BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF)		
OKLAHOMA GAS AND ELECTRIC)		
COMPANY FOR AN ORDER OF THE)	PUD 2023-000087	
COMMISSION AUTHORIZING APPLICANT)		
TO MODIFY ITS RATES, CHARGES, AND)		
TARIFFS FOR RETAIL ELECTRIC SERVICE)		
IN OKLAHOMA)		

RESPONSIVE TESTIMONY OF CHRISTOPHER C. WALTERS

ON BEHALF OF

THE FEDERAL EXECUTIVE AGENCIES

Ashley N. George, attorney for the Federal Executive Agencies ("FEA"), hereby submits the Responsive Testimony of Christopher C. Walters in the proceeding referenced above.

Respectfully submitted,

ASHLEY N. GEORGE, CAPT, USAF

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BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE
APPLICATION OF OKLAHOMA
GAS AND ELECTRIC COMPANY
FOR AN ORDER OF THE
COMMISSION AUTHORIZING
APPLICANT TO MODIFY ITS
RATES, CHARGES, AND TARIFFS
FOR RETAIL ELECTRIC SERVICE
IN OKLAHOMA

CASE NO. PUD2023-000087

Responsive Testimony and Exhibits of

Christopher C. Walters

for Revenue Requirement Issues

On behalf of

Federal Executive Agencies

April 26, 2024



Project 11603

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF APPLICATION OF COMMISSION AUTI APPLICANT TO MC RATES, CHARGES, FOR RETAIL ELECTIN OKLAHOMA	OKLAH C COI THE HORIZ DIFY AND	MPANY ING ITS TARIFFS))))))))) _) _	CASE NO. PUD2023-000087
STATE OF MISSOURI)))	SS		

Affidavit of Christopher C. Walters

Christopher C. Walters, being first duly sworn, on his oath states:

- 1. My name is Christopher C. Walters. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Federal Executive Agencies in this proceeding on their behalf.
- 2. Attached hereto and made a part hereof for all purposes are my responsive testimony and exhibits which were prepared in written form for introduction into evidence in the Corporation Commission of the State of Oklahoma Case No. PUD2023-000087.
- 3. I hereby swear and affirm that the testimony and exhibits are true and correct and that they show the matters and things that they purport to show.

Christopher C. Walters

Subscribed and sworn to before me this 26th day of April, 2024

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

Maria E. Deffee

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Table of Contents

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE APPLICATION OF OKLAHOMA GAS AND ELECTRIC COMPANY FOR AN ORDER OF THE COMMISSION AUTHORIZING APPLICANT TO MODIFY ITS RATES, CHARGES, AND TARIFFS FOR RETAIL ELECTRIC SERVICE IN OKLAHOMA

CASE NO. PUD2023-000087

Table of Contents for the Responsive Testimony of Christopher C. Walters

		<u>Page</u>
l.	INTRODUCTION	1
II.	SUMMARY	2
III.	ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT	4
III.A.	Regulated Utility Industry AuthorizedROEs, Access to Capital, and Credit Strength	
III R	Federal Reserve Monetary Policy	
	Market Sentiments and Utility Industry Outlook	
	Additional Remarks	
IV.	RETURN ON EQUITY	23
IV.A.	OG&E's Investment Risk	25
	. OG&E's Proposed Capital Structure	
	. Development of Proxy Group	
	. DCF Model	
	. Sustainable Growth DCF	
	Multi-Stage Growth DCF Model	
	Risk Premium Model	
	. Capital Asset Pricing Model ("CAPM") Return on Equity Summary	
IV.I.	Neturn on Equity Summary	

CASE PUD 2023-000087 ENTRY NO. 169 FILED IN OCC COURT CLERK'S OFFICE ON 04/26/2024 - PAGE 5 OF 121

Responsive Testimony of Christopher C. Walters Case No. PUD2023-000087 Table of Contents

V. RES	SPONSE TO MS. BULKLEY	59
	kley's Constant Growth DCF	
V.B. Bull	kley's CAPM Studies	63
V.C. Bull	kley's Empirical CAPM ("ECAPM") Studies	67
V.D. Bull	kley's Bond Yield Plus (ÈBYP") Risk Premium	71
Qualificat	ions of Christopher C. Walters	Appendix A
Exhibit C	CW-1 – Exhibit CCW-15	

BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

IN THE MATTER OF THE

APPLICATION OF OKLAHOMA

GAS AND ELECTRIC COMPANY

FOR AN ORDER OF THE

COMMISSION AUTHORIZING

APPLICANT TO MODIFY ITS

RATES, CHARGES, AND

TARIFFS FOR RETAIL ELECTRIC

SERVICE IN OKLAHOMA

CASE NO. PUD2023-000087

Responsive Testimony of Christopher C. Walters

1		I. INTRODUCTION
2	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
3	Α	Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
4		Suite 140, Chesterfield, MO 63017.
5	Q	WHAT IS YOUR OCCUPATION?
6	Α	I am a Principal with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic
7		and regulatory consultants in the field of public utility regulation.
8	Q	PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.
9	Α	This information is included in Appendix A to my testimony.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am testifying on behalf of the Federal Executive Agencies ("FEA"), consisting of certain agencies of the United States government which have offices, facilities, and/or installations in the service area of Oklahoma Gas and Electric Company ("OG&E" or "Company"), from whom they purchase electricity and energy services.

Q WHAT IS THE SUBJECT MATTER OF YOUR RESPONSIVE TESTIMONY?

I will address the current investor required rate of return on common equity ("ROE") as well as an appropriate capital structure for OG&E. I will also respond to OG&E witness Ms. Ann Bulkley's recommended ROE of 10.50%.

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

12 <u>II. SUMMARY</u>

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PLEASE SUMMARIZE YOUR TESTIMONY.

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% in more recent history. 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 OG&E. Based on the results of several

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 3

cost of equity estimation methods performed on publicly traded utility companies, I estimate the current fair market ROE for the Company to fall within the range of 9.10% to 9.90%. Based on my assessment of the Company's overall risk profile and the results of the analytical methods, I recommend OG&E be awarded an ROE of 9.50%, which is the mid-point of my estimated range.

In Section V of my testimony, I respond to Company witness Ms. Bulkley's estimate of the current market cost of equity for OG&E. Ms. Bulkley recommends the Company be authorized an ROE of 10.5%. I demonstrate that her ROE recommendations are excessive and should be rejected.

Based on all of the foregoing, I request this Commission adopt the following recommendations:

- 1. Reject OG&E's proposed ROE of 10.50% and instead adopt my recommended ROE of 9.50%, which is based on my assessment of the current and expected capital market environment, the Company's overall risk profile, and the results of several analytical methods which I have analyzed, to determine a fair and reasonable ROE to be authorized for OG&E.
- 2. Reject OG&E's proposed equity ratio of 53.5% and instead authorize OG&E an equity ratio of 52.0%, consistent with the Commission's most recently authorized equity ratio from the recent Public Service Company of Oklahoma ("PSO") rate case.
- 3. My recommendations produce an overall ROR of 7.27% and would reduce OG&E's Oklahoma electric retail revenue requirements by approximately \$59.75 million.

III. ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT

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

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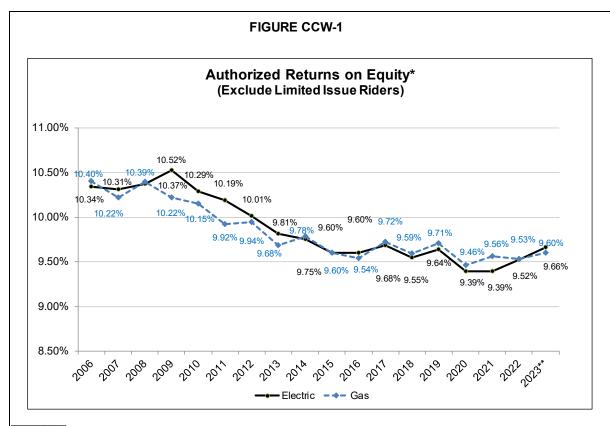
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5 Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN 6 AUTHORIZED ROEs FOR ELECTRIC AND GAS UTILITIES.

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.



Source and Notes:

^{*} Electric Returns exclude Limited Issue Riders.

S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions -- January - December 2023, Februrary 6, 2024 at page 4.

- 1 Q PLEASE DESCRIBE THE DISTRIBUTION OF AUTHORIZED ROEs FOR
- 2 **ELECTRIC UTILITIES FOR THE LAST FEW YEARS.**
- 3 A The distribution of authorized returns, annually, since 2016 is summarized in Table
- 4 CCW-1.

TABLE CCW-1										
Distribution of Authorized ROEs										
(All Electric Utilities)*										
				Share of Decisions	Share of Decisions	Share of Decisions				
<u>Line</u>	<u>Year</u> (1)	Average (2)	Median (3)	≤ 9.5%	<u>≤ 9.7%</u>	≤ 10.0%				
1	2016	9.60%	9.60%	41%	53%	94%				
2	2017 ¹	9.67%	9.60%	42%	67%	81%				
3	2018 ²	9.54%	9.57%	47%	63%	100%				
4	2019	9.64%	9.65%	39%	58%	88%				
5	2020 ³	9.38%	9.48%	64%	79%	100%				
6	2021	9.39%	9.49%	58%	81%	97%				
7	2022	9.52%	9.50%	53%	63%	84%				
8	2023	9.65%	9.60%	39%	65%	86%				
9	Average	9.55%	9.56%	48%	66%	91%				
10	Median	9.57%	9.58%	45%	64%	91%				

Source and Notes:

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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%.

S&P Global Market Intelligence, data through December 31, 2023.

¹Includes authorized base ROE of 9.4% for Nevada Power Company, which excludes incentives associated with the Lenzie facility.

²Includes authorized base ROE of 9.6% for Interstate Power & Light Co., which excludes allowed ROE for generating facilities subject to special ratemaking principles.

³Includes authorized base ROE of 9.8% for Interstate Power & Light Co., which excludes allowed ROE for generating facilities subject to special ratemaking principles.

^{*}Excludes Limited Issue Rider Cases.

Q HOW HAS THE AUTHORIZED COMMON EQUITY RATIO FLUCTUATED OVER

THE SAME TIME PERIOD FOR UTILITIES?

Α

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 permanent common equity ratios authorized for ratemaking purposes within my trend analysis.

TABLE CCW-2 <u>Trends in State Authorized Common Equity Ratios</u> (Industry)

		Elec	ctric ¹
<u>Line</u>	<u>Year</u>	Average	<u>Median</u>
	(1)	(2)	(3)
1	2016	49.70%	49.99%
2	2017	50.02%	49.85%
3	2018	50.60%	50.23%
4	2019	51.55%	51.37%
5	2020	50.94%	51.17%
6	2021	51.01%	52.00%
7	2022	51.66%	51.92%
8	2023	51.75%	52.29%
9	2024	49.58%	50.33%
10	Average	50.76%	51.02%
11	Median	50.94%	51.17%

Source and Notes:

- 1 Q HAVE REGULATED UTILITY COMPANIES BEEN ABLE TO MAINTAIN
- 2 RELATIVELY STRONG CREDIT RATINGS DURING PERIODS OF DECLINING
- 3 **AUTHORIZED ROEs?**
- 4 A Yes. As shown below in Table CCW-3, the credit ratings of the industry have
- 5 improved since 2009. In 2009, approximately 53% of the industry was rated BBB+ or
- 6 higher. Currently, 83% of the industry has a rating of BBB+ or higher.

¹ S&P Global Market Intelligence, data through March 15, 2024.

² Excludes Arkansas, Florida, Indiana, and Michigan, because they include non-investor capital.

S&P Ratings by Category <u>Electric Utility Subsidiaries</u> (Year End)															
Description	2009	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	2020	<u>2021</u>	2022	2023
A or higher	12%	12%	12%	11%	13%	13%	13%	10%	10%	8%	14%	14%	10%	10%	12%
Α-	18%	20%	19%	22%	26%	26%	34%	43%	52%	54%	54%	53%	37%	37%	37%
BBB+	23%	24%	28%	28%	25%	28%	24%	32%	21%	22%	18%	19%	35%	36%	36%
BBB	36%	26%	24%	22%	26%	23%	18%	4%	7%	13%	12%	3%	16%	16%	15%
BBB-	9%	16%	15%	17%	11%	11%	11%	11%	11%	2%	1%	1%	0%	0%	0%
Below BBB-	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	10%	1%	1%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

1 Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT 2 CAPITAL EXPENDITURE PROGRAMS?

- A Yes. In Regulatory Research Associates' ("RRA") November 8, 2023 Utility Capital Expenditures report, *RRA Financial Focus*, a division of S&P Global Market Intelligence, made several relevant comments about utility investments generally:
 - Projected 2023 capital expenditures for the 46 energy utilities included in the Regulatory Research Associates representative sample of publicly traded, US-based utilities is nearly \$171 billion a more than 18% jump from the group's \$144 billion of actual spending in 2022. The increase is being driven in large part by federal legislation enacted in 2021 and 2022 supporting infrastructure investment.

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 Aggregated capex estimates for both 2024 and 2025 indicate successively higher spending levels, reaching \$173.5 billion and \$179.4 billion, respectively. Spending expectations for 2024 and beyond are likely to increase as the companies' plans for future projects continue to get around multiple new pieces of federal legislation supporting infrastructure investment.

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

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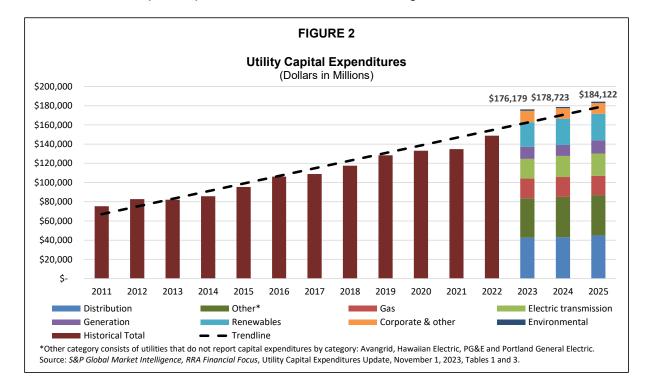
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Multiple drivers are expected to impel elevated spending over the next several years, including pent-up demand to replace and modernize aging infrastructure, renewable portfolio standards of multiple states — that include large expansions in low-carbon energy generation capacity — continue to ramp up, and federal infrastructure investment plans that are intended to steer conversion of the nation's power generation network to zero-carbon sources by 2035 come to fruition. 1

As shown in Figure CCW-2 below, capital expenditures for the regulated utilities have increased considerably over the period 2023 into 2024, and the forecasted capital expenditures remain elevated through the end of 2025.



As demonstrated 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. This is clear evidence that the capital investments are enhancing shareholder value and are attracting both equity and debt

¹S&P Global Market Intelligence, RRA Financial Focus: "Utility Capital Expenditures Update: H2 2023, Energy, water utility capex plans on track to record-breaking year," November 8, 2023, pages 4-5 (emphasis added).

capital to the utility industry in a manner that allows for funding these elevated capital investments. While capital markets embrace these profit-driven 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 at reasonable rates. If this is not done, utility rates will expand beyond the ability of customers to pay, resulting in revenue constraints for utilities, which will impact their financial integrity.

8 Q WHAT IS THE SIGNIFICANCE OF THESE FINDINGS?

Α

9 A This is clear evidence that the capital investments are enhancing shareholder value, 10 and are attracting both equity and debt capital to the utility industry in a manner that 11 allows for these elevated capital investments.

Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF REGULATED UTILITY EQUITY SECURITIES?

Yes. Robust valuations are an indication that utilities can sell securities at high prices, which is a strong signal 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.

1 Q WHAT CONCLUSION DO YOU DRAW FROM THIS OBSERVABLE MARKET

DATA IN FORMING YOUR RECOMMENDED ROE AND OVERALL RATE OF

RETURN?

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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 this Commission ensure that utility rates are increased no more than necessary to provide fair compensation and maintain financial integrity.

III.B. Federal Reserve Monetary Policy

10 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?

Yes to both questions. 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.

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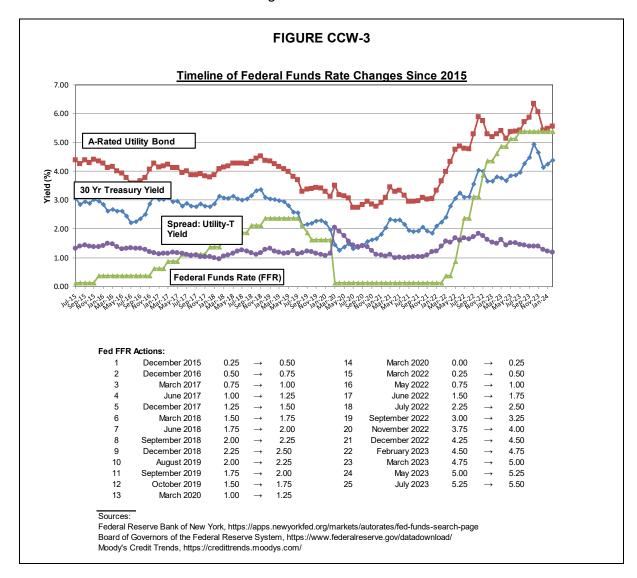
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A visualization of the market's reaction to the Fed's actions on the federal funds rate is shown below in Figure CCW-3.



As shown in Figure CCW-3 above, the rise in the Federal Funds Rate has far outpaced the rise in Utility and Treasury yields while the spread of Utility bonds over Treasury bond yields have stabilized recently.

Q HAS THE FED MADE RECENT COMMENTS CONCERNING MONETARY POLICY

AND THE POTENTIAL IMPACT ON INTEREST RATES?

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

Recent indicators suggest that growth of economic activity has slowed from its strong pace in the third quarter. Job gains have moderated since earlier in the year but remain strong, and the unemployment rate has remained low. Inflation has eased over the past year but remains elevated.

The U.S. banking system is sound and resilient. Tighter financial and credit conditions for households and businesses are likely to weigh on economic activity, hiring, and inflation. The extent of these effects remains uncertain. The Committee remains highly attentive to inflation risks.

The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 5-1/4 to 5-1/2 percent. The Committee will continue to assess additional information and its implications for monetary policy. In determining the extent of any additional policy firming that may be appropriate to return inflation to 2 percent over time, the Committee will take into account the cumulative tightening of monetary policy, the lags with which monetary policy affects economic activity and inflation, and economic and financial developments. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, as described in its previously announced plans. The Committee is strongly committed to returning inflation to its 2 percent objective.

In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments.²

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²Found here:

https://www.federalreserve.gov/newsevents/pressreleases/monetary20231213a.htm, December 13, 2023.

The above quotes suggest to me that the FOMC has recently shown signs of success in, and remains committed to, stabilizing consumer prices and promoting maximum employment through its monetary policy tools.

WHAT DO INDEPENDENT ECONOMISTS' OUTLOOKS FOR FUTURE INTEREST

RATES INDICATE?

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Independent economists, surveyed by *Blue Chip Financial Forecasts*, 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 is 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.

TABLE CCW-4

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

Publication Date	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1Q 2024	2Q 2024	3Q 2024	4Q 2024	1Q 2025	2Q 2025
Federal Funds Rate											
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	3.7	4.7	5.0	5.1	4.9	4.7	4.2	3.8			
Арг-23 Мау-23		4.5	5.0	5.1	5.0	4.7	4.2	3.8			
Jun-23		4.5 4.5	5.0	5.1	5.0	4.7	4.2	3.9			
		4.5							2.0		
Jul-23			5.0	5.3	5.2	5.0	4.6	4.3	3.9		
Aug-23			5.0	5.4	5.4	5.2	4.9	4.4	4.0		
Sep-23			5.0	5.3	5.4	5.3	5.0	4.6	4.2	4.0	
Oct-23				5.3	5.4	5.4	5.1	4.7	4.3	4.0	
Nov-23				5.3	5.4	5.4	5.2	4.9	4.5	4.1	
Dec-23				5.3	5.4	5.4	5.2	4.9	4.6	4.2	
Jan-24					5.3	5.3	5.1	4.8	4.4	4.1	3.8
Feb-24					5.3	5.3	5.1	4.7	4.4	4.1	3.8
Mar-24					5.3	5.4	5.2	4.9	4.5	4.2	3.8
<u>Г-Bond, 30 уг.</u>		4.0	4.0								
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			
May-23		3.7	3.8	3.8	3.8	3.8	3.7	3.7			
Jun-23		3.7	3.8	3.8	3.8	3.8	3.8	3.7			
Jul-23			3.8	3.9	3.9	3.9	3.8	3.8	3.8		
Aug-23			3.8	4.0	3.9	4.0	3.9	3.9	3.8		
Sep-23			3.8	4.1	4.2	4.1	4.0	4.0	3.9		
Oct-23				4.2	4.4	4.3	4.2	4.2	4.1	4.0	
Nov-23				4.2	4.8	4.7	4.5	4.5	4.3	4.2	
Dec-23				4.2	4.8	4.7	4.5	4.5	4.4	4.3	
Jan-24					4.6	4.3	4.3	4.2	4.1	4.0	4.0
Feb-24					4.6	4.3	4.2	4.2	4.1	4.0	4.0
Mar-24					4.6	4.4	4.3	4.2	4.2	4.1	4.1
GDP Price Index											
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			
May-23		4.0	3.2	2.9	2.7	2.5	2.3	2.2			
Jun-23		4.2	3.3	2.8	2.7	2.5	2.5	2.2			
Jul-23			3.3	2.9	2.8	2.5	2.4	2.2	2.2		
Aug-23			2.2	2.7	2.6	2.5	2.3	2.3	2.3		
Sep-23			2.0	2.7	2.6	2.4	2.3	2.2	2.2		
Oct-23				2.7	2.7	2.4	2.2	2.2	2.2	2.2	
Nov-23				3.5	2.7	2.4	2.3	2.2	2.2	2.3	
Dec-23				3.6	2.7	2.4	2.3	2.2	2.2	2.2	
Jan-24					2.7	2.3	2.3	2.3	2.2	2.2	2.1
Feb-24					1.5	2.2	2.2	2.3	2.2	2.2	2.1
Mar-24					1.6	2.2	2.3	2.2	2.2	2.1	2.1

Blue Chip Financial Forecasts, Jan 2022 through March 2024.

Actual Yields in Bold.

CASE PUD 2023-000087 ENTRY NO. 169 FILED IN OCC COURT CLERK'S OFFICE ON 04/26/2024 - PAGE 21 OF 121

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Responsive Testimony of Christopher C. Walters Case No. PUD2023-000087 Page 16

Further, the outlook for long-term interest rates in the intermediate to
long-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

<u>Description</u>	<u>Actual</u>	Near-Term <u>Projected*</u>	5- to 10-Year <u>Projected</u>
<u>2019</u>			
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%
<u>2021</u>			
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%
0000			
<u>2022</u> Q1	2.25%	2.87%	
Q2	2.25% 3.04%		3.8% - 3.9%
Q2 Q3	3.04%	3.47% 3.63%	3.6% - 3.9%
Q3 Q4	3.26%	3.87%	3.9% - 4.0%
Q4	3.90%	3.07 70	3.970 - 4.070
<u>2023</u>			
Q1	3.74%	3.77%	
Q2	3.80%	3.70%	3.8% - 3.9%
Q3	4.24%	3.83%	
Q4	4.58%	4.17%	4.1% - 4.2%

Source and Note:

Blue Chip Financial Forecasts, January 2019 through March 2024.

^{*}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. III.C. Market Sentiments and Utility Industry Outlook PLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED

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UTILITIES.

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All credit rating agencies see rate affordability as an important consideration in assessing utility credit, including Standard & Poor's ("S&P") and Moody's Investors Service ("Moody's") as discussed below.

In 2024, S&P updated its industry outlook to "Negative," stating the following:

Key Takeaways

- We are updating our 2024 outlook on the investor-owned North American regulated utility industry to negative.
- Given the relatively high percentage of companies with negative outlooks, we expect that 2024 will likely be the fifth consecutive year that downgrades outpace upgrades.
- The industry faces rising physical risks and high cash flow deficits that may not be sufficiently funded in a credit-supportive manner.
- Still, we expect that the utility industry will maintain a median investment-grade rating of 'BBB+'.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 19

- We also expect that a smaller percentage of companies rated 'BBB' or lower are more likely to implement measures to maintain or even improve credit quality.³

Specifically, in S&P's utility report, it notes that the credit quality of the industry has changed to BBB+ from an A- rating over the last few years. It notes the recently increased interest rates, which are expected to stabilize and ease the pressure on utilities financial performance. S&P also comments on the narrowing spread between utilities authorized returns and the 10-year Treasury yield, which hinders the financial performance of the industry. The credit rating agency expects continued robust capital spending for utilities, projecting over \$200 billion investment in 2025. S&P believes that the risks around the industry outlook include regulatory risks in responding to capital spending and the practice of many companies operating with minimal financial cushion from their downgrade thresholds.⁴

Q HAVE CREDIT AGENCIES NOTED CONCERN ABOUT RATE AFFORDABILITY AS A CREDIT RISK TO UTILITIES?

Yes. Credit rating agencies have been <u>emphasizing rate affordability</u>, maintaining adequate financial coverages of debt obligations, and supporting utilities' overall investment grade bond ratings.

In a recent industry report, Moody's explained that the regulated electric and gas utilities' outlook remains "Negative" largely due to increased pricing pressures on customers. Moody's stated that it changed its outlook from "Positive" to "Negative" due to the following:

We have revised our outlook on the US regulated utilities sector to negative from stable. We changed the outlook because of increasingly

³S&P Global Ratings: "Rising Risks: Outlook For North American Investor-Owned Regulated Utilities Weakens," February 14, 2024 at 1.

⁴Id.

challenging business and financial conditions stemming from higher natural gas prices, inflation and rising interest rates. These developments raise residential <u>customer affordability issues</u>, 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.⁵

Also, in a report published in January of 2024, S&P specifically mentioned commodity price volatility, in combination with significant increases in capital investments, driving utility rate increases which may strain affordability concerns.⁶

Finally, Fitch opined that the regulated electric and gas utilities' outlook is deteriorating due to elevated capex that put pressure on credit metrics. Fitch also notes the bill affordability concerns for ratepayers, and regulators' ability to balance the rate requests with increasing customer bills.

Specifically, Fitch states:

Authorized ROEs could prove to be sticky despite an increase in cost of capital. Higher weather-normalized retail electricity sales, driven by datacenter growth and onshoring of manufacturing activities, and tax transferability provisions of the Inflation Reduction Act could somewhat offset headwinds to utilities. Ongoing management actions to sell assets and issue equity, in some cases, is supportive of parent companies' ratings. Within Fitch's coverage, 90% of ratings hold Stable Rating Outlooks. We expect limited rating movement in 2024. The number of upgrades in 2023 so far exceeds the number of downgrades, and is driven by positive rating actions on several parent holding companies and their regulated subsidiaries.⁷

As outlined by Moody's, S&P and Fitch above, credit analysts are focusing on rate affordability as an important factor needed to support strong credit standing. Customers must be able to afford to pay their utility bills in order for utilities to maintain their financial integrity and strong investment grade credit standing. For this

⁵Moody's Investors Service Outlook: "Regulated Electric and Gas Utilities – US 2023 outlook negative due to higher natural gas prices, inflation and rising interest rates," November 10, 2022 at 1. (emphasis added).

⁶S&P Global Ratings: "Industry Credit Outlook 2024: North America Regulated Utilities," January 9, 2024, at 8.

⁷FitchRatings. "North American Utilities, Power & Gas Outlook 2024," December 6, 2023 at 1. (emphasis added)

reason, this Commission should carefully assess the reasonableness of cost of service in this proceeding, including an appropriate overall rate of return necessitated by a reasonably cost-effective balanced ratemaking capital structure, and a return on equity that represents fair compensation but also maintains competitive, just and reasonable rates.

III.D. Additional Remarks

Q PLEASE COMMENT ON CERTAIN GEOPOLITICAL EVENTS AND THEIR IMPACT

ON THE MARKET.

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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. In October 2023, another conflict broke out in the Middle East between Hamas and Israel.

While the actual and ongoing impact to the markets and global economy due to the current conflicts remain to be seen, research on the markets during previous wars and armed-combat situations provides 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.⁸

⁸Klement CFA, Joachim, CFA Institute Research Foundation, 2021, "Geo-Economics: The interplay of geopolitics, economics, and investments," 46 (emphasis added).

1 While it is undeniable that a level of uncertainty exists because of the conflicts in 2 Ukraine and the Middle East, historical evidence indicates that the impact on financial 3 markets is generally transitory. IN LIGHT OF HIGHER LEVELS OF INFLATION, EXPECTATIONS OF HIGHER 4 Q 5 INTEREST RATES, AND GEOPOLITICAL EVENTS AROUND THE WORLD, HOW 6 HAS THE MARKET PERCEIVED UTILITIES AS INVESTMENT OPTIONS? 7 Α In 2023, the utility sector underperformed the S&P 500 and has continued to do so in 8 2024. This is presented below in Figure CCW-4. However, it should be noted that 9 the performance of the S&P 500 has largely been driven by a handful of "mega cap" 10 companies. Because the S&P 500 is a market capitalization weighted index 11 (meaning the higher the market capitalization a company has, the more influence it 12 has on the index's performance). For example, in the S&P Dow Jones Indices report 13 "U.S. Equity Market Attributes June 2023," it is noted that: 14 For June, the S&P 500 total return was up 6.61%, with broad 15 contributions across issues, compared to previous months when highmarket-value issues dominated the market: underlying breadth (and 16 contributions) remained negative. That dominance still exists, as the 17 18 index's total return was up 16.89% YTD, but without the top 44 issues, the index would be negative YTD, though that 44 was 8 in May. Apple 19 20 (AAPL) and Tesla (TSLA) were still on top for the month, with Alphabet 21 (GOOG/L) (then Salesforce [CRM]) the largest negative contributor for 22 the month. 23 Meanwhile, the positive contributions were broad for June, even 24 though they remain highly concentrated YTD. The index is still top 25 heavy, with the top 10 issues accounting for 30.5% of the market value (below 20% is more typical). Of note to the top of the market, 26 27 semiconductor issue NVIDIA (NVDA) joined the USD 1 trillion in market value club this month, as Apple (which set a record at 7.72% of 28 29 the index) became the first public issue to trade above USD 3 trillion in 30 market value; the other three members of the club are Microsoft 31 (MSFT), Alphabet and Amazon (AMZN).9

⁹https://www.spglobal.com/spdji/en/documents/commentary/market-attributes-us-equities-202306.pdf

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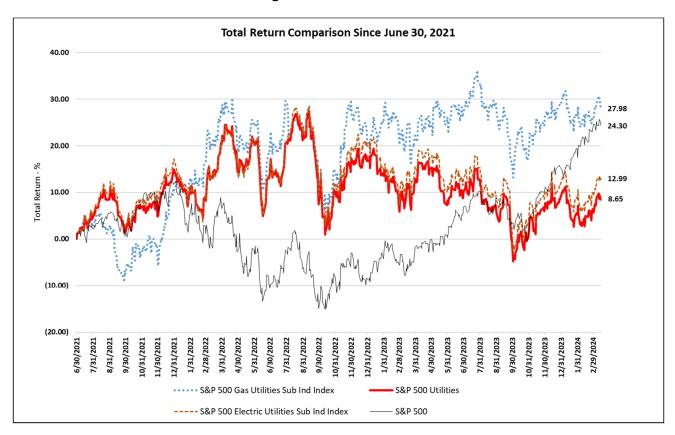
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Notwithstanding its recent underperformance relative to the S&P 500, the industry has been able to deliver generally positive and relatively stable returns during a period of elevated inflation, rising interest rates, and uncertainty because of geopolitical events around the world.

