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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition by Florida City Gas for Base Rate Increase

DOCKET NO. 20220069-GU FILED: August 26, 2022

Attached for filing is the Direct Testimony and Exhibits of Christopher C. Walters on

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behalf of the Federal Executive Agencies in the above referenced docket.

Respectfully Submitted,

Attorney for Federal Executive Agencies

By: /s/ Holly L. Buchanan

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CERTIFICATE OF SERVICE Docket No. 20220069-GU

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished by electronic mail this 26th day of August, 2022 to the following:

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BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

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IN RE: PETITION FOR RATE INCREASE BY FLORIDA CITY GAS

DOCKET NO. 20220069-GU

Direct Testimony and Exhibits of

Christopher C. Walters

On behalf of

Federal Executive Agencies

August 26, 2022



Project 11309

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

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IN RE: PETITION FOR RATE INCREASE BY FLORIDA CITY GAS

DOCKET NO. 20220069-GU

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Appendix A: Qualifications of Christopher C. Walters

Exhibit CCW-1 through Exhibit CCW-16

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

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IN RE: PETITION FOR RATE INCREASE BY FLORIDA CITY GAS

DOCKET NO. 20220069-GU

Direct Testimony of Christopher C. Walters

1		I. INTRODUCTION
2	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
3	А	Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
4		Suite 140, Chesterfield, MO 63017.
5		
6	Q	WHAT IS YOUR OCCUPATION?
7	А	I am a consultant in the field of public utility regulation and an Associate with the firm
8		of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.
9		
10	Q	PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.
11	А	This information is included in Appendix A to my testimony.
12		
13	Q	ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?
14	А	I am appearing on behalf of the Federal Executive Agencies ("FEA"). FEA purchases
15		substantial amounts of natural gas delivery from Florida City Gas ("FCG" or
16		"Company").
17		
18		

1	Q	WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?
2	А	My testimony will address the current market cost of equity, and resulting overall rate
3		of return for FCG. I will also respond to Company witness Ms. Jennifer Nelson's
4		recommended Return on Equity ("ROE") of 10.75%.
5		My silence with regard to any position taken by FCG in its application or direct
6		testimony in this proceeding does not indicate my endorsement of that position.
7		
8		II. SUMMARY
9	Q	PLEASE SUMMARIZE YOUR TESTIMONY.
10	А	In Section III of my testimony, I review and analyze the regulated utility industry's
11		access to capital, credit rating trends and outlooks, as well as the overall trend in the
12		authorized ROE for utilities throughout the country. I conclude that the trend in
13		authorized ROEs for utilities has declined over the last several years and has remained
14		below 10.0% more recently. I also review the impact that the Federal Reserve's (the
15		"Fed") monetary policy actions have had on the cost of capital.
16		In Section IV of my testimony, I outline how a fair ROE should be established,
17		provide an overview of the market's perception of the Company's investment risk,
18		comment on the Company's proposed capital structure, and present the analyses I
19		relied on to estimate an appropriate ROE for FCG. I conclude that a common equity
20		ratio of no higher than 50.0% is fair, reasonable, and more consistent with the capital
21		structures of the proxy group used to estimate the Company's cost of equity. Based on
22		the results of several cost of equity estimation methods, I estimate the current fair
23		market ROE for the Company to fall within the range of 9.00% to 9.80%, with a midpoint
24		of 9.40%.
25		

1		In Section V of my testimony, I respond to the Company's witness Ms. Nelson's
2		estimate of the current market cost of equity for FCG. Ms. Nelson recommends the
3		Company be authorized a ROE of 10.75% at the Company's proposed common equity
4		ratio of 59.6%.
5		
6		III. ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT
7 8	A.	Regulated Utility Industry Authorized ROEs, Access to Capital, and Credit Strength
9	Q	PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN
10		AUTHORIZED ROES FOR ELECTRIC AND GAS UTILITIES, UTILITIES' CREDIT
11		STANDING, AND UTILITIES' ACCESS TO CAPITAL TO FUND INFRASTRUCTURE
12		INVESTMENT.
13	А	Authorized ROEs for both electric and gas utilities have declined over the last 10 years,
14		as illustrated in Figure CCW-1, and have been below 10.0% for about the last nine
15		years.
16		
17		
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20		
21		
22		
23		
24		
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26		



		Distribution of Authorized ROEs (Natural Gas Utilities)									
					Natural Gas ¹						
		Line	<u>Year</u> (1)	<u>Average</u> (2)	<u>Median</u> (3)	Share of Decisions <u>≤ 9.5%</u>	Share of Decisions <u>≤9.7%</u>				
		1	2016	9.52%	9.50%	52%	74%				
		2	2017	9.71%	9.60%	43%	74%				
		3	2018	9.73%	9.80%	53%	72%				
		4	2019	9.70%	10.23%	23%	57%				
		5	2020	9.42%	9.40%	68%	87%				
		6	2021	9.53%	9.52%	50%	74%				
		7	2022	9.33%	9.25%	78%	100%				
2		The	Source and Note ¹ S&P Global M - Excludes lim Data through 7 distribution s	es: arket Intelligence, nited issue rider ca 7/8/2022. hows that ove	downloaded 7/2 ases.	1/2022.	aiority of authoriz				
L		ROEs since	2016 have b	een below 9.7	%. with many	/ of those bein	a below 9.5%.				
5							~				
5	Q	HOW HAS	THE AUTH	ORIZED COM	MON EQUIT	Y RATIO FL	UCTUATED OVI				
,		THE SAME			TIES?						
<u>ا</u>	A	In general, t	the utility indu	ustry's commo	n equity ratio	has not really	/ deviated too mu				
1		from the rar	nge of 50.0%	to 52.0%. As	s shown in T	able CCW-2,	I have provided t				
		authorized o	common equi	ty ratios for util	ities around t	he country, ex	cluding the report				
		common eq	uity ratios fo	r Arkansas, Fl	orida, Michig	gan, and India	na. For my ove				
		market ana	lysis, I have	excluded the	reported aut	horized comm	on equity ratios				

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.

<u>e Year</u> (1)	Natur	al Gas'		
<u>e rear</u> (1)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	••••••••••••••••••••••••••••••••••••••		
	<u>Average</u> (2)	<u>iviedian</u> (3)		
2010	49.25%	49.90%		
2011	52.49%	52.45%		
2012	51.13%	51.47%		
2013	51.16%	50.43%		
2014	51.90%	51.99%		
2015	49.79%	50.33%		
2016	51.85%	51.35%		
2017	51.13%	51.76%		
2018	52.58%	53.08%		
2019	52.72%	52.22%		
2020	52.34%	52.00%		
2021	51.63%	52.00%		
2022	50.21%	50.00%		
Average	51.40%	51.46%		
Median	51.63%	51.76%		
Source and No	tes:			
¹ S&P Global	Varket Intelligence: data thro	iah 7/8/22		

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- 9

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 rating of the industry has improved

5 since 2009. In 2009, approximately 88% of the industry was rated BBB or higher.

Currently, 100% of the industry has a rating of BBB or higher.

TABLE CCW-3 S&P Ratings by Category <u>Natural Gas Utility Subsidiaries</u> (Year End)														
												Description	2009	<u>2010</u>
A or higher	50%	50%	50%	50%	38%	33%	33%	44%	56%	33%	38%	38%	13%	13%
A-	0%	0%	0%	0%	38%	33%	33%	22%	11%	11%	38%	38%	38%	38%
BBB+	25%	25%	38%	38%	13%	22%	33%	33%	33%	44%	13%	13%	25%	25%
BBB	13%	13%	0%	0%	0%	0%	0%	0%	0%	11%	13%	13%	25%	25%
BBB-	13%	13%	13%	13%	13%	11%	0%	0%	0%	0%	0%	0%	0%	0%
Below BBB-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: S&P CAPITAL IQ and Market Intelligence, downloaded 7/8/22. Note: Subsidiary ratings used.

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Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT

12 CAPITAL EXPENDITURE PROGRAMS?

- 13 A Yes. In its April 11, 2022 Utility Capital Expenditures Update report, *RRA Financial*
- 14 *Focus*, a division of S&P Global Market Intelligence, made several relevant comments
- 15 about utility investments generally:
 - Projected 2022 capital expenditures for the 47 energy utilities included in the Regulatory Research Associates representative sample of the publicly traded U.S.-based utility universe currently exceeds \$154.2 billion, well above the \$131.8 billion of actual investment spent in 2021 by the same companies. Much of the increased outlays are driven by federal support for infrastructure investment that was approved by Congress and signed into law late in 2021.

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1 Investment across these 47 energy utilities may rise 15% or more • 2 by the close of 2022. 3 4 2021 energy utility capital expenditures marked a record high, about • 5 1.3% above the \$130.1 billion invested in 2020. Investment in 2021 6 might have been even higher without the multiple supply chain 7 issues associated with the ongoing coronavirus pandemic. 8 9 2022 aggregated capex indicates approximately \$154.2 billion 10 earmarked for energy infrastructure investments. The aggregated forecast for 2023 capex points to over \$154.0 billion of spending. 11 12 While the 2024 estimate of \$149.3 billion of investment appears to 13 signal the potential for a slight decline in capital expenditures 14 compared with 2022 and 2023, it is anticipated that annual 15 investments will ultimately be successively higher in each following year, considering that companies' plans for future projects will 16 17 continue to gel around new federal legislation that supports infrastructure investment. It is notable that in nine out of the last 10 18 19 years, annual investments exceeded the prior year.¹ 20 21 As shown in Figure CCW-2 below, capital expenditures for electric and natural 22 gas utilities have increased considerably over the period 2010 through 2021, and the 23 forecasted capital expenditures remain elevated through 2022 and 2023, albeit falling 24



somewhat in 2024.



1 2 As outlined in Figure CCW-2 above, and in the comments made by RRA S&P 3 Global Market Intelligence, capital investments for the utility industry continue to stay 4 at elevated levels, and these capital expenditures are expected to fuel utilities' profit 5 growth into the foreseeable future. This is clear evidence that the capital investments 6 are enhancing shareholder value, and are attracting both equity and debt capital to the 7 utility industry in a manner that allows for these elevated capital investments. While 8 capital markets embrace these profit-driven capital investments, regulatory 9 commissions also must be careful to maintain reasonable prices and tariff terms and 10 conditions to protect customers' need for reliable utility service but at competitive and 11 affordable tariff prices.

12

13 Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF REGULATED UTILITY 14 EQUITY SECURITIES?

15 Yes. Robust valuations are an indication that utilities can sell securities at high prices, А 16 which is a strong indication that they can access equity capital under reasonable terms and conditions, and at relatively low cost. As shown on Exhibit CCW-1, the historical 17 18 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 19 20 price-to-book value ("M/B") ratio, indicates utility security valuations today are very 21 strong and robust relative to the last several years. These strong valuations of utility 22 stocks indicate that utilities have access to equity capital under reasonable terms and 23 at lower costs.

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- 26

1QHOW IS THIS OBSERVABLE MARKET DATA USED IN FORMING YOUR2RECOMMENDED ROE AND OVERALL RATE OF RETURN?

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

- 8
- 9 B. Fed Monetary Policy

10QARE THE FEDERAL OPEN MARKET COMMITTEE'S ACTIONS KNOWN TO THE11MARKET PARTICIPANTS, AND IS IT REASONABLE TO BELIEVE THEY ARE12REFLECTED IN THE MARKET'S VALUATION OF BOTH DEBT AND EQUITY13SECURITIES?

14 А Yes. The Fed has been guite public about its efforts to support the economy to achieve 15 maximum employment, and to manage long-term inflation to around a 2% level. The 16 Fed has implemented procedures to support the economy's efforts to achieve these 17 policy objectives. Specifically, the Fed has recently lowered the Federal Overnight 18 Rate for securities, and has engaged once again in a Quantitative Easing program 19 where the Fed is buying, on a monthly basis, Treasury and mortgage-backed securities 20 in order to moderate the demand in the marketplaces and support the economy. 21 Currently, the Federal Reserve is unwinding its Quantitative Easing program and taking 22 actions towards monetary policy normalization. Such monetary policy actions include 23 raising the target federal funds rate and allowing maturing bonds to roll off its balance 24 sheet. All of these actions are known by market participants because the Fed is guite 25 transparent in its monetary policies.

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An assessment of the market's reaction to the Fed's actions on the Federal

Funds Rate is shown below in Figure CCW-3.



1 Q HAS THE FED MADE RECENT COMMENTS CONCERNING MONETARY POLICY

2 AND THE POTENTIAL IMPACT ON INTEREST RATES?

- 3 A Yes. In its March Statement, the Federal Open Market Committee ("FOMC") increased
- 4 the target range for the federal funds rate by 0.25%. The FOMC stated as follows in
- 5 the March Statement:
- 6 The Committee seeks to achieve maximum employment and inflation 7 at the rate of 2 percent over the longer run. With appropriate firming in 8 the stance of monetary policy, the Committee expects inflation to return 9 to its 2 percent objective and the labor market to remain strong. In 10 support of these goals, the Committee decided to raise the target range 11 for the federal funds rate to 1/4 to 1/2 percent and anticipates that 12 ongoing increases in the target range will be appropriate. In addition, 13 the Committee expects to begin reducing its holdings of Treasury 14 securities and agency debt and agency mortgage-backed securities at 15 a coming meeting.²
- 16 In a recent speech from Fed Chair Powell, he stated the following:
- 17 We raised our policy interest rate for the first time since the start of the 18 pandemic and said that we anticipate that ongoing rate increases will 19 be appropriate to reach our objectives. We also said that we expect to 20 begin reducing the size of our balance sheet at a coming meeting. In 21 my press conference. I noted that action could come as soon as our 22 next meeting in May, though that is not a decision that we have made. 23 These actions, along with the adjustments we have made since last fall, 24 represent a substantial firming in the stance of policy with the intention 25 of restoring price stability.3
- 26 In the same speech, Fed Chair Powell also stated that:

27 As the magnitude and persistence of the increase in inflation became 28 increasingly clear over the second half of last year, and as the job 29 market recovery accelerated beyond expectations, the FOMC pivoted 30 to progressively less accommodative monetary policy. In June, the 31 median FOMC participant projected that the federal funds rate would 32 remain at its effective lower bound through the end of 2022, and as the 33 news came in, the projected policy paths shifted higher (figure 5). The 34 median projection that accompanied last week's 25 basis point rate 35 increase shows the federal funds rate at 1.9 percent by the end of this 36 year and rising above its estimated longer-run normal value in 2023. 37 The latest FOMC statement also indicates that the Committee expects

²Federal Reserve issues FOMC statement, March 16, 2022, https://www.federalreserve.gov/newsevents/pressreleases/monetary20220316a.htm. ³Restoring Price Stability, March 21, 2022, Chair Pro Tempore Jerome H. Powell, https://www.federalreserve.gov/newsevents/speech/powell20220321a.htm.

2 believe that these policy actions and those to come will help bring 3 inflation down near 2 percent over the next 3 years.⁴ 4 5 Q HAS THE FOMC MADE ANY ADDITIONAL MONETARY POLICY MOVES? 6 А Yes. In its May Statement, the FOMC increased the target federal funds rate an 7 additional 50 basis points. Similarly, in its June statement, the FOMC increased the 8 target rate an additional 75 basis points. The FOMC stated the following: 9 The Committee seeks to achieve maximum employment and inflation at 10 the rate of 2 percent over the longer run. In support of these goals, the 11 Committee decided to raise the target range for the federal funds rate to 12 1-1/2 to 1-3/4 percent and anticipates that ongoing increases in the 13 target range will be appropriate. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt and agency 14 15 mortgage-backed securities, as described in the Plans for Reducing the 16 Size of the Federal Reserve's Balance Sheet that were issued in May. The Committee is strongly committed to returning inflation to its 2 17 18 percent objective.5 19 20 21 22 WHAT DO INDEPENDENT ECONOMISTS' OUTLOOKS FOR FUTURE INTEREST Q 23 **RATES INDICATE?** 24 А Independent economists expect current capital costs to increase at mixed rates over 25 the near term, while maintaining levels that are still low by historical standards. For 26 example, independent projections show that the consensus is the federal funds rate 27 will increase at a rate much faster than that of long-term interest rates as measured by 28 the 30-year Treasury bond. Inflation, as measured through the GDP price index, is 29 expected to cool off in the near to intermediate term. 30 The consensus projections for the next several quarters are provided in Table

to begin reducing the size of our balance sheet at a coming meeting. I

31 CCW-4 below.

⁴*Id.* ⁵ *Federal Reserve issues FOMC statement*, June 15, 2022, https://www.federalreserve.gov/newsevents/pressreleases/monetary20220615a.htm.

