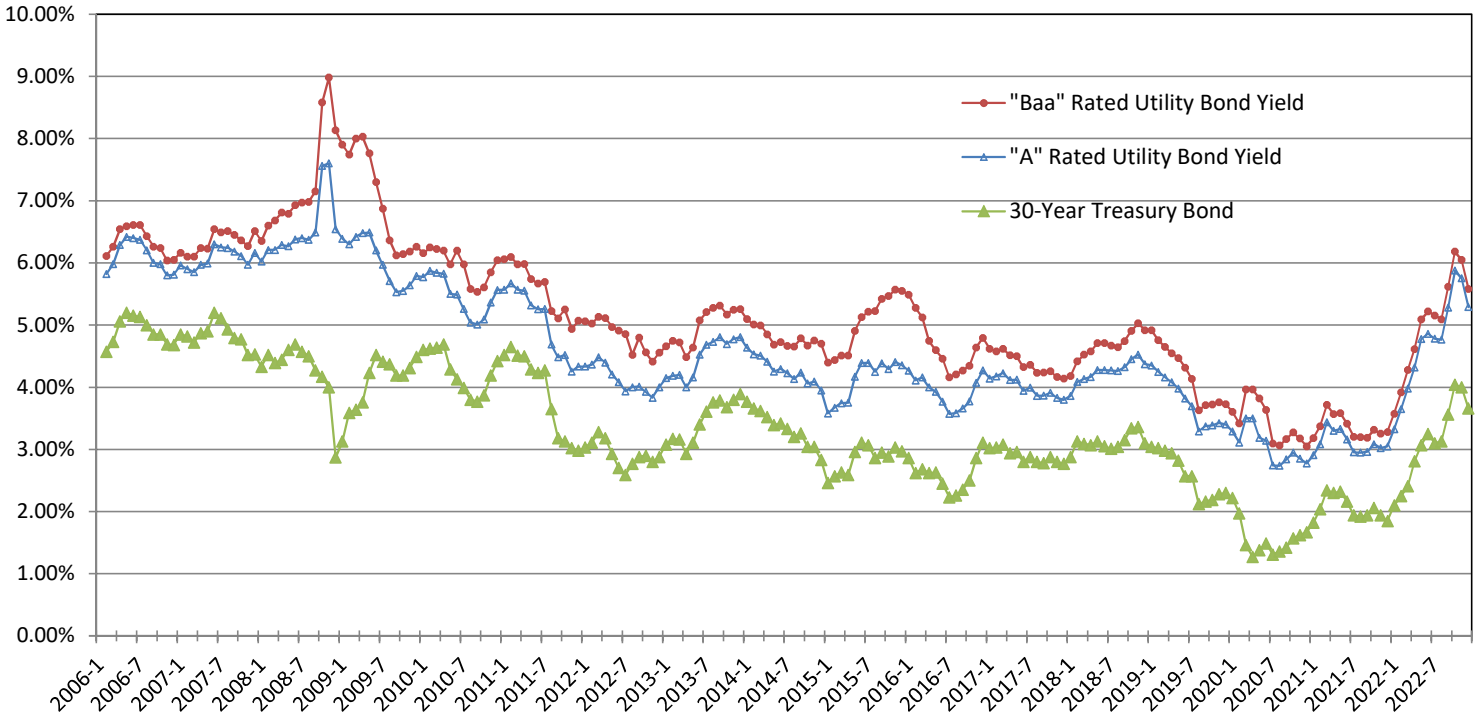
Trends in Bond Yields



Sources:
Mergent Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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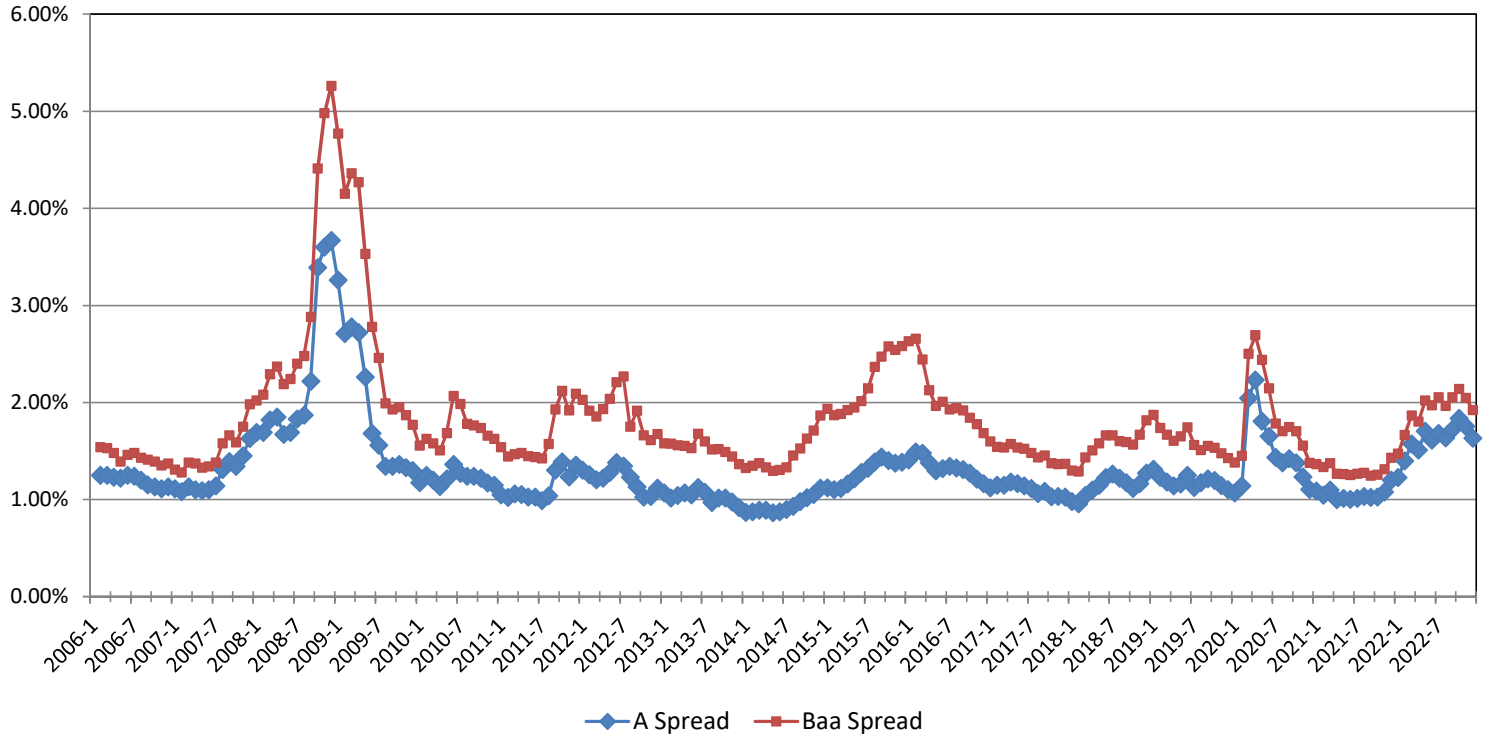
Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:
Mergent Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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Beta

Line	Company	Beta[1]	S&P Global Market Intelligence Beta[2]
1	American States Water Company	0.70	0.58
2	American Water Works Company, Inc.	0.90	0.83
3	California Water Service Group	0.70	0.62
4	Essential Utilities, Inc.	0.95	0.79
5	Middlesex Water Company	0.75	0.68
6	SJW Group	0.80	0.70
7	Atmos Energy Corporation	0.85	0.70
8	New Jersey Resources Corporation	0.95	0.73
9	NiSource Inc.	0.90	0.75
10	Northwest Natural Holding Company	0.80	0.65
11	ONE Gas, Inc.	0.80	0.72
12	Spire Inc.	0.85	0.73
13	UGI Corporation	1.05	0.83
14	**Average**	**0.85**	**0.72**
15	**Median**	**0.85**	**0.72**
16	**Historical Beta[3]**	**0.75**	

Source:

[1] *The Value Line Investment Survey,* February 24 and April 7, 2023.

[2] S&P Global Market Intelligence, betas for the period 4/7/2018 - 4/7/2023.

[3] Exhibit CCW-14, page 2.