Figure CCW-4



IV. RETURN ON EQUITY

PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF COMMON EQUITY."

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.

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PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED UTILITY'S COST OF COMMON EQUITY.

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." and defined the ratepayer/investor balance as follows:

The return should be reasonably sufficient to assure confidence in the <u>financial soundness</u> of the utility and should be adequate, under <u>efficient and economical management</u>, to maintain and <u>support its credit</u> and <u>enable it to raise the money</u> necessary for the proper discharge of its public duties.¹¹

As such, a fair rate of return 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. Utility rates that are consistent with these standards 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.

¹⁰Bluefield, 262 U.S. at 692-93.

¹¹Id. at 693 (emphasis added).

1 Q PLEASE DESCRIBE THE PROCESS YOU HAVE USED TO ESTIMATE OG&E'S 2 COST OF COMMON EQUITY.

A First, I assessed the market's assessment of OG&E's risk. Then, I developed a proxy group of publicly-traded utility companies that have similar risks and characteristics to OG&E and compared potential differences in risks. I then performed several models based on financial theory to estimate OG&E'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 model 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").

11 IV.A. OG&E's Investment Risk

12 Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF OG&E'S INVESTMENT

13 **RISK.**

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The market's assessment of a company's investment risk is generally described by credit rating analysts' reports. The current credit ratings for OG&E is A- and A3, from S&P and Moody's respectively.¹² The Company currently has a "stable" outlook from S&P and a "stable" outlook from Moody's. In its July 2023 report covering OG&E, S&P stated as follows:

Outlook

The stable outlook on OG&E reflects our expectation it will manage its regulatory risk in line with its peers, adequately manage its physical risk exposure, and maintain stand-alone financial measures such that its funds from operations (FFO) to debt remains consistently in the 18%-20% range over our forecast period.

¹²S&P Capital IQ, accessed on March 15, 2024.

Business Risk

Our assessment of excellent reflects OG&E's fully regulated lower-risk, U.S.-based, vertically integrated electric utility operations in a healthy and expanding service territory with a midsize customer base of about 890,000. The company operates primarily under two state regulatory jurisdictions, Oklahoma (83% of rate base) and Arkansas (9% of rate base). The U.S. Federal Energy Regulatory Commission (FERC) regulates the remainder.

We believe the company effectively manages its regulatory risk, with the ability to use fuel-adjustment clauses, recovery of certain construction work in progress costs during rate cases, and several capital tracking adjustment mechanisms, as well as securitization for certain stranded costs. OG&E also has access to formula rate plans as part of its regulatory constructs under both the Arkansas commission and FERC, even though it uses historical test years in Oklahoma. In addition, the Oklahoma state senate passed senate bill 1103 in March 2023, which calls for electric utilities to be able to use performance-based ratemaking (PBR) plans for a period of five years with target returns being set for companies in the state. We will continue to monitor the progress of this bill in the state legislature as well as how PBR would be implemented by the OCC should it pass

Financial Risk

We assess OG&E's financial risk using our medial volatility financial benchmark table, which reflects the company's lower-risk, rate-regulated electric utility operations and effective management of regulatory risk. Our base case scenario incorporates capital spending averaging \$1 billion through 2027, continued use of regulatory mechanisms, dividends geared toward maintaining the company's capital structure, negative discretionary cash flow, and the refinancing of all debt maturities. As such, we expect OG&E to generate FFO to total debt averaging 18%-20%.¹³

32 IV.B. OG&E's Proposed Capital Structure

33 Q WHAT IS OG&E'S PROPOSED CAPITAL STRUCTURE?

34 A OG&E's proposed capital structure is summarized in Table CCW-6 below:

¹³S&P Global Ratings, RatingsDirect, Oklahoma Gas & Electric Co, July 21, 2023.

Table CCW-6 Investor-Supplied Capital Structure

Description	<u>Weight</u>
Debt	46.50%
Common Equity	<u>53.50%</u>
Total	100.00%

1 Q DO YOU HAVE ANY COMMENTS ON OG&E'S PROPOSED CAPITAL

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A Yes. As I will discuss later, OG&E's proposed equity ratio of 53.5% significantly exceeds the equity ratio for the proxy group used to estimate the cost of equity for OG&E. As shown on Exhibit CCW-2, the proxy group has an average common equity ratio of 40.7% (including short-term debt) and 44.6% (excluding short-term debt).

Further, the Company's request is higher than the hypothetical common equity ratio of 52.0% authorized by this Commission in the recent PSO electric rate case (PUD 2022-000093).

11 Q HAS THIS COMMISSION RECOGNIZED THE IMPORTANCE OF A BALANCED

CAPITAL STRUCTURE?

Yes, it has. In the aforementioned PSO rate case, PSO initially requested an equity ratio of 54.62% with an ROE of 10.40%. Ultimately, this Commission authorized PSO a common equity ratio of 52.0% at an ROE level of 9.30%. In its Final Order, this Commission stated as follows with regard to PSO's capital structure:

The authorized capital structure of 48% debt and 52% equity results in savings for ratepayers and is in the public interest. Further, it is substantiated by the record, does not eliminate a profit to shareholders, rather is a move toward a more balanced capital structure which is fair, just, and reasonable.

As provided in the Final Order of the PSO case by this Commission, it is important to for regulated utilities to be balanced, and not too equity-rich.

Q ARE YOU AWARE OF OTHER REGULATORY COMMISSIONS RECOGNIZING THE NEED TO ALIGN THE COST OF EQUITY WITH THE CAPITAL STRUCTURE?

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 cost of equity.¹⁴ The adjustment was to recognize that there must be *congruence* between the cost of equity 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 estimated cost of equity and the [debt-to-equity "OG&E")] ratio, whereby a lower OG&E 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.¹⁵

As I described above, the proxy group has an average common equity ratio of 40.7% (including short-term debt) and 44.6% (excluding short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*, respectively. The Company's proposed equity ratio of 53.50% (excluding short-term debt) exceeds that of the proxy group's comparable equity ratio.

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

¹⁵*Id*. at 25.

1 Q ARE YOU RECOMMENDING AN ADJUSTMENT BE MADE TO OG&E'S

PROPOSED CAPITAL STRUCTURE?

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Yes. The Company has not reasonably demonstrated a need to be awarded a common equity ratio well in excess of 52.0%. A common equity ratio of 52.0% is consistent with this Commission's recent decision in the PSO case, as well as what is being awarded around the country to other electric utilities. As such, I recommend this Commission authorize OG&E an equity ratio of 52.0%. Should this Commission authorize OG&E its requested equity ratio of 52.0%, an ROE in the lower half of my range would be warranted.

IV.C. Development of Proxy Group

11 Q PLEASE BRIEFLY DESCRIBE WHY A PROXY GROUP IS NEEDED IN

ESTIMATING THE COST OF EQUITY.

There are a few reasons why a proxy group is needed to estimate the cost of equity. 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 assess the Company's proposal under this standard.

Even if OG&E were a publicly-traded company whose securities could be used to estimate its cost of equity, there exists the potential for certain errors and biases which would make 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.

- 1 Q PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP THAT
 2 COULD BE USED TO ESTIMATE OG&E'S CURRENT MARKET COST OF
 3 EQUITY.
- 4 A I relied on the same proxy group developed by OG&E's witness, Ms. Bulkley.

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5 Q HOW DOES THE INVESTMENT RISK OF OG&E COMPARE TO THAT OF THE 6 PROXY GROUP?

As shown on my Exhibit CCW-2, the proxy group has average credit ratings of BBB+ and Baa2 from S&P and Moody's, respectively. The proxy group's average rating of BBB+ from S&P is one notch lower than OG&E's rating of A- from S&P. The proxy group's average rating of Baa2 from Moody's is two notches lower than OG&E's rating of A3.

As shown on the same exhibit, the proxy group has an average common equity ratio of 40.7% (including short-term debt) and 44.6% (excluding short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*, respectively. OG&E's requested common equity ratio of 53.50% (excluding short-term debt) significantly exceeds the proxy group's equity ratio as described above. While my recommended equity ratio of 52.0% is still well above that of the proxy group, it is a gradual movement toward a balanced capital structure that is fair, just, and reasonable.

IV.D. DCF Model

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- 2 Q PLEASE DESCRIBE THE DCF MODEL.
- 3 A The DCF model posits that a stock price equals the sum of the present value of
- 4 expected future cash flows discounted at the investor's required rate of return or cost
- of capital. This model is expressed mathematically as follows:

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$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} + \dots + \frac{D_{\infty}}{(1+K)^{\infty}}$$
 (Equation 1)

- 8 P_0 = Current stock price
- 9 D = Dividends in periods 1∞
- 10 K = Investor's required return
- 11 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
- 14 follows:

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$$K = D_1/P_0 + G$$
 (Equation 2)

- 16 K = Investor's required return
- 17 D_1 = Dividend in first year
- 18 P_0 = Current stock price
- 19 G = Expected constant dividend growth rate
- Equation 2 is referred to as the annual "constant growth" DCF model.
- 21 Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.
- 22 A As shown in Equation 2 above, the DCF model requires a current stock price, the
- 23 expected dividend, and the expected growth rate in dividends.

1 Q WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH

2 **DCF MODEL?**

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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 March 15, 2024. 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?

I used each proxy company's most recently paid quarterly dividend as reported in $Value\ Line.^{16}$ 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?

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 return on common equity, 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.¹⁷

¹⁶The Value Line Investment Survey.

¹⁷See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, Choice Among Methods of Estimating Share Yield, The Journal of Portfolio Management, Spring 1989.

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 33

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, S&P Capital IQ Market Intelligence ("MI"), and Yahoo! Finance. All such projections were available on March 15, 2024, and all were reported online.¹⁸

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.

The growth rates I used in my DCF analysis are shown in Exhibit CCW-3. The average growth rate for my proxy group is 6.20% and a median growth rate of 5.97%.

¹⁸www.zacks.com; https://finance.yahoo.com; and https://www.capitaliq.spglobal.com/.

Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF MODEL?

2 A As shown in Exhibit CCW-4, page 1, the average and median constant growth DCF

returns for my proxy group for the 13-week analysis are 10.75% and 10.60%,

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ARE THERE LIMITATIONS OF THE CONSTANT GROWTH DCF ANALYSIS?

Yes. The constant growth DCF analysis for my proxy group is based on a group average long-term growth rate of 6.20%. The three- to five-year growth rates are approximately 50% higher than the long-term projected GDP growth rate of 4.14%, 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.

HOW DID YOU IDENTIFY THE LONG-TERM PROJECTED GDP GROWTH RATE?

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 Financial Forecasts* projects that over the next 5 and 10 years, the U.S. nominal GDP will grow at an annual rate of approximately 4.14%.¹⁹ As such, the average nominal growth rate over the next 10 years is around 4.14%, which I believe is a reasonable proxy of long-term growth.

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¹⁹Blue Chip Economic Indicators, March 11, 2024 at page 14.

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.

IV.E. Sustainable Growth DCF

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Q PLEASE DESCRIBE WHAT THE SUSTAINABLE GROWTH DCF METHOD IS AND HOW YOU ESTIMATED A SUSTAINABLE GROWTH RATE FOR YOUR SUSTAINABLE GROWTH DCF MODEL.

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.

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 4.68% and 4.62%, respectively.

Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE GROWTH RATES?

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 for the 13-week period of 9.15% and 9.11%, respectively.

IV.F. Multi-Stage Growth DCF Model

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14 Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

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 that reflects growth rate change over time.

WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

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The growth rate projections by analysts for the next three-to-five years 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.

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 years; (2) a transition period, consisting of the next five 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

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 38

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. WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE **MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?** Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. A 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. As such, nominal GDP growth is a reasonable upper limit for utility sales growth, rate base growth, and earnings growth in the long-run. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility. 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 RATE OF GROWTH OF THE U.S. GDP? 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 1 2 plus inflation).20 3 The use of the economic growth rate is also supported by investment practitioners as 4 outlined as follows: 5 **Estimating Growth Rates** 6 One of the advantages of a three-stage discounted cash flow model is 7 that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with 8 9 varying growth characteristics. Typically, the potential for 10 extraordinary growth in the near term eases over time and eventually growth slows to a more stable level. 11 12 13 Another approach to estimating long-term growth rates is to focus on 14 estimating the overall economic growth rate. Again, this is the approach used in the Ibbotson Cost of Capital Yearbook. To obtain 15 16 the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: 17 expected inflation and expected real growth. By analyzing these 18 19 components separately, it is easier to see the factors that drive growth.21 20 21 Q HOW DID YOU DETERMINE A LONG-TERM GROWTH RATE THAT REFLECTS 22 THE CURRENT CONSENSUS OF INDEPENDENT MARKET PARTICIPANTS? 23 Α I relied on the consensus of long-term GDP growth projections as projected by independent economists. Blue Chip Financial Forecasts publishes the consensus for 24 25 GDP growth projections twice a year. These projections reflect current outlooks for 26 GDP and are likely to be influential on investors' expectations of future growth 27 outlooks. The consensus of projected GDP growth is about 4.14% over the next 28 10 years.22

²⁰Fundamentals 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).

²¹Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook at 51 and 52.

²²Blue Chip Economic Indicators, March 11, 2024 at page 14.

1 Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP

2 **GROWTH?**

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

TABLE CCW-7

GDP Forecasts

Source	Projected <u>Period</u>	Real GDP	Inflation	Nominal GDP
Blue Chip Economic Indicators ¹	5-10 Yrs	1.9%	2.2%	4.1%
EIA - Annual Energy Outlook ²	27 Yrs	1.9%	2.3%	4.3%
Congressional Budget Office ³	30 Yrs	1.7%	2.0%	3.8%
Moody's Analytics ⁴	31 Yrs	2.0%	2.1%	4.1%
Social Security Administration ⁵	77 Yrs	1.6%	2.4%	4.1%
Economist Intelligence Unit ⁶	31 Yrs	1.7%	2.2%	3.9%

Sources:

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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 2.4%, respectively. This results in a nominal GDP in the range of 3.8% to 4.3%. Therefore, the nominal GDP growth projections made by these independent sources support my use of 4.14% as a reasonable estimate of market participants' expectations for long-term GDP growth. The real GDP and

¹Blue Chip Economic Indicators, March 11, 2024 at 14.

²U.S. EnergyInformation Administration (EIA),

Annual Energy Outlook 2023, September, 2022.

³Congressional Budget Office, Long-Term Budget Outlook, June 28, 2023.

⁴Moody's Analytics Forecast, last updated January 8, 2024.

⁵Social Security Administration, "2023 OASDI Trustees Report," Table VI.G6. March 31, 2023.

⁶S&P MI, Economist Intelligence Unit, downloaded on January 18, 2024.

nominal GDP growth projections made by these independent sources support my use of 4.14% as a reasonable estimate of market participants' expectations for long-term GDP growth.

4 Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR 5 MULTI-STAGE DCF ANALYSIS?

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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 6 and extends through year 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 4.14% long-term sustainable growth rate based on the consensus of economists' long-term projected nominal GDP growth rate.

16 Q WHAT ARE THE RESULTS OF YOUR MULTI-STAGE DCF MODEL?

As shown in Exhibit CCW-8, the average and median DCF ROEs for my proxy group using the 13-week average stock price are 9.19% and 9.15%, respectively.

19 Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

The DCF results are summarized in Table CCW-8 below. As described above, the results of the constant growth DCF using analysts' growth rates assume an average long-term growth rate of 6.20%, which is approximately 50% higher than the long-

term projected GDP growth rate of 4.14%. This is an unsustainable assumption, and likely leads to an overstatement in the cost of equity for a low-risk regulated utility. As such, it is my opinion that more weight should be given to the sustainable growth and multi-stage models of the DCF.

Table CCW-8 Summary of DCF Results Proxy Group Description Mean Median Constant Growth DCF Model (Analysts' Growth) 10.75% 10.60% Constant Growth DCF Model (Sustainable Growth) 9.15% 9.11% Multi-Stage DCF Model 9.19% 9.15%

5 IV.G. Risk Premium Model

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6 Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.

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

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 43

common equity and contemporary U.S. Treasury bonds. The difference between the authorized return on common equity 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 2023 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 5.71%. 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 return on common equity for a risk premium methodology.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 44

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 4.25% to 7.09%, while the ten-year rolling average risk premium ranged from 4.38% to 6.91%.

As shown on my Exhibit CCW-11, the average indicated equity risk premium over contemporary "A" rated Moody's utility bond yields was 4.34%. The five-year and ten-year rolling average risk premiums ranged from 2.88% to 5.90% and 3.20% to 5.73%, respectively.

WHY ARE THE TIME PERIODS USED TO DERIVE THESE EQUITY RISK PREMIUM ESTIMATES APPROPRIATE TO FORM ACCURATE CONCLUSIONS ABOUT CONTEMPORARY MARKET CONDITIONS?

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.

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1 Q PLEASE EXPLAIN OTHER MARKET EVIDENCE YOU RELIED ON IN 2 DETERMINING AN APPROPRIATE EQUITY RISK PREMIUM.

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 5.49% when compared to the current Treasury bond yield of 4.28%, as shown in Exhibit CCW-13, page 1, implies a yield-spread of 1.21%. This current utility bond yield-spread is lower 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 5.73%. This indicates a current spread for the "Baa" rated utility bond yield of 1.45%, which is lower than the long-term average of 1.91%.

WHAT ARE THE RESULTS BASED ON YOUR RISK PREMIUM ANALYSES?

I give primary consideration to the Risk Premium results using Treasury bonds and A-rated utility bonds. My recommendation also takes the results of adding the Baarated utility bond yield to the equity risk premium over A-rated utility bonds into consideration.

Considering the current and projected economic environment, current yield spreads and equity risk premiums, as well as current levels of interest rates and interest rate projections, a more normalized equity risk premium is warranted. As such, I believe an average equity risk premium over Treasury yields of 5.71% is

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 46

appropriate. Adding this risk premium to the projected Treasury yield of 4.10% produces an ROE of 9.71%.

Applying a similar methodology as described above, the average of the rolling five-year average risk premiums over A-rated utility bonds is 4.34%. The A-rated utility bond yield has averaged 5.49% over the 13-week period ending March 15, 2024 while the Baa-rated utility bond yield has averaged 5.73% over the same period. Adding this risk premium to the 13-week A-rated utility bond yield of 5.49% produces an estimated cost of equity of 9.83%. Adding this risk premium to the 13-week Baa-rated utility bond yield of 5.73% produces an estimated cost of equity of 10.07%.

The A-rated utility bond yield has averaged 5.75% over the 26-week period ending March 15, 2024 while the Baa-rated utility bond yield has averaged 6.01% over the same period. Adding the equity risk premium of 4.34% to the 26-week A-rated utility bond yield of 5.75% produces an estimated cost of equity of 10.09%. Adding the equity risk premium of 4.34% to the 26-week Baa-rated utility bond yield of 6.01% produces an estimated cost of equity of 10.35%.

The results of my risk premium analyses are summarized in Table CCW-9.

Table CCW-9		
Summary of Risk Premium Results		
Description		
Projected Treasury Yield	9.71%	
13-Week Yields		
A-Rated Utility Bond	9.83%	
Baa-Rated Utility Bond	10.07%	
26-Week Yields		
A-Rated Utility Bond	10.09%	
Baa-Rated Utility Bond	10.35%	

1 IV.H. Capital Asset Pricing Model ("CAPM")

2 Q PLEASE DESCRIBE THE CAPM.

The CAPM method of analysis is based upon the theory that the market-required rate
of return 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:

7 $R_i = R_f + B_i x (R_m - R_f)$ where:

 $R_i = Required return for stock i$

 $R_f = Risk-free rate$

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 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.

11 Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

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12 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?

As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield is 4.10%.²³ The current 30-year Treasury bond yield is 4.28%, as shown in Exhibit CCW-13 at page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 4.10% for my CAPM analysis.

BRUBAKER & ASSOCIATES, INC.

²³Blue Chip Financial Forecast March 1, 2024.

Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE

OF THE RISK-FREE RATE?

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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.

WHAT BETA DID YOU USE IN YOUR ANALYSIS?

As shown in Exhibit CCW-14, the current proxy group average and median *Value Line* beta estimates are 0.91 and 0.93, 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 0.53 to 0.89. Prior to the recent pandemic, the high end of this range was 0.73.

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 50

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 March 15, 2024. The average and median Market Intelligence betas are 0.83 and 0.83, 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 ("NYSE") 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.²⁴

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

²⁴S&P Market Intelligence, Beta Generator Model.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 51

methods are forms of the Blume adjustment.²⁵ 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.

HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATES?

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 5.50% with the normalized risk-free rate of 4.41% as recommended by Kroll, formerly known as Duff & Phelps.²⁶ Based on this methodology and utilizing a "normalized" risk-free rate of 4.41%, Kroll concludes that the current expected, or forward-looking, market risk premium is 5.50%, implying an expected return on the market of 9.91%.²⁷

Q PLEASE DESCRIBE YOUR MARKET RISK PREMIUM ESTIMATE DERIVED USING THE RISK PREMIUM METHODOLOGY.

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

²⁵The Blume adjustment is a tool used to refine a beta measurement in finance. In general, Beta attempts to explain how much a particular investment's price moves compared to the overall market. But beta is often based on historical data, which may not be an accurate method for predicting the future. The Blume adjustment tries to address this by considering the idea that, in the long run, most investments tend to become more similar in their riskiness to the overall market (represented by a beta of 1).

²⁶Kroll, 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.

²⁷Kroll, *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 4.41% exceeds the "normalized" yield of 3.5%. In accordance with Kroll's prescribed method, the greater of the two shall be used under the normalized Kroll methodology, i.e., 4.41%.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 52

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 *2023 SBBI Yearbook* estimates the historical, arithmetic-average, real-market return over the period 1926 to 2022 to be 8.90%.²⁸ A current consensus for projected inflation, as measured by the Consumer Price Index ("CPI"), is 2.20%.²⁹ Using these estimates, the expected market return is 11.30%.³⁰ The market risk premium then is the difference between the 11.30% expected market return and the projected risk-free rate of 4.10%, or 7.20%.

PLEASE DESCRIBE YOUR MARKET RISK PREMIUM ESTIMATES DERIVED USING THE DCF METHODOLOGY.

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 ("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%.³¹ The weighted average growth rate for the remaining companies is 10.30%. After reflecting the FERC prescribed method of adjusting the dividend yield by (1+ 0.5g), the weighted average expected dividend yield is 1.89%. Thus, the DCF-derived expected return on the market is the sum of

²⁸Kroll. 2023 SBBI Yearbook at 138.

²⁹Blue Chip Financial Forecast March 1, 2024.

 $^{^{30}[(1 + 8.90\%) * (1 + 2.20\%) - 1] * 100.}$

³¹Opinion No. 569-A, at 210.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 53

those two components, or 12.19%. The market risk premium then is the expected market return of 12.19%, less the projected risk-free rate of 4.10%, or 8.10%.

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 11.20%. After reflecting the FERC-prescribed method of adjusting the dividend yield by (1+ 0.5g), the weighted average expected dividend yield is 1.58%. Thus, the DCF-derived expected return on the market is the sum of those two components, or 12.78%. The market risk premium then is the expected market return of 12.78% less the projected risk-free rate of 4.10%, or 8.70%.

The average expected market return based on the DCF model is 12.49% and the average market risk premium based on the two DCF estimates is 8.40%.

14 Q HOW DO YOUR EXPECTED MARKET RETURNS COMPARE TO CURRENT 15 EXPECTATIONS OF FINANCIAL INSTITUTIONS?

As shown in Table CCW-10, my average expected market return of 11.23%³² exceeds long-term market expectations of several financial institutions.

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^{3211.23% = (9.91% + 12.49% + 11.30%) / 3.}

TABLE CCW-10

Long-Term Expected Return on the Market

Source	<u>Term</u>	Expected Return Large Cap <u>Equities</u>
BlackRock Capital Management ¹	30 Years	7.00%
JP Morgan Chase ²	10 - 15 Years	7.00%
Vanguard ³	10 Years	4.2% - 6.2%
Research Affiliates ⁴	10 Years	4.00%

Sources:

When compared to the expected market returns of financial institutions above, my average expected market return of 11.23% is greater than all of them. For these reasons, my expected market returns, and the associated market risk premiums, should be considered reasonable, if not high-end estimates.

5 Q HOW DO YOUR ESTIMATED MARKET RISK PREMIUMS COMPARE TO THAT

ESTIMATED BY KROLL?

- 7 A The Kroll analysis indicates a market risk premium falls somewhere in the range of 5.50% to 7.17%. My market risk premium estimates are in the range of 5.50% to
- 9 8.40%.

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¹BlackRock Investment Institute, November 2023 report.

²JP Morgan Chase, Long-Term Capital Market Assumptions, 2024 Report.

³Vanguard economic and market outlook for 2024: A Return to Sound Money.

⁴Research Affiliates, Asset Allocation Interactive. Retrieved 1/05/2024.

HOW DOES KROLL MEASURE A MARKET RISK PREMIUM?

Kroll's range is based on several methodologies. First, Kroll estimated a market risk premium of 7.17% 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 1926-2022 period.³³

Second, Kroll used the Ibbotson & Chen supply-side model which produced a market risk premium estimate of 6.35%.³⁴ 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 developed its own recommended equity, or market risk premium, by employing an analysis that takes into consideration a wide range of economic information, 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 4.41%, Kroll concludes that the current expected, or forward-looking, market risk premium is 5.50%, implying an expected return on the market of 9.91%.³⁵

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³³Kroll, 2023 SBBI Yearbook at 191.

³⁴*Id.* at 199.

^{°10.} at 199

WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

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Α

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 0.91. The results of the CAPM based on these inputs range from 9.43% to 11.77%.

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 8.53% to 10.39%.

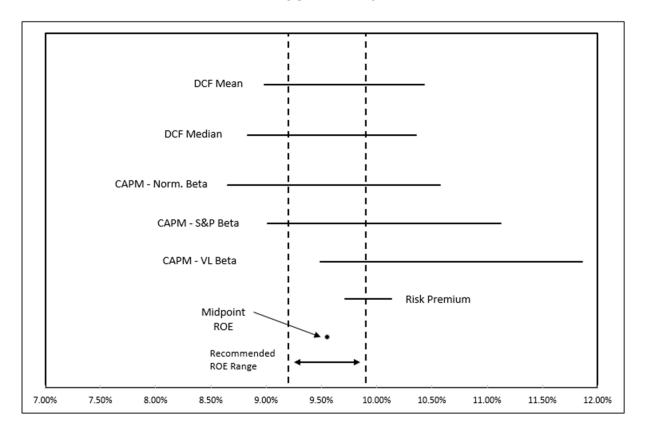
The last set of three results presented are based on the proxy group's current S&P Global Market Intelligence beta of 0.83. The results of the CAPM based on these inputs range from 8.98% to 11.09%. My CAPM results are summarized in Table CCW-11.

Because current beta estimates are based on the most recent five years of historical stock returns and volatility, they are being heavily impacted by the market fallout in early 2020 as the global pandemic set in and the market reacted, with this S&P 500 falling more than 40%. For this reason, it is not reasonable to assume current beta estimates, particularly Blume-adjusted betas such as those published by *Value Line*, are reflective of investor expectations at this time. As such, I am giving primary consideration to the results of my CAPM analyses using long-term average *Value Line* betas.

	Table CCW-11 I Results Sumn	nary	
Description	Current VL <u>Beta</u>	Historical VL <u>Beta</u>	Current S&P Beta
Kroll Normalized Method	9.43%	8.53%	8.98%
Risk Premium Method	10.67%	9.49%	10.09%
FERC DCF Method	11.77%	10.39%	11.09%

- 1 IV.I. Return on Equity Summary
- 2 Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY
- 3 ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO
- 4 YOU RECOMMEND FOR THE COMPANY?
- 5 A The results of my analyses are summarized in Figure CCW-5. In this figure, I present
- 6 the various measures of central tendency for each of my analytical models.

FIGURE CCW-5



Based on my analyses of the various methodologies described above, I estimate the Company's current market cost of equity to be in the reasonable range of 9.10% to 9.90%. My recommended range accounts for the unsustainable growth rates assumed in the constant growth DCF model and the irrational assumption that Value Line's current beta estimates are reflective of current investor expectations. Based on my assessment of OG&E's overall risk profile and the results of these analytical methods, I would recommend that this Commission authorize OG&E an ROE of 9.50%, which is the midpoint of the range produced by these models.

1		V. RESPONSE TO MS. BULKLEY
2	Q	WHAT ROE IS OG&E PROPOSING FOR THIS PROCEEDING?
3	Α	OG&E is proposing a ROE of 10.50% based on the testimony of Company witness
4		Ms. Ann Bulkley. Ms. Bulkley estimates OG&E's cost of equity to be in the range of
5		10.25% to 11.25%, and recommends that OG&E be awarded an ROE of 10.50%.
6	Q	PLEASE SUMMARIZE THE ANALYTICAL RESULTS MS. BULKLEY RELIED ON
7		TO DETERMINE HER RECOMMENDED RANGE OF 10.25% TO 11.25%.
8	Α	Ms. Bulkley's ROE estimates are summarized in Table CCW-1. In Column 1, I have
9		outlined her results from her Direct Testimony.