TABLE CCW-4										
	Blue Chip Financial Forecasts									
Projected Federal Funds Rate, 30-Year Treasury Bond Yields, and GDP Price Index										
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Publication Date	2021	<u>2021</u>	2022	2022	2022	2022	2023	2023	2023	2023
Federal Funds Rate										
Oct-21	0.1	0.1	0.1	0.1	0.1	0.2	0.3			
Nov-21	0.1	0.1	0.1	0.1	0.1	0.3	0.4			
Dec-21	0.1	0.1	0.1	0.1	0.3	0.4	0.6			
Jan-22		0.1	0.1	0.3	0.5	0.7	0.9	1.1		
Feb-22		0.1	0.2	0.5	0.8	1.0	1.3	1.5		
Mar-22		0.1	0.2	0.6	1.0	1.3	1.6	1.8	0.0	
Apr-22			0.1	0.8	1.4	1.8	2.2	2.4	2.6	
May-22			0.1	1.0	1.7	2.2	2.6	2.9	3.0	
Jun-22			0.1	1.0	1.9	2.4	2.8	3.0	3.1	2.4
Jul-22				0.7	2.4	3.1	3.5	3.5	3.5	3.4
T-Bond, 30 yr.										
Oct-21	1.9	2.2	2.3	2.4	2.5	2.6	2.7			
Nov-21	1.9	2.2	2.3	2.4	2.5	2.6	2.7			
Dec-21	1.9	2.1	2.2	2.3	2.5	2.6	2.7			
Jan-22		2.0	2.1	2.2	2.4	2.5	2.7	2.8		
Feb-22		2.0	2.2	2.3	2.5	2.6	2.7	2.8		
Mar-22		2.0	2.2	2.5	2.6	2.7	2.9	3.0		
Apr-22			2.3	2.6	2.8	3.0	3.2	3.3	3.3	
May-22			2.3	2.9	3.1	3.2	3.4	3.5	3.5	
Jun-22			2.3	3.0	3.3	3.4	3.5	3.6	3.6	
Jul-22				3.0	3.5	3.6	3.7	3.8	3.8	3.8
CDD Dries Index										
	12	20	25	25	25	25	21			
Nov-21		2.9	2.5	2.5	2.5	2.5	2.4			
Dec-21	59	4 6	2.1	2.0	2.5	2.4	2.5			
.lan-22	5.5	0 4 6	37	2.0	2.7	2.5	2.5	25		
5an-22 Feh-22		5 6 0	ر. 1 ع	3.1	2.0	2.0	2.5	2.5		
Mar-22		71	4.3 4.8	3.4	31	2.0	2.0	2.5		
Δnr_22		7.1	4.0 4.8	5.0	37	2.0	2.0 2.8	2.0	26	
-ημ-22 Μav-22			0 8 0	5.1	4.0	3.4	2.0	2.0	2.0	
lup_99			81	50	4.5	35	3.0	2.0	2.0	
.lul_22			0.1	59	5.2	3.0	34	2.0	2.7	26
50-22				0.0	0.2	0.0	0.4	2.0	2.1	2.0
Source and Note:										
Blue Chip Financia	al Forec	asts, Ja	nuary 20)21 throu	igh July	2022.				
Actual Yields in Bo	ld.									

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Further, the outlook for long-term interest rates in the intermediate to longer 3 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 4 5 projections are illustrated in Table CCW-5 below.

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TABLE CCW-5

30-Year Treasury Bond Yield Actual Vs. Projection

Description	<u>Actual</u>	2-Year <u>Projected*</u>	5- to 10-Year <u>Projected</u>
<u>2016</u>			
Q1	2.72%	3.67%	
Q2	2.64%	3.50%	4.3% - 4.6%
Q3	2.28%	3.20%	
Q4	2.82%	3.20%	4.2% - 4.5%
<u>2017</u>			
Q1	3.04%	3.70%	
Q2	2.91%	3.73%	4.3% - 4.5%
Q3	2.82%	3.66%	
Q4	2.82%	3.60%	4.1% - 4.3%
<u>2018</u>			
Q1	3.02%	3.63%	
Q2	3.09%	3.80%	4.2% - 4.4%
Q3	3.07%	3.73%	
Q4	3.27%	3.67%	3.9% - 4.2%
2019			
Q1	3.01%	3.50%	
Q2	2.78%	3.17%	3.6% - 3.8%
Q3	2.30%	2.70%	
Q4	2.30%	2.50%	3.2% - 3.7%
2020			
Q1	1.88%	2.57%	
Q2	1.38%	1.90%	3.0% - 3.8%
Q3	1.36%	1.87%	
Q4	1.62%	1.97%	2.8% - 3.6%
<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%
2022			
Q1	2.25%	2.87%	
		_	
Source and Note		_	
Blue Chip Fina	ncial Foreca	sts, January 20	16 through
April 2022.	0 1	0	
"Average of all	s reports in	Quarter.	

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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.

- 6

7 Q PLEASE COMMENT ON RUSSIA'S INVASION OF UKRAINE AND ITS IMPACT ON 8 THE MARKET.

- 9 A In late February 2022, Russia invaded Ukraine. The response from the United States
 10 and several other countries around the world has included several rounds of economic
 11 sanctions on Russia. There is no denying the fact that the ongoing conflict in Ukraine
 12 and the economic sanctions levied on Russia have sparked a fair amount of volatility
 13 and uncertainty in capital markets around the world.
- While the actual impact to the markets and global economy as a result of the current conflict remains to be seen, we can look at research on the markets during previous wars and armed combat situations to get an idea of what can be expected.
- 17 For example, a monograph published by the CFA Institute Research
- 18 Foundation concluded as follows:
- 19Both 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.⁶

⁶Klement CFA, Joachim, CFA Institute Research Foundation, 2021, "Geo-Economics: The interplay of geopolitics, economics, and investments" at 46 (emphasis added).

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

4

5 Q IN LIGHT OF HIGHER LEVELS OF INFLATION, EXPECTATIONS OF HIGHER 6 INTEREST RATES, AND THE WAR IN UKRAINE, HOW HAS THE MARKET 7 PERCEIVED UTILITIES AS INVESTMENT OPTIONS?

8 A Since the end of the second quarter 2021, utilities in general, as measured by the S&P 9 500 Utilities index, have significantly outperformed the market as measured by the S&P 10 500, as well as the Nasdaq Composite. This is presented below in Figure CCW-4. This 11 is indicative that utility valuations remain robust, even during a period of elevated 12 inflation, rising interest rates, and uncertainty as a result of geopolitical events around 13 the world.

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1	<u>& Improvement Co. v. Pub. Serv. Comm'n of W. Va.</u> , 262 U.S. 679 (1923) and <u>Fed.</u>
2	Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944). In these decisions, the
3	Supreme Court found that just compensation depends on many circumstances and
4	must be determined by fair and enlightened judgments based on relevant facts. The
5	Court also found that a utility is entitled to such rates as would permit it to earn a return
6	on a property devoted to the convenience of the public that is generally consistent with
7	the same returns available in other investments of corresponding risk. The Court
8	continued that the utility has "no constitutional rights to profits" such as those "realized
9	or anticipated in highly profitable enterprises or speculative ventures," ⁷ and defined the
10	ratepayer/investor balance as follows:
11 12 13 14 15 16	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</u> <u>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. ⁸
17	As such, a fair rate of return is based on the expectation that the utility costs
18	reflect efficient and economical management, and the return will support its credit
19	standing and access to capital, but the return will not be in excess of this level. From

these standards, rates to customers will be just and reasonable, and compensation to
the utility will be fair and support financial integrity and credit standing, under economic

22 management of the utility.

23

24 Q PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE FCG'S 25 COST OF COMMON EQUITY.

A I have used several models based on financial theory to estimate FCG's cost of common equity. These models are: (1) a constant growth Discounted Cash Flow

⁷*Bluefield*, 262 U.S. at 692-93.

⁸*Id.* at 693 (emphasis added).

2 DCF using sustainable growth rate estimates; (3) a multi-stage growth DCF model; 3 (4) a Risk Premium model; and (5) a Capital Asset Pricing Model ("CAPM"). 4 5 A. FCG's Investment Risk 6 PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF FCG'S INVESTMENT Q 7 RISK. 8 А The market's assessment of FCG's investment risk is described by credit rating 9 analysts' reports. However, FCG is not an independently rated entity and therefore 10 does not have any reports detailing its overall risk from a ratings analysts. For this 11 reason, I will review the overall risk of its parent, Florida Power and Light ("FPL"), for 12 comparative purposes. FPL's current credit ratings from S&P and Moody's are A and 13 A1, respectively.⁹ FPL currently has a "Stable" outlook from both ratings agencies. 14 Specifically, in its most recent report covering FPL, S&P states: 15 **Business Risk: Excellent** 16 Supporting FPL's business risk profile are: its largely residential 17 customer base, which accounts for about 58% of its operating revenue; 18 its effective management of regulatory risk; and its above-average 19 economic and customer growth, demonstrated by Florida outperforming 20 the national GDP growth rate in the past seven consecutive years and, 21 consequently, strong energy demand. At the same time, Florida's 22 economy continues to recover from the impacts of the ongoing COVID-23 19 pandemic, demonstrated by improvements in the unemployment rate 24 and consumer confidence. 25 The FPSC regulates FPL. We view the regulatory environment in Florida 26 as constructive and supportive of credit quality. FPL benefits from 27 forecast test years, above-average authorized returns on equity (ROEs), 28 multiyear rate settlements, and various regulatory mechanisms that 29 enable the company to reduce its regulatory lag and reduce cash flow 30 volatility. Further supporting our assessment of the company's business 31 risk profile is the company's ability to consistently recover storm-related 32 costs, financially protecting the company from hurricanes that are

("DCF") model using consensus analysts' growth rate projections; (2) a constant growth

- common in its service territory and significantly reducing a key risk for
 the company. As such, our assessment of FPL's business risk is at the
 higher half of the range compared with peers.
- 4 The company is further enhancing its renewable energy footprint. It 5 continues to execute on its 30-by-30 plan and we expect solar generation will account for about 20% of FPL's generating portfolio when 6 7 this program is complete. In July 2021, FPL announced that all 8 SolarTogether program megawatts (MW) were subscribed. This comes 9 just over one year after FPSC approved this community solar program. 10 The SolarTogether program is currently supported by 20 new solar 11 projects across the state and recently additional solar projects were 12 approved in connection with the program's second phase. We expect, 13 along with a green hydrogen project under development, ongoing solar 14 plus battery storage development efforts to begin service later this year, 15 and the exit from its remain coal generation, the company will continue 16 to reduce its GHG emissions and environmental risks more quickly than 17 peers.
- 19 Financial Risk: Intermediate
 - We assess FPL's stand-alone financial measures using our medial volatility financial benchmarks to reflect its lower-risk regulated electric utility operations and its effective management of regulatory risk. Our base case scenario assumes that the company will maintain its regulatory capital structure, reflecting an equity ratio of about 60%, a robust capital spending program, and timely recovery of costs through the use of constructive regulatory mechanisms. Overall, we expect the company's stand-alone FFO to debt to reflect 30%-33%, over the next three years, which is consistent with the middle of the range for the company's financial risk profile category.¹⁰
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- B. FCG's Proposed Capital Structure

34 Q WHAT IS FCG'S PROPOSED CAPITAL STRUCTURE?

Campbell¹¹ and is summarized in Table CCW-6 below:

- 35 A FCG's proposed capital structure is sponsored by Company witness Mr. Mark
- 36

- 38
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 ¹⁰S&P RatingsDirect[®]: Full Analysis: Florida Power & Light Co.", January 25, 2022.
 ¹¹Exhibit G-3, page 2.

			TAE <u>Investor-Supp</u>							
			Description Weight							
			Short-Term Debt Common Equity Total		4.68% <u>59.60%</u> 100.00%					
1 2										
3	Q	DO YOU	HAVE ANY COMMENTS	ON FCG'S ASSU	JMED CAPITA	L STRUCTURE				
4		FOR THE	EPROJECT?							
5	А	Yes. As I	will discuss later, FCG's pr	oposed equity ratio	significantly ex	ceeds the equity				
6		ratio for t	he proxy group used to es	timate the cost of e	equity for FCG.	As shown on in				
7		Exhibit C	Exhibit CCW-2, the proxy group has an average common equity ratio of 38.6%							
8		(including	short-term debt) and 44.6	% (excluding short	-term debt). N	otably, the proxy				
9		group I us	se is identical to that of FC	G witness Ms. Nels	son.					
10										
11	Q	ARE YOL	JAWARE OF OTHER REC	GULATORY COMM	ISSIONS REC	OGNIZING THE				
12		NEED TO) ALIGN THE COST OF E	QUITY WITH THE	CAPITAL STR	RUCTURE?				
13	А	Yes. In a	recent Order, the Arkansa	as Public Service C	Commission im	puted the capital				
14		structure	of Southwestern Electric	Power Company ("SWEPCO") to	be more in-line				
15		with the c	comparable companies use	ed to estimate the c	ost of equity. ¹²	The adjustment				
16		was to re	cognize that there must b	e <i>congruence</i> betv	veen the cost o	of equity and the				
17		capital st	ructure. Specifically, the C	order States as follo	ows:					
18 19		C	onsistent with our ruling in ommission holds that the	Order No. 10 of Do ere should be cor	ocket No. 06-10 ngruence betw)1-U, the veen the				

¹²APSC Docket No. 21-170-U, Doc. No. 323, May 23, 2022, Order No. 14.