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Historical Betas
(Water and Natural Gas Utilities)

Line	Company	Average	4Q22	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14	3Q14
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1	American States Water Company	0.69	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
2	American Water Works Company, Inc.	0.72	0.90	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70
3	California Water Service Group	0.71	0.70	0.65	0.65	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.70	0.70
4	Essential Utilities, Inc.	0.78	0.95	0.95	0.95	N/A	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70
5	Middlesex Water Company	0.72	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.70	0.70
6	SJW Group	0.74	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.75	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.85	0.85
7	Atmos Energy Corporation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	New Jersey Resources Corporation	0.83	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.90	0.90	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.80	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.85	0.80	0.80	0.80	0.80
9	NiSource Inc.	0.73	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.55	0.55	0.55	0.55	0.55	0.50	0.55	0.60	0.60	0.60	NMF	0.65	NMF	NMF	NMF	NMF	NMF	NMF	NMF	0.85	0.85	0.85	0.80
10	Northwest Natural Holding Company	0.71	0.80	0.80	0.80	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.55	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.65	0.70	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70
11	ONE Gas, Inc.	0.73	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	Spire Inc.	0.73	0.85	0.80	0.80	0.85	0.85	0.85	0.85	0.85	1.00	0.80	0.80	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
13	UGI Corporation	0.93	1.05	1.00	1.05	1.05	1.05	1.05	N/A	N/A	1.00	1.00	0.95	0.75	N/A	N/A	0.80	0.80	0.80	0.85	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.85	0.85
14	**Average**	0.75	0.83	0.82	0.82	0.82	0.83	0.83	0.81	0.80	0.83	0.81	0.80	0.69	0.64	0.64	0.65	0.66	0.68	0.69	0.72	0.70	0.74	0.75	0.74	0.76	0.73	0.73	0.73	0.73	0.75	0.76	0.76	0.76	0.75	0.75

Source: Value Line Software Analyzer

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CAPM Return

Line	Description	Kroll Normalized[2] MRP (1)	Risk Premium[3] Derived MRP (2)	Average FERC S&P 500 DCF[4/5] Derived MRP (3)
	Current Beta			
1	Risk-Free Rate[1,2]	3.87%	3.70%	3.70%
2	Market Risk Premium	6.00%	8.00%	7.40%
3	Beta[6]	0.85	0.85	0.85
4	**CAPM**	**8.94%**	**10.47%**	**9.96%**
	Historical Beta			
5	Risk-Free Rate[1,2]	3.87%	3.70%	3.70%
6	Market Risk Premium	6.00%	8.00%	7.40%
7	Beta[6]	0.75	0.75	0.75
8	**CAPM**	**8.38%**	**9.71%**	**9.26%**
	Current S&P Global Market Intelligence Beta			
9	Risk-Free Rate[1,2]	3.87%	3.70%	3.70%
10	Market Risk Premium	6.00%	8.00%	7.40%
11	Beta[6]	0.72	0.72	0.72
12	**CAPM**	**8.16%**	**9.43%**	**9.00%**

Sources:

[1] *Kroll Recommended U.S. Equity Risk Premium and Corresponding Risk-Free Rates to be Used in Computing Cost of Capital: January 2008 - Present,* October 18, 2022.

[2] *Blue Chip Financial Forecasts,* March 31, 2023 at 2.

[3] *Kroll 2022 SBBI Yearbook*, page 207.

[4] S&P 500 1-Step DCF through March, 2023 for Dividend Paying Companies.

[5] S&P 500 1-Step DCF through March, 2023 for all Companies.

[6] Exhibit CCW-14, page 1.

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Development of the Market Risk Premium

Line	Description	MRP	
Risk Premium Based Method:			
1	Lg. Co. Stock Real Market Return	9.20%	[1]
2	Projected Consumer Price Index	2.30%	[2]
3	Expected Market Return	11.71%	
4	Risk-Free Rate	3.70%	[2]
5	Market Risk Premium	**8.00%**	
FERC S&P 500 (Dividend Companies) 1-Step DCF Based Method:			
6	S&P 500 Growth	8.70%	[3]
7	Index Dividend Yield	2.00%	[3]
8	Adjusted Yield	2.09%	
9	Expected Market Return	10.79%	
10	Risk-Free Rate	3.70%	[2]
11	Market Risk Premium	**7.10%**	
FERC S&P 500 (All Companies) 1-Step DCF Based Method:			
12	Short-Term S&P 500 Growth	9.70%	[4]
13	Index Dividend Yield	1.60%	[4]
14	Adjusted Yield	1.68%	
15	Expected Market Return	11.38%	
16	Risk-Free Rate	3.70%	[2]
17	Market Risk Premium	**7.70%**	
18	Average DCF Based MRP	**7.40%**	

Sources & Note:

[1] *Kroll 2022 SBBI Yearbook,* page 146.

[2] *Blue Chip Financial Forecast March 31, 2023.*

[3] S&P 500 1-Step DCF through March, 2023 for Dividend Paying Companies.

[4] S&P 500 1-Step DCF through March, 2023 for all Companies.