TABLE CCW-1

Bulkley's Return on Equity Estimates

Description	Direct <u>Mean/Median</u>
	(1)
Constant Growth DCF (Average Growth)	
30-Day Average	10.32%/10.10%
90-Day Average	10.26%/10.04%
180-Day Average	10.06%/9.92%
DCF Average	10.21%/10.02%
CAPM (Value Line Beta)	
Current 30-Yr Treasury	11.66%
Near-Term Projected 30-Yr Treasury	11.62%
Long-Term Projected 30-Yr Treasury	11.58%
CAPM (Bloomberg Beta)	
Current 30-Yr Treasury	10.89%
Near-Term Projected 30-Yr Treasury	10.83%
Long-Term Projected 30-Yr Treasury	10.75%
CAPM (Historical Beta)	
Current 30-Yr Treasury	10.50%
Near-Term Projected 30-Yr Treasury	10.42%
Long-Term Projected 30-Yr Treasury	<u>10.32%</u>
,	10.95%
CAPM Average	10.95%
ECAPM	10.88%-11.88%
Bond Yield + Risk Premium	
Current 30-Yr Treasury	10.79%
Near-Term Projected 30-Yr Treasury	10.62%
Long-Term Projected 30-Yr Treasury	10.40%
BYRP Average	10.60%
Recommended Range	10.25%-11.25%
Recommended ROE	10.50%

1 Q ARE MS. BULKLEY'S ROE ESTIMATES REASONABLE?

- 2 A No. Ms. Bulkley's estimated ROE is overstated and should be rejected. Specifically,
- 3 Ms. Bulkley's analyses produce excessive results for various reasons, including the
- 4 following:
- 5 1. Her constant growth DCF results are based on unsustainably high growth rates;
- 6 2. Her CAPM and ECAPM are based on inflated market risk premiums;
- 7 3. Her ECAPM is based on adjusted betas; and
- 4. Her Risk Premium model relies on an overly simplistic regression formula that significantly overstates a reasonable estimate of the current equity risk premium.

10 V.A. Bulkley's Constant Growth DCF

- 11 Q PLEASE DESCRIBE MS. BULKLEY'S CONSTANT GROWTH DCF RETURN
- 12 **ESTIMATES**.
- 13 A Ms. Bulkley's constant growth DCF returns are developed on her AEB-4.
- Ms. Bulkley's constant growth DCF models are based on consensus growth rates
- published by Yahoo! Finance and Zacks and individual growth rate projections made
- 16 by Value Line.

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She relied on dividend yield calculations based on average stock prices over three different time periods: 30-day, 90-day and 180-day ending November 30, 2023.

Ms. Bulkley presents the results of her DCF model based on the minimum, mean, and maximum growth rates for her proxy group. The averages for her proxy group's low, mean, and high growth rates are 4.69%, 5.88%, and 6.95%, respectively. Ms. Bulkley's DCF mean results, based on the average growth rate, are 10.32%, 10.26%,

and 10.06% for the 30-, 90-, and 180-day periods, respectively. Her DCF median

results, based on the average growth rate are 10.10%, 10.04%, and 9.92% for the 30-, 90-, and 180-day periods, respectively. ³⁶

Q ARE THE CONSTANT GROWTH DCF RESULTS PRODUCED BY MS. BULKLEY

REASONABLE?

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Not entirely. I generally agree that a reasonable DCF model result is somewhere between her low-growth and mean growth scenario. Specifically, as mentioned above, the averages for her proxy group's low, mean, and high growth rates are 4.69%, 5.88%, and 6.95%, respectively. These assumed long-term growth rates compare the projected GDP growth rate of 4.14% over the next 10 years.³⁷ In other words, her proxy group's growth rates are between 13.3% (low growth) and 67.9% (high growth) higher than the expected growth rate of the U.S. economy. Growth rates that exceed the growth rate of GDP in the country in which the utility provides goods and services cannot be sustained. Because of the economic infirmities in her use of an assumed proxy company growth rate that exceeds the expected growth of the US economy in perpetuity, Ms. Bulkley should have: (a) given more weight to her low growth DCF results or (b) considered the results of a multi-stage DCF.

Q WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

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

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³⁶AEB-2.

³⁷Blue Chip Economic Indicators March 10, 2024.

state and federal green energy initiatives. As a result, nominal GDP growth is a reasonable upper limit for utility sales growth, rate base growth, and earnings growth in the long-run. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility. As I explained above in regard to my own DCF analysis, there is ample research which supports the notion that, over the long-term, a company's earnings and dividends cannot grow at a rate greater than the economy.

8 Q ARE YOU AWARE OF ANY RESEARCH THAT DEMONSTRATING THAT 9 MULTI-STAGE DCF MODELS ARE USED IN THE INVESTMENT INDUSTRY?

10 A Yes. The CFA Institute curriculum text states as follows:

Multistage models are a staple valuation discipline of investment management firms using DCF valuation models. A survey of CFA Institute members with job responsibility for equity analysis indicates that, among respondents using a dividend discount model, two-stage and multistage models are used more often than the single-stage model (Stowe, Pinto, and Robinson 2018). Among analysts using a dividend discount model, 55% use a two-stage model, 11% use an H-model (a type of two-stage model), and 50% use a model with more than two stages (Stowe, Pinto, and Robinson 2018).³⁸

As Stowe *et al* have revealed, the majority of equity analysts rely on multi-stage models more frequently than single stage or constant growth models.

V.B. Bulkley's CAPM Studies

- 24 Q PLEASE DESCRIBE MS. BULKLEY'S CAPM ANALYSIS.
- As indicated above, the CAPM analysis is based upon the theory that the market required rate of return for a security is equal to the risk-free rate, plus a risk premium

³⁸Chartered Financial Analyst Institute, 2023 CFA Program Level 2 Refresher Reading, Equity Valuation: Discounted Dividend Valuation, at 30. [footnote omitted].

1		associated with the specific security. The risk premium associated with the specific
2		security is expressed mathematically as:
3		Bi x (Rm - Rf) where:
4 5 6		Bi = Beta - Measure of the risk for stock Rm = Expected return for the market portfolio Rf = Risk-free rate
7	Q	PLEASE DESCRIBE THE ISSUES YOU HAVE WITH MS. BULKLEY'S CAPM
8		STUDY.
9	Α	My primary concern with Ms. Bulkley's CAPM study is that her sole reliance on a
10		single DCF-derived expected market return ultimately used to estimate the market
11		risk premiums inflates her results.
12	Q	PLEASE DESCRIBE MS. BULKLEY'S MARKET RISK PREMIUMS.
13	Α	Ms. Bulkley derived her market risk premiums by conducting a DCF analysis for the
14		market (S&P 500) and subtracting three estimates of the risk-free rate. Ms. Bulkley
15		used three market risk premium estimates of 7.78%, 8.08%, and 8.46% based on a
16		DCF market return of 12.56% less the current, near-term, and projected 30-year
17		Treasury bond yields of 4.77%, 4.48%, and 4.10%, respectively. ³⁹ Ms. Bulkley's
18		average market risk premium is 8.10%, which compares to my average market risk
19		premium of 7.03%.

³⁹AEB-5.

Q WHAT ISSUES DO YOU HAVE WITH MS. BULKLEY'S DCF-DERIVED MARKET

RISK PREMIUM ESTIMATES?

Α

Ms. Bulkley's DCF-derived market risk premiums are based on a market return of 12.56%, which consists of a weighted average growth rate component of 10.78% and weighted expected dividend yield of approximately 1.69%.⁴⁰ The DCF model requires a long-term sustainable growth rate. Ms. Bulkley's sustainable market growth rate of 10.78% is far too high to be a rational outlook for sustainable long-term market growth. This growth rate is 2.6x the growth rate of the U.S. GDP long-term growth outlook of 4.14%.

It simply is not reasonable to believe individual companies can sustain growth rates as high as Ms. Bulkley has assumed into perpetuity. In fact, in the CFA curriculum textbooks, the CFA Institute notes as follows with regard to earnings growth rates for companies within the composite indices (i.e., S&P 500):

Earnings growth for the overall national economy can differ from the growth of earnings per share in a country's equity market composites. This is due to the presence of new businesses that are not yet included in the equity indices and are typically growing at a faster rate than the mature companies that make up the composites. Thus, the earnings growth rate of companies making up the composites should be lower than the earnings growth rate for the overall economy.⁴¹

Given the fact that Ms. Bulkley casts doubt on the DCF model and the optimistic long-term growth rates used to develop her DCF on the market, she should have supplemented her analysis with multiple approaches to estimating the market return.

 $^{^{40}}$ lbid. (12.56% = 1.69% x (1 + 0.5 x 10.78%) + 10.78%).

⁴¹CFA Program Curriculum, 2014 Level II Vol. 1, "Ethical and Professional Standards, Quantitative Methods, and Economics", Paul Kutasovic, Reading 15 – Economic Growth and the Investment Decision, page 609, footnote 5 (emphasis added).

MS. BULKLEY'S AVERAGE MARKET RISK PREMIUM IS HIGHER THAN 8.0%. IS THERE EMPIRICAL EVIDENCE TO SUGGEST HER ESTIMATES ARE UNREASONABLY HIGH? Yes. Her average market risk premium of 8.10% is being biased upward by two

Yes. Her average market risk premium of 8.10% is being biased upward by two market risk premium estimates that fall outside of the range 5.00% to 8.00% that is indicated by empirical evidence. For example, Dr. Morin notes in his book, *Modern Regulatory Finance*, that several studies of the market risk premium have concluded that a market risk premium in the range of 5.0% to 8.0% is a reasonable estimate for the United States.⁴² The Duarte and Rosa study he cites concludes that the historical mean is "quite difficult to improve upon when considering out-of-sample performance measures."⁴³ Dr. Morin also notes that a survey of professional practices showed that 71% of textbooks/tradebooks used a historical average as the market risk premium, and 60% of financial advisors used a market risk premium in the range of 7.0% to 7.4% (similar to a long-term arithmetic average market risk premium).⁴⁴

15 Q DO YOU HAVE ANY OTHER COMMENTS CONCERNING MS. BULKLEY'S CAPM 16 ANALYSIS?

A Yes. I find it curious that Ms. Bulkley expresses how she has little faith in the DCF model as it applies to her proxy group,⁴⁵ yet it is the only method she relies on in estimating the expected return on the market. A more balanced approach would be

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⁴²Dr. Morin references studies by Duarte & Rosa; Professors Ross, Westerfield, and Jordan; Mahera; and Brealey, Myers, and Allen. See *Modern Regulatory Finance* Dr. Roger A. Morin, at pages 190-192. Dr. Morin notes in his textbook that there is a "slight preference" for the upper end of the range (i.e., 8%) during tumultuous times in capital markets with examples being the 2008-2009 credit crisis and the 2020 pandemic.

⁴³See *Modern Regulatory Finance*, Dr. Roger A. Morin, at page 191, citing the Duarte and Rosa study.

⁴⁴See *Modern Regulatory Finance*, Dr. Roger Morin, at page 190, footnote 35.

⁴⁵Bulkley Direct at pages 8 and 24-26.

to employ multiple methodologies from multiple sources. Ms. Bulkley's use of a single model to estimate the market return is biased, assumes an unsustainable growth rate for the market, and directly contradicts her own testimony. As a result, I would urge the Commission to accord her CAPM analysis and its results little to no weight.

6 V.C. Bulkley's Empirical CAPM ("ECAPM") Studies

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7 Q PLEASE DESCRIBE MS. BULKLEY'S ECAPM ANALYSIS.

Ms. Bulkley relies on empirical tests of the traditional CAPM model to modify it in such a way as to attempt to *correct* the original CAPM for some deficiencies inherent in the original model. Empirical tests show that the expected return line, or security market line, predicted by the CAPM are not as steep as the model would have us believe. In other words, the traditional CAPM understates the expected return for securities with betas less than 1, and overstates the expected return for securities with betas greater than 1. In order to correct for this empirical finding, Ms. Bulkley modifies the traditional CAPM model as follows:

16 $R_i = R_f + 0.75 \times B_i \times (R_m - R_f) + 0.25 \times B_m \times (R_m - R_f)$ where:

 $R_i = Required return for stock i$

 $R_f = Risk-free rate$

 R_m = Expected return for the market portfolio

 $B_m = Beta of the market$

 B_i = Beta - Measure of the risk for stock

22 Q WHAT ISSUES DO YOU TAKE WITH MS. BULKLEY'S ECAPM ANALYSIS?

The biggest issue I have with Ms. Bulkley's ECAPM analysis is her use of an adjusted beta as published by *Value Line*. The impact of Ms. Bulkley's ECAPM adjustments increases her adjusted beta estimates of 0.74, 0.79, and 0.88 to a range of

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 68

0.802-0.913.⁴⁶ The weighting adjustments applied in the ECAPM are mathematically the same as adjusting beta since the inputs are all multiplicative as shown in the formula above. The result of both using adjusted betas and ECAPM is a flattening of the security market line.

Ms. Bulkley's reliance on an adjusted *Value Line* beta in her ECAPM study is inconsistent with the academic research that I am aware of supporting the development of the ECAPM.⁴⁷ The end result of using adjusted betas in the ECAPM is essentially an expected return line that has been flattened by two adjustments. In other words, the vertical intercept has been raised twice and the security market line has been flattened twice: once through the adjustments *Value Line* made to the raw beta, and again by weighting the risk-adjusted market risk premium as Ms. Bulkley has done.

In addition to the many adjustments employed by Ms. Bulkley, she further increases the intercept and flattens the security market line by using projected long-term Treasury yields.

Q CAN YOU DEMONSTRATE THE EFFECT VARIOUS ADJUSTMENTS SUCH AS VALUE LINE BETAS AND THE ECAPM HAVE ON THE SECURITY MARKET

LINE?

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Yes. The ECAPM with adjusted betas has the effect of increasing CAPM return estimates for companies with betas less than 1, and decreasing the CAPM return estimates for companies with betas greater than 1. I have modeled the expected

 $^{^{46}75\% \}times 0.74 + 25\% \times 1 = 0.802$ and $75\% \times 0.88 + 25\% \times 1 = 0.913$.

⁴⁷See Black, Fischer, "Beta and Return," *The Journal of Portfolio Management*, Fall 1993, pages 8-18; Black, Fischer, Michael C. Jensen and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," 1972; Litzenberger, Ramaswamy and Sosin, "On the CAPM Approach to the Estimation of a Public Utility's Cost of Equity Capital," Journal of Finance, May 1980, pages 369-383, 375-376.

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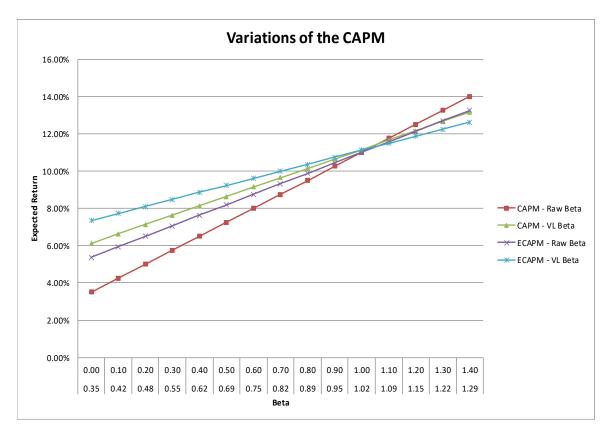
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return line resulting from the application of the various forms of the CAPM/ECAPM below in Figure CCW-6.

FIGURE CCW-6



Along the horizontal axis in Figure CCW-6, I have provided the raw unadjusted beta (top row) and the corresponding adjusted *Value Line* beta (bottom row). As shown in Figure CCW-6, the CAPM using a *Value Line* beta compared to the CAPM using an unadjusted beta shows that the *Value Line* beta raises the intercept point and flattens the slope of the security market line. As shown in the figure above, the two variations with the most similar slope are the CAPM with the *Value Line* beta, and the ECAPM with a raw beta.

This evidence shows that the ECAPM adjustment has a very similar impact on the expected return line as a *Value Line* beta. Another observation that can be made from the figure above is the magnifying effect that the ECAPM using a *Value Line*

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 70

1 beta has on raising the vertical intercept and flattening the slope relative to all other 2 variations. There is simply no legitimate basis to use an adjusted beta within an 3 ECAPM because it unjustifiably alters the security market line and materially inflates a 4 CAPM return for a company with a beta less than 1. 5 Q IN YOUR EXPERIENCE, IS MS. BULKLEY'S PROPOSED USE OF AN ADJUSTED 6 BETA IN AN ECAPM STUDY WIDELY ACCEPTED IN REGULATED UTILITY 7 RATE PROCEEDINGS SUCH AS THIS? 8 Α No. In my experience, regulatory commissions generally disregard the use of the 9 ECAPM, particularly when an adjusted beta is used in the model. For example, the 10 Illinois Commerce Commission ("ICC") has stated the following regarding the 11 ECAPM: 12 The Commission cannot recall a proceeding in which it relied upon the ECAPM in establishing the [ROE] for a utility. In the instant 13 14 proceeding, the record supports a finding that use of adjusted betas in 15 the ECAPM is inappropriate. As [ICC] Staff witness Ms. Freetly explained, by using adjusted betas she already effectively 16 17 transformed her Traditional CAPM into an ECAPM. Therefore, including an additional beta adjustment in the ECAPM model would 18 result in inflated estimates of the samples' [ROE].48 19 20 Similarly, in a more recent Nicor Gas rate case the ICC stated: 21 The Company also used ECAPM analyses and bond yield plus [RP] 22 models to determine an ROE, which the [ICC] Commission has also historically rejected.49 23 24 The California Public Utilities Commission ("CPUC") also noted: 25 [The CPUC is] not persuaded that ECAPM produces a result that 26 should be considered. Electric utilities in general have low betas. Adjusting betas upward guarantees a higher ROE.50 27

⁴⁸Illinois-American Water Company, ICC Order Docket No. 11-0767, at 109, September 19, 2012.

⁴⁹Illinois Commerce Commission, Docket No. 21-0098, Northern Illinois Gas Company dba Nicor Gas Company, Final Order at 94, November 18, 2021.

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 71

I am unaware of an instance in at least the last 10 years where this Commission has accepted the use of an adjusted beta in an ECAPM. Therefore, the Commission should reject Ms. Bulkley's ECAPM, which as described, is based on adjusted beta estimates.

6 V.D. Bulkley's Bond Yield Plus ("BYP") Risk Premium

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7 Q PLEASE DESCRIBE MS. BULKLEY'S BYP RISK PREMIUM METHODOLOGY.

As shown on her Exhibit AEB-8, Ms. Bulkley constructs a risk premium ROE estimate based on the premise that equity risk premiums are inversely related to interest rates. She estimates the average utility equity risk premiums of approximately 5.46% over the period 1980 through 2023. She performs a linear regression using the 30-Year Treasury yield as the independent variable (x-axis) and the risk premium as the dependent variable (y-axis). This model produces a regression formula, which she applies by inputting the current, near-term and long-term projected 30-year Treasury bond yields of 4.77%, 4.48%, and 4.10%, respectively. The resulting expected equity risk premiums based on these inputs are 6.02%, 6.14%, and 6.30%, respectively. She then adds these estimated risk premiums to their corresponding levels of interest rates to produce ROE estimates of 10.79%, 10.62%, and 10.40%, respectively.

⁵⁰Public Utilities Commission of the State of California Application 22-04-008 et al., Decision Addressing Test Year 2023 Cost of Capital for Pacific Gas and Electric Company, Southern California Edison, Southern California Gas Company, And San Diego Gas & Electric Company, December 19, 2022, at 23.

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DO YOU BELIEVE THAT THE REGRESSION STUDY USED BY MS. BULKLEY IN HER BYP RISK PREMIUM METHODOLOGY DEMONSTRATES AN ACCURATE CAUSE AND EFFECT BETWEEN INTEREST RATES AND EQUITY RISK PREMIUMS?

No. Ms. Bulkley contends that there is a simplistic inverse relationship between equity risk premiums and interest rates without any regard to differences in investment risk. Because the ROEs she uses are authorized by commissions, those ROEs are not directly adjusted by market forces. Rather, authorized equity returns are adjusted, in part, by commission policy and regulatory practices. In contrast, bond yields are controlled entirely by market forces.

This is significant because regulatory commissions rely on policies and requirements to change authorized ROEs based on more factors than changes in capital market costs. For example, if capital market costs are declining, a commission may reduce authorized ROEs at a slower pace than market changes in order to ensure that the approved equity return will support the utility's financial integrity, and possibly will limit significant changes to the utility's revenues and tariff prices. Utilities have contractual provisions that prevent the refinancing of embedded debt with lower cost market priced marginal debt when capital market costs decline. These limits may cause commissions to exercise caution in reducing authorized equity returns as interest rates decline.

I would note that this opinion was previously shared by Moody's, which observed in a 2015 assessment of the utility industry that "ROEs declined in a lagging fashion compared to falling interest rates." 51 Ms. Bulkley's regression study fails to

⁵¹"U.S. Regulated Utilities: Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," *Moody's Investors Service*, at 5, March 10, 2015.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 73

reflect this common sense-based rejection of a causal relationship between ROEs and changes in bond yields.

To conclude, equity risk premiums can move based on changes in market conditions that can impact both equity returns and bond returns in a like manner. In addition, there are several factors that are not explicitly accounted for in her regression analysis that likely have some influence on the equity risk premium including, but not limited to, regulatory regime, yield spreads, rate affordability, company management, ESG factors, settlements versus litigation outcomes, alternative regulation mechanisms, and business cycles. This simple regression analysis of equity risk premiums and interest rates ignores other relevant factors in describing the current market-required equity risk premium.

IS THERE EVIDENCE SHOWING THAT MS. BULKLEY'S EQUITY RISK PREMIUM ESTIMATES IN THE RANGE OF 6.02% TO 6.30% ARE EXCESSIVE?

Yes. The calendar year 2023 average ROE authorized for vertically integrated electric utilities was 9.71%⁵² and the corresponding average of the 30-year Treasury yield is 4.10%. As such, the 2023 average equity risk premium for vertically integrated electric utilities was 5.62%. In other words, Ms. Bulkley's lowest equity risk premium of 6.02% is 40 basis points higher than what was realized over 2023. Notably, Regulatory Research Associates ("RRA"), a division of S&P Global Market Intelligence, expects the equity risk premium to decline in 2024 relative to what was experienced in 2023. Specifically, RRA notes that "This narrowing spread is likely to

BRUBAKER & ASSOCIATES, INC.

⁵²This average excludes three California "Advice Letter" decisions that allowed for major California utilities to increase their ROE based on a "triggered" event as a result of rising interest rates. These decisions are not part of a base rate case and were the product of a formula prescribed by the California Commission. Including the three Advice Letter decisions would increase the 2023 average ROE for vertically integrated electric utilities to 9.80%, and the 2023 average equity risk premium would be 5.70%

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 74

continue through 2024 as regulators navigate the ongoing energy transition and potential affordability challenges posed by higher interest rates and rising costs."⁵³ In other words, even Ms. Bulkley's lowest risk premium estimate of 6.02% represents a widening of the equity risk premium, which is in complete contradiction to the report published by RRA. Ms. Bulkley's regression-derived equity risk premium estimates are clearly excessive and should be rejected.

7 Q HOW SHOULD THE COMMISSION USE THIS MARKET INFORMATION IN 8 ASSESSING A FAIR RETURN FOR OG&E?

While authorized returns on equity have remained in the mid-9% range, utilities continue to have access to large amounts of external capital even as they are funding large capital programs. The Commission should carefully weigh all this highly relevant observable evidence in assessing a fair ROE for OG&E.

Q WHAT IS YOUR RECOMMENDATION?

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I recommend that the Commission reject OG&E's requested 10.5% and approve a ROE consistent with recent market evidence which indicates an appropriate ROE is significantly less than 10.5%. I believe an ROE of 9.50% is fair and reasonable in the current capital market and fairly compensates investors for the risk of OG&E and its Oklahoma electric operations. Further, this ROE should allow the Company to attract capital at reasonable terms without placing significant price burden on the ratepayers. In addition to an ROE of 9.50%, I also recommend that the Commission reject OG&E's requested equity ratio of 53.50% and instead authorize an equity ratio of no more than 52.0% consistent with its recent determination in the PSO rate case.

⁵³S&P Capital IQ, *RRA Regulatory Focus*, "Average authorized energy ROEs rise in 2023 amid record rate case activity", January 25, 2024.

CASE PUD 2023-000087 ENTRY NO. 169 FILED IN OCC COURT CLERK'S OFFICE ON 04/26/2024 - PAGE 80 OF 121

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Page 75

- 1 Q DOES THIS CONCLUDE YOU RESPONSIVE TESTIMONY?
- 2 A Yes, it does.

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Appendix A
Page 1

Qualifications of Christopher C. Walters

- 1 Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
- 2 A Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
- 3 Suite 140, Chesterfield, MO 63017.
- 4 Q PLEASE STATE YOUR OCCUPATION.
- 5 A I am a consultant in the field of public utility regulation and a Principal with the firm of
- 6 Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.
- 7 Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL
- 8 **EMPLOYMENT EXPERIENCE.**

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

Administration Degree from Lindenwood University.

As a Principal 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.

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Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Appendix A
Page 2

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; Louisville, Kentucky and Phoenix, Arizona.

HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

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

20 Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR 21 ORGANIZATIONS TO WHICH YOU BELONG.

I earned the Chartered Financial Analyst ("CFA") designation from the CFA Institute.

The CFA charter was awarded after successfully completing three examinations

CASE PUD 2023-000087 ENTRY NO. 169 FILED IN OCC COURT CLERK'S OFFICE ON 04/26/2024 - PAGE 83 OF 121

Responsive Testimony of Christopher C. Walters
Case No. PUD2023-000087
Appendix A
Page 3

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.

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Electric Utilities (Valuation Metrics)

												Price to Ea	arnings (P/	E) Ratio 1										
		22-Year	•																					
Line	Company	Average	2023 ²	2022 (3)	2021	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (0)	2015 (10)	<u>2014</u> (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)	2004 (21)	2003 (22)	2002 (23)
		(1)	(2)	(3)	(4)	(5)	(0)	(7)	(0)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(10)	(19)	(20)	(21)	(22)	(23)
1	ALLETE	18.14	15.40	18.10	20.60	18.30	24.70	22.20	23.00	18.60	15.10	17.20	18.60	15.90	14.70	16.00	16.10	13.90	14.80	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	16.97	16.50	21.40	21.20	21.20	21.20	19.10	20.60	22.30	18.10	16.60	15.30	14.50	14.50	12.50	13.90	13.40	15.10	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	16.73	15.40	21.50	21.40	22.20	22.10	18.30	20.60	18.30	17.50	16.70	16.50	13.40	11.90	9.70	9.30	14.20	17.40	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	15.13	14.20	21.10	17.10	19.60	21.40	18.00	19.30	15.20	15.80	15.90	14.50	13.80	11.90	13.40	10.00	13.10	16.30	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	23.24	12.30	19.60	23.20	23.60	23.10	26.10	27.30	20.50	33.50	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
6	Avista Corp.	18.36	15.60	20.00	20.20	21.20	15.00	24.50	23.40	18.80	17.60	17.30	14.60	19.30	14.10	12.70	11.40	15.00	30.90	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.63	14.50	18.10	17.70	17.00	21.20	16.80	19.50	22.30	16.10	19.00	18.20	17.10	31.10	18.10	9.90	NMF	15.00	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	16.80	18.80	18.70	26.10	15.90	19.50	37.00	17.90	21.90	18.10	17.00	18.70	14.80	14.60	13.80	11.80	11.30	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	18.28	17.40	22.90	23.60	23.30	24.30	20.30	21.30	20.90	18.30	17.30	16.30	15.10	13.60	12.50	13.60	10.90	26.80	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	16.10	17.30	20.30	17.20	19.00	19.70	17.10	19.80	18.80	15.60	15.90	14.70	15.40	15.10	13.30	12.50	12.30	13.80	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	18.24	16.20	18.70	19.50	22.60	18.20	17.50	22.20	21.30	22.10	23.00	19.20	18.90	17.30	14.30	12.70	13.80	20.60	15.98	24.89	15.07	15.24	12.05
12		16.60	14.30	22.40	30.00	16.30	19.90	17.40	18.60	19.00	18.10	14.90	17.90	14.90	13.50	12.30	10.40	14.80	18.30	17.43	13.80	16.04	13.69	11.28
13		17.12	15.30	19.60	18.90	17.10	17.70	17.00	19.90	21.30	18.20	17.90	17.40	17.50	13.80	12.70	13.30	17.30	16.10	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	17.13	15.20	40.60	29.70	34.90	16.70	N/A	17.20	17.90	14.80	13.00	12.70	9.70	11.80	10.30	9.70	12.40	16.00	12.99	11.74	37.59	6.97	7.78
15		17.68	N/A	N/A	N/A	N/A	N/A	26.85	21.78	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	13.94	9.80	21.10	15.00	15.30	16.50	13.80	15.00	10.90	12.50	12.90	13.20	11.20	9.10	11.60	12.00	16.60	19.30	14.28	16.28	15.09	13.77	11.53
17		18.23	12.30	20.90	22.20	23.70	22.10	18.70	19.50	18.70	18.10	17.90	16.90	19.90	15.40	13.40	12.00	13.70	18.70	27.07	19.76	20.77	13.35	16.07
18		19.05	12.00	19.90	16.20	21.70	21.80	22.70	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
19		14.32	14.00	19.90	16.60	12.40	14.70	13.30	13.40	12.50	12.60	16.00	13.40	19.10	11.30	11.00	11.50	18.00	18.20	16.53	15.37	12.99	11.77	10.46
20		15.16	13.70	17.00	14.10	15.70	17.10	13.60	11.40	12.70	12.60	13.20	13.10	21.10	22.40	11.70	13.00	15.60	15.60	14.23	16.07	14.13	22.47	12.95
		19.24	16.70	21.10	21.20	20.60	19.20	17.10	16.80	21.60	18.00	24.30	20.00	20.10	18.80	18.20	16.40	17.50	21.10	17.68	N/A	N/A	N/A	N/A
22	- 37	15.52	N/A	N/A	N/A	N/A	N/A	N/A	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
23		17.79	8.90	18.50	18.20	21.50	21.30	18.90	20.70	13.60	20.40	15.90	16.20	15.80	17.10	18.60	19.80	23.20	216	20.33	18.27	19.18	13.76	13.47
24	IDACORP, Inc.	17.21	19.50	21.00	20.80	19.90	22.30	20.50	20.60	19.10	16.20	14.70	13.40	12.40	11.50	11.80	10.20	13.90	18.20	15.07	16.70	15.49	26.51	18.88
	MGE Energy	19.98	18.60	24.70	25.50	26.40	28.40	25.10	29.40	24.90	20.30	17.20	17.00	17.20	15.80	15.00	15.10	14.20	15.00	15.88	22.40	17.98	17.55	15.96
26		18.67	17.90	27.80	31.30	28.90	26.80	24.80	21.60	20.70	16.90	17.30	16.60	14.40	11.50	10.80	13.40	14.50	18.90	13.65	17.88	13.65	17.88	13.60
		17.01	15.40	17.30	17.40	18.60	19.90	16.80	17.80	17.20 17.70	18.40	16.20	16.90 17.70	15.70	12.60	12.90	11.50	13.90	21.70	25.95	17.09	N/A	N/A	N/A
28	OGE Energy	15.31	15.30	17.20	14.30	16.20	19.00	16.50	18.30		17.70	18.30		15.20	14.40	13.30	10.80	12.40	13.80	13.68	14.95	14.13	11.84	14.12
29		20.76	16.40	9.50	12.30	18.30	23.50	22.20	22.10	20.20	18.20	18.80	21.10	21.70	47.50	NMF	31.20	30.10	19.00	17.35	15.40	17.34	17.77	16.01
30	Pinnacle West Capital PNM Resources	15.90 18.27	16.20 13.80	17.10 17.40	14.10 19.90	16.70 19.60	19.40	17.80 19.40	19.30 20.40	18.70 22.40	16.00 18.70	15.90 18.70	15.30 16.10	14.30 15.00	14.60 14.50	12.60 14.00	13.70 18.10	16.10 N/A	14.90 35.60	13.69 15.57	19.24 17.38	15.80 15.02	13.96 14.73	14.43 15.08
31 32	Portland General	16.79	15.70	18.20	17.70	16.60	22.20 22.30	18.40	20.40	19.10	17.70	15.30	16.10	14.00	12.40	12.00	14.40	16.30	11.90	23.35	17.36 N/A	N/A	N/A	N/A
33		16.79	15.70	20.00	54.10	13.90	13.30	11.30	17.60	12.80	13.90	14.10	12.80	10.90	10.50	11.90	25.70	17.60	17.30	23.35 14.10	15.12	12.51	10.59	11.06
34	Public Serv. Enterprise	14.40	16.30	18.50	16.80	15.70	18.00	16.60	16.30	15.30	14.10	12.60	13.50	12.80	10.50	10.40	10.00	13.60	16.50	17.81	16.74	14.26	10.58	10.00
35	SCANA Corp.	13.96	N/A	N/A	N/A	N/A	N/A	N/A	14.46	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
36	Sempra Energy	15.60	16.40	16.80	15.40	17.50	22.50	20.40	24.30	24.40	19.70	21.90	19.70	14.90	11.80	12.60	10.10	11.80	14.00	11.50	11.79	8.65	8.96	8.19
37	Southern Co.	16.18	16.60	19.60	18.40	17.90	17.60	15.10	15.50	17.80	15.80	16.00	16.20	17.00	15.80	14.90	13.50	16.10	16.00	16.19	15.92	14.68	14.83	14.63
38		17.05	N/A	N/A	N/A	N/A	N/A	N/A	23.54	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.92	17.57	14.80	14.03
	WEC Energy Group	17.37	15.20	21.90	22.30	24.90	23.50	19.60	20.00	19.90	21.30	17.70	16.50	15.80	14.20	14.00	13.30	14.80	16.50	15.97	14.46	17.51	12.43	10.46
	Westar Energy	15.58	N/A	N/A	N/A	N/A	N/A	N/A	23.40	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
	Xcel Energy Inc.	18.01	18.30	22.20	22.50	23.90	22.30	18.90	20.20	18.50	16.50	15.40	15.00	14.80	14.70	14.10	12.70	13.70	16.70	14.80	15.36	13.65	11.62	40.80
71	7.00. Energy inc.	10.01	10.00	22.20	22.00	20.00	22.00	10.00	20.20	10.00	10.00	10.40	10.00	14.00	17.20	17.10	12.70	10.70	10.70	14.00	10.00	10.00	11.02	70.00
42	Average	17.00	15.37	20.29	20.91	19.95	20.51	19.43	19.85	18.75	17.58	16.77	16.19	15.56	15.30	13.16	13.57	15.27	17.66	16.51	16.56	16.65	13.83	14.31
	Median	16.10	15.50	19.90	19.70	19.30	21.20	18.55	20.00	18.80	17.81	16.47	16.20	15.02	14.20	12.80	12.70	14.20	16.32	15.92	15.99	15.49	13.69	13.47