1 estimated cost of equity and the [debt-to-equity "DTE")] ratio, whereby 2 a lower DTE ratio decreases financial risk and decreases the cost of 3 equity. The evidence of record supports imputing the average capital structure of companies with comparable risk to SWEPCO for the 4 purposes of determining SWEPCO's overall cost of capital.¹³ 5 6 As I described above, the proxy group has an average common equity ratio of 7 38.6% (including short-term debt) and 44.6% (excluding short-term debt) as calculated 8 by S&P Global Market Intelligence and Value Line, respectively. The Company's 9 assumed equity ratio of 59.60% (including short-term debt) 62.53% (excluding short-10 term debt) is nearly eight percentage points higher than that of the proxy group's 11 comparable equity ratio. Clearly, FCG's requested equity ratio exceeds the equity 12 ratios of the proxy group used to assess the Company's cost of equity. I recommend 13 that the Commission authorize a common equity ratio of no higher than 50.0%. 14 C. Development of Proxy Group 15 PLEASE BRIEFLY DESCRIBE WHY A PROXY GROUP IS NEEDED IN 16 Q 17 ESTIMATING THE COST OF EQUITY. 18 Α There are a few reasons why a proxy group is needed to estimate the cost of equity. 19 As an initial matter, to be consistent with the Hope and Bluefield standards, as 20 described above, the allowed return should be commensurate with returns on 21 investments in other firms of comparable risk. A proxy group of similarly situated 22 companies of comparable risk is needed to meet this criteria. 23 Even if FCG were a publicly traded company whose securities could be used to 24 estimate its cost of equity, there exists the potential for certain errors and biases making 25 the reliance on a single estimate undesirable and potentially less accurate. A proxy

1		group of comparable risk companies adds reliability to the estimates by mitigating the
2		potential for bias that may be introduced by measurement errors of model inputs.
3		
4	Q	PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP THAT
5		COULD BE USED TO ESTIMATE FCG'S CURRENT MARKET COST OF EQUITY.
6	А	I relied on the same proxy group developed by FCG witness Ms. Nelson.
7		
8	Q	HOW DOES THE INVESTMENT RISK OF FCG COMPARE TO THAT OF THE
9		PROXY GROUP?
10	А	As shown on my Exhibit CCW-2, the proxy group has average credit ratings of A- and
11		A3 from S&P and Moody's, respectively. The proxy group's average rating of A- from
12		S&P is one notch lower than FPL's A rating from S&P. The proxy group's average rating
13		of A3 from Moody's is two notches lower than FPL's rating of A1.
14		As shown on the same exhibit, the proxy group has an average common equity
15		ratio of 38.6% (including short-term debt) and 44.6% (excluding short-term debt) as
16		calculated by S&P Global Market Intelligence and Value Line, respectively. FCG's
17		requested common equity ratio of 59.60% (including short-term debt) or 62.53%
18		(excluding short-term debt) significantly exceeds the proxy group's equity ratios as
19		described above.
20		Given the stark differences in common equity ratios between the Company and
21		the proxy group, my ROE recommendation will be consistent with my recommended
22		common equity ratio.
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1 D. DCF Model

2	Q	PLEASE DESCRIBE THE DCF MODEL.
3	А	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
5		of capital. This model is expressed mathematically as follows:
6 7		$P_{0} = \frac{D_{1}}{(1+K)^{1}} + \frac{D_{2}}{(1+K)^{2}} \dots \frac{D_{\infty}}{(1+K)^{\infty}} $ (Equation 1)
8 9 10		P₀ = Current stock price D = Dividends in periods 1 - ∞ K = Investor's required return
11		This model can be rearranged in order to estimate the discount rate or investor-required
12		return, known as "K." If it is reasonable to assume that earnings and dividends will
13		grow at a constant rate, then Equation 1 can be rearranged as follows:
14		$K = D_1/P_0 + G $ (Equation 2)
15 16 17 18		 K = Investor's required return D₁ = Dividend in first year P₀ = Current stock price G = Expected constant dividend growth rate
19		Equation 2 is referred to as the annual "constant growth" DCF model.
20		
21	Q	PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.
22	А	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.
24		
25	Q	WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH
26		DCF MODEL?
27	А	I relied on the average of the weekly high and low stock prices of the utilities in the
28		proxy group over a 13-week period ending on July 8, 2022. 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.

4

5 Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF MODEL?

6 A I used the most recently paid quarterly dividend as reported in *Value Line*.¹⁴ This 7 dividend was annualized (multiplied by 4) and adjusted for next year's growth to 8 produce the D_1 factor for use in Equation 2 above. In other words, I calculate D_1 by 9 multiplying the annualized dividend (D_0) by (1+G).

10

11 Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT 12 GROWTH DCF MODEL?

13 A There are several methods that can be used to estimate the expected growth in 14 dividends. However, regardless of the method, for purposes of determining the 15 market-required return on common equity, one must attempt to estimate investors' 16 expectations about what the dividend, or earnings growth rate will be and not what an 17 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.¹⁵ 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.

¹⁴The Value Line Investment Survey.

¹⁵See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, Choice Among Methods of Estimating Share Yield, The Journal of Portfolio Management, Spring 1989.

For my constant growth DCF analysis, I have relied on a consensus, or mean,
 of professional securities analysts' earnings growth estimates as a proxy for investors'
 dividend growth rate expectations. I used the average of analysts' growth rate
 estimates from three sources: Zacks, MI, and Yahoo! Finance. All such projections
 were available on July 8, 2022, and all were reported online.

6 Each growth rate projection is based on a survey of independent securities 7 analysts. There is no clear evidence whether a particular analyst is most influential on 8 general market investors. Therefore, a single analyst's projection does not predict 9 investor outlooks as reliably as does a consensus of market analysts' projections. The 10 consensus of estimates is a simple arithmetic average, or mean, of surveyed analysts' 11 earnings growth forecasts. A simple average of the growth forecasts gives equal 12 weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic 13 mean, of analysts' forecasts is a good proxy for investor expectations.

14 The growth rates I used in my DCF analysis are shown in Exhibit CCW-3. The 15 average growth rate for my proxy group is 5.95% and a median growth rate of 5.81%.

16

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

- 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 9.31% and 9.14%, respectively.
- 20

21 Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR CONSTANT 22 GROWTH DCF ANALYSIS?

A Yes. The constant growth DCF analysis for my proxy group is based on a group
average long-term growth rate of 5.95%. The three- to five-year growth rates are nearly

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

40% higher than the projected long-term projected Gross Domestic Product ("GDP")

growth rate of 4.35%, described below. This is not a sustainable level of growth.

5 А Although there may be short-term peaks, the long-term sustainable growth rate for a 6 utility stock cannot exceed the growth rate of the economy in which it sells its goods 7 and services. The long-term maximum sustainable growth rate for a utility investment 8 is, accordingly, best proxied by the projected long-term GDP growth rate as that reflects 9 the projected long-term growth rate of the economy as a whole. Blue Chip Economic 10 Indicators projects that over the next 5 and 10 years, the U.S. nominal GDP will grow at an annual rate of approximately 4.35%.¹⁶ As such, the average nominal growth rate 11 12 over the next 10 years is around 4.35%, which I believe is a reasonable proxy of 13 long-term growth.

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

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¹⁶Blue Chip Financial Forecasts, June 1, 2022 at page 14.

1 E. Sustainable Growth DCF

2 Q PLEASE DESCRIBE WHAT THE SUSTAINABLE GROWTH DCF METHOD IS AND 3 HOW YOU ESTIMATED A SUSTAINABLE GROWTH RATE FOR YOUR 4 SUSTAINABLE GROWTH DCF MODEL.

A sustainable growth rate, also known as the internal growth rate, is based on the
percentage of the utility's earnings that is retained and reinvested in utility plant and
equipment. These reinvested earnings increase the earnings base (rate base).
Earnings grow when plant funded by reinvested earnings is put into service, and the
utility is allowed to earn its authorized return on such additional rate base investment.

10 The internal growth methodology is tied to the percentage of earnings retained 11 in the Company and not paid out as dividends. The earnings retention ratio is 1 minus 12 the dividend payout ratio. As the payout ratio declines, the earnings retention ratio 13 increases. An increased earnings retention ratio will fuel stronger growth because the 14 business funds more investments with retained earnings.

15 The payout ratios of the proxy group are shown in my Exhibit CCW-5. These 16 dividend payout ratios and earnings retention ratios then can be used to develop a 17 long-term growth rate driven by earnings retention.

18 The data used to estimate the long-term sustainable growth rate is based on 19 the Company's current market-to-book ratio and on *Value Line*'s three- to five-year 20 projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in Exhibit CCW-6, the average and median sustainable growth rates for the proxy group using this internal growth rate model are 5.67% and 5.53%, respectively.

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

- A DCF estimate based on these sustainable growth rates is developed in Exhibit CCW7. 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 9.02% and 9.20%, respectively.
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F. Multi-Stage Growth DCF Model

8 Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

9 А Yes. As previously indicated, the DCF is designed to reflect a present value of an 10 infinite string of future cash flow. That said, however, my first constant growth DCF is 11 based on the analyst growth rate projections, so it is a reasonable reflection of rational 12 investment expectations over the next three to five years. The limitation on this 13 constant growth DCF model is that it cannot reflect a rational expectation that a period 14 of high or low short-term growth can be followed by a change in growth to a rate that is 15 more reflective of long-term sustainable growth. In order to account for the outlook of 16 changing growth expectations, I performed a multi-stage DCF analysis.

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- 18

Q WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

A Analyst-projected growth rates over the next three to five years will change as utility earnings growth outlooks change. Utility companies go through cycles in making investments in their systems. When utility companies are making large investments, their rate base grows rapidly, which in turn accelerates earnings growth. Once a major construction cycle is completed or levels off, growth in the utility rate base slows and its earnings growth slows from an abnormally high three- to five-year rate to a lower, sustainable growth rate.

1 As major construction cycles extend over longer periods of time, even with an 2 accelerated construction program, the growth rate of the utility will slow simply because 3 rate base growth will slow, and the utility has limited human and capital resources 4 available to expand its construction program. Therefore, the three- to five-year growth 5 rate projection should be used as a long-term sustainable growth rate, but not without 6 making a reasonable informed judgment to determine whether it considers the current 7 market environment, the industry, and whether the three- to five-year growth outlook is 8 sustainable.

9

10

Q PLEASE DESCRIBE YOUR MULTI-STAGE DCF MODEL.

11 A The multi-stage DCF model reflects the possibility of non-constant growth for a 12 company over time. The multi-stage DCF model reflects three growth periods: (1) a 13 short-term growth period consisting of the first five years; (2) a transition period, 14 consisting of the next five years (6 through 10); and (3) a long-term growth period 15 starting in year 11 and extending into perpetuity.

For the short-term growth period, I relied on the consensus of analysts' growth projections described above in relationship to my constant growth DCF model. For the transition period, the growth rates were reduced or increased by an equal factor reflecting the difference between the analysts' growth rates and the long-term sustainable growth rate. For the long-term growth period, I assumed each company's growth would converge to the maximum sustainable long-term growth rate.

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1QWHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR THE2MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

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

8 The U.S. Department of Energy, Energy Information Administration ("EIA") has 9 observed that utility sales growth tracks U.S. GDP growth, albeit at a lower level, as 10 shown in Exhibit CCW-8. Utility sales growth has lagged behind GDP growth for more 11 than a decade. As a result, nominal GDP growth is a reasonable upper limit for utility 12 sales growth, rate base growth, and earnings growth in the long-run. Therefore, the 13 U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable 14 long-term growth rate of a utility.

15

16 Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE

17 LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A

18 **RATE GREATER THAN THE GROWTH OF THE U.S. GDP?**

19 A Yes. This concept is supported in published analyst literature and academic work.

- 20 Specifically, in a textbook titled "Fundamentals of Financial Management," published
- 21 by Eugene Brigham and Joel F. Houston, the authors state as follows:

22The constant growth model is most appropriate for mature companies23with a stable history of growth and stable future expectations. Expected24growth rates vary somewhat among companies, but dividends for25mature firms are often expected to grow in the future at about the same26rate as nominal gross domestic product (real GDP plus inflation).1727

¹⁷*Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298 (emphasis added).

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

3		Estimating Growth Rates
4 5 6 7 8 9		One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.
11		* * *
12 12		
13 14		Another approach to estimating long-term growth rates is to focus on
15		estimating the overall economic growth rate. Again, this is the approach
16		used in the Ibbotson Cost of Capital Yearbook. To obtain the economic
17		growth rate, a forecast is made of the growth rate's component parts.
18 10		Expected growth can be broken into two main parts: expected inflation
20		and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth 18
21		
22		
23	Q	HOW DID YOU DETERMINE A LONG-TERM GROWTH RATE THAT REFLECTS
24		THE CURRENT CONSENSUS OF INDEPENDENT MARKET PARTICIPANTS?
25	А	I relied on the consensus of long-term GDP growth projections as projected by
26		independent economists. Blue Chip Financial Forecasts publishes the consensus for
27		GDP growth projections twice a year. These projections reflect current outlooks for
28		GDP and are likely to be influential on investors' expectations of future growth outlooks.
29		The consensus of projected GDP growth is about 4.35% over the next 10 years. ¹⁹
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 ¹⁸Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook at 51 and 52.
 ¹⁹Blue Chip Financial Forecasts, June 1, 2022 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

relied on. Several projections are shown in Table CCW-7 below.

<u> </u>	1 1 01000313			
Source	Projected <u>Period</u>	Real <u>GDP</u>	Inflation	Nominal <u>GDP</u>
Blue Chip Financial Forecasts ¹	5-10 Yrs	2.1%	2.3%	4.3%
EIA - Annual Energy Outlook ²	29 Yrs	2.2%	2.3%	4.5%
Congressional Budget Office ³	30 Yrs	1.7%	2.0%	3.7%
Moody's Analytics ⁴	31 Yrs	2.1%	2.1%	4.2%
Social Security Administration ⁵	74 Yrs			4.1%
Economist Intelligence Unit ⁶	29 Yrs	1.7%	2.2%	3.9%
Sources: ¹ Blue Chip Financial Forecasts, ² U.S. EnergyInformation Adminis Annual Energy Outlook 2022, M	June 1, 2022 a tration (EIA), larch 3, 2022.	at 14.		
³ Congressional Budget Office, Le	ong-Term Bud	dget Out	look, Marcl	h 2021.
⁴ Moody's Analytics Forecast, dov	wnloaded June	e 29, 20	22.	
⁵ Social Security Administration, " Table VI.G4, August 31, 2021.	2021 OASDI	Trustees	s Report,"	
⁶ S&P ML Economist Intelligence	Unit. downloa	ded on I	March 9. 20)22.

5 6 7

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As shown in the table above, the real GDP and the inflation fall in the range of 1.70% to 2.20% and 2.0% to 2.3%, respectively. This results in a nominal GDP in the range of 3.7% to 4.5%. Therefore, the nominal GDP growth projections made by these independent sources support my use of 4.35% as a reasonable estimate of market participants' expectations for long-term GDP growth. The real GDP and nominal GDP growth projections made by these independent sources support my use of 4.35% as a reasonable estimate of market participants' expectations for long-term GDP growth.

1 Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN YOUR 2 MULTI-STAGE DCF ANALYSIS?

3 А I relied on the same 13-week average stock prices and the most recent quarterly 4 dividend payment data discussed above. For the first stage, I used the consensus of 5 analysts' growth rate projections discussed above in my constant growth DCF model. 6 The first stage covers the first five years, consistent with the time horizon of the 7 securities analysts' growth rate projections. The second stage, or transition stage, 8 begins in year 6 and extends through year 10. The second stage growth transitions 9 the growth rate from the first stage to the third stage using a straight linear trend. For 10 the third stage, or long-term sustainable growth stage, starting in year 11, I used a 11 4.35% long-term sustainable growth rate based on the consensus of economists' 12 long-term projected nominal GDP growth rate.

13

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

A As shown in Exhibit CCW-9, the average and median DCF ROEs for my proxy group using the 13-week average stock price are 7.99% and 8.19%, respectively.

17

18 Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

- 19 A The DCF results are summarized in Table CCW-8 below. It is my opinion a reasonable
- 20 ROE based on the DCF results summarized in Table CCW-8 is 9.0%.
- 21
- 22
- 23
- 24
- 25

TABLE CCW-8 Summary of DCF Results		
	Proxy	<u>Group</u>
Description	<u>Average</u>	<u>Median</u>
Constant Growth DCF Model (Analysts' Growth)	9.31%	9.14%
Constant Growth DCF Model (Sustainable Growth)	9.02%	9.20%
Multi-Stage DCF Model	7.99%	8.19%

1

2 3

4

G. Risk Premium Model

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

6 А This model is based on the principle that investors require a higher return to assume 7 greater risk. Common equity investments have greater risk than bonds because bonds 8 have more security of payment in bankruptcy proceedings than common equity and the 9 coupon payments on bonds represent contractual obligations. In contrast, companies 10 are not required to pay dividends or guarantee returns on common equity investments. 11 Therefore, common equity securities are considered to be riskier than bond securities. 12 This risk premium model is based on two estimates of an equity risk premium. 13 First, I quantify the difference between regulatory commission-authorized returns on 14 common equity and contemporary U.S. Treasury bonds. The difference between the 15 authorized return on common equity and the Treasury bond yield is the risk premium. 16 I estimated the risk premium on an annual basis for each year since January 1986. 17 The authorized ROEs were based on regulatory commission-authorized returns for 1 2 utility companies. Authorized returns are typically based on expert witnesses' estimates of the investor-required return at the time of the proceeding.

3 The second equity risk premium estimate is based on the difference between 4 regulatory commission-authorized returns on common equity and contemporary 5 "A" rated utility bond yields by Moody's. I selected the period 1986 through 2021 6 because public utility stocks consistently traded at a premium to book value during that 7 period. This is illustrated in Exhibit CCW-10, which shows the market-to-book ratio 8 since 1986 for the utility industry was consistently above a multiple of 1.0x. Over this 9 period, an analyst can infer that authorized ROEs were sufficient to support market 10 prices that at least exceeded book value. This is an indication that commission-11 authorized returns on common equity supported a utility's ability to issue additional 12 common stock without diluting existing shares. It further demonstrates that utilities 13 were able to access equity markets without a detrimental impact on current 14 shareholders.

Based on this analysis, as shown in Exhibit CCW-11, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.66%. 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.

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-11, the

five-year rolling average risk premium over Treasury bonds ranged from 4.17% to 7.23%, while the ten-year rolling average risk premium ranged from 4.30% to 6.93%.

As shown on my Exhibit CCW-12, the average indicated equity risk premium over contemporary "A" rated Moody's utility bond yields was 4.30%. The five-year and ten-year rolling average risk premiums ranged from 2.80% to 5.97% and 3.11% to 5.75%, respectively.

7

1

2

8 Q DO YOU BELIEVE THAT THE TIME PERIOD USED TO DERIVE THESE EQUITY 9 RISK PREMIUM ESTIMATES IS APPROPRIATE TO FORM ACCURATE 10 CONCLUSIONS ABOUT CONTEMPORARY MARKET CONDITIONS?

11 Yes. Contemporary market conditions can change dramatically during the period that А 12 rates determined in this proceeding will be in effect. A relatively long period of time 13 where stock valuations reflect premiums to book value indicates that the authorized 14 ROEs and the corresponding equity risk premiums were supportive of investors' return 15 expectations and provided utilities access to the equity markets under reasonable 16 terms and conditions. Further, this time period is long enough to smooth abnormal 17 market movement that might distort equity risk premiums. While market conditions and 18 risk premiums do vary over time, this historical time period is a reasonable period to 19 estimate contemporary risk premiums.

Alternatively, some have recommended that use of "actual achieved investment return data" in a risk premium study should be based on long historical time periods. The studies find that achieved returns over short time periods may not reflect investors' expected returns due to unexpected and abnormal stock price performance. Short-term, abnormal actual returns would be smoothed over time and the achieved actual investment returns over long time periods would approximate investors'

BRUBAKER & ASSOCIATES, INC.

expected returns. Therefore, it is reasonable to assume that averages of annual
 achieved returns over long time periods will generally converge on the investors'
 expected returns.

4

5QPLEASE EXPLAIN OTHER MARKET EVIDENCE YOU RELIED ON IN6DETERMINING AN APPROPRIATE EQUITY RISK PREMIUM.

7 A The equity risk premium should reflect the market's perception of risk in the utility
8 industry today. I have gauged investor perceptions in utility risk today in Exhibit CCW9 13, where I show the yield spread between utility bonds and Treasury bonds over the
10 last 43 years. As shown in this schedule, the average utility bond yield spreads over
11 Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.48%
12 and 1.91%, respectively.

A current 13-week average "A" rated utility bond yield of 4.74% when compared to the current Treasury bond yield of 3.11%, as shown in Exhibit CCW-14, page 1, implies a yield spread of 1.63%. This current utility bond yield spread is slightly higher than the 43-year average spread for "A" rated utility bonds of 1.48%. The 13-week average yield on "Baa" rated utility bonds is 5.09%. This indicates a current spread for the "Baa" rated utility bond yield of 1.98%, which is also slightly higher than the 43-year average of 1.91%. This supports an above average risk premium.

20

21 Q WHAT IS YOUR RECOMMENDED RETURN FOR THE COMPANY BASED ON 22 YOUR RISK PREMIUM STUDY?

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

1 A risk premium between the 50th and 75th percentile (i.e. the third quartile) of 2 the rolling-5-year average risk premiums would be appropriate in the current market. 3 The third quartile would be for the observations that are equal to or above the 50th 4 percentile observation, and equal to or below the 75th percentile. This produces an 5 equity risk premium in the range of 5.68% to 6.44%. I believe a risk premium in the 6 range of 5.68% to 6.44% is appropriate given the current economic environment and 7 interest rate projection of 3.80%. Adding these risk premiums to the projected Treasury 8 vield of 3.80% produces an ROE in the range of 9.48% to 10.24%.

9 Applying a similar methodology as described above, the third quartile produces 10 an equity risk premium in the range of 4.24% to 5.33%. The A-rated utility bond yield 11 has averaged 4.74% over the 13-week period ending July 8, 2022 while the Baa-rated 12 utility bond yield has averaged 5.09% over the same period. Adding these risk 13 premiums to the 13-week A-rated utility bond yield of 4.74% produces an estimated 14 cost of equity in the range of 9.27% to 10.07%. Adding these risk premiums to the 13-15 week Baa-rated utility bond yield of 5.09% produces an estimated cost of equity in the 16 range of 9.62% to 10.42%.

The results of my risk premium analyses are summarized in Table CCW-9.
Based on these results, I conclude that a reasonable ROE based on my risk premium
analyses is 9.8%.

- 20
- 21
- 22

23

24

				TABLE C	CW-9	
				Summary of Risk P	<u>remium Results</u>	
				Description	ROE <u>Estimate</u>	
			Project	ed Treasury Yield	9.48% - 10.24%	⁄0
			A-Rate Baa-Ra	d Utility Bond ated Utility Bond	9.27% - 10.07% 9.62% - 10.42%	, 0 0
1 2 3 4	H.	Capital A	sset Pricing N	Nodel ("CAPM")		
5	Q	PLEAS	SE DESCRIBE	THE CAPM.		
6	А	The C/	APM method c	f analysis is based up	oon the theory that the	e marke
7		of retu	n for a security	/ is equal to the risk-fr	ee rate, plus a risk pre	emium
8		the sp	ecific security.	This relationship b	etween risk and retu	ırn car
9		mather	natically as fol	lows:		
10			$R_{i} = R_{f} + B_{i} x$	(R _m - R _f) where:		
11 12 13 14			R _i = R _f = R _m = B _i =	Required return for s Risk-free rate Expected return for t Beta - Measure of th	stock i he market portfolio e risk for stock	
15		The st	ock-specific ri	sk term in the abov	e equation is beta.	Beta
16		investr	nent risk that c	annot be diversified av	way when the security	is helo
17		portfoli	o. When stoc	ks are held in a dive	rsified portfolio, stock	-specif
18		elimina	ted by balanci	ng the portfolio with s	ecurities that react in	the op
19		to firm	-specific risk	factors (e.g., busine	ess cycle, competitic	on, pro
20		produc	tion limitations).		

1		The risks that cannot be eliminated when held in a diversified portfolio are
2		non-diversifiable risks. Non-diversifiable risks are related to the market in general and
3		referred to as systematic risks. Risks that can be eliminated by diversification are
4		non-systematic risks. In a broad sense, systematic risks are market risks and
5		non-systematic risks are business risks. The CAPM theory suggests the market will
6		not compensate investors for assuming risks that can be diversified away. Therefore,
7		the only risk investors will be compensated for are systematic, or non-diversifiable,
8		risks. The beta is a measure of the systematic, or non-diversifiable risks.
9		
10	Q	PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.
11	А	The CAPM requires an estimate of the market risk-free rate, the company's beta, and
12		the market risk premium.
13		
14	Q	WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?
15	А	As previously noted, Blue Chip Financial Forecasts' projected 30-year Treasury bond
16		yield is 3.80%. ²⁰ The current 30-year Treasury bond yield is 3.11%, as shown in Exhibit
17		CCW-14 at page 1. I used Blue Chip Financial Forecasts' projected 30-year Treasury
18		bond yield of 3.80% for my CAPM analysis.
19		
20	Q	WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN ESTIMATE
21		OF THE RISK-FREE RATE?
22	А	Treasury securities are backed by the full faith and credit of the United States
23		government, so long-term Treasury bonds are considered to have negligible credit risk.
24		Also, long-term Treasury bonds have an investment horizon similar to that of common

²⁰Blue Chip Financial Forecast, July 1, 2022.

1 stock. As a result, investor-anticipated long-run inflation expectations are reflected in 2 both common stock required returns and long-term bond yields. Therefore, the nominal 3 risk-free rate (or expected inflation rate and real risk-free rate) included in a long-term 4 bond yield is a reasonable estimate of the nominal risk-free rate included in common 5 stock returns.

6 Treasury bond yields, however, do include risk premiums related to future 7 inflation and liquidity. In this regard, a Treasury bond yield is not entirely risk-free. Risk 8 premiums related to unanticipated inflation and interest rates reflect systematic market 9 risks. Consequently, for a company with a beta less than 1.0, using the Treasury bond 10 yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated 11 estimate of the CAPM return.

12

13

Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?

14 А As shown in Exhibit CCW-15, the current proxy group average and median Value Line 15 beta estimates are 0.83 and 0.80, respectively. In my experience, these beta estimates 16 are abnormally high and are unlikely to be sustained over the long-term. As such, I 17 have also reviewed the historical average of the proxy group's Value Line betas. The 18 historical average Value Line beta since 2014 is 0.74 and has ranged from 0.58 to 0.87. 19 Prior to the recent pandemic, the high end of this range was 0.78.

20 In addition to Value Line, I have also included adjusted beta estimates as 21 provided by Market Intelligence's Beta Generator model. This model relied on a 5-year 22 period on a weekly basis ending July 8, 2022. The average and median Market 23 Intelligence beta is 0.58 and 0.59, respectively. Market Intelligence betas as calculated 24 using its beta generator model are adjusted using the Vasicek method and calculated 25 using the S&P 500 as the proxy for the investable market. This is in stark contrast with

- 1 the Value Line beta estimates that are adjusted using a constant weighting of 67%/35%
- 2 to the raw beta/market beta and use the New York Stock Exchange as the proxy for
- 3 the investable market. Because I rely on the S&P 500 to estimate the expected return
- 4 on the investable market, it makes sense to rely on beta estimates that are calculated
- 5 using the S&P 500 as the benchmark for the market. Further, as S&P explains:
- 6 The Vasicek Method is a superior alternative to the Bloomberg Beta 7 adjustment. The Bloomberg adjustment is not appropriate for a vast 8 number of situations, as it assigns constant weighting regardless of the 9 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 10 11 size yields a smaller error, the Vasicek method more appropriately 12 adjusts the raw beta via weights determined by the variance of the 13 individual security versus the variance of a larger sample of comparable 14 companies. The weights are designed to bring the raw beta closer to 15 whichever beta estimation has the smallest error. This is a feature the 16 Bloomberg beta cannot replicate.²¹
- 17 18
- 19 Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATES?
- 20 A My market risk premium estimates are derived using two general approaches: a risk
- 21 premium approach and a DCF approach. I also consider the normalized market risk
- 22 premium of 5.50% with the normalized risk-free rate of 3.50% as published by Kroll,
- 23 formerly known as Duff & Phelps.
- 24

25 Q PLEASE DESCRIBE YOUR MARKET RISK PREMIUM ESTIMATE DERIVED USING

- 26 THE RISK PREMIUM METHODOLOGY.
- 27 A The forward-looking risk premium-based estimate was derived by estimating the
- 28 expected return on the market (as represented by the S&P 500) and subtracting the

²¹S&P Market Intelligence, Beta Generator Model. Notably, while S&P makes reference to the Bloomberg method of applying 2/3 and 1/3 weights to the raw beta and market beta, respectively, the comparison still applies to *Value Line's* methodology of applying 67% and 35% weights. Both methods are forms of the Blume adjustment. While the weights are slightly different between the Bloomberg and *Value Line* methods, they are similar and apply a constant weight without any regard to accuracy. As such, the criticisms of the betas offered by S&P apply to both Bloomberg betas and *Value Line* betas.

risk-free rate from this estimate. I estimated the expected return on the S&P 500 by
adding an expected inflation rate to the long-term historical arithmetic average real
return on the market. The real return on the market represents the achieved return
above the rate of inflation.

5 The Kroll *2022 SBBI Yearbook* estimates the historical arithmetic average real 6 market return over the period 1926 to 2021 to be 9.20%.²² A current consensus for 7 projected inflation, as measured by the Consumer Price Index ("CPI"), is 2.50%.²³ 8 Using these estimates, the expected market return is 11.93%.²⁴ The market risk 9 premium then is the difference between the 11.93% expected market return and the 10 projected risk-free rate of 3.80%, or 8.13%.

11

12 Q PLEASE DESCRIBE YOUR MARKET RISK PREMIUM ESTIMATES DERIVED 13 USING THE DCF METHODOLOGY.

14 А I employed two versions of the constant growth DCF model to develop estimates of the 15 market risk premium. I first employed the Federal Energy Regulatory Commission's 16 ("FERC") method of estimating the expected return on the market that was established 17 in its Opinion No. 569-A. FERC's method for estimating the expected return on the 18 market is to perform a constant growth DCF analysis on each of the dividend paying 19 companies of the S&P 500 index. The growth rate component is based on the average 20 of the growth projections excluding companies with growth rates that were negative or 21 greater than 20%.²⁵ The weighted average growth rate for the remaining companies is 22 10.40%. After reflecting the FERC prescribed method of adjusting the dividend yield 23 by (1+ 0.5g), the weighted average expected dividend yield is 1.89%. Thus, the

²²Kroll, 2022 SBBI Yearbook at 146.

²³Blue Chip Financial Forecast, July 1, 2022.

 $^{^{24}[(1 + 9.20\%) * (1 + 2.50\%) - 1] * 100.}$

²⁵Opinion No. 569-A, at p. 210.

DCF-derived expected return on the market is the sum of those two components, or 12.29%. The market risk premium then is the expected market return of 12.29% less the projected risk-free rate of 3.80%, or 8.50%.

4 My second DCF-based market risk premium estimate was derived by 5 performing the same DCF analysis described above, except I used all companies in 6 the S&P 500 index rather than just the dividend paying companies. The weighted 7 average growth rate for these companies is 11.00%. After reflecting the FERC 8 prescribed method of adjusting the dividend yield by (1+ 0.5g), the weighted average 9 expected dividend yield is 1.48%. Thus, the DCF-derived expected return on the 10 market is the sum of those two components, or 12.48%. The market risk premium then 11 is the expected market return of 12.48% less the projected risk-free rate of 3.80%, or 12 8.70%.

The average expected market return based on the DCF model is 12.39% and
the average market risk premium based on the two DCF estimates is 8.60%.

15

16 Q HOW DO YOUR EXPECTED MARKET RETURNS COMPARE TO CURRENT 17 EXPECTATIONS OF FINANCIAL INSTITUTIONS?

- 18 A As shown in Table CCW-10, my average expected market return of 11.11%²⁶ exceeds
- 19 long-term market expectations of several financial institutions.
- 20
- 21
- 22
- -
- 23
- 24

 26 11.11% = (9.00% + 12.39% + 11.93%) / 3.