Sources

The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Electric Utilities (Valuation Metrics)

											Marke	et Price to	Cash Flow	(MP/CF) R	atio 1									
	_	22-Year	2																					
Line	Company	Average (1)	2023 ² (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)	2004 (21)	2003 (22)	2002 (23)
		(1)	(2)	(3)	(4)	(3)	(0)	(1)	(0)	(3)	(10)	(11)	(12)	(13)	(14)	(13)	(10)	(17)	(10)	(13)	(20)	(21)	(22)	(23)
	ALLETE	9.17	6.69	7.56	8.61	8.14	11.38	10.16	10.95	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
	Alliant Energy	8.25	9.43	10.43	10.31	10.66	10.74	9.71	13.21	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
	Ameren Corp.	7.41	8.05	9.54	9.03	9.63	9.45	7.95	8.38	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.72	7.68	8.67	7.57	8.41	9.34	8.03	8.81	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
	Avangrid, Inc.	9.56	7.38	8.69	11.19	9.39	9.11	10.24	10.14	8.56	11.30	N/A												
	Avista Corp.	6.96	6.65	9.39	8.03	7.80	7.34	10.14	9.35	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
	Black Hills	7.91	7.72	8.92	8.84	8.56	10.65	8.83	9.20	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
	CenterPoint Energy	5.58	7.92	8.01	7.95	5.94	7.03	8.45	6.97	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
	CMS Energy Corp.	6.51	8.28	9.43	9.27	9.87	9.85	8.40	8.75	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
	Consol. Edison	8.22	7.85	8.70	7.26	8.35	9.46	8.73	9.64	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.84	8.05	9.35	11.15	14.59	13.47	10.94	11.35	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.76	7.27	7.96	10.62	7.85	9.67	8.54	9.05	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.61	7.15	7.75	7.89	8.06	7.40	7.65	8.40	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	6.01	5.41	6.83	7.14	7.57	7.25	13.46	7.05	6.77	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.93	N/A	N/A	N/A	N/A	N/A	9.43	8.54	7.46	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Entergy Corp.	5.74	4.62	7.15	5.61	5.78	6.05	4.92	4.66	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	7.52	7.63	9.39	11.41	12.53	11.47	9.16	10.36	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Evergy, Inc.	7.73	7.11	8.66	7.41	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
19	Exelon Corp.	6.05	6.38	7.69	5.08	4.44	5.29	5.05	4.45	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
20	FirstEnergy Corp.	6.90	8.03	8.93	6.60	9.23	11.09	8.84	4.76	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
21	Fortis Inc.	8.47	8.34	9.10	9.57	9.50	9.46	7.97	8.23	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
22	Great Plains Energy	6.89	N/A	N/A	N/A	N/A	N/A	N/A	14.62	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
23	Hawaiian Elec.	7.96	5.80	7.95	8.23	8.69	9.30	8.34	9.21	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
24	IDACORP, Inc.	8.99	11.43	12.42	11.84	11.38	12.75	11.72	11.56	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
25	MGE Energy	11.68	12.28	13.63	N/A	14.90	15.58	15.04	17.33	15.66	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
26	NextEra Energy, Inc.	9.20	10.87	15.17	20.40	15.48	12.33	10.77	11.61	9.24	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
27	NorthWestern Corp	7.92	8.31	8.65	8.83	8.88	9.93	8.19	8.82	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
	OGE Energy	7.94	7.88	8.36	7.64	8.38	10.58	9.36	10.52	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
29	Otter Tail Corp.	9.27	8.02	7.70	8.61	9.99	12.42	11.58	11.09	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
30	Pinnacle West Capital	6.18	5.79	5.19	6.19	7.49	8.30	7.09	8.73	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
31	PNM Resources	6.89	6.64	6.95	7.81	7.87	7.92	7.57	7.40	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
	Portland General	6.00	6.49	6.65	6.48	6.72	7.65	6.56	7.45	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
	PPL Corp.	7.85	8.04	8.82	13.74	7.46	7.99	7.02	10.11	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
	Public Serv. Enterprise	7.95	9.61	10.53	11.32	8.22	8.72	9.48	8.67	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
	SCANA Corp.	7.09	N/A	N/A	N/A	N/A	N/A	N/A	8.26	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
	Sempra Energy	8.47	9.27	9.75	13.23	10.40	12.05	10.10	10.65	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
	Southern Co.	8.30	8.91	9.63	8.72	8.34	8.80	7.05	7.49	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
	Vectren Corp.	7.08	N/A	N/A	N/A	N/A	N/A	N/A	10.32	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
	WEC Energy Group	9.24	10.12	11.81	11.99	13.67	12.88	10.82	11.04	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
	Xcel Energy Inc.	7.06	8.04	8.62	9.19	10.07	9.44	7.90	8.50	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
41	Acci Energy inc.	7.00	0.04	5.02	3.13	10.07	3.44	7.50	0.00	5.10	7.02	7.01	7.00	0.00	5.47	0.20	0.40	5.71	0.01	5.54	0.02	0.01	7.21	5.40
42	Average	7.65	7.92	9.00	9.28	9.26	9.78	9.03	9.41	8.68	8.07	7.90	7.41	7.01	6.56	6.02	5.61	7.01	7.77	7.17	7.18	6.82	5.75	5.58
43	Median	7.50	7.90	8.69	8.72	8.56	9.46	8.78	9.13	8.58	7.94	7.57	7.23	6.85	6.40	5.80	5.37	7.10	7.84	7.44	7.05	6.72	5.66	5.46

Sources

Note

The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

^a Based on the average of the high and low price and the projected Cash Flow per share.

Electric Utilities (Valuation Metrics)

1 ALLETE 1.55 1.19 1.24 1.43 1.39 1.91 1.79 1.78 1.53 1.37 1.42 1.51 1.34 1.35 1.28 1.15 1.55 1.89 2.05 2.2 Alliant Energy 1.81 1.92 2.25 2.26 2.30 2.32 2.16 2.38 2.17 1.86 1.86 1.70 1.57 1.46 1.31 1.04 1.33 1.04 1.33 1.67 1.55 1.89 2.05 2.4 Alment Electric Power 1.64 1.73 1.99 1.87 2.09 2.20 1.82 1.88 1.81 1.55 1.54 1.40 1.31 1.29 1.36 1.38 1.28 1.37 1.48 1.85 1.55 1.54 1.40 1.31 1.29 1.38 1.37 1.49 1.48 1.85 1.55 1.54 1.40 1.31 1.29 1.38 1.25 1.28 1.37 1.48 1.85 1.55 1.54 1.40 1.31 1.29 1.38 1.39 1.48 1.85 1.55 1.54 1.40 1.31 1.29 1.38 1.39 1.48 1.85 1.55 1.54 1.40 1.31 1.23 1.23 1.23 1.23 1.23 1.23 1.23	2.09 2.22 1.52 1.33 1.62 1.68 1.56 1.57 N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
Line Company Average 2023 2022 2021 2020 2019 2019 2018 2016 2016 2016 2014 2013 2012 2011 2010 2009 2008 2007 2009 2008 2017 2019 2	(19) (20) 2.09 2.22 1.52 1.33 1.62 1.68 1.56 1.57 N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
Alliant Energy 1.81 1.92 2.25 2.26 2.30 2.32 2.16 2.38 2.17 1.86 1.86 1.70 1.57 1.46 1.31 1.04 1.33 1.67 1.52 1.53 1.67 1.65 1.54 1.67 1.67 1.67 1.67 1.67 1.67 1.67 1.67	1.52 1.33 1.62 1.68 1.56 1.57 N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
Alliant Energy 1.81 1.92 2.25 2.26 2.30 2.32 2.16 2.38 2.17 1.86 1.86 1.70 1.57 1.46 1.31 1.04 1.33 1.67 1.52 1.53 1.67 1.65 1.54 1.67 1.67 1.67 1.67 1.67 1.67 1.67 1.67	1.52 1.33 1.62 1.68 1.56 1.57 N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
A merica Cir. A merica Electric Power 160 200 215 217 221 220 220 182 188 181 1.55 1.55 1.46 1.45 1.40 1.41 1.31 1.32 1.32 1.33 1.48 1.87 1.55 5 Avangrid, Inc. 0.90 0.72 0.89 1.01 0.97 1.02 1.02 1.02 1.02 0.93 0.83 0.72 N/A N/A N/A N/A N/A N/A N/A N/	1.62 1.68 1.56 1.57 N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
4 American Electric Power 1 64 173 1.99 1.87 2.09 2.20 1.82 1.88 1.81 1.55 1.54 1.40 1.31 1.23 1.23 1.08 1.48 1.85 1.55 5 Avangrid, inc. 0.90 0.72 0.89 1.01 0.97 1.02 0.93 0.83 0.83 0.72 N/A	1.56 1.57 N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
5 Avangrid, Inc. 0.90 0.72 0.89 1.01 0.97 1.02 1.02 0.93 0.83 0.72 NA NA NA NA NA NA NA NA NA N	N/A N/A 1.30 1.13 1.47 1.63 2.75 3.06
6 Avista Corp. 1.33	1.30 1.13 1.47 1.63 2.75 3.06
Part Black Hills 1.51 1.29 1.54 1.52 1.55 1.95 1.95 1.61 2.06 1.94 1.59 1.79 1.62 1.21 1.14 1.07 0.83 1.22 1.57 1.47 1.97 1.62 1.62 1.66 1.67	1.47 1.63 2.75 3.06
8 CenterPoint Energy 9 CMS Energy Corp. 2.18 2.33 2.71 2.69 3.24 3.28 2.81 2.93 2.72 2.43 2.26 2.09 1.99 1.87 1.96 1.77 2.49 3.13 2.75 2.69 CMS Energy Corp. 2.18 2.33 2.71 2.69 3.24 3.28 2.81 2.93 2.72 2.43 2.26 2.09 1.91 1.66 1.48 1.10 1.23 1.82 1.42 1.41 1.00 1.00 1.00 1.42 1.54 1.55 1.34 1.44 1.59 1.49 1.63 1.58 1.42 1.34 1.38 1.47 1.38 1.22 1.08 1.17 1.47 1.47 1.41 1.00 1.00 1.00 1.00 1.00 1.00 1.00	2.75 3.06
9 CMS Energy Corp. 2.18 2.33 2.71 2.69 3.24 3.28 2.81 2.93 2.72 2.43 2.26 2.09 1.91 1.66 1.48 1.10 1.23 1.82 1.42 1.0 Consol. Edison 1.42 1.54 1.55 1.34 1.44 1.59 1.49 1.63 1.58 1.42 1.34 1.38 1.22 1.08 1.17 1.47 1.44 1.10 1.00 1.23 1.82 1.42 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	
10 Consol. Edison 142 154 155 134 1.44 1.59 1.49 1.63 1.58 1.42 1.34 1.38 1.47 1.38 1.22 1.08 1.17 1.47 1.47 1.47 1.1 Dominion Resources 2.54 1.54 2.34 2.37 2.72 2.18 2.40 2.94 3.15 3.34 3.55 2.97 2.84 2.37 2.01 1.80 2.42 2.69 2.07 1.91 2.01 1.82 1.65 1.62 1.51 1.35 1.20 1.16 0.89 1.10 1.35 1.22 1.30 1.48 1.47 1.47 1.33 1.44 1.35 1.29 1.28 1.69 1.69 1.69 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.16 0.89 1.10 1.35 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20	
11 Dominion Resources 2.54 1.54 2.34 2.37 2.72 2.18 2.40 2.94 3.15 3.34 3.55 2.97 2.84 2.37 2.01 1.80 2.42 2.69 2.07 1.20 DTE Energy 1.65 1.97 2.41 2.82 1.80 2.07 1.91 2.01 1.82 1.65 1.62 1.51 1.35 1.20 1.16 0.89 1.10 1.35 1.25 1.30 Use Energy 1.28 1.47 1.63 1.58 1.47 1.47 1.33 1.41 1.35 1.29 1.28 1.19 1.12 1.11 1.00 0.91 1.06 1.15 N/A 14 Edison Int'l 1.70 1.90 2.08 1.67 1.62 1.80 1.97 2.17 1.92 1.76 1.68 1.57 1.53 1.24 1.07 1.04 1.56 2.05 1.84 1.55 Use Electric 1.56 N/A	
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14 Edison Inti [®] 1,70 1,90 1,90 2,08 1,67 1,62 1,80 1,97 2,17 1,92 1,76 1,68 1,57 1,53 1,24 1,07 1,04 1,56 2,05 1,86 1,67 1,68 1,68 1,68 1,68 1,57 1,53 1,24 1,07 1,04 1,56 2,05 1,86 1,68 1,68 1,69 1,75 1,93 2,03 1,74 1,76 1,67 1,68 1,48 1,52 1,49 1,59 1,69 1,64 1,17 0,98 1,33 1,69 1,75 1,66 1,46 1,75 1,93 2,03 1,74 1,76 1,67 1,40 1,33 1,21 1,31 1,35 1,62 1,66 2,44 2,65 1,88 1,76 1,76 1,76 1,76 1,76 1,76 1,76 1,76	
15 El Paso Electric 1.56 N/A N/A N/A N/A N/A N/A N/A N/A 1.94 1.87 1.68 1.48 1.52 1.49 1.59 1.64 1.17 0.98 1.33 1.69 1.77 1.6 Entergy Corp. 1.74 1.45 1.81 1.75 1.93 2.03 1.74 1.76 1.67 1.40 1.33 1.21 1.31 1.35 1.62 1.66 2.44 2.65 1.86 1.26 1.77 1.78 1.78 1.78 1.78 1.78 1.78 1.78	
16 Entergy Corp. 1,74 1,45 1,81 1,75 1,93 2,03 1,74 1,76 1,67 1,40 1,33 1,21 1,31 1,35 1,62 1,66 2,44 2,65 1,85 1,75 1,65 1,65 1,85	
17 Eversource Energy 1.55 1.63 1.86 2.00 2.11 1.99 1.68 1.73 1.64 1.53 1.47 1.38 1.28 1.50 1.31 1.12 1.31 1.60 1.22 1.8 Evergy, Inc. 1.45 1.31 1.52 1.50 N/A	
18 Evergy, Inc.	
19 Exelon Corp. 2.08 1.54 1.88 1.37 1.20 1.43 1.31 1.20 1.20 1.14 1.28 1.17 1.46 1.95 2.07 2.57 4.39 4.79 3.86 2.07 FirstEnergy Corp. 2.06 2.05 2.37 2.33 2.81 3.39 2.67 3.53 2.37 1.16 1.15 1.28 1.44 1.33 1.36 1.54 2.52 2.23 1.39 2.67 2.57 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50	
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21 Fortis Inc.	
22 Great Plains Energy 121 N/A N/A N/A N/A N/A N/A N/A N/A 1.33 1.17 1.12 1.11 1.02 0.96 0.93 0.87 0.80 1.11 1.66 1.77 2.31 Hawilian Ellec. 1.66 1.26 1.94 1.81 1.82 2.02 1.76 1.76 1.63 1.71 1.49 1.54 1.62 1.54 1.44 1.16 1.61 1.67 2.01 2.01 2.01 2.01 2.01 2.01 2.01 2.01	
23 Hawaiian Elec. 1.66 1.26 1.94 1.81 1.82 2.02 1.76 1.76 1.63 1.71 1.49 1.54 1.62 1.54 1.44 1.16 1.61 1.57 2.01 24 IDACORP, Inc. 1.52 1.77 1.91 1.88 1.84 2.10 1.96 1.94 1.76 1.54 1.45 1.33 1.19 1.17 1.13 0.92 1.09 1.26 1.33 1.90 1.77 1.91 1.91 1.91 1.91 1.91 1.91 1.91	
24 IDACORP, Inc. 152 1.77 1.91 1.88 1.84 2.10 1.96 1.94 1.76 1.54 1.45 1.33 1.19 1.17 1.13 0.92 1.09 1.26 1.37 25 MGE Energy 2.15 2.35 2.47 N/A 2.54 2.88 2.59 2.88 2.60 2.10 2.10 2.06 1.92 1.75 1.65 1.54 1.62 1.75 1.82 2.88 2.89 4.07 4.27 3.58 2.75 2.32 2.35 2.30 2.09 2.15 1.93 1.74 1.55 1.49 1.70 2.06 2.34 1.80 2.75 NorthWestern Corp 1.43 1.13 1.25 1.43 1.45 1.74 1.48 1.64 1.68 1.60 1.54 1.56 1.42 1.35 1.22 1.07 1.15 1.48 1.68 2.06 GE Energy 1.82 0GE Energy 1.82 1.61 1.74 1.67 1.86 2.06 1.75 1.82 1.73 1.79 2.22 2.24 1.94 1.90 1.70 1.37 1.52 1.98 1.99 2.90 Uter Tail Corp. 1.93 2.55 2.30 2.33 2.04 2.62 2.49 2.33 1.90 1.78 1.90 1.76 1.96 1.58 1.35 1.19 1.18 1.71 1.93 1.76	
25 MGE Energy 2.15 2.35 2.47 N/A 2.54 2.88 2.59 2.88 2.60 2.10 2.10 2.06 1.92 1.75 1.65 1.54 1.62 1.75 1.83 2.60 NextEra Energy, Inc. 2.38 2.89 4.07 4.27 3.58 2.75 2.32 2.35 2.30 2.09 2.15 1.93 1.74 1.55 1.49 1.70 2.06 2.34 1.86 2.75 NorthWestern Corp 1.43 1.13 1.25 1.43 1.45 1.74 1.48 1.64 1.68 1.60 1.54 1.56 1.42 1.35 1.22 1.07 1.15 1.48 1.48 1.64 1.68 1.60 1.54 1.65 1.54 1.56 1.42 1.35 1.22 1.07 1.15 1.48 1.49 1.70 2.06 2.34 1.80 2.60 GE Energy 1.82 1.61 1.74 1.67 1.86 2.06 1.75 1.82 1.73 1.79 2.22 2.24 1.94 1.90 1.70 1.37 1.52 1.98 1.99 2.90 Uter Tail Corp. 1.93 2.55 2.30 2.33 2.04 2.62 2.49 2.33 1.90 1.78 1.90 1.96 1.96 1.58 1.35 1.19 1.18 1.71 1.93 1.76	
26 NextEra Energy, Inc. 2.38 2.89 4.07 4.27 3.58 2.75 2.32 2.35 2.30 2.09 2.15 1.93 1.74 1.55 1.49 1.70 2.06 2.34 1.80 2.77 NorthWestern Corp 1.43 1.13 1.25 1.43 1.45 1.74 1.48 1.64 1.68 1.60 1.54 1.56 1.42 1.35 1.22 1.07 1.15 1.48 1.62 2.09 2.09 2.09 2.00 2.00 2.00 2.00 2.0	
27 NorthWestern Corp 1.43 1.13 1.25 1.43 1.45 1.74 1.48 1.64 1.68 1.60 1.54 1.56 1.42 1.35 1.22 1.07 1.15 1.48 1.65 2.0 GE Energy 1.82 1.61 1.74 1.67 1.86 2.06 1.75 1.82 1.73 1.79 2.22 2.24 1.94 1.90 1.70 1.37 1.52 1.98 1.99 2.9 Otter Tail Corp. 1.93 2.55 2.30 2.33 2.04 2.62 2.49 2.33 1.90 1.78 1.90 1.96 1.58 1.35 1.19 1.18 1.71 1.93 1.76	
28 OGE Energy 1.82 1.61 1.74 1.67 1.86 2.06 1.75 1.82 1.73 1.79 2.22 2.24 1.94 1.90 1.70 1.37 1.52 1.98 1.91 2.90 Otter Tail Corp. 1.93 2.55 2.30 2.33 2.04 2.62 2.49 2.33 1.90 1.78 1.90 1.96 1.58 1.35 1.19 1.18 1.71 1.93 1.76	
29 Otter Tail Corp. 1.93 2.55 2.30 2.33 2.04 2.62 2.49 2.33 1.90 1.78 1.90 1.96 1.58 1.35 1.19 1.18 1.71 1.93 1.76	
	1.21 1.45
	1.36 N/A 2.43 2.50
	1.64 1.72
	1.70 1.73
	2.23 2.35
	1.77 1.82
	1.71 1.62
	1.30 1.41
41 Xcel Energy Inc. 1.74 2.11 2.22 2.27 2.46 2.34 1.97 2.06 1.88 1.66 1.55 1.50 1.51 1.41 1.32 1.19 1.30 1.53 1.40	1.40 1.38
42 Average 1.74 1.72 1.96 1.92 1.96 2.10 1.89 2.01 1.86 1.67 1.69 1.60 1.52 1.43 1.35 1.25 1.63 1.90 1.76	1.78 1.80
43 Median 1.69 1.63 1.89 1.75 1.84 2.06 1.86 1.92 1.75 1.57 1.54 1.50 1.47 1.36 1.31 1.15 1.48 1.69 1.77	

Sources

Notes:

The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.

Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

										Di	ividend Yie	ld ¹								
Line	Commons	18-Year	2023 ^{2/a}	2022	2021	2020	2040	2018	2017	2016	2045	2014	2013	2012	2011	2010	2000	2008	2007	2006
Line	Company	Average (1)	(2)	(3)	(4)	(5)	2019 (6)	(7)	(8)	(9)	2015 (10)	(11)	(12)	(13)	(14)	(15)	2009 (16)	(17)	(18)	(19)
1 2	ALLETE Alliant Energy	4.01% 3.61%	4.67% 3.57%	4.47% 3.04%	3.88% 2.97%	4.03% 2.90%	2.85% 2.88%	2.99% 3.20%	2.97% 3.07%	3.56% 3.21%	3.97% 3.60%	3.92% 3.53%	3.89%	4.49% 4.07%	4.58% 4.28%	5.03% 4.61%	5.79% 5.73%	4.37%	3.60%	3.16% 3.32%
3	Ameren Corp.	4.11%	3.13%	2.74%	2.74%	2.57%	2.59%	3.04%	3.12%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	3.97%	4.02%	3.41%	3.61%	3.28%	3.10%	3.60%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5 6	Avangrid, Inc. Avista Corp	3.89%	4.87% 4.85%	3.94% 4.26%	3.53%	3.69% 4.03%	3.52%	3.49% 2.93%	3.79%	4.26%	N/A 3.97%	N/A 3.99%	N/A 4.51%	N/A 4.55%	N/A 4.54%	N/A 4.76%	N/A 4.49%	N/A 3.39%	N/A 2.68%	N/A 2.52%
7	Avista Corp. Black Hills	3.73%	4.85%	3.44%	3.50%	3.42%	2.74%	3.31%	2.75%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.76%	6.17%	4.21%	3.40%	3.79%
8	CenterPoint Energy	4.15%	2.67%	2.46%	2.77%	4.38%	2.98%	4.09%	4.79%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%
9	CMS Energy Corp.	3.20%	3.37%	2.92%	2.92%	2.65%	2.64%	3.03%	2.88%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A
10 11	Consol. Edison Dominion Resources	4.29% 4.06%	3.57% 5.18%	3.51%	4.10% 3.38%	3.87% 4.31%	3.44% 4.76%	3.68% 4.72%	3.40%	3.62% 3.82%	4.12% 3.66%	4.38%	4.25% 3.78%	4.07%	4.46% 4.13%	5.16% 4.41%	5.99% 5.20%	5.67% 3.77%	4.84% 3.32%	5.04% 3.60%
12	DTE Energy	3.98%	3.67%	3.17%	3.06%	3.57%	3.07%	3.34%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.60%	4.28%	3.98%	4.02%	4.35%	4.17%	4.54%	4.15%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Int'I	3.37%	4.47%	4.45%	4.39%	4.29%	3.73%	3.84%	2.87%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.66%	3.95%	2.69%	2.21%	2.58%
15 16	El Paso Electric Entergy Corp.	2.74%	N/A 4.36%	N/A 3.70%	N/A 3.84%	N/A 3.55%	N/A 3.52%	2.55% 4.41%	2.49% 4.49%	2.75% 4.55%	3.13% 4.59%	2.97% 4.47%	2.99% 5.07%	2.97% 4.91%	2.11% 4.85%	N/A 4 20%	N/A 3.97%	N/A 2.92%	N/A 2 39%	N/A 2.82%
17	Eversource Energy	3.27%	3.89%	3.09%	2.85%	2.63%	2.81%	3.32%	3.14%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Evergy, Inc.	3.89%	4.42%	3.66%	3.59%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
19	Exelon Corp.	3.75%	3.67%	2.89%	3.17%	3.82%	3.06%	3.32%	3.51%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
20 21	FirstEnergy Corp. Fortis Inc.	4.31% 3.71%	4.24% 4.09%	3.71%	4.39% 3.77%	4.17% 3.66%	3.50%	5.17% 4.07%	4.62% 3.69%	4.31% 3.80%	4.23% 3.76%	4.26% 3.88%	4.26% 3.84%	4.90% 3.64%	5.23% 3.58%	5.76% 3.80%	5.09% 4.21%	3.21% 3.76%	3.12%	3.40% 2.79%
22	Great Plains Energy	4.52%	4.09% N/A	3.0270 N/A	N/A	3.00% N/A	N/A	N/A	3.58%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
23	Hawaiian Elec.	4.40%	4.09%	3.59%	3.44%	3.40%	3.02%	3.54%	3.65%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
24	IDACORP, Inc.	3.16%	3.18%	2.86%	2.89%	2.92%	2.49%	2.61%	2.58%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%
25 26	MGE Energy	3.01% 2.89%	2.25%	2.15%	N/A 1.90%	2.10%	1.94% 2.41%	2.16%	1.95% 2.79%	2.23%	2.78% 3.01%	2.78% 3.02%	2.91% 3.30%	3.25% 3.65%	3.63%	3.98%	4.36% N/A	4.24% N/A	4.14% N/A	4.25% N/A
26	NextEra Energy, Inc. NorthWestern Corp.	4 14%	4.78%	4.51%	4.00%	4.02%	3.28%	3.86%	3.52%	3.43%	3.01%	3.02%	3.30%	4 17%	4.51%	4 93%	5 75%	5.38%	4 09%	3 65%
28	OGE Energy	3.83%	4.63%	4.30%	4.81%	4.68%	3.54%	3.98%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
29	Otter Tail Corp.	3.84%	2.33%	2.44%	2.81%	3.45%	2.74%	2.92%	3.12%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
30 31	Pinnacle West Capital PNM Resources	4.51% 3.15%	4.51% 3.27%	4.90% 3.04%	4.44% 2.09%	3.97% 2.80%	3.29% 2.45%	3.55% 2.79%	3.16% 2.53%	3.46% 2.69%	3.88%	4.09% 2.79%	3.98% 2.99%	5.32% 2.96%	4.81% 3.19%	5.43% 4.09%	6.76% 4.76%	6.17% 4.85%	4.75% 3.36%	4.67% 3.21%
31	Portland General	3.15%	4.20%	3.63%	3.62%	3.47%	2.45%	3.27%	2.53%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.85%	3.36%	2.54%
33	PPL Corp.	4.48%	3.53%	3.23%	5.83%	5.84%	5.24%	5.61%	4.24%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
34	Public Serv. Enterprise	3.74%	3.83%	3.37%	3.37%	3.64%	3.19%	3.49%	3.74%	3.78%	3.81%	3.92%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
35 36	SCANA Corp. Sempra Energy	4.37% 3.00%	N/A 3.27%	N/A 2.99%	N/A 3.39%	N/A 3.24%	N/A 2.88%	N/A 3.20%	4.03% 2.92%	3.29% 2.92%	3.90% 2.71%	4.05% 2.61%	4.15% 3.03%	4.25% 3.71%	4.78% 3.65%	4.93% 3.08%	5.67% 3.23%	4.92% 2.62%	4.29% 2.08%	4.21% 2.47%
37	Southern Co.	4.58%	4.13%	3.82%	4.17%	4.36%	4.41%	5.27%	4.63%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
38	Vectren Corp.	4.38%	N/A	N/A	N/A	N/A	N/A	N/A	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
39	WEC Energy Group	3.06%	3.57%	3.08%	3.00%	2.68%	2.81%	3.38%	3.31%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
40 41	Wester Energy Xcel Energy Inc.	4.37% 3.68%	N/A 3.13%	N/A 2.90%	N/A 2.81%	N/A 2.58%	N/A 2.75%	N/A 3.25%	3.00%	2.90%	3.73% 3.69%	3.88%	4.27% 3.86%	4.57% 3.90%	4.84% 4.20%	5.32% 4.54%	6.27% 5.14%	5.22% 4.70%	4.16%	4.28%
4.	Acei Energy Inc.																			
42	Average	3.83%	3.85%	3.42%	3.52%	3.56%	3.19%	3.56%	3.36%	3.49%	3.72%	3.66%	3.86%	4.18%	4.30%	4.64%	5.16%	4.25%	3.54%	3.73%
43	Median	3.67%	3.95%	3.43%	3.50%	3.57%	3.06%	3.36%	3.16%	3.45%	3.73%	3.69%	3.84%	4.17%	4.46%	4.78%	5.20%	4.24%	3.46%	3.65%
44	20-Yr Treasury Yields ³	3.25%	4.25%	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%
45	20-Yr TIPS3	1.07%	1.73%	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%
46	Implied Inflation ^b	2.16%	2.48%	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%
47	Real Dividend Yield ^c	1.64%	1.34%	0.77%	1.07%	1.86%	1.37%	1.47%	1.44%	1.91%	1.94%	1.43%	1.48%	1.81%	1.86%	2.33%	3.24%	2.07%	1.02%	1.08%
	A-Rated Utility																			
48	Nominal "A" Rated Yield ⁴	4.70%	5.55%	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%
49	Real "A" Rated Yield	2.49%	2.99%	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%
	Baa-Rated Utility																			
50	Nominal "Baa" Rated Yield	5.21%	5.85%	5.05%	3.36%	3.44%	4.19%	4.67%	4.38%	4.67%	5.03%	4.80%	4.98%	4.83%	5.57%	5.96%	7.06%	7.25%	6.33%	6.32%
51	Real "Baa" Rated Yield	2.98%	3.29%	2.35%	0.91%	1.74%	2.36%	2.55%	2.44%	3.07%	3.22%	2.55%	2.57%	2.44%	3.09%	3.62%	5.11%	5.01%	3.74%	3.60%
52	Spreads (A-Rated Utility Bond - Stock) Nominal Spread ^d	0.87%	1.70%	1.32%	-0.41%	-0.50%	0.58%	0.69%	0.64%	0.44%	0.40%	0.62%	0.61%	-0.05%	0.74%	0.82%	0.88%	2.28%	2.53%	2.34%
53	Real Spread ^e	0.85%	1.70%	1.32%	-0.41%	-0.50%	0.58%	0.68%	0.62%	0.44%	0.40%	0.62%	0.60%	-0.05% -0.05%	0.74%	0.82%	0.88%	2.28%	2.53%	2.28%
30	Near Opreau	0.03 /6	1.00 /6	1.2076	-0.40 /8	-0.43/6	0.37 /6	0.0076	0.02 /6	0.45 /6	0.5376	0.0176	0.0076	-0.03/6	0.7276	0.0076	0.07 /6	2.23/6	2.47 /6	2.20/0
	Spreads (Baa-Rated Utility Bond - Stock)																			
54	Nominal Spread ^b	1.37%	2.00%	1.63%	-0.16%	-0.12%	1.00%	1.11%	1.01%	1.18%	1.31%	1.14%	1.12%	0.65%	1.26%	1.32%	1.90%	3.00%	2.79%	2.58%
55	Real Spread ^c	1.34%	1.95%	1.58%	-0.16%	-0.12%	0.98%	1.09%	1.00%	1.16%	1.29%	1.12%	1.09%	0.63%	1.23%	1.29%	1.87%	2.93%	2.72%	2.52%
	Spreads (Treasury Bond - Stock)																			
56	Nominal	-0.58%	0.40%	-0.12%	-1.54%	-2.20%	-0.79%	-0.54%	-0.71%	-1.27%	-1.17%	-0.58%	-0.74%	-1.63%	-0.68%	-0.61%	-1.05%	0.11%	1.37%	1.26%
57	Real ⁹	-0.57%	0.39%	-0.12%	-1.50%	-2.17%	-0.77%	-0.53%	-0.70%	-1.25%	-1.15%	-0.57%	-0.73%	-1.60%	-0.67%	-0.60%	-1.03%	0.11%	1.33%	1.23%