TABL	E CCW-10	
Long-Term Expecte	ed Return on the M	larket
Source	Term	Expected Return Large Cap <u>Equities</u>
BlackRock Capital Management ¹	30 Years	7.40%
JP Morgan Chase ²	10 - 15 Years	4.10%
Vanguard ³	10 Years	2.3% - 4.3%
Research Affiliates ⁴	10 Years	1.9% - 5.2%
π	n Interactive	
When compared to the expect	ted market returns	of financial institutions
When compared to the expection my average expected market return	n interactive. eted market returns of 11.11% is more t	of financial institutions han two times higher t
When compared to the expect my average expected market return but one projection. For these reasons	n interactive. Sted market returns of 11.11% is more t s, my expected mark	of financial institutions han two times higher t et returns, and the ass
When compared to the expect my average expected market return but one projection. For these reasons market risk premiums, should be con	n Interactive. eted market returns of of 11.11% is more t s, my expected mark sidered reasonable	of financial institutions han two times higher t et returns, and the ass if not high-end estima
When compared to the expect my average expected market return but one projection. For these reasons market risk premiums, should be con HOW DO YOUR ESTIMATED MAR	n Interactive. eted market returns of of 11.11% is more t s, my expected mark sidered reasonable. RKET RISK PREM	of financial institutions han two times higher t et returns, and the ass if not high-end estima
When compared to the expect my average expected market return but one projection. For these reasons market risk premiums, should be con HOW DO YOUR ESTIMATED MAR ESTIMATED BY KROLL?	n Interactive. eted market returns of of 11.11% is more t s, my expected mark sidered reasonable. RKET RISK PREM	of financial institutions han two times higher t et returns, and the ass if not high-end estima
When compared to the expect my average expected market return but one projection. For these reasons market risk premiums, should be con HOW DO YOUR ESTIMATED MAR ESTIMATED BY KROLL? The Kroll analysis indicates a market	n Interactive. eted market returns of of 11.11% is more t s, my expected mark sidered reasonable RKET RISK PREM et risk premium falls	of financial institutions han two times higher t et returns, and the ass if not high-end estima IUMS COMPARE TO
When compared to the expect my average expected market return but one projection. For these reasons market risk premiums, should be con HOW DO YOUR ESTIMATED MAR ESTIMATED BY KROLL? The Kroll analysis indicates a market 5.50% to 7.46%. My market risk p	n Interactive. eted market returns of of 11.11% is more t s, my expected mark sidered reasonable. RKET RISK PREM et risk premium falls remium estimates a	of financial institution han two times highe et returns, and the as if not high-end estir IUMS COMPARE T is somewhere in the are in the range of

1

Q HOW DOES KROLL MEASURE A MARKET RISK PREMIUM?

A Kroll's range is based on several methodologies. First, Kroll estimated a market risk
 premium of 7.46% based on the difference between the total market return on common
 stocks (S&P 500) less the income return on 20-year Treasury bond investments over
 the 1926-2021 period.²⁷

6 Second, Kroll used the lbbotson & Chen supply-side model which produced a market risk premium estimate of 6.22%.²⁸ Kroll explains that the historical market risk 7 8 premium based on the S&P 500 was influenced by an abnormal expansion of P/E ratios 9 relative to earnings and dividend growth. In order to control for the volatility of 10 extraordinary events and their impacts on P/E ratios, Kroll takes into consideration the 11 three-year average P/E ratio as the current P/E ratio. Therefore, Kroll adjusted this 12 market risk premium estimate to normalize the growth in the P/E ratio to be more in line 13 with the growth in dividends and earnings.

14 Finally, Kroll develops its own recommended equity, or market risk premium, by 15 employing an analysis that takes into consideration a wide range of economic 16 information, multiple risk premium estimation methodologies, and the current state of 17 the economy by observing measures such as the level of stock indices and corporate 18 spreads as indicators of perceived risk. Based on this methodology, and utilizing a 19 "normalized" risk-free rate of 3.50%, Kroll concludes that the current expected, or 20 forward-looking, market risk premium is 5.50%, implying an expected return on the 21 market of 9.00%.29

22

²⁸*Id.* at 207.

²⁷Kroll, 2022 SBBI Yearbook at 199.

²⁹Kroll, 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.

1		It should be noted that Kroll's market risk premiums are measured over a
2		20-year Treasury bond. Because I am relying on a projected 30-year Treasury bond
3		yield, the results of my CAPM analysis should be considered conservative estimates
4		for the cost of equity.
5		
6	Q	WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?
7	А	As shown in Exhibit CCW-16, I have provided the results of nine different applications
8		of the CAPM. The first three results presented are based on the proxy group's current
9		average Value Line beta of 0.83. The results of the CAPM based on these inputs range
10		from 8.08% to 10.97%.
11		The next set of three results presented are based on the proxy group's historical
12		Value Line beta of 0.74. The results of the CAPM based on these inputs range from
13		7.56% to 10.15%.
14		The last set of three results presented are based on the proxy group's current
15		S&P Global Market Intelligence beta of 0.58. The results of the CAPM based on these
16		inputs range from 6.71% to 8.82%. My CAPM results are summarized in Table CCW-
17		11.
18		
19		
20		
21		
22		
23		
24		
25		

	1					
		r	ABLE CCW-11			
		CAPI	A Results Summ	nary		
			Current VL	Historical VL	Current MI	
		Description	Beta	Beta	Beta	
		D&P Normalized Method	8.08%	7.56%	6.71%	
		Risk Premium Method	10.55%	9.78%	8.53%	
		FERC DCF	10.97%	10.15%	8.82%	
1 2]
3	Q	WHAT IS YOUR RECOMMEN	NDED RETURN	FOR THE CO	MPANY BASE	D OI
4		YOUR CAPM?				
5	А	The average of my CAPM resul	ts is approximate	ely 9.02%, while	the median is 8	3.82%
6		Based on the results summarize	zed above, I reco	ommend a CAF	PM return estin	nate c
7		9.4%.				
8						
9	I. R	eturn on Equity Summary				
10	Q	BASED ON THE RESULTS OF	YOUR RETURN		EQUITY ANAL	YSE
11		DESCRIBED ABOVE, WHA	T RETURN O	N COMMON	EQUITY DO	YO
12		RECOMMEND FOR THE COM	PANY?			
13	А	The results of my analyses are	summarized in Ta	able CCW-12.		
14						
15						
16						
17						
18						

TABLE C Return on Com Summ	CW-12 mon Equity hary
Description	Results
DCF	9.0%
Risk Premium	9.8%
CAPM	9.4%

1 2 Based on my analyses described above, I estimate the Company's current 3 market cost of equity to be in the reasonable range of 9.00% to 9.80%. I recommend 4 the Commission authorize FCG an ROE of 9.40% and a common equity ratio of no 5 higher than 50.00%. 6 V. RESPONSE TO MS. NELSON 7 8 Q WHAT RETURN ON COMMON EQUITY IS FCG PROPOSING FOR THIS 9 PROCEEDING? 10 А Ms. Nelson concludes that an ROE of 10.75% is reasonable. Her recommendation 11 reflects her assessment of the current capital market conditions and FCG's business 12 risks relative to the companies included in her proxy group. Further, her 13 recommendation, she considered the Company's higher risk profile associated with its 14 significantly smaller size, the regulatory environment in which FCG operates, the incremental risk associated with its proposed multi-year rate plan, as well as the costs 15 of issuing stock.³⁰ 16

³⁰ Nelson Direct Testimony at 77-78.

1		Finally, she concludes that the Company's requested capital structure including
2		59.60% common equity and 40.40% long-term debt is consistent with the investor-
3		supplied capital portions for her proxy companies.31
4		
5	Q	ARE MS. NELSON'S ROE ESTIMATES REASONABLE?
6	А	No. Ms. Nelson's estimated ROE is overstated and should be rejected. Ms. Nelson's
7		analyses produce excessive results for various reasons, including the following:
8 9		 Her constant growth DCF results are based on unsustainably high growth rates;
10		2. Her application of the quarterly DCF overstates a fair ROE;
11		3. Her CAPM is based on inflated market risk premiums;
12		4. Her Empirical CAPM ("ECAPM") is based on a flawed methodology;
13		5. Her consideration of additional business risks is inappropriate; and
14 15		Her conclusion that the Company's requested capital structure is reasonable is inappropriate.
16		
17	Q	PLEASE COMPARE YOUR RECOMMENDED ROE WITH MS. NELSON'S ROE
18		ESTIMATES.
19	А	Ms. Nelson's ROE estimates are summarized in Table 8 below. In the "Adjusted"
20		Column 2, I show the results with prudent and sound adjustments to correct the flaws
21		referenced above. With such adjustments to Ms. Nelson's proxy group's DCF, CAPM,
22		ECAPM and Risk Premium return estimates, Ms. Nelson's studies show that my 9.40%
23		recommended ROE for FCG is more reasonable and consistent with the current capital
24		market environment.
25		

TABLE CCW-13				
Nelson's Adjusted Return on Equity Estimates				
Description	<u>Mean</u> ¹	Adjusted		
Constant Crowth DCE (Magn DOE)	(1)	(2)		
<u>Constant Growth DCF (Mean ROE)</u>	0.54%	8 77%		
90-Day Average	9.76%	8 88%		
180-Day Average	9.85%	8.93%		
Quarterly Growth DCF (Mean ROE)				
30-Day Average	9.68%	8.77%		
90-Day Average	9.91%	8.88%		
180-Day Average	10.00%	8.93%		
<u>CAPM</u>				
Current 30-Yr Treasury (2.37%)	10.12% / 12.80%	9.17% / 9.80%		
Projected 30-Yr Treasury (3.32%)	10.33% / 12.94%	9.38% / 9.94%		
<u>ECAPM</u>				
Current 30-Yr Treasury (2.37%)	10.67% / 13.26%	Reject		
Projected 30-Yr Treasury (3.32%)	10.83% / 13.37%	Reject		
Risk Premium				
Current 30-Yr Treasury (2.37%)	9.73%	9.73%		
Projected 30-Yr Treasury (3.32%)	9.80%	9.80%		
Recommended ROE	10.75%	9.40%		
Sources: ¹ Nelson Direct Testimony at 7 and E	xhibit JEN-2 thought JE	EN-6.		

1	As shown in Table CCW-13 above, corrections and improvements to the
2	accuracy of Ms. Nelson's ROE estimates support an ROE for FCG of no higher than
3	9.40% in the current market.
4	While my adjustments are presented in Adjusted Column 2 of Table CCW-13
5	above, a description of the bases for my adjustments to Ms. Nelson's ROE estimates
6	is presented below.

1 A. Nelson's Constant Growth DCF Models 2 PLEASE DESCRIBE MS. NELSON'S CONSTANT GROWTH DCF RETURN Q 3 ESTIMATES. 4 А Ms. Nelson's constant growth DCF returns are developed on her Exhibit JEN-2. Ms. 5 Nelson's constant growth DCF models are based on consensus growth rates published 6 by Yahoo! Finance and Zacks and individual growth rate projections made by Value 7 Line. 8 She relied on dividend yield calculations based on average stock prices over 9 three different time periods: 30-day, 90-day, and 180-day ending March 31, 2022 – all 10 reflecting a half year of dividend growth adjustments. 11 12 Q DO YOU HAVE ANY ISSUES WITH MS. NELSON'S CONSTANT GROWTH DCF 13 **RESULTS?** 14 Yes. As discussed in regard to my own DCF study, the current consensus analysts' Α 15 growth rates are higher than the long-term sustainable growth rate of 4.35%. Ms. 16 Nelson's constant growth DCF model is based on an average proxy group growth rate 17 of 6.07%, which is significantly above the long-term growth rate for the U.S. economy. 18 As such, her constant growth DCF results potentially overstate the cost of equity for 19 FCG. 20 21 Q DO YOU HAVE ANY CONCERNS WITH MS. NELSON'S QUARTERLY DCF 22 **RETURN ESTIMATES?** 23 А Yes. Ms. Nelson included quarterly compounding in her DCF return estimates to 24 replicate reinvestment of guarterly dividends over a year, but that can overstate a fair 25 ROE for setting rates. This occurs because the return available to investors from

1 reinvesting dividends is not a cost to the utility. Therefore, it should not be reflected as 2 a cost of capital in setting utility rates. By including the quarterly compounding 3 adjustment in the authorized returns used to set rates, investors are provided an 4 opportunity to earn that quarterly compounding return twice: first, by setting rates to 5 increase the allowed ROE to include a dividend reinvestment return despite the 6 absence of actual reinvestment of the dividend in the utility; and second, investors are 7 able to earn the reinvestment dividend return again when they receive dividends from 8 the utilities and actually reinvest in alternative investments.

9 As such, including the quarterly compounding return in the DCF return 10 estimates overstates a fair ROE for setting rates because it overstates the utility's cost 11 of capital. Removing the quarterly compounding from Ms. Nelson's DCF return 12 estimates causes that model to yield the same results as her constant growth DCF 13 model, which again should be considered as a high-end DCF return for FCG.

14

15QIS THERE A WAY TO CORRECT MS. NELSON'S CONSTANT GROWTH DCF16RESULTS TO REFLECT A REASONABLE GROWTH RATE EXPECTATION?

Yes. In Column 2 in Table CCW-13 above, I present the midpoint of DCF results from
 Ms. Nelson's constant growth DCF analysis along with the results of my multi-stage
 DCF model to reflect a reasonable long-term sustainable growth rate as discussed in
 regard to my own studies. After giving consideration to the results of a multi-stage DCF
 analysis, Ms. Nelson's DCF mean adjusted results generally support an ROE no higher
 than of 9.0%.

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1 B. Nelson's CAPM Studies

2 Q PLEASE DESCRIBE MS. NELSON'S CAPM ANALYSIS. 3 А Ms. Nelson's CAPM analyses consider current and projected Treasury bond yields, 10-4 year and 5-year beta estimates from Bloomberg and Value Line, respectively, and 5 market risk premiums based on the long-term historical market return and projected 6 market returns. Her mean traditional CAPM results fall in the range of 10.12% to 7 12.94%. Her mean empirical CAPM results fall in the range of 10.67% to 13.37%. 8 9 Q PLEASE DESCRIBE MS. NELSON'S MARKET RISK PREMIUMS. 10 А Ms. Nelson derived her ex-ante market risk premiums by developing a DCF analysis 11 for the market (S&P 500) less her current and projected risk-free rates of 2.37% and 12 3.32%. Her DCF-derived expected market return is 14.64%. As such, her market risk 13 premium estimates are 12.27%, and 11.32% based on the DCF market return of 14 14.64% from Bloomberg less the current and projected 30-year Treasury bond yields of 2.37%, and 3.32%, respectively.³² 15 16 Ms. Nelson also develops an ex-post market risk premium based on the 17 historical market return of 12.33% less her current and projected risk-free rates. This produces market risk premiums of 9.96% and 9.01%.³³ 18 19 20 Q WHAT ISSUES DO YOU HAVE WITH MS. NELSON'S DCF-DERIVED MARKET 21 **RISK PREMIUM ESTIMATES?**

A Ms. Nelson's DCF-derived market risk premium is based on a market return of approximately 14.64%.³⁴ Her expected market return of 14.64% is based on a market-

³² Exhibit JEN-5.

³³ Id.

³⁴Exhibit JEN-4, page 1.

weighted average dividend yield of 1.45% and a market-weighted average growth rate
of 13.19%. As discussed above with respect to my own DCF model, the DCF model
requires a long-term sustainable growth rate. In fact, as shown on her Exhibit JEN-4,
Ms. Nelson's DCF-based expected return on the market includes individual growth
rates as high as 307.15% (United Airlines Holdings Inc.). Including United Airlines, Ms.
Nelson's DCF for the market includes 70 growth rates that exceed 20%, of which four
are greater than 135%.

8 To put a growth rate of 307.15% into perspective, it would take a little more than 9 five years for United Airline's reported market capitalization of approximately 10 \$15.0 billion to exceed the most recently reported GDP of the United States of 11 \$24.85 trillion. In that same year, United Airline's market capitalization would outgrow 12 the U.S. economy, assuming the economy grew at 4.35% year over year. Explained 13 another way, assuming the long-term growth rate of 4.35%, U.S. GDP would reach a 14 nominal level of \$32.1 trillion in 2028. Assuming a growth rate of 307.15% for United 15 Airlines as Ms. Nelson has done, its market capitalization will reach \$68.3 trillion by the end of the second quarter in 2028, exceeding the U.S. GDP by \$36.2 trillion at that 16 17 time. I present this graphically below in Figure CCW-5. This is simply an impossible 18 outcome, rendering Ms. Nelson's assumptions unreasonable and economically and 19 financially unfeasible.