- Sources:

 1 Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

 Data for the years 2020 2022 was retrieved from Value Line Investment Surveys.

 2 The Value Line Investment Survey, Junaury 19, February 9, and March 8, 2024.

 3 St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

 4 www.moosy.com, Bond Yelds and Key Indicators, through December 31, 2023.

 Notes:

 5 Line 47 = (1 + Line 45) (1 + Line 46) 1.

 5 Line 48 = (1 + Line 43) (1 + Line 47) 1.

 5 The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 Line 43).

 7 The spread being measured here is the real A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 Line 49).

 8 The spread being measured here is the real A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 Line 43).

 9 The spread being measured here is the real A-rated utility bond yield over the average nominal utility dividend yield; (Line 45 Line 43).

 9 The spread being measured here is the real X-12 Vear TIPS yield over the average real utility dividend yield; (Line 45 Line 43).

Electric Utilities (Valuation Metrics)

										Divid	lend per S	hare ¹								
		18-Year																		
Line	<u>Company</u>	Average	2023 ² (2)	2022	2021	2020	2019	<u>2018</u>	2017	2016	2015 (40)	2014	2013	2012 (13)	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	ALLETE	2.05	2.71	2.60	2.52	2.47	2.35	2.24	2.14	2.08	2.02	1.96	1.90	1.84	1.78	1.76	1.76	1.72	1.64	1.45
2	Alliant Energy	1.12	1.81	1.71	1.61	1.52	1.42	1.34	1.26	1.18	1.10	1.02	0.94	0.90	0.85	0.79	0.75	0.70	0.64	0.58
3	Ameren Corp.	1.95	2.52	2.36	2.20	2.00	1.92	1.85	1.78	1.72	1.66	1.61	1.60	1.60	1.56	1.54	1.54	2.54	2.54	2.54
4	American Electric Power	2.23	3.37	3.17	3.00	2.84	2.71	2.53	2.39	2.27	2.15	2.03	1.95	1.88	1.85	1.71	1.64	1.64	1.58	1.50
5	Avangrid, Inc.	1.75	1.76	1.76	1.76	1.76	1.76	1.74	1.73	1.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.25	1.84	1.76	1.69	1.62	1.55	1.49	1.43	1.37	1.32	1.27	1.22	1.16	1.10	1.00	0.81	0.69	0.60	0.57
7	Black Hills	1.75	2.50	2.41	2.29	2.17	2.05	1.93	1.81	1.68	1.62	1.56	1.52	1.48	1.46	1.44	1.42	1.40	1.37	1.32
8	CenterPoint Energy	0.85	0.76	0.72	0.66	0.90	0.86	1.12	1.35	1.03	0.99	0.95	0.83	0.81	0.79	0.78	0.76	0.73	0.68	0.60
9	CMS Energy Corp.	1.15	1.95	1.84	1.74	1.63	1.53	1.43	1.33	1.24	1.16	1.08	1.02	0.96	0.84	0.66	0.50	0.36	0.20	N/A
10	Consol. Edison	2.66	3.24	3.16	3.10	3.06	2.96	2.86	2.76	2.68	2.60	2.52	2.46	2.42	2.40	2.38	2.36	2.34	2.32	2.30
11	Dominion Resources	2.42	2.67	2.67	2.52	3.45	3.67	3.34	3.04	2.80	2.59	2.40	2.25	2.11	1.97	1.83	1.75	1.58	1.46	1.38
12	DTE Energy	2.93	3.88	3.54	3.88	4.12	3.85	3.59	3.36	3.06	2.84	2.69	2.59	2.42	2.32	2.18	2.12	2.12	2.12	2.08
13	Duke Energy	3.32	4.06	3.98	3.90	3.82	3.75	3.64	3.49	3.36	3.24	3.15	3.09	3.03	2.97	2.91	2.82	2.70	2.58	N/A
14	Edison Int'l	1.86	2.99	2.84	2.69	2.58	2.48	2.43	2.23	1.98	1.73	1.48	1.37	1.31	1.29	1.27	1.25	1.23	1.18	1.10
15	El Paso Electric	1.11	N/A	N/A	N/A	N/A	N/A	1.42	1.32	1.23	1.17	1.11	1.05	0.97	0.66	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	3.38	4.34	4.10	3.86	3.74	3.66	3.58	3.50	3.42	3.34	3.32	3.32	3.32	3.32	3.24	3.00	3.00	2.58	2.16
17	Eversource Energy	1.62	2.70	2.55	2.41	2.27	2.14	2.02	1.90	1.78	1.67	1.57	1.47	1.32	1.10	1.03	0.95	0.83	0.78	0.73
18	Evergy, Inc.	2.33	2.48	2.33	2.18	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
19	Exelon Corp.	1.62	1.44	1.35	1.53	1.53	1.45	1.38	1.31	1.26	1.24	1.24	1.46	2.10	2.10	2.10	2.10	2.05	1.82	1.64
20	FirstEnergy Corp.	1.77	1.60	1.56	1.56	1.56	1.53	1.82	1.44	1.44	1.44	1.44	1.65	2.20	2.20	2.20	2.20	2.20	2.05	1.85
21	Fortis Inc.	1.46	2.29	2.17	2.08	1.97	1.86	1.75	1.65	1.55	1.43	1.30	1.25	1.21	1.17	1.12	1.04	1.00	0.82	0.67
22	Great Plains Energy	1.11	N/A	N/A	N/A	N/A	N/A	N/A	1.10	1.06	1.00	0.94	0.88	0.86	0.84	0.83	0.83	1.66	1.66	1.66
23	Hawaiian Elec.	1.25	1.08	1.40	1.36	1.32	1.28	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
24	IDACORP, Inc.	1.94	3.20	3.04	2.88	2.72	2.56	2.40	2.24	2.08	1.92	1.76	1.57	1.37	1.20	1.20	1.20	1.20	1.20	1.20
25	MGE Energy	1.18	1.67	1.59	N/A	1.45	1.38	1.32	1.26	1.21	1.16	1.11	1.07	1.04	1.01	0.99	0.97	0.96	0.94	0.93
26	NextEra Energy, Inc.	0.90	1.87	1.70	1.54	1.40	1.25	1.11	0.98	0.87	0.77	0.73	0.66	0.60	0.55	0.50	0.47	0.45	0.41	0.38
27	NorthWestern Corp	1.84	2.56	2.52	2.48	2.40	2.30	2.20	2.10	2.00	1.92	1.60	1.52	1.48	1.44	1.36	1.34	1.32	1.28	1.24
28	OGE Energy	1.10	1.66	1.64	1.63	1.58	1.51	1.40	1.27	1.16	1.05	0.95	0.85	0.80	0.76	0.73	0.71	0.70	0.68	0.67
29	Otter Tail Corp.	1.31	1.75	1.65	1.56	1.48	1.40	1.34	1.28	1.25	1.23	1.21	1.19	1.19	1.19	1.19	1.19	1.19	1.17	1.15
30	Pinnacle West Capital	2.60	3.49	3.42	3.36	3.23	3.04	2.87	2.70	2.56	2.44	2.33	2.23	2.67	2.10	2.10	2.10	2.10	2.10	2.03
31	PNM Resources	0.89	1.49	1.41	0.98	1.25	1.18	1.09	0.99	0.88	0.80	0.76	0.68	0.58	0.50	0.50	0.50	0.61	0.91	0.86
32	Portland General	1.26	1.88	1.79	1.70	1.59	1.52	1.43	1.34	1.26	1.18	1.12	1.10	1.08	1.06	1.04	1.01	0.97	0.93	0.68
33	PPL Corp.	1.40	0.95	0.88	1.66	1.66	1.65	1.64	1.58	1.52	1.50	1.49	1.47	1.44	1.40	1.40	1.38	1.34	1.22	1.10
34	Public Serv. Enterprise	1.61	2.28	2.16	2.04	1.96	1.88	1.80	1.72	1.64	1.56	1.48	1.44	1.42	1.37	1.37	1.33	1.29	1.17	1.14
35	SCANA Corp.	2.00	N/A	N/A	N/A	N/A	N/A	N/A	2.45	2.30	2.18	2.10	2.03	1.98	1.94	1.90	1.88	1.84	1.76	1.68
36	Sempra Energy	2.70	2.38	4.58	4.40	4.18	3.87	3.58	3.29	3.02	2.80	2.64	2.52	2.40	1.92	1.56	1.56	1.37	1.24	1.20
37	Southern Co.	2.13	2.78	2.70	2.62	2.54	2.46	2.38	2.30	2.22	2.15	2.08	2.01	1.94	1.87	1.80	1.73	1.66	1.60	1.54
38	Vectren Corp.	1.42	N/A	N/A	N/A	N/A	N/A	N/A	1.71	1.62	1.54	1.46	1.43	1.41	1.39	1.37	1.35	1.31	1.27	1.23
39	WEC Energy Group	1.66	3.12	2.91	2.71	2.53	2.36	2.21	2.08	1.98	1.74	1.56	1.45	1.20	1.04	0.80	0.68	0.54	0.50	0.46
40	Westar Energy	1.30	N/A	N/A	N/A	N/A	N/A	N/A	1.60	1.52	1.44	1.40	1.36	1.32	1.28	1.24	1.20	1.16	1.08	0.98
41	Xcel Energy Inc.	1.33	2.08	1.95	1.83	1.72	1.62	1.52	1.44	1.36	1.28	1.20	1.11	1.07	1.03	1.00	0.97	0.94	0.91	0.88
42	Average	1.76	2.37	2.33	2.28	2.23	2.14	2.03	1.90	1.79	1.70	1.61	1.56	1.54	1.46	1.42	1.38	1.39	1.32	1.24
43	Industry Average Growth	3.89%	1.47%	2.08%	2.47%	4.36%	5.29%	6.91%	5.99%	5.44%	5.35%	3.49%	1.01%	5.77%	2.46%	3.13%	-0.48%	4.89%	6.45%	

Sources:

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

1 ALLETE 3.01 4.30 3.88 2.23 3.85 3.23 3.35 3.38 3.19 3.14 3.38 2.90 2.63 2.59 2.65 2.19 1.89 2.82 3.08 2.72 2 Allant Energy 1.82 2.78 2.73 2.83 2.47 2.33 2.19 1.99 1.65 1.69 1.74 1.65 1.53 1.38 1.38 0.55 1.27 1.35 1.00 3 Arment Corp. 2.99 4.53 4.14 3.84 1.43 8.84 1.42 2.83 3.30 2.72 2.83 2.49 1.99 1.85 1.69 1.74 1.65 1.55 1.38 1.38 0.55 1.27 1.35 1.00 4.40 2.40 2.40 2.40 2.40 2.40 2.40 2.40			40 V									Earnings	per Share ¹								
1 ALLETE 3.01 4.30 3.38 3.23 3.35 3.38 3.3	Line	Company		20232	2022	2021	2020	2010	2019	2017	2016	2015	2014	2012	2012	2011	2010	2000	2009	2007	2006
2 Allant Energy 1 182 278 278 273 283 247 233 219 199 1.65 1.69 1.74 1.65 1.53 1.38 1.38 0.95 1.27 1.35 1.05 1.06 1.06 1.07 1.07 1.07 1.07 1.07 1.07 1.07 1.07	Lille	Сотрану																			(19)
3 American Corp. 4 American Electric Power 3 67 5 24 5 American Electric Power 3 68 5 Avainagod, Inc. 1 88 5 235 2 197 1 88 2 297 1 198 2 198 2 207 1 198 2 198 2 197 2 198 2 198 2 198 2 198 2 198 3 10 3 10 3 10 3 10 3 10 3 10 3 10 3 10																					2.77
4 American Electric Power 3.67 5.24 5.09 4.96 4.42 4.08 3.00 3.62 4.23 3.59 3.34 3.18 2.98 3.13 2.00 2.97 2.99 2.88 2.89 2.84 2.																					
5 Avangrid, Inc. 188 2.05 2.32 197 188 2.26 192 1.67 198 0.86 N/A																					
6 Avisia Corp. 183 2-30 2-12 2-10 190 2-97 2-07 196 2-15 189 1.84 1.85 1.32 1.72 1.65 1.58 1.58 0.72 1.47 7 Black Hilbergry 1.24 1.37 1.59 0.94 1.29 1.49 0.74 1.57 1.00 1.08 1.42 1.24 1.35 1.27 1.07 1.01 1.03 1.17 1.26 2.38 2.28 2.89 2.81 1.97 1.01 1.66 2.32 0.88 2.28 8 Center-Point Energy 1.24 1.37 1.59 0.94 1.29 1.49 0.74 1.57 1.00 1.08 1.42 1.24 1.35 1.27 1.07 1.01 1.03 1.17 1.33 1.00 CINS Engine Comp. 1.28 1.29 1.29 1.29 1.29 1.29 1.29 1.29 1.29																					
Figure Black Hills 1/2 1/2 1/3	-																				
8 CenterPoint Energy 9 CNB Energy Corp. 183 3.01 2.84 2.58 2.64 2.99 2.25 2.01 1.99 1.49 0.74 1.57 1.00 1.08 1.42 1.24 1.35 1.27 1.07 1.01 1.30 1.17 1.35 0.64 0.66 1.00 Consol. Edison 3.91 5.00 4.55 4.74 3.94 4.08 4.55 4.10 3.94 4.05 3.62 3.93 3.86 3.57 3.47 3.14 3.36 3.48 2.91 1.00 million Resources 2.90 2.85 4.11 3.19 1.82 2.19 3.25 3.53 3.44 3.20 3.05 3.09 2.75 2.76 2.89 2.64 3.04 2.13 2.44 1.24 1.25 1.25 2.10 1.25 2.13 2.12 2.12 2.12 2.12 2.12 2.12 2.12	-																				
9 CMS Energy Corp. 183 3.01 2.84 2.58 2.64 2.39 2.32 2.17 1.98 1.89 1.74 1.68 1.53 1.45 1.33 0.93 1.23 0.64 0.6 Consolic Edison 3.91 5.00 4.55 4.74 3.94 4.09 4.55 3.62 3.93 3.62 3.93 3.86 3.57 3.47 3.14 3.36 3.48 2.99 11 Dominion Resources 2.90 2.65 4.11 3.19 1.82 2.19 3.25 3.53 3.44 3.20 3.05 3.09 2.75 2.76 2.76 2.98 2.64 3.04 2.13 2.44 13 Duke Energy 4.09 5.60 5.72 4.93 3.92 5.07 4.13 4.22 3.71 4.10 4.13 3.38 3.71 4.14 4.02 3.39 3.03 3.00 2.77 14 Edison Int1 3.23 4.70 1.60 2.00 1.72 3.99 4.15 4.51 3.94 4.15 4.33 3.78 4.55 3.23 3.35 3.24 3.68 3.22 3.21 15 El Piaso Electric 2.02 NA S. 2.07 2.42 2.39 2.60 2.44 2.39 2.40 2.40 2.39 2.40 2.60 2.44 16 Elevery Concerning Co																					
10 Consol, Edison September Consol, Edison Cons	-																				
11 Dominion Resources 2.90 2.65 4.11 3.19 1.82 2.19 3.25 3.53 3.44 3.20 3.05 3.09 2.75 2.76 2.89 2.64 3.04 2.13 2.44 2.15 2.																					2.95
DTE Energy 4.57 6.76 6.52 4.10 7.08 6.31 6.17 6.73 4.83 4.44 5.10 3.76 3.88 3.67 3.74 3.24 2.73 2.66 2.44 2.13 Dube Energy 4.09 6.50 6.52 4.9 3.89 2.50 5.71 4.15 4.22 3.91 2.03 4.70 1.60 2.00 1.72 3.98 -1.26 4.51 3.94 4.15 4.33 3.76 4.55 3.23 3.35 3.24 3.68 3.32 3.25 1.26 Enlergy Corp. 6.37 11.10 5.37 6.87 6.90 6.30 5.88 5.19 6.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 5.00 5.00 5.88 5.19 6.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 5.00 5.00 5.88 5.19 6.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 5.00 5.00 5.88 5.19 6.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 5.00 5.00 5.00 5.00 5.00 5.00 5.00 5																					2.40
13 Duke Energy																					2.45
14 Edison Int 323 470 1.60 2.00 1.72 3.98 -1.26 4.51 3.94 4.15 4.33 3.78 4.55 3.23 3.35 3.24 3.68 3.32 3.21 16 Enlergy Corp. 6.37 11.10 5.37 6.87 6.00 6.30 5.88 5.19 6.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 5.06 5.30 18 Evergy, Inc. 3.56 3.60 3.83 N/A N																					2.73
EPaso Electric 202 NIA NIA NIA NIA NIA NIA NIA NIA 207 242 2.39 2.03 2.27 2.20 2.26 2.48 2.07 1.50 1.73 1.63 1.27																					3.28
Foreign First Fi																					1.27
17 Eversource Energy																					5.36
19 Exelon Corp. 2.83 2.26 1.74 2.60 3.01 2.07 2.78 1.80 2.54 2.10 2.31 1.92 3.75 3.87 4.29 4.10 4.03 3.55 2	17		2.70	4.35	4.09	3.54	3.55	3.45	3.25	3.11	2.96	2.76	2.58	2.49	1.89	2.22	2.10	1.91	1.86	1.59	0.82
20 FirstEnergy Corp. 257 2.55 2.41 2.69 1.85 1.84 1.33 2.73 2.10 2.00 0.85 2.97 2.13 1.88 3.25 3.32 4.38 4.22 3.85 2.15 for line. 2 For line. 2 For line. 3 For li	18	Evergy, Inc.	3.56	3.60	3.26	3.83	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
21 Fortis Inc. 2 Great Plains Energy 1 33 NA	19	Exelon Corp.	2.83	2.35	2.26	1.74	2.60	3.01	2.07	2.78	1.80	2.54	2.10	2.31	1.92	3.75	3.87	4.29	4.10	4.03	3.50
22 Great Plains Energy 133 N/A	20	FirstEnergy Corp.	2.57	2.55	2.41	2.69	1.85	1.84		2.73	2.10	2.00	0.85	2.97	2.13	1.88	3.25	3.32	4.38	4.22	3.82
23 Hawaiian Elec	21	Fortis Inc.	2.04	3.10	2.78	2.61	2.60	2.68		2.66	1.89	2.11	1.38	1.63	1.65	1.74	1.62	1.51	1.52	1.29	1.36
24 IDACORP, Inc. 373 515 5.11 4.85 4.69 4.61 4.49 4.21 3.94 3.87 3.86 3.64 3.37 3.36 2.95 2.64 2.18 1.86 2.37 MGE Energy 1.55 MGE Energy, Inc. 1.55 3.17 2.90 1.81 2.10 1.94 1.67 1.63 1.45 1.52 1.40 1.21 1.14 1.21 1.19 0.99 1.02 0.82 0.8 27 NorthWestern Corp 2.70 3.10 3.29 3.60 3.60 3.53 3.40 3.34 3.39 2.90 2.99 2.46 2.26 2.53 2.14 2.02 1.77 1.44 1.32 28 OGE Energy 1.80 2.07 2.25 2.36 2.08 2.24 2.12 1.92 1.69 1.69 1.69 1.88 1.94 1.79 1.73 1.50 1.33 1.25 1.32 1.22 29 Otter Tail Corp. 2.70 7.00 6.78 4.23 2.34 2.17 2.06 1.86 1.60 1.55 1.55 1.37 1.05 0.45 0.38 0.71 1.09 1.78 1.63 1.63 30 Pinnacle West Capital 3.77 4.25 4.26 5.47 4.87 4.77 4.54 4.43 3.95 3.92 3.58 3.66 3.50 2.99 3.08 2.26 2.12 2.96 3.13 1PMM Resources 1.58 2.80 2.69 2.27 2.15 2.28 1.66 1.92 1.65 1.64 1.45 1.41 1.31 1.08 0.87 0.58 0.11 0.76 1.73 32 Portland General 2.04 2.60 2.74 2.72 1.72 2.29 2.37 2.29 2.16 2.04 2.18 1.77 1.87 1.95 1.66 1.31 1.39 2.33 1.14 33 PIL Corp. 2.14 1.55 1.41 0.53 2.04 2.37 2.58 2.11 2.79 2.37 2.38 2.38 2.61 2.61 2.29 1.19 2.45 2.34 2.34 2.34 2.34 2.34 2.34 2.34 2.34	22	Great Plains Energy	1.33	N/A	N/A		N/A	N/A	N/A	-0.06		1.37	1.57	1.62	1.35			1.03	1.16		1.62
25 MGE Energy 2 212 325 3.07 N/A 260 2.51 2.43 2.20 2.18 2.06 2.32 2.16 1.86 1.76 1.67 1.47 1.59 1.51 1.32 2.58 NextEra Energy, Inc. 1.55 3.17 2.90 1.81 2.10 1.94 1.67 1.63 1.45 1.52 1.40 1.21 1.14 1.21 1.19 0.99 1.02 0.82 0.83 2.04 0.00 0.00 0.00 0.00 0.00 0.00 0.00																					1.33
26 NextEra Energy, Inc. 155 3.17 2.90 1.81 2.10 1.94 1.67 1.63 1.45 1.52 1.40 1.21 1.14 1.21 1.19 0.99 1.02 0.82 0.88 27 NorthWestern Corp 180 2.07 2.25 2.36 2.08 2.24 2.12 1.92 1.69 1.69 1.69 1.80 1.94 1.79 1.73 1.50 1.33 1.25 1.32 1.22 29 0tter Tail Corp. 270 0tter Tail Corp. 270 7.00 6.78 4.23 2.34 2.17 2.06 1.86 1.60 1.56 1.55 1.37 1.05 0.45 0.38 0.71 1.09 1.78 1.69 1.00 0.45 0.38 0.71 1.09 1.78 1.69 0.91 0.45 0.38 0.71 1.09 1.78 1.69 0.45 0.38 0.71 1.09 1.78 1.69 0.45 0.38 0.71 1.09 1.78 1.69 0.45 0.45 0.45 0.45 0.45 0.45 0.45 0.45																					2.35
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																					2.09

Sources

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Exhibit CCW-1 Page 7 of 16

Oklahoma Gas & Electric Company

Electric Utilities (Valuation Metrics)

			Ca	sh Flow / 0	Capital Spe	endina¹	
	-				- пр.на. орс		3 - 5 yr ²
Line	Company	2020	2021	2022	2023	2024 ²	Projection
LITTE	Company	(1)	(2)	(3)	(4)	(5)	(6)
		(1)	(2)	(3)	(4)	(3)	(6)
1	ALLETE	0.74x	0.80x	2.26x	1.42x	1.39x	1.33x
2	Alliant Energy	0.82x	0.97x	0.94x	0.95x	0.97x	1.20x
3	Ameren Corp.	0.51x	0.59x	0.72x	0.74x	0.84x	0.94x
4	American Electric Power	0.74x	0.69x	0.73x	0.72x	0.82x	1.09x
5	Avangrid, Inc.	0.56x	0.62x	0.61x	0.57x	0.72x	0.78x
6	Avista Corp.	0.85x	0.87x	0.83x	0.78x	0.93x	1.00x
7	Black Hills	0.72x	0.76x	0.85x	0.82x	0.84x	1.00x
8	CenterPoint Energy	0.88x	0.62x	0.62x	0.57x	0.55x	0.69x
9	CMS Energy Corp.	0.82x	0.77x	0.78x	0.92x	0.81x	0.87x
10	Consol. Edison	0.82x	0.89x	0.83x	0.72x	0.84x	0.94x
11	Dominion Resources	1.00x	0.89x	0.74x	0.63x	0.53x	0.88x
12	DTE Energy	0.67x	0.70x	0.75x	0.82x	0.87x	0.95x
	Duke Energy	0.86x	0.93x	0.81x	0.79x	0.77x	0.90x
	Edison Int'l	0.67x	0.74x	0.67x	0.75x	0.83x	0.85x
15	El Paso Electric	1.00x	0.83x	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.81x	1.05x	0.98x	0.85x	0.83x	1.08x
	Eversource Energy	0.95x	0.74x	0.72x	0.86x	0.81x	1.03x
	Evergy, Inc.	1.06x	0.96x	0.94x	0.86x	0.89x	0.98x
	Exelon Corp.	1.30x	1.32x	0.96x	0.99x	0.92x	1.07x
	FirstEnergy Corp.	0.96x	0.91x	0.86x	0.80x	0.82x	0.95x
21	Fortis Inc.	0.60x	0.74x	0.75x	0.82x	0.85x	0.97x
22	Hawaiian Elec.	1.10x	1.42x	1.30x	1.51x	1.36x	1.12x
23	IDACORP, Inc.	1.25x	1.16x	0.83x	0.63x	0.58x	0.97x
24	MGE Energy	0.73x	0.87x	N/A	1.26x	1.09x	1.18x
	NextEra Energy, Inc.	0.58x	0.69x	0.54x	0.59x	0.69x	0.84x
	NorthWestern Corp	0.98x	0.82x	0.66x	0.75x	0.92x	1.19x
27	OGE Energy	1.43x	1.13x	0.99x	0.97x	1.00x	1.24x
28	•••	0.45x	1.42x	1.45x	1.08x	1.23x	1.15x
29	Pinnacle West Capital	0.98x	0.85x	0.78x	0.95x	0.89x	1.00x
	PNM Resources	0.59x	0.51x	0.63x	0.63x	0.76x	0.93x
31	Portland General	0.75x	0.97x	1.01x	0.58x	0.72x	0.85x
32	PPL Corp.	1.06x	1.12x	1.35x	0.98x	0.96x	0.93x
33	Public Serv. Enterprise	1.00x	1.05x	0.82x	0.87x	0.92x	1.12x
34	Sempra Energy	0.92x	0.78x	0.92x	0.96x	0.98x	1.14x
35	Southern Co.	1.01x	0.93x	0.97x	0.97x	1.02x	1.23x
36	WEC Energy Group	0.70x	0.75x	0.87x	0.92x	1.01x	1.28x
37	Xcel Energy Inc.	0.99x	0.86x	0.80x	0.92x	0.94x	1.06x
	 -						
38	Average	0.86x	0.88x	0.89x	0.86x	0.89x	1.02x
39	Median	0.85x	0.86x	0.83x	0.84x	0.86x	1.00x