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5 From another perspective, 305 of the growth rates relied on by Ms. Nelson are 6 8.7% or higher, which is 2 times the projected growth of the U.S. economy. As pointed 7 out in my example above, it simply is not reasonable to believe individual companies, 8 and as a result the overall market, can sustain growth rates as high as Ms. Nelson has 9 assumed. In fact, in the CFA curriculum textbooks, the CFA Institute notes as follows 10 with regard to earnings growth rates for the companies within the composite indices 11 (i.e., S&P 500): 12 Earnings growth for the overall national economy can differ from the growth of earnings per share in a country's equity market composites. 13 This is due to the presence of new businesses that are not yet included 14 in the equity indices and are typically growing at a faster rate than the 15 mature companies that make up the composites. Thus, the earnings 16 17 growth rate of companies making up the composites should be lower than the earnings growth rate for the overall economy.³⁵ 18

3 4

³⁵CFA 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, p. 609, footnote 5 (emphasis added).

1		As a result of these unreasonably high long-term market growth rate estimates,
2		Ms. Nelson's market DCF returns used within her CAPM analysis are inflated and not
3		reliable. Consequently, Ms. Nelson's market risk premiums should be given minimal
4		weight in estimating FCG's CAPM-based ROE.
5		
6	Q	CAN MS. NELSON'S CAPM ANALYSIS BE REVISED TO REFLECT A MORE
7		REASONABLE EXPECTED MARKET RETURN AND RESULTING MARKET RISK
8		PREMIUM?
9	А	Yes. As described above, based on several methodologies my average expected
10		market return is 11.11%. Revising her CAPM analyses with my more recent average
11		expected market return of 11.11% produces mean CAPM results of 9.17% to 9.38%
12		based on her 10-year Bloomberg betas, and 9.80% 9.94% using her Value Line betas.
13		
14	С.	Nelson's ECAPM Studies
15	Q	PLEASE DESCRIBE MS. NELSON'S ECAPM ANALYSIS.
16	А	Ms. Nelson relies on empirical tests of the traditional CAPM model to modify it in such
17		a way to attempt to correct the original CAPM for some deficiencies inherent in the
18		original model. Empirical tests show that the expected return line, or security market
19		line, predicted by the CAPM is not as steep as the model would have us believe. In
20		other words, the traditional CAPM understates the expected return for securities with
21		betas less than 1, and overstates the expected return for securities with betas greater
22		than 1. In order to correct for this empirical finding, Ms. Nelson modifies the traditional
23		CAPM model as follows:
24		
25		

1		$R_i = R_f + 0.75 \times B_i \times (R_m - R_f) + 0.25 \times B_m \times (R_m - R_f)$ where:
2 3 4 5 6		$\begin{array}{llllllllllllllllllllllllllllllllllll$
7		
8	Q	WHAT ISSUES DO YOU TAKE WITH MS. NELSON'S ECAPM ANALYSIS?
9	А	The biggest issue I have with Ms. Nelson's ECAPM analysis is her use of an adjusted
10		beta as published by Value Line. The impact of Ms. Nelson's ECAPM adjustments
11		increases her adjusted beta estimate of 0.85 to 0.90.36 The weighting adjustments
12		applied in the ECAPM are mathematically the same as adjusting beta since the inputs
13		are all multiplicative as shown in the formula above.
14		Further, Ms. Nelson's reliance on an adjusted Value Line beta in her ECAPM
15		study is inconsistent with the academic research that I am aware of supporting the
16		development of the ECAPM. ³⁷ The end result of using adjusted betas in the ECAPM
17		is essentially an expected return line that has been flattened by two adjustments. In
18		other words, the vertical intercept has been raised twice and the security market line
19		has been flattened twice: once through the adjustments Value Line made to the raw
20		beta, and again by weighting the risk-adjusted market risk premium as Ms. Nelson has
21		done. In addition to the many adjustments employed by Ms. Nelson, she further
22		increases the intercept and flattens the security market line by using projected
23		long-term Treasury yields that are at odds with current market expectations and

24

inconsistent with the Federal Reserve's projections and monetary policy.

³⁶ 75% x 0.85 + 25% x 1 = 0.89.

³⁷ See Black, Fischer, "Beta and Return," *The Journal of Portfolio Management,* Fall 1993, 8-18; and Black, Fischer, Michael C. Jensen and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," 1972.

1 The ECAPM with adjusted betas has the effect of increasing CAPM return 2 estimates for companies with betas less than 1, and decreasing the CAPM return 3 estimates for companies with betas greater than 1. I have modeled the expected return 4 line resulting from the application of the various forms of the CAPM/ECAPM below in 5 Figure CCW-6.

6





8

Along the horizontal axis in Figure 6 above, I have provided the raw unadjusted
beta (top row) and the corresponding adjusted *Value Line* beta (bottom row). As shown
in Figure 6 above, 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

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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* beta has on raising the vertical intercept and flattening the slope relative to all
other variations. There is simply no legitimate basis to use an adjusted beta within an
ECAPM because it unjustifiably alters the security market line and materially inflates a
CAPM return for a company with a beta less than 1.

7

8 Q IN YOUR EXPERIENCE, IS MS. NELSON'S PROPOSED USE OF AN ADJUSTED

9 BETA IN AN ECAPM STUDY WIDELY ACCEPTED IN THE REGULATORY ARENA?

- 10
- A No. In my experience, regulatory commissions generally disregard the use of the
- 11 ECAPM, particularly when an adjusted beta is used in the model. For example,

12 The Commission cannot recall a proceeding in which it relied upon the ECAPM in establishing the cost of common equity for a utility. In the 13 14 instant proceeding, the record supports a finding that use of adjusted betas in the ECAPM is inappropriate. As Staff witness Ms. Freetly 15 explained, by using adjusted betas she already effectively transformed 16 17 her Traditional CAPM into an ECAPM. Therefore, including an additional beta adjustment in the ECAPM model would result in inflated 18 19 estimates of the samples' cost of common equity.³⁸

- 20
- 21 D. Nelson's Bond Yield Plus ("BYP") Risk Premium

22 Q PLEASE DESCRIBE MS. NELSON'S BYP RISK PREMIUM METHODOLOGY.

- A As shown on her Exhibit JEN-6, Ms. Nelson constructs a risk premium ROE estimate
- based on the premise that equity risk premiums are inversely related to interest rates.
- 25 She estimates the equity risk premium over the period January 1980 through March
- 26 2022. She then applies a regression formula to the current, projected 30-year Treasury
- bond yields of 2.37% and 3.32%, respectively, to produce equity risk premiums of

³⁸Illinois-American Water Company, ICC Order Docket No. 11-0767, 109 (July 31, 2012).

- 7.35% and 6.48%, respectively. She calculates a risk premium ROE estimate of 9.73%
 to 9.80%.³⁹
- 3

4 Q DO YOU HAVE ANY INITIAL COMMENTS REGARDING HER RISK PREMIUM 5 RESULTS?

A Yes. While Ms. Nelson does not provide a recommended range of reasonableness
based on the results of her analyses, she does offer 10.75% as her recommended
ROE. Ms. Nelson's risk premium analysis produces results in the range of 9.73% to
9 9.80%. Given her recommended ROE of 10.75% is between 95 and 102 basis points
10 higher than the result of her risk premium, she does not seem to give much weight to
the risk premium results based on her current and near-term interest rate levels.

12

13 Q DO YOU HAVE ANY COMMENTS ON MS. NELSON'S BYPRP ANALYSIS?

14 A I generally disagree with the application of a regression analysis to estimate the cost 15 of equity in the risk premium model. However, Ms. Nelson's results are generally 16 consistent with mine at this time. While I disagree with her methodology, the results 17 are consistent with my risk premium method, therefore, I do not take issue with them 18 at this time.

19

20 E. Ms. Nelson's Consideration of Additional Risks

21 Q DID MS. NELSON CONSIDER ADDITIONAL BUSINESS RISKS TO JUSTIFY HER 22 ROE?

A It appears so. Ms. Nelson believes that FCG is exposed to additional risks that should
 be accounted for: (1) FCG's regulatory environment and its capital expenditure plan;

³⁹ Exhibit JEN-6.

and (2) FCG's small size relative to the proxy group companies.⁴⁰ Ms. Nelson believes
 that these additional risks should be considered in determining FCG's ROE. I disagree.

3

4

Q PLEASE EXPLAIN.

5 A The major business risks identified by Ms. Nelson are already considered in the 6 assigning of a credit rating by the various credit rating agencies.

7 The average S&P credit rating for my proxy group of A-, as shown on my Exhibit 8 CCW-2, is one notch lower than FCG's parent FPL's rating of A. The relative risks 9 discussed by Ms. Nelson are already incorporated in the credit ratings of the proxy 10 group companies. Indeed, S&P and other credit rating agencies go to great lengths 11 and detail in assessing a utility's business risk and financial risk in order to evaluate 12 total investment risk. The use of my proxy group fully captures the investment risk of 13 FCG.

In addition, financial theory generally, and the CAPM specifically, is predicated
on the idea that investors should only be compensated for taking on market risk,
i.e., beta, whereas specific business risk can and will be diversified away. Ms. Nelson's
attempt to compensate investors for specific business risks is contrary to financial
theory, and violates the underpinnings of the CAPM, a model which Ms. Nelson relies
on heavily to support her recommendation. For these reasons, Ms. Nelson's concerns
and additional factors should be disregarded.

I cannot see how, based on any evidence presented in this case through the
Company's testimony or my own, it can be determined the Company is of higher risk
than the proxy group. To the contrary, Ms. Nelson and I have both presented evidence
to support the assertion that FCG is of similar, if not lower, risk relative to the proxy

⁴⁰ Nelson Direct Testimony at 43-44.

group. Therefore, any conclusion drawn by the Company's witnesses suggesting that
 FCG is of higher risk relative to the proxy group used to estimate its cost of equity
 capital should be explicitly rejected.

4

5 F. Size Adjustment

6

Q

PLEASE DESCRIBE MS. NELSON'S SIZE ADJUSTMENT.

7 А Ms. Nelson establishes a hypothetical market capitalization of \$548.53 million for FCG 8 based on the Company's proposed rate base and equity ratio of 59.60%, multiplied by 9 her proxy group's average market-to-book ratio of 1.88. She observes that FCG's hypothetical market capitalization is in the 9th decile of ranges identified by Duff & 10 11 Phelps' Cost of Capital Navigator, which equates to a size premium of 2.10%. Similarly, 12 on Exhibit JEN-7 of her direct testimony she notes that the capitalization of the 13 companies included in her proxy group falls in the 5th decile, which warrants a size 14 adjustment of 89 basis points. She calculates the difference in size premiums between 15 the proxy group and FCG's hypothetical market capitalization is 121 basis points.⁴¹

16 Ms. Nelson does not propose a specific size adjustment but she considers it in 17 determining the appropriate return for FCG.⁴²

18

19 Q DO YOU FIND MS. NELSON'S SIZE ADJUSTMENT REASONABLE?

A No. There are several problems with this size adjustment. Ms. Nelson applied a size
 adjustment without even considering the a corporate structure which supports FCG.
 FCG is a wholly-owned subsidiary of FPL, which is a wholly-owned subsidiary of
 NextEra Energy. NextEra Energy has a market capitalization of approximately \$174.7

⁴¹ Nelson Direct Testimony at 48.

1 billion, or nearly 5x the high-end of the 2nd decile. Similarly, FPL's reported equity in its 2 10-K for year-end 2021 was \$33.6 billion. In other words, FPL's book value equity, not 3 adjusted for the proxy group's market-to-book ratio of 1.88x, is at the high-end of the 4 2nd decile. After adjusting FPL's equity balance by the proxy group's market-to-book 5 ratio of 1.88x, FPL's hypothetical market capitalization is \$63.2 billion, easily placing it 6 in the top decile. An ROE adder is not justified in the way performed by Ms. Nelson, 7 because she has not accurately measured the corporate structure which owns FCG. 8 Importantly, as discussed above, the size-specific risk is already incorporated in the 9 Company's credit rating and should be rejected.

10

11 G. Capital Market Conditions

12 Q DID MS. NELSON ALSO OFFER AN ASSESSMENT OF CURRENT MARKET 13 CONDITIONS IN SUPPORT OF HER RECOMMENDED ROE RANGE?

A Yes. Ms. Nelson observes the market volatility levels as measured by the Chicago Board of Exchange ("CBOE"), Volatility Index ("VIX') and the VVIX index which measures the expected volatility of the VIX.⁴³ Specifically, Ms. Nelson also states that the VIX has increased relative to historical standards and it is expected to remain elevated.⁴⁴

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- ⁴³ *Id.* at 59-61
 ⁴⁴ *Id.* 62-63

1QIS THE VIX INDEX ADEQUATE TO SUPPORT THE NOTION THAT THE MARKET2PERCEPTION OF THE INVESTMENT RISK OF FCG OR UTILITIES GENERALLY IS3INCREASING?

A No. First, the VIX is a broader-based market index of stock price volatility, and not that
of subgroups within the market generally, and certainly not applicable to the utility
subsector. The VIX index may indicate greater risk in the overall market but that does
not indicate a similar change in investment risk for lower-risk regulated utility
companies. Second, the VIX is a measure of 30-day expected volatility, which is a
relatively short-term estimate and it does not represent the volatility level effective
during the period rates determined in this regulatory proceeding.

11

Q DO YOU BELIEVE THAT MS. NELSON'S USE OF THESE MARKET SENTIMENTS
 SUPPORTS HER FINDINGS THAT FCG'S MARKET COST OF EQUITY IS
 CURRENTLY 10.75%?

A No. In many instances, Ms. Nelson's analysis simply ignores market sentiments
 favorable toward utility companies and instead lumps utility investments in with general
 corporate investments. A fair analysis of utility securities shows the market generally
 regards utility securities as low-risk investment instruments and supports the finding
 that utilities' cost of capital is very low in today's marketplace.

20

21 Q WHAT IS THE MARKET SENTIMENT FOR UTILITY INVESTMENTS?

A As shown in Figure CCW-4 above, since June 30, 2021 utility equities have significantly
 outperformed the broader market, despite rising inflation, rising interest rates, and
 geopolitical events around the world.
Further, measuring the total returns of the indices Ms. Nelson relied on in her Figure 19, it is clear that gas utilities are outperforming utilities in general. The outperformance is even more drastic when compared to the broader market. This is illustrated in Figure CCW-7 below. As shown on this graph, the S&P 500 Gas Utilities index has outperformed the S&P 500 by 27.54 percentage points.

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FIGURE CCW-7



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9 H. FCG's Proposed Capital Structure

10 Q DID MS. NELSON ALSO OFFER AN ASSESSMENT ON THE REASONABLENESS

11 OF FCG'S PROPOSED CAPITAL STRUCTURE?

A Yes. At page 78, Ms. Nelson concludes that "a financial capital structure including
 59.60 percent common equity and 40.40 percent long-term debt is consistent with the
 proportions of investor-supplied capital that fund the proxy companies' regulated

natural gas operations."⁴⁵ She then recommends, "the capital structure is reasonable
 and should be approved."⁴⁶

3

9

4 Q DO YOU AGREE WITH MS. NELSON'S ASSESSMENT?

A No. As an initial matter, her conclusion mischaracterizes the Company's proposed
capital structure. The Company's proposed equity ratio when considering common
equity and long-term debt as Ms. Nelson describes here, is 62.53% (excluding shortterm debt). The 59.60% common equity ratio is based on total debt.

- In addition, in a recent CenterPoint Energy gas rate case (Docket G-008/GR
- 10 15-424), the Minnesota Public Utilities Commission authorized a stated capital
- 11 structure of 50.0% common equity, compared to CenterPoint's requested 53.43%
- 12 common equity ratio. In its Order dated June 3, 2016, adopting a 50.0% common
- 13 equity ratio, the Minnesota Public Utilities Commission stated that:

14The Company argued that simply being within the range of the equity15ratios in the proxy groups was adequate evidence of reasonableness,16but the Commission does not agree. Proxy-group averages have much17higher probative value than proxy-group ranges; the purpose of a proxy18group is to provide a representative average or composite to stand in for19the company being studied.