Source

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

 $^{^{\}rm 1}$ Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

 $^{^{2}}$ The Value Line Investment Survey, January 19, February 9, and March 8, 2024. Notes:

Exhibit CCW-1 Page 8 of 16

Oklahoma Gas & Electric Company

									Р	ercent Div	idends to E	Book Value	e ¹							
		18-Year	2/4																	
Line	Company	Average (1)	2023 ^{2/a} (2)	(3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
		(1)	(2)	(3)	(4)	(5)	(0)	(1)	(0)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(10)	(17)	(10)	(19)
1	ALLETE	5.90%	5.56%	5.52%	5.56%	5.61%	5.44%	5.35%	5.29%	5.45%	5.45%	5.59%	5.86%	6.04%	6.18%	6.46%	6.67%	6.78%	6.80%	6.62%
2	Alliant Energy	6.39%	6.84%	6.84%	6.73%	6.68%	6.68%	6.90%	7.32%	6.96%	6.70%	6.56%	6.36%	6.37%	6.26%	6.06%	5.98%	5.48%	5.23%	5.04%
3	Ameren Corp.	6.03%	6.26%	5.88%	5.84%	5.67%	5.87%	5.92%	6.01%	5.86%	5.78%	5.82%	5.93%	5.87%	4.76%	4.79%	4.66%	7.74%	7.84%	7.97%
4	American Electric Power	6.35%	6.95%	6.80%	6.74%	6.86%	6.82%	6.56%	6.43%	6.42%	5.90%	5.91%	5.91%	5.99%	6.10%	6.04%	5.97%	6.23%	6.28%	6.32%
5	Avangrid, Inc.	3.15%	3.49%	3.51%	3.57%	3.58%	3.57%	3.57%	3.54%	3.53%	0.00%	N/A	N/A							
6	Avista Corp.	5.06%	5.63%	5.65%	5.61%	5.53%	5.37%	5.52%	5.41%	5.33%	5.38%	5.33%	5.65%	5.51%	5.42%	5.07%	4.23%	3.77%	3.44%	3.26%
/	Black Hills	5.33%	5.35%	5.32%	5.32%	5.32%	5.34%	5.31%	5.67%	5.55%	5.66%	5.06%	5.17%	5.31%	5.30%	5.14%	5.10%	5.15%	5.34%	5.58%
8	CenterPoint Energy	9.31%	4.96%	4.90%	4.82%	8.35% 8.57%	6.59%	8.94%	12.39%	12.82%	12.30%	8.96%	8.23%	8.05%	7.97%	10.36%	11.28%	12.40%	12.12% 2.11%	12.09%
9 10	CMS Energy Corp. Consol. Edison	6.71%	7.84%	7.89% 5.42%	7.87% 5.48%	8.57% 5.56%	8.66% 5.46%	8.52% 5.49%	8.43%	8.14%	8.16% 5.84%	8.10% 5.87%	7.86% 5.88%	7.94% 5.97%	7.05% 6.15%	5.90% 6.27%	4.38% 6.47%	3.31% 6.60%	2.11% 7.12%	0.00% 7.40%
10	Dominion Resources	5.99% 10.11%	5.51% 7.96%	5.42% 8.54%	5.48% 8.00%	11.72%	10.39%	11.31%	5.55% 11.41%	5.72% 12.04%	12.20%	12.16%	11.24%	11.50%	9.81%	8.86%	9.38%	9.14%	7.12% 8.95%	7.40%
12	DTE Energy	6.26%	7.25%	7.64%	8.64%	6.43%	6.34%	6.38%	6.34%	6.09%	5.81%	5.72%	5.79%	5.66%	5.60%	5.49%	5.59%	5.76%	5.91%	6.28%
13	Duke Energy	5.47%	6.29%	6.47%	6.34%	6.39%	6.12%	6.04%	5.85%	5.73%	5.61%	5.72%	5.79%	5.22%	5.81%	5.72%	5.66%	5.45%	5.12%	0.26%
14	Edison Int'l	5.66%	8.48%	9.24%	7.36%	6.96%	6.73%	7.56%	6.23%	5.39%	4.97%	4.41%	4.48%	4.54%	4.16%	3.90%	4.12%	4.19%	4.53%	4.65%
15	El Paso Electric	2.94%	N/A	N/A	N/A	5.13%	0.7376 N/A	4.94%	4.67%	4.62%	4.63%	4.53%	4.46%	4.72%	3.47%	0.00%	0.00%	0.00%	0.00%	0.00%
16	Entergy Corp.	6.70%	6.32%	6.68%	6.72%	6.85%	7.13%	7.65%	7.90%	7.58%	6.44%	5.95%	6.15%	6.42%	6.53%	6.82%	6.59%	7.13%	6.34%	5.34%
17	Eversource Energy	5.07%	6.34%	5.74%	5.69%	5.54%	5.59%	5.57%	5.43%	5.27%	5.12%	4.99%	4.82%	4.49%	4.86%	4.75%	4.66%	4.26%	4.16%	4.00%
18	Evergy, Inc.	5.53%	5.81%	5.57%	5.41%	5.32%	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
19	Exelon Corp.	7.03%	5.65%	5.42%	4.36%	4.62%	4.38%	4.34%	4.23%	4.51%	4.42%	4.72%	5.49%	8.38%	9.68%	10.25%	10.96%	12.21%	11.87%	11.02%
20	FirstEnergy Corp.	8.78%	8.67%	8.78%	10.26%	11.70%	11.86%	13.82%	16.34%	10.21%	4.91%	4.88%	5.44%	7.03%	6.93%	7.85%	7.84%	8.10%	6.96%	6.54%
21	Fortis Inc.	5.42%	5.84%	5.95%	5.59%	5.39%	5.08%	5.03%	5.19%	4.80%	5.00%	5.22%	5.58%	5.81%	5.70%	5.91%	5.60%	5.55%	4.90%	5.47%
22	Great Plains Energy	5.31%	N/A	N/A	N/A	N/A	N/A	N/A	4.78%	4.27%	4.21%	4.02%	3.91%	3.93%	3.84%	3.90%	4.03%	7.76%	9.13%	9.94%
23	Hawaiian Elec.	7.10%	5.16%	6.96%	6.22%	6.17%	6.12%	6.24%	6.43%	6.51%	6.91%	7.10%	7.27%	7.62%	7.77%	7.91%	7.96%	8.08%	8.11%	9.22%
24	IDACORP, Inc.	4.70%	5.63%	5.48%	5.45%	5.36%	5.24%	5.11%	5.02%	4.87%	4.70%	4.53%	4.26%	3.91%	3.62%	3.87%	4.11%	4.32%	4.48%	4.66%
25	MGE Energy	6.11%	5.30%	5.32%	N/A	5.22%	5.59%	5.60%	5.61%	5.79%	5.82%	5.84%	6.01%	6.22%	6.36%	6.56%	6.72%	6.87%	7.24%	7.77%
26	NextEra Energy, Inc.	6.70%	8.08%	8.61%	8.13%	7.51%	6.61%	6.22%	6.55%	6.69%	6.29%	6.49%	6.36%	6.34%	6.12%	5.82%	5.99%	6.30%	6.22%	6.21%
27	NorthWestern Corp	5.81%	5.42%	5.65%	5.73%	5.84%	5.69%	5.70%	5.76%	5.77%	5.78%	5.08%	5.71%	5.90%	6.08%	6.01%	6.13%	6.21%	6.06%	6.00%
28	OGE Energy	6.86%	7.46%	7.47%	8.04%	8.71%	7.28%	6.96%	6.59%	6.70%	6.30%	5.84%	5.56%	5.70%	5.81%	6.24%	6.79%	6.89%	7.47%	7.61%
29	Otter Tail Corp.	7.03%	5.95%	5.61%	6.54%	7.05%	7.19%	7.29%	7.27%	7.34%	7.70%	7.86%	8.07%	8.25%	7.52%	6.77%	6.33%	6.22%	6.67%	6.90%
30	Pinnacle West Capital	6.21%	6.45%	6.40%	6.43%	6.47%	6.29%	6.16%	6.03%	5.93%	5.91%	5.89%	5.84%	7.38%	6.00%	6.20%	6.42%	6.15%	5.98%	5.87%
31	PNM Resources	4.02%	5.57%	5.52%	3.88%	5.23%	5.59%	5.12%	4.67%	4.18%	3.85%	3.37%	3.26%	2.89%	2.55%	2.84%	2.65%	3.20%	4.13%	3.89%
32	Portland General	4.89%	5.56%	5.75%	5.61%	5.45%	5.24%	5.09%	4.94%	4.78%	4.64%	4.56%	4.70%	4.70%	4.78%	4.90%	4.93%	4.48%	4.42%	3.45%
33	PPL Corp.	8.49%	4.87%	4.66%	8.89%	9.55%	9.74%	10.13%	10.18%	10.44%	10.19%	7.28%	7.43%	8.00%	7.48%	8.24%	9.47%	9.89%	8.20%	8.27%
34	Public Serv. Enterprise	7.00%	7.93%	7.82%	7.12%	6.18%	6.28%	6.31%	6.27%	6.31%	6.03%	6.14%	6.28%	6.66%	6.75%	7.20%	7.66%	8.40%	8.15%	8.54%
35	SCANA Corp.	6.44%	N/A	N/A	= =00/	N/A	N/A	N/A	6.67%	5.74%	5.72%	6.01%	6.14%	6.29%	6.48%	6.54%	6.80%	7.12%	6.94%	6.89%
36	Sempra Energy	5.33%	5.30%	5.49%	5.56%	5.96%	6.39%	6.59%	6.53%	5.83%	5.89%	5.74%	5.60%	5.66%	4.68%	4.16%	4.27%	4.18%	3.89%	4.19%
37	Southern Co.	9.58%	9.93%	9.67%	9.96%	9.59%	9.42%	9.95%	9.59%	8.89% 7.60%	9.53%	9.48%	9.39%	9.22%	9.22%	9.38%	9.55% 7.84%	9.74%	9.83%	10.07% 7.97%
38 39	Vectren Corp. WEC Energy Group	7.71% 6.42%	N/A 8.38%	N/A 7.92%	N/A 7.83%	N/A 7.62%	N/A 7.36%	N/A 7.12%	7.67% 6.94%	7.60%	7.57% 6.35%	7.51% 7.96%	7.55% 7.71%	7.57% 6.65%	7.74% 6.05%	7.78% 4.92%	7.84% 4.42%	7.85% 3.78%	7.86% 3.77%	7.97% 3.72%
39 40	WEC Energy Group Westar Energy	5.71%	8.38% N/A	7.92% N/A	7.83% N/A	7.62% N/A	7.36% N/A	7.12% N/A	5.82%	7.00% 5.66%	5.57%	7.96% 5.60%	7.71% 5.70%	5.77%	5.81%	4.92% 5.84%	4.42% 5.83%	3.78% 5.75%	3.77% 5.64%	3.72% 5.56%
40	Xcel Energy Inc.	6.19%	6.60%	6.43%	6.38%	6.34%	6.42%	6.39%	6.38%	6.26%	6.13%	5.94%	5.70%	5.77%	5.81%	5.84%	6.09%	6.13%	6.19%	6.16%
41	Auei Ellergy Illu.	0.1970	0.0070	0.4370	0.3070	0.3470	0.4270	0.3970	0.3070	0.2070	0.1370	3.9470	0.7070	J.0070	5.9170	3.9770	0.0970	0.1370	0.1970	0.1070
42	Average	6.34%	6.40%	6.46%	6.50%	6.65%	6.57%	6.69%	6.73%	6.46%	6.13%	6.09%	6.11%	6.29%	6.11%	6.07%	6.13%	6.37%	6.29%	6.10%
	Median	6.09%	6.10%	5.92%	6.34%	6.18%	6.29%	6.23%	6.25%	5.85%	5.82%	5.84%	5.84%	5.99%	6.08%	6.01%	5.99%	6.22%	6.22%	6.21%

Sources:

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

³ Based on the projected 2023 Dividend Declared per share and Book Value per share,
published in The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Exhibit CCW-1 Page 9 of 16

Oklahoma Gas & Electric Company

										Dividends	to Earning	gs Ratio ¹								
		18-Year	ar-																	
Line	Company	Average	2023 2/a	2022	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)	(19)
1	ALLETE	0.69	0.63	0.77	0.78	0.74	0.71	0.66	0.68	0.66	0.60	0.68	0.72	0.71	0.67	0.80	0.93	0.61	0.53	0.52
2	Alliant Energy	0.61	0.65	0.63	0.61	0.62	0.61	0.61	0.63	0.72	0.65	0.59	0.57	0.59	0.62	0.57	0.79	0.55	0.47	0.56
3	Ameren Corp.	0.66	0.58	0.57	0.57	0.57	0.57	0.56	0.64	0.64	0.70	0.67	0.76	0.66	0.63	0.56	0.55	0.88	0.85	0.95
4	American Electric Power	0.61	0.64	0.62	0.60	0.64	0.66	0.65	0.66	0.54	0.60	0.61	0.61	0.63	0.59	0.66	0.55	0.55	0.55	0.52
5	Avangrid, Inc.	0.88	0.86	0.76	0.89	0.94	0.78	0.91	1.03	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.68	0.80	0.83	0.80	0.85	0.52	0.72	0.73	0.64	0.70	0.69	0.66	0.88	0.64	0.61	0.51	0.51	0.83	0.39
7	Black Hills	1.06	0.66	0.61	0.61	0.58	0.58	0.56	0.54	0.64	0.57	0.54	0.58	0.75	1.45	0.87	0.61	7.78	0.51	0.60
8	CenterPoint Energy	0.72	0.55	0.45	0.70	0.70	0.58	1.51	0.86	1.03	0.92	0.67	0.67	0.60	0.62	0.73	0.75	0.56	0.58	0.45
9	CMS Energy Corp.	0.58	0.65	0.65	0.67	0.62	0.64	0.62	0.61	0.63	0.61	0.62	0.61	0.63	0.58	0.50	0.54	0.29	0.31	N/A
10	Consol. Edison	0.68	0.65	0.69	0.65	0.78	0.73	0.63	0.67	0.68	0.64	0.70	0.63	0.63	0.67	0.69	0.75	0.70	0.67	0.78
11	Dominion Resources	0.87	1.01	0.65	0.79	1.90	1.68	1.03	0.86	0.81	0.81	0.79	0.73	0.77	0.71	0.63	0.66	0.52	0.69	0.58
12		0.66	0.57	0.64	0.95	0.58	0.61	0.58	0.59	0.63	0.64	0.53	0.69	0.62	0.63	0.58	0.65	0.78	0.80	0.85
13		0.80	0.73	0.76	0.79	0.97	0.74	0.88	0.83	0.91	0.79	0.76	0.78	0.82	0.72	0.72	0.83	0.89	0.72	N/A
14	Edison Int'l	0.47	0.64	1.78	1.35	1.50	0.62	- 1.93	0.50	0.50	0.42	0.34	0.36	0.29	0.40	0.38	0.38	0.33	0.35	0.34
15	El Paso Electric	0.50	N/A	N/A	N/A	N/A	N/A	0.68	0.54	0.51	0.57	0.49	0.48	0.43	0.27	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.54	0.39	0.76	0.56	0.54	0.58	0.61	0.67	0.50	0.57	0.58	0.67	0.55	0.44	0.49	0.48	0.48	0.46	0.40
17	Eversource Energy	0.60	0.62	0.62	0.68	0.64	0.62	0.62	0.61	0.60	0.61	0.61	0.59	0.70	0.50	0.49	0.50	0.44	0.49	0.88
18	Evergy, Inc.	0.66	0.69	0.71	0.57	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
19	Exelon Corp.	0.60	0.61	0.60	0.88	0.59	0.48	0.67	0.47	0.70	0.49	0.59	0.63	1.09	0.56	0.54	0.49	0.50	0.45	0.47
20	FirstEnergy Corp.	0.78	0.63	0.65	0.58	0.84	0.83	1.37	0.53	0.69	0.72	1.69	0.56	1.03	1.17	0.68	0.66	0.50	0.49	0.48
21	Fortis Inc.	0.71	0.74	0.78	0.80	0.76	0.69	0.69	0.62	0.82	0.68	0.94	0.77	0.73	0.67	0.69	0.69	0.66	0.64	0.49
22	Great Plains Energy	- 0.82	N/A	N/A	N/A	N/A	N/A	N/A	-18.33	0.66	0.73	0.60	0.54	0.63	0.67	0.54	0.81	1.43	0.90	1.02
23	Hawaiian Elec.	0.82	0.60	0.64	0.60	0.73	0.64	0.67	0.76	0.54	0.83	0.76	0.77	0.74	0.86	1.02	1.36	1.16	1.12	0.93
24	IDACORP, Inc.	0.51	0.62	0.59	0.59	0.58	0.56	0.53	0.53	0.53	0.50	0.46	0.43	0.41	0.36	0.41	0.45	0.55	0.65	0.51
25	MGE Energy	0.57	0.51	0.52	N/A	0.56	0.55	0.54	0.57	0.56	0.56 0.51	0.48	0.50	0.56	0.57	0.60	0.66	0.60 0.44	0.62	0.68
26	NextEra Energy, Inc.	0.56	0.59	0.59	0.85	0.67			0.60	0.60	0.51	0.52	0.55	0.53	0.45	0.42	0.47		0.50 0.89	0.47 0.95
27	NorthWestern Corp	0.69 0.60	0.83 0.80	0.77	0.69 0.69	0.78 0.76	0.65	0.65 0.66	0.63	0.59 0.68	0.66	0.54 0.48	0.62	0.65 0.45	0.57 0.44	0.64	0.66	0.75 0.56	0.89	0.95
28 29	OGE Energy Otter Tail Corp.	0.60	0.80	0.73	0.89	0.76	0.67	0.65	0.69	0.68	0.62	0.48	0.44	1.13	2.64	3.13	1.68	1.09	0.52	0.55
30	Pinnacle West Capital	0.98	0.25	0.24	0.61	0.66	0.65	0.63	0.69	0.76	0.79	0.76	0.61	0.76	0.70	0.68	0.93	0.99	0.00	0.64
31	PNM Resources	0.85	0.53	0.52	0.43	0.58	0.52	0.65	0.52	0.53	0.49	0.52	0.48	0.70	0.76	0.57	0.86	5.50	1.20	0.50
32	Portland General	0.62	0.72	0.65	0.43	0.92	0.64	0.60	0.52	0.58	0.49	0.52	0.62	0.57	0.54	0.62	0.77	0.70	0.40	0.59
33	PPL Corp.	0.02	0.72	0.62	3.13	0.81	0.70	0.64	0.75	0.54	0.63	0.63	0.62	0.55	0.54	0.61	1.16	0.75	0.46	0.48
34	Public Serv. Enterprise	0.75	0.65	0.62	0.80	0.54	0.70	0.65	0.61	0.58	0.47	0.49	0.59	0.58	0.44	0.45	0.43	0.44	0.45	0.62
35	SCANA Corp.	0.61	N/A	N/A	0.00	N/A	N/A	N/A	0.58	0.55	0.57	0.55	0.60	0.63	0.65	0.43	0.46	0.62	0.64	0.65
36	Sempra Energy	0.54	0.52	0.50	1.10	0.64	0.65	0.65	0.71	0.71	0.54	0.57	0.60	0.55	0.43	0.39	0.33	0.31	0.29	0.28
37	Southern Co.	0.75	0.77	0.75	0.77	0.78	0.78	0.79	0.72	0.79	0.76	0.75	0.75	0.73	0.73	0.76	0.75	0.74	0.70	0.73
38	Vectren Corp.	0.75	N/A	N/A	N/A	N/A	N/A	N/A	0.66	0.64	0.64	0.72	0.86	0.72	0.80	0.84	0.75	0.80	0.69	0.85
39	WEC Energy Group	0.56	0.67	0.65	0.66	0.67	0.66	0.66	0.66	0.67	0.74	0.60	0.58	0.51	0.48	0.42	0.42	0.36	0.35	0.35
40	Westar Energy	0.68	N/A	N/A	N/A	N/A	N/A	N/A	0.70	0.63	0.69	0.60	0.60	0.61	0.72	0.69	0.94	0.89	0.59	0.52
	Xcel Energy Inc.	0.62	0.62	0.62	0.62	0.62	0.61	0.62	0.63	0.62	0.61	0.59	0.58	0.58	0.60	0.64	0.65	0.64	0.67	0.65
42	Average	0.65	0.65	0.68	0.78	0.75	0.66	0.64	0.18	0.65	0.64	0.64	0.62	0.65	0.67	0.68	0.70	0.96	0.62	0.61
43	Median	0.63	0.64	0.64	0.68	0.67	0.64	0.65	0.63	0.64	0.62	0.60	0.61	0.63	0.62	0.62	0.66	0.61	0.60	0.57

Sources:

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Note:

^b Based on the projected 2023 Dividends Declared per share and Earnings per share,
published in The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Exhibit CCW-1 Page 10 of 16

Oklahoma Gas & Electric Company

									Cas	sh Flow to	Capital Sp	ending Rat	tio 1							
		18-Year																		
Line	Company	Average	2023 2/a	2022	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)	(19)
1	ALLETE	0.93	1.76	2.12	0.55	0.55	0.63	1.22	1.61	1.32	1.16	0.45	0.67	0.49	0.77	0.63	0.39	0.46	0.65	1.23
2	Alliant Energy	0.80	0.74	0.91	0.95	N/A	N/A	N/A	0.49	N/A	0.81	0.91	1.01	0.57	0.91	0.67	0.39	0.57	1.04	1.27
3	Ameren Corp.	0.87	0.77	0.71	0.62	0.62	0.79	0.80	0.75	0.75	0.75	0.75	0.89	1.07	1.31	1.36	0.81	0.66	0.97	1.21
4	American Electric Power	0.86	0.71	0.81	0.81	0.81	0.75	0.68	0.67	0.85	0.85	0.87	0.91	1.07	1.19	1.24	1.02	0.70	0.77	0.75
5	Avangrid, Inc.	0.71	0.69	0.79	0.56	0.56	0.62	0.85	0.57	0.86	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.89	0.93	0.73	0.88	0.88	0.92	0.78	0.77	0.84	0.76	0.80	0.86	0.80	0.90	0.99	1.15	0.97	0.73	1.36
7	Black Hills	0.67	0.84	0.86	0.61	0.61	0.53	0.87	1.17	0.71	0.64	0.70	0.74	0.71	0.40	0.41	0.61	0.35	0.76	0.55
8	CenterPoint Energy	0.98	0.52	0.52	0.73	0.73	0.83	0.98	1.22	1.12	0.92	1.20	1.18	1.37	1.12	0.88	0.99	1.16	0.98	1.08
9	CMS Energy Corp.	0.86	0.85	0.82	0.78	0.78	0.79	0.77	0.89	0.81	0.81	0.74	0.82	0.82	1.05	1.13	0.97	1.11	0.55	1.07
10	Consol. Edison	0.82	0.73	0.88	0.83	0.83	0.87	0.82	0.76	0.65	0.76	0.88	0.86	1.01	0.98	0.90	0.75	0.70	0.81	0.74
11	Dominion Resources	0.77	0.52	0.86	0.73	0.73	0.96	1.04	0.81	0.65	0.64	0.63	0.77	0.73	0.79	0.87	0.75	0.83	0.74	0.85
12	DTE Energy	0.98	0.85	0.86	0.74	0.74	0.83	0.84	0.94	0.93	0.84	1.02	0.96	0.93	1.09	1.51	1.50	0.98	1.07	1.03
13	Duke Energy	0.89	0.79	0.87	0.85	0.85	0.80	0.81	0.87	0.82	0.96	1.20	1.09	0.87	0.89	0.78	0.77	0.71	1.09	0.97
14	Edison Int'l	0.74	0.81	0.62	0.55	0.55	0.68	0.34	0.94	0.91	0.80	0.83	0.80	0.76	0.61	0.60	0.79	0.93	0.88	0.93
15	El Paso Electric	0.87	N/A	N/A	0.83	N/A	N/A	0.86	1.04	0.85	0.67	0.69	0.79	0.85	1.03	0.98	0.68	0.78	0.84	1.26
16	Entergy Corp.	0.96	1.03	0.62	0.74	0.74	0.79	0.73	0.76	1.08	1.05	1.19	1.03	0.88	1.15	1.24	1.02	0.93	1.14	1.13
17	Eversource Energy	0.85	0.77	0.89	0.80	0.80	0.75	0.83	0.79	0.87	0.91	0.90	1.13	0.86	0.80	1.05	0.96	0.77	0.68	0.67
18	Evergy, Inc.	0.89	0.86	0.78	1.03	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
19	Exelon Corp.	1.20	0.90	0.84	1.09	1.09	1.20	1.05	1.06	0.76	0.82	0.93	1.07	0.98	1.19	1.66	1.66	1.61	1.84	1.86
20	FirstEnergy Corp.	1.00	0.80	0.98	0.83	0.83	0.80	0.76	1.03	0.94	0.93	0.54	0.91	0.85	1.05	1.32	1.22	0.95	1.56	1.75
21	Fortis Inc.	0.70	0.93	0.89	0.65	0.65	0.68	0.72	0.76	0.76	0.65	0.60	0.77	0.72	0.66	0.68	0.63	0.66	0.57	0.63
22	Great Plains Energy	0.79	N/A	N/A		N/A	N/A	N/A	0.78	1.17	0.90	0.79	0.91	0.86	1.03	0.86	0.50	0.35	0.69	0.64
23	Hawaiian Elec.	1.13	1.32	1.56	1.27	1.27	1.08	0.85	0.81	1.37	0.98	1.03	0.92	0.99	1.30	1.50	0.79	0.87	1.15	1.23
24	IDACORP, Inc.	1.09	0.63	1.00	1.33	1.33	1.46	1.42	1.33	1.16	1.15	1.21	1.34	1.24	0.86	0.78	0.96	0.82	0.64	0.89
25	MGE Energy	1.08	0.99	1.12	0.82	0.82	0.97	0.66	1.19	1.44	1.60	1.31	0.96	1.05	1.56	1.57	1.13	0.87	0.59	0.80
26	NextEra Energy, Inc.	0.61	0.50	0.55	0.58	0.58	0.67	0.56	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
27	NorthWestern Corp	1.00	0.76	0.75	0.84	0.84	1.13	1.23	1.21	1.13	1.01	0.93	0.92	0.88	1.04	0.76	0.88	1.27	1.23	1.29
28	OGE Energy	0.91	0.96	0.87	1.24	1.24	1.27	1.30	0.81	1.00	1.18	1.19	0.69	0.63	0.51	0.69	0.61	0.60	0.79	0.84
29	Otter Tail Corp.	0.97	1.98	2.13	0.48	0.48	0.80	1.49	1.10	0.84	0.74	0.70	0.67	0.85	1.16	1.09	0.56	0.37	0.65	1.44
30	Pinnacle West Capital	0.95	0.92	0.89	0.91	0.91	1.03	1.06	0.76	0.81	0.92	0.97	0.87	0.96	0.91	0.97	1.06	0.86	0.99	1.28
31	PNM Resources	0.70	0.64	0.63	0.72	0.72	0.78	0.82	0.84	0.57	0.57	0.63	0.80	0.87	0.77	0.82	0.70	0.44	0.43	0.89
32	Portland General	0.83	0.58	0.86	0.78	0.78	1.03	1.00	1.07	0.88	0.80	0.47	0.59	1.28	1.25	0.81	0.44	0.77	0.72	0.78
33	PPL Corp.	0.97	1.03	1.05	0.90	0.90	0.98	0.93	0.82	1.00	0.72	0.75	0.69	0.91	1.07	1.11	1.07	1.25	1.13	1.18
34	Public Serv. Enterprise	1.10	0.86	1.05	1.13	1.13	1.08	0.70	0.64	0.61	0.80	1.04	0.93	0.96	1.30	1.23	1.41	1.34	1.64	1.94
35	SCANA Corp.	0.86	N/A	N/A		N/A	N/A	N/A	0.86	0.66	0.83	0.90	0.83	0.77	0.88	0.86	0.76	0.76	0.92	1.26
36	Sempra Energy	0.82	0.92	0.92	0.77	0.77	0.88	0.80	0.67	0.56	0.81	0.74	0.84	0.73	0.72	0.90	1.02	0.87	0.90	0.93
37	Southern Co.	0.90	0.96	0.97	0.99	0.99	0.88	0.83	0.90	0.77	0.88	0.80	0.86	0.93	0.94	0.93	0.78	0.87	0.91	1.00
38	Vectren Corp.	1.00	N/A	N/A		N/A	N/A	N/A	0.82	0.87	0.95	0.98	1.05	1.13	1.20	1.31	0.83	0.82	0.98	1.00
39	WEC Energy Group	0.98	0.95	1.09	0.97	0.97	0.91	0.90	0.92	1.20	0.97	1.37	1.42	1.30	1.02	0.97	0.89	0.61	0.56	0.69
40	Westar Energy	0.72	N/A	N/A		N/A	N/A	N/A	0.91	0.63	0.86	0.70	0.72	0.67	0.71	0.88	0.68	0.36	0.48	1.00
41	Xcel Energy Inc.	0.77	0.92	0.93	0.66	0.66	0.78	0.77	0.84	0.79	0.63	0.68	0.60	0.76	0.83	0.76	0.89	0.75	0.71	0.90
42	Average	0.89	0.88	0.94	0.83	0.82	0.88	0.89	0.89	0.89	0.87	0.87	0.89	0.88	0.96	0.98	0.86	0.80	0.88	1.05
43	Median	0.84	0.85	0.87	0.81	0.79	0.83	0.83	0.84	0.85	0.83	0.83	0.86	0.87	0.98	0.90	0.81	0.78	0.81	1.00

Sources:

1 Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

2 The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Notes:

8 Based on the projected Cash Flow per share and Capital Spending per share published in The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Exhibit CCW-1 Page 11 of 16

Oklahoma Gas & Electric Company

Natural Gas Utilities (Valuation Metrics)

		18-Year								Price to E	arnings (P	E) Ratio 1								
Line	Company	Average (1)	2023 ² (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	<u>2015</u> (10)	<u>2014</u> (11)	<u>2013</u> (12)	<u>2012</u> (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	17.45	17.40	19.30	18.80	22.30	23.20	21.70	22.00	20.80	17.50	16.10	15.90	15.90	14.40	13.20	12.50	13.60	15.90	13.52
2	Chesapeake Utilities	19.34	20.80	25.80	25.60	21.60	24.70	22.90	27.80	22.30	19.10	17.70	15.60	14.80	14.20	12.20	14.20	14.20	16.70	17.85
3	New Jersey Resources	17.15	15.00	17.00	17.50	17.70	24.30	15.60	22.40	21.30	16.60	11.70	16.00	16.80	16.80	15.00	14.90	12.30	21.60	16.13
4	NiSource Inc.	21.99	15.40	19.60	18.00	18.70	21.30	19.30	64.40	23.20	37.30	22.70	18.90	17.90	19.40	15.30	14.30	12.10	18.80	19.16
5	Northwest Nat. Gas	20.53	13.80	19.60	19.50	25.00	30.90	26.60	NMF	26.90	23.70	20.70	19.40	21.10	19.00	17.00	15.20	18.10	16.70	15.85
6	ONE Gas Inc.	20.79	15.20	19.90	18.90	21.70	25.30	23.10	23.50	22.70	19.80	17.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Southwest Gas	17.40	15.40	NMF	14.30	16.80	21.30	20.60	22.20	21.60	19.40	17.90	15.80	15.00	15.70	14.00	12.20	20.30	17.30	15.94
8	Spire Inc.	18.33	14.50	17.50	13.60	51.10	22.80	16.70	19.80	19.60	16.50	19.80	21.30	14.50	13.00	13.70	13.40	14.30	14.20	13.60
9	UGI Corp.	15.29	8.30	14.10	13.90	13.80	23.40	17.80	20.80	19.30	17.70	15.80	15.40	16.40	15.00	10.90	10.30	13.30	15.10	13.97
	Average	18.49	15.09	19.10	17.79	23.19	24.13	20.48	27.86	21.97	20.84	17.80	17.29	16.55	15.94	13.91	13.38	14.78	17.04	15.75
11	Median	17.25	15.20	19.45	18.00	21.60	23.40	20.60	22.30	21.60	19.10	17.80	15.95	16.15	15.35	13.85	13.80	13.90	16.70	15.89
									Mark	et Price to	Cash Flow	(MP/CF) R	atio 1							
		18-Year										(,								_
Line	Company	Average	2023 ²	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
0	<u>oompany</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		(-)	(-/	(-)	(-)	(-)	(-)	(-,	(-)	(-)	()	(,	(/	(/	(,	(,	(,	(,	(,	()
12	Atmos Energy	9.33	11.27	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
13	Chesapeake Utilities	10.52	12.31	14.21	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
14	New Jersey Resources	11.93	11.22	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
15	NiSource Inc.	7.85	7.21	8.13	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
16	Northwest Nat. Gas	12.16	7.53	8.76	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
17	ONE Gas Inc.	10.27	7.68	9.91	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
18	Southwest Gas	7.19	6.66	19.83	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
	Spire Inc.	9.23	1.00	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
20	UGI Corp.	7.87	5.84	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
21	Average	9.47	7.86	11.09	9.61	10.42	12.37	10.68	17.06	10.59	9.30	8.94	8.84	8.09	8.00	7.11	7.13	7.26	8.35	7.84
22	Median	8.60	7.53	9.91	9.32	10.85	12.95	11.44	11.99	11.10	9.30	8.84	8.37	7.64	7.43	6.26	7.01	7.50	8.19	7.65
									Mauka	4 Dries 4s F	Book Value	(MD/D\) F	antin 1							
		18-Year							IVIAIRE	t Frice to E	JOOK Value	(WIF/DV) F	katio							
Line	Company	Average	2023 ²	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Line	Company	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		4.50									4.70			4.00						
	Atmos Energy	1.59	1.55	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
24	Chesapeake Utilities	2.08	2.20	2.69	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
25	New Jersey Resources	2.27	2.32	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
26	NiSource Inc.	1.55	1.33	2.15	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
27	Northwest Nat. Gas ONF Gas Inc.	1.82	1.39	1.51 1.73	1.45 1.57	1.98 1.90	2.38	2.35 1.93	2.41	1.92 1.67	1.63	1.59	1.56	1.72 N/A	1.70	1.78	1.73 N/A	1.96	2.05 N/A	1.69 N/A
28 29		1.67	1.49 1.22	1.73	1.57	1.90 1.49	1.84	1.93	1.89 2.13	1.67	1.26	1.07 1.68	N/A 1.61	N/A 1.51	N/A 1.43	N/A 1.24	N/A 0.97	N/A 1.20	N/A 1.46	N/A 1.46
	Southwest Gas	1.53	1.22 0.17	1.62	1.32		1.84	1.79		1.96	1.68	1.68	1.61	1.51 1.51	1.43		1.68		1.46	1.46 1.71
	Spire Inc. UGI Corp.	1.48	1.59	1.43	1.64	1.67 1.87	2.92	2.30	1.65 2.62	2.41	2.29	1.33	1.34	1.51	1.46	1.39 1.55	1.66	1.71 2.01	2.16	2.21
31	осі соір.	1.97	1.59	1.39	1.04	1.07	2.92	2.30	2.02	2.41	2.29	1.97	1.09	1.40	1.75	1.00	1.00	2.01	2.10	2.21
32	Average	1.77	1.47	1.83	1.77	1.89	2.30	2.12	2.23	2.04	1.83	1.71	1.63	1.60	1.59	1.44	1.41	1.57	1.74	1.68
	Median	1.68	1.49	1.65	1.59	1.90	2.20	2.03	2.16	1.96	1.72	1.68	1.59	1.51	1.54	1.40	1.51	1.67	1.75	1.70

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.

Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

 $^{^{2}}$ The Value Line Investment Survey, November 24, 2023.

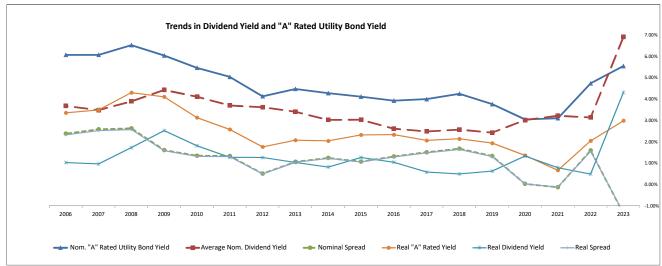
Notes:

^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.

Natural Gas Utilities (Valuation Metrics)

										Di	vidend Yiel	d ¹								
		18-Year																		
Line	Company	Average	2023 2/a	2022	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)	(19)
1	Atmos Energy	3.35%	2.62%	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	2.65%	2.08%	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 Jersev Resources	3.22%	3.29%	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%	3.85%	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	3.62%	4.40%	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.	2.71%	3.72%	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	Southwest Gas	3.00%	4.07%	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%
8	Spire Inc.	5.43%	33.49%	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%
9	UGI Corp.	3.00%	4.64%	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%
10	Average	3.49%	6.91%	3.14%	3.23%	3.02%	2.43%	2.57%	2.49%	2.62%	3.04%	3.03%	3.41%	3.62%	3.71%	4.12%	4.43%	3.90%	3.48%	3.68%
11	Median	3.39%	3.85%	3.25%	3.50%	3.33%	2.50%	2.61%	2.46%	2.62%	2.88%	2.72%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
12	20-Yr Treasury Yields ³	3.25%	4.25%	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%
	20-Yr TIPS ³	1.07%	1.73%	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%
	Implied Inflation ^b	2.16%	2.48%	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%
14	implied initation	2.10%	2.40%	2.04%	2.4270	1.00%	1.79%	2.00%	1.09%	1.50%	1./ 576	2.19%	2.33%	2.33%	2.40%	2.20%	1.00%	2.13%	2.49%	2.0270
15	Real Dividend Yield ^c	1.30%	4.32%	0.49%	0.79%	1.33%	0.63%	0.50%	0.58%	1.05%	1.27%	0.82%	1.04%	1.27%	1.27%	1.82%	2.53%	1.73%	0.97%	1.03%
	Utility																			
16	Nominal "A" Rated Yield ⁴	4.70%	5.55%	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%
17	Real "A" Rated Yield	2.49%	2.99%	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)																			
18		1.21%	-1.36%	1.60%	-0.12%	0.03%	1.33%	1.68%	1.51%	1.31%	1.08%	1.25%	1.06%	0.51%	1.33%	1.35%	1.61%	2.63%	2.59%	2.39%
	Real®	1.18%	-1.32%	1.56%	-0.12%	0.03%	1.31%	1.64%	1.48%	1.29%	1.06%	1.22%	1.04%	0.50%	1.30%	1.32%	1.58%	2.58%	2.53%	2.33%
19	Neai	1.10%	-1.32%	1.00%	-0.12%	0.03%	1.31%	1.04%	1.40%	1.29%	1.06%	1.2270	1.04%	0.00%	1.30%	1.32%	1.56%	2.00%	2.03%	2.33%
	Spreads (Treasury Bond - Stock)																			
20	Nominal ^f	-0.24%	-2.65%	0.16%	-1.25%	-1.67%	-0.03%	0.45%	0.17%	-0.39%	-0.49%	0.05%	-0.29%	-1.08%	-0.09%	-0.09%	-0.32%	0.46%	1.42%	1.31%
21	Real ^g	-0.24%	-2.59%	0.15%	-1.22%	-1.64%	-0.03%	0.44%	0.16%	-0.39%	-0.48%	0.04%	-0.29%	-1.05%	-0.08%	-0.08%	-0.31%	0.46%	1.39%	1.28%



¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.

Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

The Value Line Investment Survey, November 24, 2023.

The Value Line Investment Survey, November 24, 2023.

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

www.moodys.com, Bond Yields and Key Indicators, through December 31, 2023.

Notes:

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.

Line 16 = (1 + Line 14) / (1 + Line 15) - 1.

Line 17 = (1 + Line 12) / (1 + Line 16) - 1.

The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 18 - Line 12).

The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 19 - Line 17)

The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 14 - Line 12).

The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 15 - Line 17).

Exhibit CCW-1 Page 13 of 16

Oklahoma Gas & Electric Company

Natural Gas Utilities (Valuation Metrics)

		Dividend per Share ¹																				
		18-Year																			2018	2017
Line	Company	Average	2023 ²	2022	2021	2020	<u>2019</u>	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	CAGR	CAGR
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1	Atmos Energy	1.66	2.96	2.72	2.30	1.40	1.38	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	2.78%	3.15%
2	Chesapeake Utilities	1.16	2.25	2.03	1.69	1.01	0.96	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	3.86%	4.42%
3	New Jersey Resources	0.88	1.56	1.45	1.27	0.81	0.77	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	5.32%	6.75%
4	NiSource Inc.	0.90	1.00	0.94	0.84	0.98	0.94	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	1.94	1.93	1.91	1.83	1.79	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	1.81%	2.45%
6	ONE Gas Inc.	1.78	2.60	2.48	2.16	N/A	N/A	1.84	1.68	1.40	1.20	0.84	N/A	N/A	6.16%	11.87%						
7	Southwest Gas	1.49	2.48	2.48	2.26	1.32	1.18	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	6.00%	7.88%
8	Spire Inc.	1.88	2.88	2.74	2.49	1.70	1.66	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	2.94%	3.42%
9	UGI Corp.	0.83	1.47	1.41	1.32	0.74	0.71	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	5.08%	6.48%
10	Average	1.33	2.13	2.02	1.80	1.22	1.17	1.59	1.49	1.38	1.32	1.24	1.22	1.17	1.13	1.08	1.04	1.00	0.97	0.94	3.65%	4.89%
11	Industry Average Growth	5 71%	5 28%	11 95%	47 41%	4 33%	-26 16%	6 73%	7 63%	5.06%	6 54%	0.96%	4 33%	4 18%	4 04%	4 39%	3 76%	3 55%	3.02%			

Sources:

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, November 24, 2023.

Exhibit CCW-1 Page 14 of 16

Oklahoma Gas & Electric Company

Natural Gas Utilities (Valuation Metrics)

		Earnings per Share ¹																		
		18-Year																		
Line	Company	Average	2023 ²	2022	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)	(19)
1	Atmos Energy	3.33	6.10	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	2.77	4.85	4.97	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	1.71	2.70	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.	1.20	1.60	1.47	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	2.16	2.65	2.54	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.	3.25	4.15	4.08	3.85	3.68	3.51	3.25	3.02	2.65	2.24	2.07	N/A	N/A						
7	Southwest Gas	2.90	2.85	3.10	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
8	Spire Inc.	3.03	3.85	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
9	UGI Corp.	1.98	2.84	2.90	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
10	Average	2.41	3.51	3.46	3.49	2.95	2.98	3.09	2.09	2.45	2.27	2.30	2.08	1.98	1.95	1.91	1.84	1.75	1.67	1.63
11	Industry Average Growth	5.27%	1.54%	-0.92%	18.27%	-0.86%	-3.67%	47.72%	-14 80%	7.91%	-1.06%	10.40%	5.02%	1.90%	1.83%	3.95%	4.98%	4.94%	2.53%	

Sources:

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, November 24, 2023.

Exhibit CCW-1 Page 15 of 16

Oklahoma Gas & Electric Company

Natural Gas Utilities (Valuation Metrics)

Cash Flow / Capital Spending¹

					· ·	•		3 - 5 yr ²
<u>Line</u>	Company	<u>2019</u> (1)	<u>2020</u> (2)	<u>2021</u> (3)	<u>2022</u> (4)	<u>2023</u> (5)	2024 ² (6)	Projection (5)
1	Atmos Energy	0.53x	0.53x	0.53x	0.54x	0.54x	0.57x	0.68x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	1.23x	0.84x	0.81x	0.96x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.59x	0.68x	0.85x	0.84x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.55x	0.43x	0.54x	0.63x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.60x	0.68x	0.66x	0.76x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.74x	0.83x	0.82x	1.11x
7	Southwest Gas	0.62x	0.53x	0.61x	0.31x	0.84x	0.75x	0.79x
8	Spire Inc.	0.65x	0.65x	0.70x	0.80x	0.71x	0.66x	0.76x
9	UGI Corp.	1.33x	1.54x	1.66x	1.42x	1.33x	1.24x	1.20x
10	Average	0.82x	0.76x	0.80x	0.75x	0.76x	0.77x	0.86x
11	Median	0.66x	0.65x	0.70x	0.60x	0.71x	0.75x	0.79x

Sources:

Notes:

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

¹ The Value Line Investment Survey, various report dates.

 $^{^{2}}$ The Value Line Investment Survey, November 24, 2023.

Natural Gas Utilities (Valuation Metrics)

		Percent Dividends to Book Value 1																		
Line	Company	18-Year Average (1)	2023 ^{2/a} (2)	<u>2022</u> (3)	<u>2021</u> (4)	2020 (5)	2019 (6)	2018 (7)	<u>2017</u> (8)	<u>2016</u> (9)	<u>2015</u> (10)	<u>2014</u> (11)	<u>2013</u> (12)	<u>2012</u> (13)	<u>2011</u> (14)	<u>2010</u> (15)	<u>2009</u> (16)	2008 (17)	<u>2007</u> (18)	<u>2006</u> (19)
1	Atmos Energy	4.99%	4.04%	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	5.12%	4.56%	4.32%	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	7.24%	7.65%	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.	5.65%	5.14%	7.15%	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	6.47%	6.12%	5.83%	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. Southwest Gas	4.49% 4.49%	5.53% 4.96%	5.31% 5.17%	5.04% 4.80%	5.14% 4.87%	4.96% 4.79%	4.73% 4.90%	4.48% 5.25%	3.88% 5.14%	3.41% 4.82%	2.44% 4.57%	N/A 4.33%	N/A 4.16%	N/A 3.98%	N/A 3.90%	N/A 3.89%	N/A 3.83%	N/A 3.74%	N/A 3.80%
8	Spire Inc.	5.86%	5.73%	5.17%	4.80% 5.56%	5.63%	4.79% 5.25%	5.06%	5.25%	5.14%	4.82% 5.07%	5.04%	5.31%	6.22%	6.30%	6.53%	6.56%	6.74%	7.33%	7.43%
9	UGI Corp.	5.68%	7.35%	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%
10	Average	5.62%	5.68%	5.57%	5.48%	5.62%	5.52%	5.38%	5.47%	5.30%	5.48%	5.16%	5.54%	5.76%	5.79%	5.78%	5.77%	5.86%	5.91%	6.09%
11	Median	5.36%	5.53%	5.31%	5.34%	5.63%	5.25%	4.90%	5.25%	5.08%	5.07%	5.14%	5.24%	5.37%	5.61%	5.52%	5.60%	6.08%	6.11%	6.36%
										Dividends	s to Earnin	gs Ratio 1								
		18-Year										•								
Line	Company	Average	2023 2/a	2022	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)	(19)
40	At	0.55	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.07	0.05	0.00	0.00
12 13	Atmos Energy Chesapeake Utilities	0.55 0.47	0.49 0.46	0.49 0.41	0.49 0.39	0.49 0.40	0.48 0.42	0.49 0.40	0.50 0.47	0.50 0.42	0.50 0.42	0.50 0.43	0.56 0.45	0.66 0.48	0.60 0.48	0.62 0.48	0.67 0.58	0.65 0.58	0.66 0.61	0.63 0.67
14	New Jersey Resources	0.47	0.46	0.58	0.63	0.40	0.42	0.40	0.47	0.42	0.42	0.43	0.45	0.46	0.46	0.46	0.50	0.56	0.65	0.67
15	NiSource Inc.	0.81	0.63	0.64	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.41	0.62	0.69	0.88	0.33	1.10	0.69	0.81	0.81
16	Northwest Nat. Gas	0.65	0.03	0.76	0.03	0.83	0.87	0.81	- 0.97	0.88	0.95	0.86	0.82	0.03	0.73	0.62	0.57	0.59	0.52	0.59
17	ONE Gas Inc.	0.56	0.63	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
18	Southwest Gas	0.55	0.87	0.80	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
19	Spire Inc.	0.69	0.75	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
20	UGI Corp.	0.45	0.52	0.49	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
21	Average	0.59	0.63	0.61	0.57	0.70	0.59	0.53	0.50	0.58	0.65	0.54	0.60	0.60	0.59	0.57	0.60	0.56	0.59	0.58
22	Median	0.58	0.63	0.61	0.60	0.59	0.57	0.52	0.55	0.57	0.54	0.49	0.58	0.60	0.56	0.58	0.54	0.59	0.62	0.59
									_				1							
		18-Year							Cas	sh Flow to	Сарітаі Бр	ending Ka	tio							-
Line	Company	Average	2023 2/a	2022	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)	(19)
23	Atmos Energy	0.65	0.53	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
24	Chesapeake Utilities	0.77	0.81	1.23	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
25	New Jersev Resources	1.20	0.82	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
26	NiSource Inc.	0.73	0.45	0.55	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
27	Northwest Nat. Gas	0.90	0.65	0.60	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
28	ONE Gas Inc.	0.84	0.77	0.74	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
29	Southwest Gas	0.82	0.71	0.31	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
30	Spire Inc.	1.03	0.69	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
31	UGI Corp.	1.45	1.18	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
32	Average	0.95	0.74	0.75	0.80	0.76	0.67	0.77	0.66	0.82	0.84	1.02	0.92	0.98	1.13	1.18	1.31	1.28	1.20	1.23
33	Median	0.86	0.71	0.60	0.75	0.69	0.61	0.71	0.68	0.83	0.84	0.98	0.88	0.93	1.20	1.23	1.21	1.15	1.16	1.31

Sources:

¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, November 24, 2023.

Notes:

⁸ Based on the projected Dividends Declared per share and Book Value per share, published in The Value Line Investment Survey.

⁸ Based on the projected Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey.

⁹ Based on the projected Cash Flow per share and Capital Spending per share, published in The Value Line Investment Survey.

Proxy Group

Lino Company	Credit	Ratings ¹	Common I	Equity Ratios	
Line	Company	S&P	Moody's	MI ¹	Value Line ²
		(1)	(2)	(3)	(4)
1	ALLETE, Inc.	BBB	Baa1	51.0%	59.6%
2	Alliant Energy Corporation	A-	Baa2	41.4%	45.0%
3	Ameren Corporation	BBB+	Baa1	40.8%	43.4%
4	American Electric Power Company, Inc.	BBB+	Baa2	36.2%	42.0%
5	Avista Corporation	BBB	Baa2	44.4%	49.6%
6	CMS Energy Corporation	BBB+	Baa2	31.0%	33.6%
7	Duke Energy Corporation	BBB+	Baa2	37.4%	42.5%
8	Entergy Corporation	BBB+	Baa2	32.2%	35.2%
9	Evergy, Inc.	BBB+	Baa2	43.8%	48.0%
10	IDACORP, Inc.	BBB	Baa2	56.0%	56.1%
11	NextEra Energy, Inc.	A-	Baa1	34.1%	41.5%
12	NorthWestern Corporation	BBB	Baa2	50.3%	51.8%
13	Pinnacle West Capital Corporation	BBB+	Baa1	40.2%	43.9%
14	Portland General Electric Company	BBB+	A3	41.1%	43.0%
15	Southern Company	BBB+	Baa2	32.5%	36.5%
16	Xcel Energy Inc.	BBB+	Baa1	39.0%	42.2%
17	Average	BBB+	Baa2	40.7%	44.6%
18	Median			40.5%	43.2%
19	Oklahoma Gas and Electric Company ^{3,4}	A-	А3		53.5%

Sources

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

¹ S&P Global Market Intelligence, Downloaded on March 15, 2024.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

³ Bulkley Direct Testimony, page 28.

⁴ Bulkley Direct Testimony, page 67.

Consensus Analysts' Growth Rates

		Za	cks	N	ЛІ	Yahoo!	Finance	Average of
		Estimated	Number of	Estimated	Number of	Estimated	Number of	Growth
Line	Company	Growth %1	Estimates	Growth %2	Estimates	Growth %3	Estimates	Rates
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	ALLETE, Inc.	8.10%	N/A	5.10%	3	8.10%	N/A	7.10%
2	Alliant Energy Corporation	6.16%	N/A	6.23%	6	6.55%	N/A	6.31%
3	Ameren Corporation	5.89%	N/A	6.45%	4	4.80%	N/A	5.71%
4	American Electric Power Company, Inc.	5.11%	N/A	5.91%	8	5.72%	N/A	5.58%
5	Avista Corporation	6.21%	N/A	5.20%	4	6.20%	N/A	5.87%
6	CMS Energy Corporation	7.74%	N/A	7.45%	7	7.80%	N/A	7.66%
7	Duke Energy Corporation	5.26%	N/A	6.16%	7	6.81%	N/A	6.08%
8	Entergy Corporation	7.01%	N/A	6.93%	6	6.80%	N/A	6.91%
9	Evergy, Inc.	5.68%	N/A	5.07%	5	2.50%	N/A	4.42%
10	IDACORP, Inc.	4.38%	N/A	6.00%	5	4.40%	N/A	4.93%
11	NextEra Energy, Inc.	8.18%	N/A	8.17%	8	7.51%	N/A	7.95%
12	NorthWestern Corporation	5.16%	N/A	5.57%	4	4.50%	N/A	5.08%
13	Pinnacle West Capital Corporation	3.95%	N/A	6.09%	5	6.30%	N/A	5.45%
14	Portland General Electric Company	5.14%	N/A	7.31%	4	12.50%	N/A	8.32%
15	Southern Company	4.00%	N/A	5.90%	6	7.30%	N/A	5.73%
16	Xcel Energy Inc.	6.02%	N/A	5.95%	7	6.43%	N/A	6.13%
17	Average	5.87%	N/A	6.22%	6	6.51%	N/A	6.20%
18	Median							5.97%

Sources:

¹ Zacks, http://www.zacks.com/, downloaded on March 15, 2024.

² S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on March 15, 2024.

³ Yahoo! Finance, http://www.finance.yahoo.com/, downloaded on March 15, 2024.

Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	<u>Company</u>	13-Week AVG <u>Stock Price¹</u> (1)	Analysts' <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yield</u> (4)	Constant Growth DCF (5)
1	ALLETE, Inc.	\$59.14	7.10%	\$2.82	5.11%	12.21%
2	Alliant Energy Corporation	\$49.30	6.31%	\$1.92	4.14%	10.46%
3	Ameren Corporation	\$70.95	5.71%	\$2.52	3.75%	9.47%
4	American Electric Power Company, Inc.	\$80.81	5.58%	\$3.52	4.60%	10.18%
5	Avista Corporation	\$34.34	5.87%	\$1.84	5.67%	11.54%
6	CMS Energy Corporation	\$57.66	7.66%	\$2.06	3.85%	11.51%
7	Duke Energy Corporation	\$95.02	6.08%	\$4.10	4.58%	10.65%
8	Entergy Corporation	\$100.81	6.91%	\$4.52	4.79%	11.71%
9	Evergy, Inc.	\$51.03	4.42%	\$2.57	5.26%	9.68%
10	IDACORP, Inc.	\$92.70	4.93%	\$3.32	3.76%	8.68%
11	NextEra Energy, Inc.	\$58.39	7.95%	\$1.87	3.46%	11.41%
12	NorthWestern Corporation	\$49.09	5.08%	\$2.56	5.48%	10.55%
13	Pinnacle West Capital Corporation	\$70.07	5.45%	\$3.52	5.30%	10.74%
14	Portland General Electric Company	\$41.53	8.32%	\$1.90	4.96%	13.27%
15	Southern Company	\$68.95	5.73%	\$2.80	4.29%	10.03%
16	Xcel Energy Inc.	\$58.44	6.13%	\$2.08	3.78%	9.91%
17	Average	\$64.89	6.20%	\$2.75	4.55%	10.75%
18	Median					10.60%

Sources:

¹ S&P Global Market Intelligence, Downloaded on March 15, 2024.

² Exhibit CCW-3

 $^{^{\}rm 3}$ The Value Line Investment Survey , January 19, February 9, and March 8, 2024.

Payout Ratios

		Dividend:	s Per Share	Earnings	Per Share	Payou	ıt Ratio
<u>Line</u>	<u>Company</u>	2022	Projected	2022	Projected	2022	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
	ALLETE L	#0.00	#0.05	40.00	05.45	70.000/	00.440/
1	ALLETE, Inc.	\$2.60	\$3.25	\$3.38	\$5.15	76.92%	63.11%
2	Alliant Energy Corporation	\$1.71	\$2.43	\$2.73	\$3.90	62.64%	62.31%
3	Ameren Corporation	\$2.36	\$3.30	\$4.14	\$5.75	57.00%	57.39%
4	American Electric Power Company, Inc.	\$3.17	\$4.16	\$5.09	\$7.25	62.28%	57.38%
5	Avista Corporation	\$1.76	\$2.20	\$2.12	\$2.90	83.02%	75.86%
6	CMS Energy Corporation	\$1.84	\$2.30	\$2.84	\$3.75	64.79%	61.33%
7	Duke Energy Corporation	\$3.98	\$4.30	\$5.27	\$7.50	75.52%	57.33%
8	Entergy Corporation	\$4.10	\$5.00	\$5.37	\$8.05	76.35%	62.11%
9	Evergy, Inc.	\$2.33	\$3.05	\$3.26	\$4.75	71.47%	64.21%
10	IDACORP, Inc.	\$3.04	\$4.15	\$5.11	\$6.10	59.49%	68.03%
11	NextEra Energy, Inc.	\$1.70	\$2.85	\$2.90	\$4.55	58.62%	62.64%
12	NorthWestern Corporation	\$2.52	\$2.72	\$3.29	\$4.15	76.60%	65.54%
13	Pinnacle West Capital Corporation	\$3.43	\$3.73	\$4.26	\$5.70	80.52%	65.44%
14	Portland General Electric Company	\$1.79	\$2.36	\$2.74	\$3.65	65.33%	64.66%
15	Southern Company	\$2.70	\$3.10	\$3.61	\$5.15	74.79%	60.19%
16	Xcel Energy Inc.	\$1.95	\$2.62	\$3.17	\$4.25	61.51%	61.65%
17	Average	\$2.56	\$3.22	\$3.71	\$5.16	69.18%	63.07%

Source:

The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Sustainable Growth Rate

3 to 5 Year Projections Sus											Sustainable	
		Dividends	Earnings	Book Value	Book Value		Adjustment	Adjusted	Payout	Retention	Internal	Growth
Line	<u>Company</u>	Per Share	Per Share	Per Share	Growth	ROE	<u>Factor</u>	ROE	Ratio	Rate	Growth Rate	Rate
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	ALLETE, Inc.	\$3.25	\$5.15	\$54.00	2.32%	9.54%	1.01	9.65%	63.11%	36.89%	3.56%	3.93%
2	Alliant Energy Corporation	\$2.43	\$3.90	\$31.90	4.15%	12.23%	1.02	12.47%	62.31%	37.69%	4.70%	5.08%
3	Ameren Corporation	\$3.30	\$5.75	\$52.65	4.64%	10.92%	1.02	11.17%	57.39%	42.61%	4.76%	5.84%
4	American Electric Power Company, Inc.	\$4.16	\$7.25	\$62.55	5.03%	11.59%	1.02	11.87%	57.38%	42.62%	5.06%	5.90%
5	Avista Corporation	\$2.20	\$2.90	\$38.25	4.19%	7.58%	1.02	7.74%	75.86%	24.14%	1.87%	2.13%
6	CMS Energy Corporation	\$2.30	\$3.75	\$29.25	3.85%	12.82%	1.02	13.06%	61.33%	38.67%	5.05%	5.78%
7	Duke Energy Corporation	\$4.30	\$7.50	\$70.00	2.18%	10.71%	1.01	10.83%	57.33%	42.67%	4.62%	4.62%
8	Entergy Corporation	\$5.00	\$8.05	\$84.65	5.50%	9.51%	1.03	9.76%	62.11%	37.89%	3.70%	4.62%
9	Evergy, Inc.	\$3.05	\$4.75	\$47.50	2.13%	10.00%	1.01	10.11%	64.21%	35.79%	3.62%	3.62%
10	IDACORP, Inc.	\$4.15	\$6.10	\$66.00	3.52%	9.24%	1.02	9.40%	68.03%	31.97%	3.01%	3.64%
11	NextEra Energy, Inc.	\$2.85	\$4.55	\$34.50	9.75%	13.19%	1.05	13.80%	62.64%	37.36%	5.16%	7.75%
12	NorthWestern Corporation	\$2.72	\$4.15	\$51.50	2.91%	8.06%	1.01	8.17%	65.54%	34.46%	2.82%	2.89%
13	Pinnacle West Capital Corporation	\$3.73	\$5.70	\$62.00	3.01%	9.19%	1.01	9.33%	65.44%	34.56%	3.22%	3.59%
14	Portland General Electric Company	\$2.36	\$3.65	\$38.70	4.45%	9.43%	1.02	9.64%	64.66%	35.34%	3.41%	4.31%
15	Southern Company	\$3.10	\$5.15	\$32.25	2.43%	15.97%	1.01	16.16%	60.19%	39.81%	6.43%	6.43%
16	Xcel Energy Inc.	\$2.62	\$4.25	\$38.25	4.74%	11.11%	1.02	11.37%	61.65%	38.35%	4.36%	4.71%
17 18	Average Median	\$3.22	\$5.16	\$49.62	4.05%	10.69%	1.02	10.91%	63.07%	36.93%	4.08%	4.68% 4.62%

Cols. (1), (2) and (3): The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

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).