- 20 As I explain in detail above, the proxy group's average equity ratio 38.6%
- 21 (including short-term debt) and 44.6% (excluding short-term debt) is significantly lower
- than that being requested by the Company. Ms. Nelson's consideration of the range of
- 23 operating company equity ratios to inform her conclusion that FCG's requested equity
- ratio of 59.60%/62.53% is inappropriate and should be rejected.
- 25

⁴⁵ *Id.* at 77.

⁴⁶ *Id.* at 78.

⁴⁷In the Matter of the Application of CenterPoint Energy Resources Corp. for Authority to Increase Natural Gas Rates in Minnesota, Docket G-008/GR 15-424, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER at 35 (June 3, 2016). Footnotes omitted.

1	Q	DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
2	А	Yes, it does.
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1		Qualifications of Christopher C. Walters
2	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
3	А	Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
4		Suite 140, Chesterfield, MO 63017.
5		
6	Q	PLEASE STATE YOUR OCCUPATION.
7	А	I am an Associate with the firm of Brubaker & Associates, Inc. ("BAI"), energy,
8		economic and regulatory consultants in the field of public utility regulation.
9		
10	Q	PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL
11		EMPLOYMENT EXPERIENCE.
12	А	I received a Bachelor of Science Degree in Business Economics and Finance from
13		Southern Illinois University Edwardsville. I have also received a Master of Business
14		Administration Degree from Lindenwood University.
15		As an Associate at BAI, I perform detailed technical analyses and research to
16		support regulatory projects including expert testimony covering various regulatory
17		issues. Since my career at BAI began in 2011, I have held the positions of Analyst,
18		Associate Consultant, Consultant, Senior Consultant, and Associate. Throughout my
19		tenure, I have been involved with several regulated projects for electric, natural gas
20		and water and wastewater utilities, as well as competitive procurement of electric power
21		and gas supply. My regulatory project work includes estimating the cost of equity
22		capital, capital structure evaluations, assessing financial integrity, merger and
23		acquisition related issues, risk management related issues, depreciation rate studies,
24		and other revenue requirement issues.

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

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

9 In general, we are engaged in energy and regulatory consulting, economic 10 analysis and contract negotiation. In addition to our main office in St. Louis, the firm 11 also has branch offices in Corpus Christi, Texas; Detroit, Michigan; Louisville, Kentucky 12 and Phoenix, Arizona.

13

14 Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

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

20

21 QPLEASEDESCRIBEANYPROFESSIONALREGISTRATIONSOR22ORGANIZATIONS TO WHICH YOU BELONG.

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

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

FLORIDA PUBLIC SERVICE COMMISSION

)

IN RE: PETITION FOR RATE INCREASE BY FLORIDA CITY GAS

DOCKET NO. 20220069-GU

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

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.

 Attached hereto and made a part hereof for all purposes are my direct testimony and exhibits which were prepared in written form for introduction into evidence in the Florida Public Service Commission Docket No. 20220069-GU.

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 $\Lambda \Lambda$

Christopher C. Walters

Subscribed and sworn to before me this 26th day of August, 2022.

SALLY D. WILHELMS Notary Public - Notary Seal STATE OF MISSOURI St. Louis County My Commission Expires: Aug. 5, 2024 Commission # 20078050

y D Wilhelms

BRUBAKER & ASSOCIATES, INC.

Electric Utilities (Valuation Metrics)

											Price	to Earning	gs (P/E) Ra	tio ¹									
		21-Year																					
Line	e Company	Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
	. <u></u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1	ALLETE	18.08	16.70	16.70	18.28	24.75	22.17	23.05	18.63	15.06	17.23	18.59	15.88	14.66	15.98	16.08	13.95	14.78	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	16.81	22.80	21.90	21.23	21.16	19.14	20.60	22.30	18.07	16.60	15.28	14.50	14.45	12.47	13.86	13.43	15.08	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	16.54	23.50	21.10	22.23	22.09	18.29	20.60	18.29	17.55	16.71	16.52	13.35	11.93	9.66	9.26	14.21	17.45	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	14.92	19.90	17.90	19.57	21.41	18.04	19.33	15.16	15.77	15.88	14.49	13.77	11.92	13.42	10.03	13.06	16.27	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	25.91	19.10	19.10	25.34	22.15	26.05	27.27	20.49	40.94	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.	18.52	22.30	22.30	21.18	14.98	24.54	23.37	18.80	17.60	17.28	14.64	19.30	14.08	12.74	11.42	14.97	30.88	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.90	20.00	20.00	17.00	21.18	16.82	19,48	22.29	16.14	19.03	18.24	17.13	31.13	18.10	9.93	N/A	15.02	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	16.63	23.20	26.60	15.92	19.45	36,99	17.91	21.91	18.10	16.96	18.75	14.85	14.58	13.78	11.81	11.27	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	18.08	24.60	23.70	23.32	24.28	20.31	21.32	20.94	18.29	17.30	16.32	15.07	13.62	12.46	13.56	10.87	26.84	22.18	12.60	12.39	N/A	N/A
10	Consol, Edison	16.09	20.00	20.00	20.08	21.10	17.10	19.77	18.80	15.59	15.90	14.72	15.39	15.08	13.30	12.55	12.29	13.78	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	20.49	20.00	20.00	43.94	35.21	21.80	22.17	21.33	22.14	22.97	19.25	18.91	17.27	14.35	12.74	13.78	20.63	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	15.90	24.00	19.60	16.30	19.88	17.41	18.59	18.97	18.11	14.91	17.92	14.89	13.51	12.27	10.41	14.81	18.27	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	17 72	20.90	20.90	22 40	17 71	19.41	19.93	21.25	18 22	17 91	17 45	17 46	13 76	12.69	13.32	17.28	16.13	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	15.26	15.60	15.60	34.93	16.66	N/A	17 23	17.92	14 77	13.05	12 70	9 71	11.81	10.32	9.72	12.36	16.03	12.99	11 74	37 59	6.97	7 78
15	El Paso Electric	17.68	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	13.81	18.90	15.40	15.26	16.50	13.81	15.01	10.00	12.53	12.89	13.21	11.22	9.06	11.57	11 98	16.56	19 30	14.28	16.28	15.09	13.77	11 53
17	Eversource Energy	18 38	21 30	21 30	24.33	22 11	18.73	19.01	18.69	18 11	17.02	16.94	19.86	15 35	13.42	11.96	13.66	18 75	27.07	19.76	20.77	13 35	16.07
18	Everay Inc	21.02	20.20	17.90	21.71	21.76	22 71	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
10	Evelop Corp	15 11	20.20	20.70	15 30	15 75	20.00	13/11	18.68	12.58	16.02	13/13	10.08	11 30	10.07	11 /0	17.07	18.22	16.53	15 37	12.00	11 77	10.46
20	EirstEnergy Corp	18.25	17.00	17.90	20.24	23.78	26.03	11 /1	15.00	17.02	30.70	13.45	21 10	22.30	11 75	13.02	15.64	15.50	14.23	16.07	14 13	22.47	12.95
20	Fortia Inc.	10.20	22.20	21.20	20.24	10.22	17.09	16.91	21.60	19.00	24.20	10.07	20.12	19 70	19.22	16.02	17.04	21.14	17.60	N/A	N/A	22.47 N/A	12.3J
21	Creat Plains Energy	19.29	23.20 N/A	21.30	20.03	19.22 N/A	N/A	NME	21.00	10.00	24.29	14.10	16 62	16.79	12.10	16.00	20.55	16.25	19.20	12.06	10 F0	12.22	11 00
22		10.02	1N/A	20.70	1N/A	21.27	19.05	20.60	12.50	19.37	16.47	14.19	15.55	17.00	12.10	10.03	20.00	21.55	20.22	10.90	10.19	12.23	12.47
23		10.01	20.70	20.70	21.40	21.27	10.90	20.09	10.00	20.40	13.00	10.21	10.01	17.09	10.09	19.79	23.10	21.57	20.33	10.27	19.10	13.70	10.47
24	IDACORP, Inc.	17.05	23.50	23.50	19.00	22.31	20.50	20.60	19.06	16.22	14.67	13.45	12.41	11.54	11.03	10.20	13.93	10.19	15.07	10.70	15.49	20.01	10.00
25	NextEra Energy, Inc.	10.40	32.50	32.50	31.75	26.79	24.60	21.05	20.71	10.09	17.25	16.57	14.43	11.54	10.63	13.42	14.46	18.90	13.05	17.00	13.65	17.00	13.60
26	Northwestern Corp	17.22	18.70	18.70	19.49	19.89	16.77	17.85	17.19	18.36	16.24	16.86	15.72	12.62	12.90	11.54	13.87	21.74	25.95	17.09	IN/A	N/A	N/A
27	OGE Energy	15.26	16.30	15.20	16.25	19.00	16.53	18.32	17.68	17.69	18.27	17.69	15.16	14.37	13.31	10.83	12.41	13.75	13.68	14.95	14.13	11.84	14.12
28	Otter Tail Corp.	23.34	12.30	13.80	18.31	23.51	22.25	22.06	20.19	18.20	18.84	21.12	21.75	47.48	55.10	31.16	30.06	19.02	17.35	15.40	17.34	17.77	16.01
29	Pinnacle West Capital	16.12	19.90	19.90	16.71	19.37	17.82	19.28	18.74	16.04	15.89	15.27	14.35	14.60	12.57	13.74	16.07	14.93	13.69	19.24	15.80	13.96	14.43
30	PNM Resources	18.55	20.20	20.20	20.79	21.08	23.39	20.43	19.83	16.85	18.68	16.13	14.97	14.53	14.05	18.09	N/A	35.65	15.57	17.38	15.02	14.73	15.08
31	Portland General	17.52	19.60	19.60	26.57	22.31	18.42	20.03	19.06	17.71	15.32	16.88	13.98	12.37	12.00	14.40	16.30	11.94	23.35	N/A	N/A	N/A	N/A
32	PPL Corp.	14.44	21.60	21.60	13.94	13.29	11.33	17.65	12.83	13.92	14.08	12.84	10.88	10.52	11.93	25.69	17.64	17.26	14.10	15.12	12.51	10.59	11.06
33	Public Serv. Enterprise	14.67	31.30	31.30	14.91	15.10	18.71	16.31	15.35	12.41	12.61	13.50	12.79	10.40	10.37	10.04	13.65	16.54	17.81	16.74	14.26	10.58	10.00
34	SCANA Corp.	13.96	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
35	Sempra Energy	15.84	20.10	20.10	19.62	22.50	20.40	24.33	24.37	19.73	21.87	19.68	14.89	11.77	12.60	10.09	11.80	14.01	11.50	11.79	8.65	8.96	8.19
36	Southern Co.	16.10	20.60	20.60	17.91	17.58	15.06	15.48	17.76	15.85	16.04	16.19	16.97	15.85	14.90	13.52	16.13	15.95	16.19	15.92	14.68	14.83	14.63
37	Vectren Corp.	17.05	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	15.11	17.57	14.80	14.16
38	WEC Energy Group	17.21	24.20	21.30	24.89	23.49	19.57	20.01	19.95	21.33	17.71	16.50	15.76	14.25	14.01	13.35	14.77	16.47	15.97	14.46	17.51	12.43	10.46
39	Westar Energy	15.58	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
40	Xcel Energy Inc.	17.86	23.90	23.90	23.88	22.34	18.93	20.20	18.48	16.54	15.44	15.04	14.82	14.24	14.13	12.66	13.69	16.65	14.80	15.36	13.65	11.62	40.80
41	Average	17.29	21.15	20.65	21.30	20.88	20.21	19.60	18.77	17.73	17.45	16.17	15.51	15.28	14.22	13.53	15.29	17.83	16.53	16.39	16.61	13.71	14.26
42	Median	16.20	20.60	20.20	20.24	21.18	19.14	19.97	18.80	17.69	16.54	16.20	14.99	14.25	12.82	12.70	14.34	16.41	15.97	15.92	15.29	13.60	13.38

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 year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

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Electric Utilities (Valuation Metrics)

											Market Price	ce to Cash	Flow (MP/0	CF) Ratio ¹									
		20-Year	2/-																				
Line	<u>Company</u>	Average (1)	2022 ^{2/a} (2)	2021 (3)	2020 (4)	<u>2019</u> (5)	<u>2018</u> (6)	2017 (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	2013 (11)	2012 (12)	<u>2011</u> (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)	2005 (19)	2004 (20)	2003 (21)	2002 (22)
1	ALLETE	9.40	7.96	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
2	Alliant Energy	8.08	10.93	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
3	Ameren Corp.	1.27	9.53	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	6.58	8.22	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
5	Avangrid, Inc.	9.99	9.20	11.19	9.39	9.11	10.24	10.14	8.56	11.30	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.	6.86	8.45	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
7	Black Hills	7.87	9.16	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
8	CenterPoint Energy	5.34	8.08	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
9	CMS Energy Corp.	6.27	9.64	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
10	Consol. Edison	8.22	8.62	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	9.95	10.83	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	6.68	10.04	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	7.63	8.15	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	5.99	5.99	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	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.	5.72	6.47	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	7.43	10.69	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.	7.41	8.34	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.	5.95	7.50	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.	6.75	8.85	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.	8.43	9.91	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	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.	8.07	8.72	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.	8.70	12.46	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	NextEra Energy, Inc.	8.82	18.42	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
26	NorthWestern Corp	7.85	8.89	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
27	OGE Energy	7.92	8.20	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
28	Otter Tail Corp.	9.41	8.46	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
29	Pinnacle West Capital	6.25	6.63	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
30	PNM Resources	6.90	7.16	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
31	Portland General	5.93	6.84	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
32	PPL Corp.	7.79	9.62	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
33	Public Serv. Enterprise	7.73	13.26	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
34	SCANA Corp	7.09	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
35	Sempra Energy	8.37	10.19	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
36	Southern Co	8 20	9.52	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 4 1	8.28	8.28	7.83
37	Vectren Corp	7.08	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
38	WEC Energy Group	9.07	12 14	11 00	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
30	Westar Energy Gloup	6.91	N/Δ	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.03	7.23	6 71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4 24	2 94
40	Yool Energy Inc	6.03	8 00	0 10	10.07	0.44	7 00	8.50	8 10	7.62	7.33	7.00	6.85	6.47	6.28	5.12	5 71	6.51	5.54	5.62	5.31	4.24	5.46
40	Auer Energy Inc.	0.93	0.99	9.19	10.07	3.44	7.90	0.00	0.10	7.02	1.31	7.00	0.00	0.47	0.20	0.40	5.71	0.01	0.04	0.02	0.01	4.27	0.40
41	Average	7.55	9.32	9.28	9.10	9.60	8.86	9.21	8.50	7.96	7.81	7.31	6.91	6.49	5.94	5.54	6.98	7.73	7.11	7.05	6.70	5.62	5.50
42	Median	7.37	8.89	8.72	8.48	9.46	8.73	9.05	8.57	7.93	7.54	7.12	6.85	6.27	5.80	5.35	7.09	7.76	7.37	7.04	6.71	5.62	5.43

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 year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Note:

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

Electric Utilities (Valuation Metrics)