Sustainable Growth Rate

		13-Week Average	2022 Book Value	Market to Book		n Shares ig (in Millions)²				
<u>Line</u>	Company	Stock Price ¹ (1)	Per Share ² (2)	Ratio (3)	2022 (4)	3-5 Years (5)	Growth (6)	S Factor ³ (7)	V Factor ⁴ (8)	<u>S * V</u> (9)
1	ALLETE, Inc.	\$59.14	\$47.06	1.26	56.01	61.00	1.43%	1.80%	20.43%	0.37%
2	Alliant Energy Corporation	\$49.30	\$24.99	1.97	251.14	257.00	0.39%	0.76%	49.31%	0.37%
3	Ameren Corporation	\$70.95	\$40.11	1.77	262.00	285.00	1.41%	2.50%	43.47%	1.09%
4	American Electric Power Company, Inc.	\$80.81	\$46.60	1.73	513.87	550.00	1.14%	1.98%	42.33%	0.84%
5	Avista Corporation	\$34.34	\$31.15	1.10	74.95	85.00	2.55%	2.81%	9.29%	0.26%
6	CMS Energy Corporation	\$57.66	\$23.32	2.47	291.27	300.00	0.49%	1.22%	59.56%	0.73%
7	Duke Energy Corporation	\$95.02	\$61.51	1.54	770.00	770.00	0.00%	0.00%	35.27%	0.00%
8	Entergy Corporation	\$100.81	\$61.40	1.64	211.18	230.00	1.43%	2.35%	39.09%	0.92%
9	Evergy, Inc.	\$51.03	\$41.86	1.22	229.90	230.00	0.01%	0.01%	17.97%	0.00%
10	IDACORP, Inc.	\$92.70	\$55.52	1.67	50.56	53.00	0.95%	1.58%	40.11%	0.63%
11	NextEra Energy, Inc.	\$58.39	\$19.74	2.96	1,987.00	2,150.00	1.32%	3.91%	66.19%	2.59%
12	NorthWestern Corporation	\$49.09	\$44.61	1.10	59.74	62.00	0.75%	0.82%	9.12%	0.07%
13	Pinnacle West Capital Corporation	\$70.07	\$53.45	1.31	113.17	120.00	1.18%	1.55%	23.72%	0.37%
14	Portland General Electric Company	\$41.53	\$31.13	1.33	89.28	102.00	2.70%	3.60%	25.04%	0.90%
15	Southern Company	\$68.95	\$27.93	2.47	1,089.00	1,070.00	- 0.29%	- 0.72%	59.49%	- 0.43%
16	Xcel Energy Inc.	\$58.44	\$30.34	1.93	549.58	560.00	0.38%	0.72%	48.09%	0.35%
	Average	\$64.89	\$40.05	1.72	412.42	430.31	0.99%	1.56%	36.78%	0.57%

Sources and Notes:

¹ S&P Global Market Intelligence, Downloaded on March 15, 2024.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

³ Expected Growth in the Number of Shares, Column (3) * Column (6).

⁴ Expected Profit of Stock Investment, [1 - 1 / Column (3)].

Constant Growth DCF Model (Sustainable Growth Rate)

<u>Line</u>	<u>Company</u>	13-Week AVG <u>Stock Price¹</u> (1)	Sustainable <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yield</u> (4)	Constant Growth DCF (5)
1	ALLETE, Inc.	\$59.14	3.93%	\$2.82	4.96%	8.88%
2	Alliant Energy Corporation	\$49.30	5.08%	\$1.92	4.09%	9.17%
3	Ameren Corporation	\$70.95	5.84%	\$2.52	3.76%	9.60%
4	American Electric Power Company, Inc.	\$80.81	5.90%	\$3.52	4.61%	10.51%
5	Avista Corporation	\$34.34	2.13%	\$1.84	5.47%	7.60%
6	CMS Energy Corporation	\$57.66	5.78%	\$2.06	3.78%	9.56%
7	Duke Energy Corporation	\$95.02	4.62%	\$4.10	4.51%	9.13%
8	Entergy Corporation	\$100.81	4.62%	\$4.52	4.69%	9.31%
9	Evergy, Inc.	\$51.03	3.62%	\$2.57	5.22%	8.84%
10	IDACORP, Inc.	\$92.70	3.64%	\$3.32	3.71%	7.35%
11	NextEra Energy, Inc.	\$58.39	7.75%	\$1.87	3.45%	11.20%
12	NorthWestern Corporation	\$49.09	2.89%	\$2.56	5.37%	8.26%
13	Pinnacle West Capital Corporation	\$70.07	3.59%	\$3.52	5.20%	8.79%
14	Portland General Electric Company	\$41.53	4.31%	\$1.90	4.77%	9.08%
15	Southern Company	\$68.95	6.43%	\$2.80	4.32%	10.76%
16	Xcel Energy Inc.	\$58.44	4.71%	\$2.08	3.73%	8.44%
17	Average	\$64.89	4.68%	\$2.75	4.48%	9.15%
18	Median					9.11%

Sources

¹ S&P Global Market Intelligence, Downloaded on March 15, 2024.

² Exhibit CCW-6, page 1.

³ The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

Multi-Stage Growth DCF Model

		13-Week AVG	Annualized	First Stage		Sec	ond Stage Grov	wth		Third Stage	Multi-Stage
<u>Line</u>	Company	Stock Price ¹ (1)	Dividend ² (2)	Growth ³ (3)	<u>Year 6</u> (4)	<u>Year 7</u> (5)	<u>Year 8</u> (6)	<u>Year 9</u> (7)	<u>Year 10</u> (8)	Growth ⁴ (9)	Growth DCF (10)
1	ALLETE, Inc.	\$59.14	\$2.82	7.10%	6.61%	6.11%	5.62%	5.13%	4.63%	4.14%	10.07%
2	Alliant Energy Corporation	\$49.30	\$1.92	6.31%	5.95%	5.59%	5.23%	4.86%	4.50%	4.14%	8.78%
3	Ameren Corporation	\$70.95	\$2.52	5.71%	5.45%	5.19%	4.93%	4.66%	4.40%	4.14%	8.22%
4	American Electric Power Company, Inc.	\$80.81	\$3.52	5.58%	5.34%	5.10%	4.86%	4.62%	4.38%	4.14%	9.10%
5	Avista Corporation	\$34.34	\$1.84	5.87%	5.58%	5.29%	5.01%	4.72%	4.43%	4.14%	10.33%
6	CMS Energy Corporation	\$57.66	\$2.06	7.66%	7.08%	6.49%	5.90%	5.31%	4.73%	4.14%	8.77%
7	Duke Energy Corporation	\$95.02	\$4.10	6.08%	5.75%	5.43%	5.11%	4.79%	4.46%	4.14%	9.20%
8	Entergy Corporation	\$100.81	\$4.52	6.91%	6.45%	5.99%	5.53%	5.06%	4.60%	4.14%	9.66%
9	Evergy, Inc.	\$51.03	\$2.57	4.42%	4.37%	4.33%	4.28%	4.23%	4.19%	4.14%	9.47%
10	IDACORP, Inc.	\$92.70	\$3.32	4.93%	4.79%	4.66%	4.53%	4.40%	4.27%	4.14%	8.06%
11	NextEra Energy, Inc.	\$58.39	\$1.87	7.95%	7.32%	6.68%	6.05%	5.41%	4.78%	4.14%	8.37%
12	NorthWestern Corporation	\$49.09	\$2.56	5.08%	4.92%	4.76%	4.61%	4.45%	4.30%	4.14%	9.89%
13	Pinnacle West Capital Corporation	\$70.07	\$3.52	5.45%	5.23%	5.01%	4.79%	4.58%	4.36%	4.14%	9.80%
14	Portland General Electric Company	\$41.53	\$1.90	8.32%	7.62%	6.92%	6.23%	5.53%	4.84%	4.14%	10.25%
15	Southern Company	\$68.95	\$2.80	5.73%	5.47%	5.20%	4.94%	4.67%	4.41%	4.14%	8.81%
16	Xcel Energy Inc.	\$58.44	\$2.08	6.13%	5.80%	5.47%	5.14%	4.80%	4.47%	4.14%	8.34%
17	Average	\$64.89	\$2.75	6.20%	5.86%	5.51%	5.17%	4.83%	4.48%	4.14%	9.19%
18	Median										9.15%

Sources:

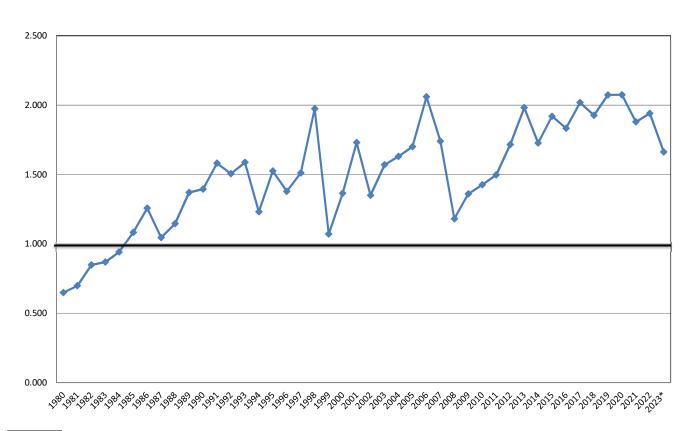
¹ S&P Global Market Intelligence, Downloaded on March 15, 2024.

² The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

³ Exhibit CCW-3

⁴ Blue Chip Economic Indicators, March 11, 2024 at page 14.

Common Stock Market/Book Ratio



Source:

1980 - 2000: Mergent Public Utility Manual.

2001 - 2015: AUS Utility Reports, multiple dates.

2016 - 2022: Value Line Investment Survey, multiple dates.

* Value Line Investment Survey Reports, January 19, February 9, February 23, and March 8, 2024.

Equity Risk Premium - Treasury Bond

<u>Line</u>	<u>Year</u>	Authorized Electric <u>Returns¹</u> (1)	30 yr. Treasury <u>Bond Yield²</u> (2)	Indicated Risk <u>Premium</u> (3)	Rolling 5 - Year <u>Average</u> (4)	Rolling 10 - Year <u>Average</u> (5)
1	1986	13.93%	7.80%	6.13%		
2	1987	12.99%	8.58%	4.41%		
3	1988	12.79%	8.96%	3.83%		
4	1989	12.97%	8.45%	4.52%		
5	1990	12.70%	8.61%	4.09%	4.60%	
6	1991	12.55%	8.14%	4.41%	4.25%	
7	1992	12.09%	7.67%	4.42%	4.26%	
8	1993	11.41%	6.60%	4.81%	4.45%	
9	1994	11.34%	7.37%	3.97%	4.34%	
10	1995	11.55%	6.88%	4.67%	4.46%	4.53%
11	1996	11.39%	6.70%	4.69%	4.51%	4.38%
12	1997	11.40%	6.61%	4.79%	4.59%	4.42%
13	1998	11.66%	5.58%	6.08%	4.84%	4.65%
14	1999	10.77%	5.87%	4.90%	5.03%	4.68%
15	2000	11.43%	5.94%	5.49%	5.19%	4.82%
16	2001	11.09%	5.49%	5.60%	5.37%	4.94%
17	2002	11.16%	5.43%	5.73%	5.56%	5.07%
18	2003	10.97%	4.96%	6.01%	5.55%	5.19%
19	2004	10.75%	5.05%	5.70%	5.71%	5.37%
20	2005	10.54%	4.65%	5.89%	5.79%	5.49%
21	2006	10.34%	4.87%	5.47%	5.76%	5.57%
22	2007	10.31%	4.83%	5.48%	5.71%	5.64%
23	2008	10.37%	4.28%	6.09%	5.73%	5.64%
24	2009	10.52%	4.07%	6.45%	5.88%	5.79%
25	2010	10.29%	4.25%	6.04%	5.90%	5.85%
26	2011	10.19%	3.91%	6.28%	6.07%	5.91%
27	2012	10.01%	2.92%	7.09%	6.39%	6.05%
28	2013	9.81%	3.45%	6.36%	6.44%	6.09%
29	2014	9.75%	3.34%	6.41%	6.44%	6.16%
30	2015	9.60%	2.84%	6.76%	6.58%	6.24%
31	2016	9.60%	2.60%	7.00%	6.72%	6.40%
32	2017	9.68%	2.90%	6.79%	6.66%	6.53%
33	2018	9.55%	3.11%	6.44%	6.68%	6.56%
34	2019	9.64%	2.58%	7.06%	6.81%	6.62%
35	2020	9.39%	1.56%	7.83%	7.02%	6.80%
36	2021	9.39%	2.05%	7.34%	7.09%	6.91%
37	2022	9.52%	3.12%	6.41%	7.01%	6.84%
38	2023	9.66%	4.09%	5.57%	6.84%	6.76%
39	Average	10.87%	5.16%	5.71%	5.71%	5.72%
40	Minimum				4.25%	4.38%
41	Maximum				7.09%	6.91%

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 2023 Februrary 6, 2024 at page 4.

^{2006 - 2023} Authorized Returns exclude limited issue rider cases.

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

Equity Risk Premium - Utility Bond

Line	Year	Authorized Electric Returns ¹	Average "A" Rated Utility Bond Yield ²	Indicated Risk Premium	Rolling 5 - Year Average	Rolling 10 - Year Average
		(1)	(2)	(3)	(4)	(5)
1	1986	13.93%	9.58%	4.35%		
2	1987	12.99%	10.10%	2.89%		
3	1988	12.79%	10.49%	2.30%		
4	1989	12.97%	9.77%	3.20%		
5	1990	12.70%	9.86%	2.84%	3.12%	
6	1991	12.55%	9.36%	3.19%	2.88%	
7	1992	12.09%	8.69%	3.40%	2.99%	
8	1993	11.41%	7.59%	3.82%	3.29%	
9	1994	11.34%	8.31%	3.03%	3.26%	
10	1995	11.55%	7.89%	3.66%	3.42%	3.27%
11	1996	11.39%	7.75%	3.64%	3.51%	3.20%
12	1997	11.40%	7.60%	3.80%	3.59%	3.29%
13	1998	11.66%	7.04%	4.62%	3.75%	3.52%
14	1999	10.77%	7.62%	3.15%	3.77%	3.52%
15	2000	11.43%	8.24%	3.19%	3.68%	3.55%
16	2001	11.09%	7.76%	3.33%	3.62%	3.56%
17	2002	11.16%	7.37%	3.79%	3.61%	3.60%
18	2003	10.97%	6.58%	4.39%	3.57%	3.66%
19	2004	10.75%	6.16%	4.59%	3.86%	3.82%
20	2005	10.54%	5.65%	4.89%	4.20%	3.94%
21	2006	10.34%	6.07%	4.27%	4.39%	4.00%
22	2007	10.31%	6.07%	4.24%	4.48%	4.04%
23	2008	10.37%	6.53%	3.84%	4.37%	3.97%
24	2009	10.52%	6.04%	4.48%	4.34%	4.10%
25	2010	10.29%	5.47%	4.82%	4.33%	4.26%
26	2011	10.19%	5.04%	5.15%	4.51%	4.45%
27	2012	10.01%	4.13%	5.88%	4.83%	4.66%
28	2013	9.81%	4.48%	5.33%	5.13%	4.75%
29	2014	9.75%	4.28%	5.47%	5.33%	4.84%
30	2015	9.60%	4.12%	5.48%	5.46%	4.90%
31	2016	9.60%	3.93%	5.67%	5.57%	5.04%
32	2017	9.68%	4.00%	5.68%	5.53%	5.18%
33	2018	9.55%	4.25%	5.30%	5.52%	5.33%
34	2019	9.64%	3.77%	5.87%	5.60%	5.47%
35	2020	9.39%	3.05%	6.34%	5.77%	5.62%
36	2021	9.39%	3.10%	6.29%	5.90%	5.73%
37 38	2022	9.52%	4.72%	4.80%	5.72%	5.62%
38	2023	9.66%	5.55%	4.11%	5.48%	5.50%
37	Average	10.87%	6.53%	4.34%	4.36%	4.36%
39	Minimum				2.88%	3.20%
40	Maximum				5.90%	5.73%

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 2023 Februrary 6, 2024 at page 4.

^{2006 - 2023} Authorized Returns exclude limited issue rider cases.

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

Bond Yield Spreads

				Publi	ic Utility Bond		Corporate Bond				Utility to Corporate						
		T-Bond			A-T-Bond	Baa-T-Bond			Aaa-T-Bond	Baa-T-Bond	Baa	A-Aaa					
Line	Year	Yield ¹	$\underline{\mathbf{A}^2}$	Baa ²	Spread	Spread	Aaa ³	Baa ³	Spread	Spread	Spread	Spread					
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)					
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%		13.67%	0.64%	2.37%	0.28%	1.40%					
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%		16.04%	0.73%	2.60%	0.56%	1.78%					
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%		16.11%	1.03%	3.35%	0.34%	2.07%					
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%		13.55%	0.86%	2.38%	0.65%	1.62%					
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%		14.19%	0.32%	1.80%	0.34%	1.32%					
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%		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%	4.07 %	1.14%	1.61%	3.39%	4.38%	0.81%	1.79%	-0.13%	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	3.12%	4.72%	5.03%	1.61%	1.91%	4.08%	5.07%	0.96%	1.96%	-0.04%	0.65%					
44	2023	4.09%	5.55%	5.84%	1.45%	1.75%	4.81%	5.86%	0.72%	1.77%	-0.02%	0.74%					
45	Average	6.09%	7.58%	8.00%	1.49%	1.91%	6.93%	8.00%	0.84%	1.91%	0.00%	0.65%					

Yield Spreads Treasury Vs. Corporate & Treasury Vs. Utility



Sources:

¹ St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

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 2010-2023 were obtained from http://credittrends.moodys.com/.

The corporate yields from 2010-2023 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/. The corporate yields from 2010-2023 were obtained from http://credittrends.moodys.com/.

13-Week Treasury and Utility Bond Yields

<u>Line</u>	<u>Date</u>	Treasury Bond Yield ¹ (1)	"A" Rated Utility Bond Yield ² (2)	"Baa" Rated Utility <u>Bond Yield²</u> (3)
1	03/15/24	4.43%	5.60%	5.83%
2	03/08/24	4.26%	5.48%	5.72%
3	03/01/24	4.33%	5.56%	5.79%
4	02/23/24	4.37%	5.56%	5.77%
5	02/16/24	4.45%	5.62%	5.85%
6	02/09/24	4.37%	5.56%	5.79%
7	02/02/24	4.22%	5.42%	5.66%
8	01/26/24	4.38%	5.54%	5.78%
9	01/19/24	4.36%	5.55%	5.80%
10	01/12/24	4.20%	5.42%	5.66%
11	01/05/24	4.21%	5.47%	5.74%
12	12/29/23	4.03%	5.28%	5.54%
13	12/22/23	4.05%	5.32%	5.58%
14	Average	4.28%	5.49%	5.73%
15	Spread To Treasury		1.21%	1.45%

Sources:

¹ St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

² http://credittrends.moodys.com/.

26-Week Treasury and Utility Bond Yields

<u>Line</u>	<u>Date</u>	Treasury <u>Bond Yield¹</u> (1)	"A" Rated Utility Bond Yield ² (2)	"Baa" Rated Utility <u>Bond Yield²</u> (3)
1	03/15/24	4.43%	5.60%	5.83%
2	03/08/24	4.26%	5.48%	5.72%
3	03/01/24	4.33%	5.56%	5.79%
4	02/23/24	4.37%	5.56%	5.77%
5	02/16/24	4.45%	5.62%	5.85%
6	02/09/24	4.37%	5.56%	5.79%
7	02/02/24	4.22%	5.42%	5.66%
8	01/26/24	4.38%	5.54%	5.78%
9	01/19/24	4.36%	5.55%	5.80%
10	01/12/24	4.20%	5.42%	5.66%
11	01/05/24	4.21%	5.47%	5.74%
12	12/29/23	4.03%	5.28%	5.54%
13	12/22/23	4.05%	5.32%	5.58%
14	12/15/23	4.00%	5.26%	5.52%
15	12/08/23	4.31%	5.62%	5.88%
16	12/01/23	4.40%	5.72%	5.97%
17	11/24/23	4.60%	5.96%	6.20%
18	11/17/23	4.59%	5.98%	6.22%
19	11/10/23	4.73%	6.15%	6.41%
20	11/03/23	4.77%	6.15%	6.41%
21	10/27/23	5.03%	6.44%	6.70%
22	10/20/23	5.09%	6.51%	6.79%
23	10/13/23	4.78%	6.16%	6.43%
24	10/06/23	4.95%	6.32%	6.60%
25	09/29/23	4.73%	6.08%	6.36%
26	09/22/23	4.53%	5.89%	6.17%
27	Average	4.47%	5.75%	6.01%
28	Spread To Treasu	ıry	1.28%	1.54%

Sources

¹ St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

² http://credittrends.moodys.com/.

Trends in Bond Yields



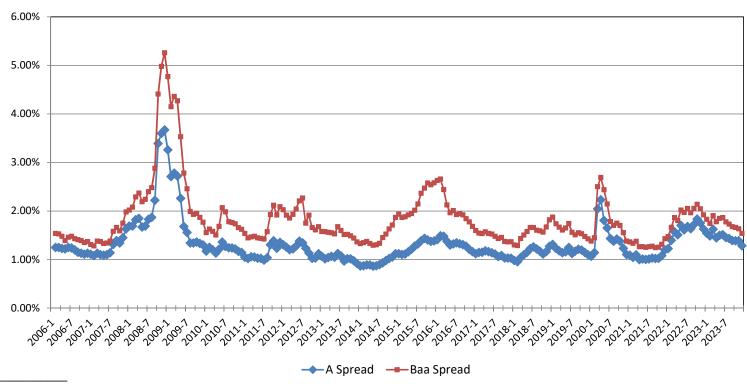
Sources:

Mergent Bond Record.

www.moodys.com, Bond Yields and Key Indicators.

St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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/

<u>Beta</u>

			S&P Global Market Intelligence
<u>Line</u>	<u>Company</u>	<u>Beta¹</u>	<u>Beta²</u>
1	ALLETE, Inc.	0.95	0.86
2	Alliant Energy Corporation	0.90	0.82
3	Ameren Corporation	0.90	0.80
4	American Electric Power Company, Inc.	0.80	0.80
5	Avista Corporation	0.95	0.80
6	CMS Energy Corporation	0.85	0.79
7	Duke Energy Corporation	0.90	0.79
8	Entergy Corporation	0.95	0.90
9	Evergy, Inc.	0.95	0.84
10	IDACORP, Inc.	0.85	0.82
11	NextEra Energy, Inc.	1.00	0.85
12	NorthWestern Corporation	0.95	0.91
13	Pinnacle West Capital Corporation	0.95	0.87
14	Portland General Electric Company	0.90	0.83
15	Southern Company	0.95	0.84
16	Xcel Energy Inc.	0.85	0.79
17	Average	0.91	0.83
18	Median	0.93	0.83
19	Historical Beta ³	0.75	

Source:

¹ The Value Line Investment Survey, January 19, February 9, and March 8, 2024.

² S&P Global Market Intelligence, betas for the period 3/15/2019 - 3/15/2024.

³ Exhibit CCW-14, page 2.

Historical Betas (Natural Gas Utilities)

Line Company	Average	4Q23	3Q23	2Q23	1Q23	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)	(36)	(37)	(38)	(39)
1 ALLETE, Inc.	0.80	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.60	0.65	0.65	0.65	0.65	0.65	0.70	0.75	0.75	0.80	0.75	0.80	0.80	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80
2 Alliant Energy Corporation	0.76	0.90	0.85	0.85	0.85	0.85	0.85	0.80	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.80	0.55	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80
3 Ameren Corporation	0.73	0.90	0.85	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.85	0.80	0.80	0.85	0.80	0.80	0.50	0.55	0.55	0.60	0.60	0.55	0.60	0.65	0.65	0.70	0.65	0.65	0.70	0.65	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4 American Electric Power Company, Inc.	. 0.68	0.80	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.50	0.55	0.55	0.55	0.55	0.55	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	0.70	0.70	0.70
5 Avista Corporation	0.79	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.95	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.70	0.70	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.75
6 CMS Energy Corporation	0.70	0.85	0.80	0.80	0.80	0.80	0.80	0.75	0.80	0.80	0.80	0.80	0.75	0.80	0.80	0.80	0.50	0.50	0.55	0.55	0.55	0.55	0.55	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.75	0.75	0.70	0.75	0.75	0.70	0.75
7 Duke Energy Corporation	0.68	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.85	0.85	0.85	0.85	0.85	0.45	0.50	0.50	0.50	0.50	0.55	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.50	0.60	0.60	0.60	0.60	0.60
8 Entergy Corporation	0.77	0.95	0.95	0.90	0.95	0.95	0.95	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	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	0.65	0.70	0.70	0.70	0.70
9 Evergy, Inc.	0.94	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.05	NMF	N/A																					
10 IDACORP, Inc.	0.74	0.85	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.85	0.85	0.80	0.80	0.80	0.80	0.50	0.55	0.55	0.60	0.60	0.55	0.60	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	0.80	0.80	0.80	0.80
11 NextEra Energy, Inc.	0.75	0.95	0.95	0.95	0.95	0.90	0.95	0.90	0.95	0.90	0.95	0.90	0.90	0.90	0.85	0.85	0.50	0.55	0.55	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	0.75	0.70	0.75	0.70	0.70	0.70
12 NorthWestern Corporation	0.76	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.55	0.60	0.60	0.60	0.60	0.55	0.60	0.65	0.65	0.70	0.70	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.70	0.70	0.70	0.70
13 Pinnacle West Capital Corporation	0.74	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.95	0.90	0.90	0.90	0.85	0.85	0.45	0.50	0.55	0.55	0.55	0.55	0.60	0.65	0.65	0.70	0.70	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.70	0.70	0.70	0.70	0.70
14 Portland General Electric Company	0.76	0.90	0.90	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.55	0.55	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.75
15 Southern Company	0.69	0.90	0.90	0.90	0.90	0.95	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.55	0.65	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.60	0.60	0.55	0.60	0.55	0.55	0.60
16 Xcel Energy Inc.	0.67	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.75	0.45	0.50	0.50	0.50	0.50	0.50	0.55	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	0.70	0.65
17 Average	0.75	0.90	0.88	0.86	0.87	0.87	0.87	0.86	0.88	0.88	0.89	0.88	0.87	0.86	0.86	0.73	0.53	0.56	0.57	0.58	0.57	0.58	0.62	0.65	0.67	0.67	0.66	0.67	0.67	0.67	0.68	0.71	0.73	0.72	0.72	0.73	0.72	0.72	0.72

Source: Value Line Software Analyze

CAPM Return

		Kroll	Risk Premium ³	Average FERC S&P 500 DCF⁴
<u>Line</u>	<u>Description</u>	Normalized ² <u>MRP</u> (1)	Derived <u>MRP</u> (2)	Derived <u>MRP</u> (3)
	Current Beta			
1	Risk-Free Rate ^{1,2}	4.41%	4.10%	4.10%
2	Market Risk Premium	5.50%	7.20%	8.40%
3	Beta ⁶	0.91	0.91	0.91
4	CAPM	9.43%	10.67%	11.77%
	Historical Beta			
5	Risk-Free Rate ^{1,2}	4.41%	4.10%	4.10%
6	Market Risk Premium	5.50%	7.20%	8.40%
7	Beta ⁶	0.75	0.75	0.75
8	CAPM	8.53%	9.49%	10.39%
	Current S&P Global Market Inte	elligence Beta		
9	Risk-Free Rate ^{1,2}	4.41%	4.10%	4.10%
10	Market Risk Premium	5.50%	7.20%	8.40%
11	Beta ⁶	0.83	0.83	0.83
12	CAPM	8.98%	10.09%	11.09%

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 1, 2024 at 2.

³ Kroll 2023 SBBI Yearbook, page 138.

⁴ S&P 500 1-Step DCF through March 15, 2024 for Dividend Paying Companies.

⁵ S&P 500 1-Step DCF through March 15, 2024 for all Companies.

⁶ Exhibit CCW-14, page 1.

Development of the Market Risk Premium

<u>Line</u>	<u>Description</u>	MRP
D	D	
	Premium Based Method:	/
1	Lg. Co. Stock Real Market Return	8.90% 1
2	Projected Consumer Price Index	2.20% ²
3	Expected Market Return	11.30%
4	Risk-Free Rate	<u>4.10%</u> ²
5	Market Risk Premium	7.20%
FERC	S&P 500 (Dividend Companies) 1-Step DCF Based Method:	
6	S&P 500 Growth	10.30% ³
7	Index Dividend Yield	1.80% ³
8	Adjusted Yield	1.89%
9	Expected Market Return	12.19%
10	Risk-Free Rate	4.10% ²
11	Market Risk Premium	8.10%
EEDC	S&P 500 (All Companies) 1-Step DCF Based Method:	
12	Short-Term S&P 500 Growth	11.20% 4
13	Index Dividend Yield	1.50% 4
14		1.58%
	Adjusted Yield	
15	Expected Market Return	12.78%
16	Risk-Free Rate	4.10% ²
17	Market Risk Premium	8.70%
18	Average DCF Based MRP	8.40%

Sources & Note:

¹ Kroll 2023 SBBI Yearbook, page 138.

² Blue Chip Financial Forecast March 1, 2024.

³ S&P 500 1-Step DCF through March 15, 2024 for Dividend Paying Companies.

⁴ S&P 500 1-Step DCF through March 15, 2024 for all Companies.

CERTIFICATE OF SERVICE

On this 26th day of April 2024, a true and correct copy of the Responsive Testimony of

Christopher C. Walters on Behalf of the Federal Executive Agencies was sent via electronic mail to the following interested parties:

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