										N	larket Pric	e to Book	Value (MP/	BV) Ratio '							
		17-Year											,								
Line	company	Average	2022 ^{2/b}	<u>2021</u>	2020	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	2015	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	2009	2008	2007	2006	2005	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
1	ALLETE	1.59	1.33	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	2.09	2.22	
2	Alliant Energy	1.78	2.40	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	1.33	
3	Ameren Corp.	1.54	2.25	2.13	2.21	2.26	1.95	1.93	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68	
4	American Electric Power	1.62	2.00	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	1.56	1.57	
5	Avangrid, Inc.	0.93	0.93	1.01	0.97	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/A	N/A	N/A	
6	Avista Corp.	1.33	1.44	1.42	1.37	1.54	1.88	1.73	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13	
7	Black Hills	1.52	1.59	1.52	1.55	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	1.63	
8	CenterPoint Energy	2.32	2.00	1.74	1.90	2.21	2.18	2.59	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06	
9	CMS Energy Corp.	2.14	2.91	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	1.32	
10	Consol, Edison	1.41	1.52	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	1.52	
11	Dominion Resources	2.61	2.40	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	2.50	
12	DTE Energy	1.58	2.51	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	1.29	1.39	
13	Duke Energy	1.25	1.69	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	N/A	
14	Edison Int'l	1.67	1.71	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	1.80	1.93	
15	El Paso Electric	1.56	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	1.71	1.76	
16	Entergy Corp	1 75	1.88	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	1.89	2.01	
17	Eversource Energy	1.52	1.95	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	1.05	
18	Everay Inc	1.50	1.60	1.50	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	N/A	N/A	N/A	
19	Exelon Corp	2.12	2.06	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	3.89	3.60	
20	FirstEnergy Corp.	2.04	2.71	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	1.92	1.64	
21	Fortis Inc.	1.47	1.57	1.48	1.47	1.41	1.24	1.41	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A	
22	Great Plains Energy	1 21	N/A	N/A	N/A	N/A	N/A	1.33	1 17	1 12	1 1 1	1.02	0.96	0.93	0.87	0.80	1 11	1.66	1 77	1.86	
23	Hawaiian Elec	1.66	1.84	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	1 78	
24	IDACORP Inc	1.68	1 99	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	1 22	
25	NextEra Energy Inc.	2.26	4 1 1	4 27	3.58	2 75	2.32	2.35	2.30	2.09	2 15	1.00	1 74	1.55	1 49	1 70	2.06	2.34	1.80	1 93	
26	NorthWestern Corp	1 46	1.33	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	1 42	
27	OGE Energy	1.84	1 75	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	1.80	
28	Otter Tail Corp	1.04	2 35	2 33	2.04	2.00	2 49	2 33	1.00	1.78	1 90	1 96	1.54	1.35	1 19	1.07	1 71	1.00	1.76	1 74	
20	Pinnacle West Canital	1.07	1 39	1.45	1.63	1 91	1 74	1 91	1.50	1.70	1.00	1 47	1 39	1.00	1.13	0.95	1.00	1.30	1.76	1.74	
30	PNM Resources	1.40	1.00	1.86	1.00	2.28	1.83	1.84	1.56	1.32	1.44	1.47	0.98	0.80	0.69	0.56	0.66	1.20	1.20	1.25	
31	Portland General	1.35	1.68	1.55	1.57	1.84	1.56	1.69	1.50	1.00	1.27	1.00	1 14	1.09	0.00	0.00	1.05	1.20	1.21	N/A	
32	PPI Corp	2.06	1.00	1.50	1.63	1.86	1.81	2.40	2.46	2.24	1.64	1.55	1.14	1.03	1.61	2 10	3.19	3.05	2.43	2 50	
33	Public Serv Enterprise	1 91	2.43	2 11	1.00	1.00	1.01	1.68	1.67	1.58	1.57	1 44	1.00	1.59	1.67	1 78	2.58	2 99	2.46	2.00	
34	SCANA Corp	1.51	N/A	2.11 N/Δ	N/A	N/A	N/A	1.65	1 74	1.00	1.48	1.44	1.40	1.36	1 33	1.70	1 45	1.62	1.64	1 72	
35	Sempra Energy	1.01	1.81	1.64	1.84	2.22	2.06	2.24	2.00	2 17	2 20	1.40	1.40	1.00	1.35	1.20	1.40	1.87	1.04	1.72	
36	Southern Co	2.08	2.57	2 30	2.20	2.22	1.80	2.24	2.00	1 00	2.20	2.04	2.15	1.20	1.33	1.32	2.12	2.24	2.23	2.35	
37	Vectren Corp	1.83	2.57 N/A	2.33 N/A	2.20 N/A	2.13 N/A	N/A	2.07	2.01	2 11	2.02	1.82	1.57	1.53	1.00	1.73	2.12	1 74	1.77	1.82	
38	WEC Energy Group	2.02	2 72	2.61	2.84	2.62	2 11	2.75	2.23	1.82	2.00	2.21	2.05	1.00	1.41	1.04	1.04	1.74	1.77	1.02	
30	Westar Energy Gloup	2.02	2.7Z	2.01 N/A	2.04 N/A	2.0Z	2.11 N/A	1.0/	1.05	1.02	2.34	1 33	1.26	1.01	1.00	0.03	1.07	1.77	1.71	1.02	
39	Vool Energy Inc.	1.07	1N/A	0.07	0 46	2.24	1.07	2.06	1.90	1.49	1.44	1.00	1.20	1.20	1.10	1 10	1.10	1.50	1.30	1.41	
40	Acel Ellergy Inc.	1.09	2.31	2.21	2.40	2.34	1.97	2.06	1.00	1.00	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.30	
41	Average	1.71	2.00	1.92	1.94	2.07	1.87	1.98	1.84	1.66	1.68	1.59	1.51	1.42	1.34	1.24	1.63	1.90	1.77	1.79	
42	Median	1.68	1.88	1.75	1.84	2.04	1.83	1.91	1.74	1.55	1.53	1.49	1.47	1.35	1.31	1.14	1.46	1.68	1.71	1.72	

Sources:

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² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Notes:

^b Based on the average of the high and low price and the projected Book Value per share.

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Florida City Gas

Electric Utilities (Valuation Metrics)

										Dividen	d Yield ¹								
		17-Year	2/2																
Line	Company	Average (1)	(2)	(3)	(4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)
1		2 0.4%	4 1196	2 99%	4.02%	2.95%	2.00%	2.07%	2.56%	2 07%	2.02%	2 90%	4 40%	4 59%	5.02%	5 70%	4 27%	2 60%	2 16%
2	Alliant Energy	3.65%	2.85%	2.97%	2.90%	2.88%	3.20%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.73%	4.10%	3.13%	3.32%
3	Ameren Corp.	4.26%	2.61%	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	4.00%	3.35%	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	Avangrid, Inc.	3.71%	3.79%	3.53%	3.69%	3.52%	3.49%	3.79%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Black Hills	3.72%	3.35%	3.50%	4.03%	2 74%	2.95%	2 75%	2.87%	3.55%	2.84%	4.51%	4.33%	4.54%	4.76%	4.49%	4 21%	3.40%	3.79%
8	CenterPoint Energy	4.34%	2.41%	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%	2.73%	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	Consol. Edison	4.38%	3.52%	4.10%	3.87%	3.44%	3.68%	3.40%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
12	DTE Energy	4.01%	2.83%	3.06%	4.31%	4.76%	4.72%	3.00%	3.34%	3.53%	3.43%	3.84%	4.00%	4.13%	4.41%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.67%	3.76%	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'l	3.23%	4.37%	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	El Paso Electric	2.74%	N/A	N/A	N/A	N/A	2.55%	2.49%	2.75%	3.13%	2.97%	2.99%	2.97%	2.11%	N/A	N/A	N/A	N/A	N/A
17	Eversource Energy	3.24%	2.94%	2.85%	2.63%	2.81%	3.32%	4.49%	4.55%	4.59%	3.40%	3.48%	4.91%	4.03%	4.20%	4 16%	3.25%	2.39%	3.27%
18	Evergy, Inc.	3.59%	3.51%	3.59%	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.	3.81%	2.75%	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	FirstEnergy Corp.	4.35%	3.56%	4.39%	4.17%	3.50%	5.17%	4.62%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
21	Fortis Inc. Great Plains Energy	3.68%	3.63%	3.77%	3.66%	3.60%	4.07% N/A	3.69%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
23	Hawaiian Elec.	4.47%	3.38%	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.	3.17%	2.80%	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	NextEra Energy, Inc.	2.97%	2.10%	1.90%	2.10%	2.41%	2.68%	2.79%	2.91%	3.01%	3.02%	3.30%	3.65%	3.96%	3.90%	N/A	N/A	N/A	N/A
26	NorthWestern Corp	4.07%	4.26%	4.00%	4.02%	3.28%	3.86%	3.52%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
28	Otter Tail Corp.	4.02%	4.26%	4.81%	4.00%	2.74%	2.92%	3.12%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	4.90%	4.52%	3.46%	3.99%
29	Pinnacle West Capital	4.48%	4.69%	4.44%	3.97%	3.29%	3.55%	3.16%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.76%	6.17%	4.75%	4.67%
30	PNM Resources	3.15%	3.81%	2.09%	2.80%	2.45%	2.79%	2.53%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
31	Portland General	3.67%	3.42%	3.62%	3.47%	2.85%	3.27%	2.92%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
33	Public Serv. Enterprise	3.76%	3.16%	3.37%	3.64%	3.19%	3.49%	4.24%	4.25%	4.55%	3.92%	4.01%	4.55%	4 24%	4.30%	4.31%	3.26%	2.09%	3.41%
34	SCANA Corp.	4.37%	N/A	N/A	N/A	N/A	N/A	4.03%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	5.67%	4.92%	4.29%	4.21%
35	Sempra Energy	2.98%	3.05%	3.39%	3.24%	2.88%	3.20%	2.92%	2.92%	2.71%	2.61%	3.03%	3.71%	3.65%	3.08%	3.23%	2.62%	2.08%	2.47%
36	Southern Co.	4.65%	3.88%	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%
37	Vectren Corp. WEC Energy Group	4.38%	N/A 2 98%	N/A 3.00%	N/A 2.68%	N/A 2.81%	N/A 3.38%	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53% 2.97%	5.85%	4.79%	4.53%	4.52%
39	Westar Energy	4.37%	2.30 %	N/A	2.00%	N/A	N/A	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
40	Xcel Energy Inc.	3.76%	2.80%	2.81%	2.58%	2.75%	3.25%	3.10%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
		0.050/	0.049/	0.500/	0.000/	0.000/	0.000/	0.400/		0 740/	0.000/	0.000/	4.000/	4.000/	4.000/	F 400/	4.050/		0 700/
41	Average	3.85%	3.34%	3.52%	3.60%	3.23%	3.60%	3.40%	3.52%	3.74%	3.68%	3.89%	4.20%	4.32%	4.00%	5.18%	4.25%	3.53%	3.72%
42	Weddal	3.02 /8	3.3376	3.30%	3.0178	3.00%	5.50 %	5.1078	3.4078	5.7576	5.70%	5.0576	4.1076	4.4076	4.7376	5.2076	4.2376	3.4376	3.0270
43	20-Yr Treasury Yields ³	3.16%	2.78%	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%
44	20-Yr TIPS ³	0.99%	0.09%	-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%
45	Implied Inflation ^b	2.14%	2.69%	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%
46	Real Dividend Yield	1.67%	0.64%	1.07%	1.90%	1.41%	1.51%	1.48%	1.94%	1.96%	1.46%	1.50%	1.83%	1.88%	2.35%	3.26%	2.07%	1.01%	1.06%
	A-Rated Utility																		
47	Nominal "A" Rated Yield ⁴	4.62%	4.20%	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%
48	Real "A" Rated Yield	2.42%	1.47%	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	-																	
49	Nominal "Baa" Rated Yield	5.14%	4.50%	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%
50	Real "Baa" Rated Yield	2.93%	1.77%	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%
	Spreads (A-Rated Utility Bond - Stock)																		
51	Nominal Spread ^d	0.77%	0.96%	-0.41%	-0.55%	0.54%	0.65%	0.60%	0 41%	0 27%	0.60%	0.50%	-0.07%	0.72%	0.90%	0.96%	2 29%	2 55%	2 25%
52	Real Spread ^e	0.76%	0.84%	-0.41%	-0.53%	0.53%	0.64%	0.59%	0.41%	0.36%	0.59%	0.58%	-0.07%	0.72%	0.00%	0.85%	2.20%	2.33%	2.33%
01		0.1078	0.0478	0.4070	0.0470	5.0075	2.0478	2.0078	2.4073	2.0073	0.0078	0.0078	0.01 /0	0078	0078	0.0078	2.2078	2.4070	2.20/6
	Spreads (Baa-Rated Utility Bond - Stock)	_																	
53	Nominal Spread ^b	1.29%	1.16%	-0.16%	-0.16%	0.97%	1.07%	0.98%	1.15%	1.28%	1.12%	1.10%	0.62%	1.24%	1.30%	1.88%	3.00%	2.80%	2.60%
54	Real Spread ^c	1.26%	1.13%	-0.16%	-0.16%	0.95%	1.05%	0.96%	1.13%	1.26%	1.10%	1.07%	0.61%	1.22%	1.28%	1.84%	2.93%	2.74%	2.53%
	Spreads (Treasury Bond - Stock)	-																	
55	Nominal	-0.69%	-0.56%	-1.54%	-2.24%	-0.83%	-0.58%	-0.75%	-1.30%	-1.20%	-0.60%	-0.77%	-1.66%	-0.70%	-0.63%	-1.07%	0.11%	1.38%	1.28%
56	Real"	-0.67%	-0.54%	-1.50%	-2.21%	-0.81%	-0.57%	-0.73%	-1.28%	-1.18%	-0.59%	-0.75%	-1.62%	-0.68%	-0.62%	-1.05%	0.11%	1.35%	1.24%



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

 Data for the year 2020 was retrieved from Value Line Investment Survey, March 11, April 23, and May 14, 2021.

 Data for the year 2021 was retrieved from Value Line Investment Survey, March 11, April 23, and May 14, 2021.

 * The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

 * The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

 * St. Louis Federal Reserve: Conomic Research, thrugh July 8, 2022.

 * Notes:

 * Based on the average of the high and low price and the projected Dividends Declared per share, published in the Value Line Investment Survey.

 * Line 43 = (1 + Line 43), (1 + Line 46) - 1.

 * The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield. (Line 40 - Line 43).

 * The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield, (Line 46 - Line 43).

 * The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield, (Line 46 - Line 43).

 * The spread being measured here is the nominal 20-Year Treasury yield over the average near utility dividend yield, (Line 46 - Line 43).

 * The spread being measured here is the nominal 20-Year Treasury yield over the average near utility dividend yield, Line 46 - Line 43).

Electric Utilities (Valuation Metrics)

										Dividend	per Share ¹								
		17-Year																	
Line	Company	Average	2022 ²	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	2015	2014	2013	2012	<u>2011</u>	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	ALLETE	1.98	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	1.04	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.	1.89	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	2.10	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	1.74	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.	1.18	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	1.66	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	0.87	0.71	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.	1.05	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	2.60	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	2.38	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	2.83	3.60	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	3.23	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	1.72	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	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.	3.27	4.09	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	1.50	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.	2.18	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.	1.64	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.	1.80	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.	1.37	2.21	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	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.	1.26	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.	1.79	3.05	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	NextEra Energy, Inc.	0.79	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
26	NorthWestern Corp	1.75	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
27	OGE Energy	1.03	1.66	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
28	Otter Tail Corp.	1.26	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
29	Pinnacle West Capital	2.50	3.44	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
30	PNM Resources	0.82	1.76	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
31	Portland General	1.19	1.80	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
32	PPL Corp.	1.47	0.80	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
33	Public Serv. Enterprise	1.54	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
34	SCANA Corp.	2.00	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
35	Sempra Energy	2.60	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
36	Southern Co.	2.06	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
37	Vectren Corp.	1.42	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
38	WEC Energy Group	1.49	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
39	Westar Energy	1.30	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
40	Xcel Energy Inc.	1.24	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
41	Average	1.74	2.36	2.28	2.25	2.16	2.05	1.91	1.80	1.71	1.62	1.57	1.55	1.47	1.43	1.39	1.40	1.33	1.25
42	Industry Average Growth	4.08%	3.52%	1.43%	4.36%	5.33%	7.06%	6.02%	5.44%	5.37%	3.48%	0.97%	5.83%	2.45%	3.16%	-0.52%	4.95%	6.51%	

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 year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Electric Utilities (Valuation Metrics)

Inverse Average (1) 2022 (2) 2019 (2) 2019 (2) 2019 (2) 2019 (2) 2017 (2) 2017 (2) 2015 (1) 2014 (1) 2012 (1) 2017 (1) 2012 (1) 2011 (1) 2011 (1) 2012 (1) 2011 (1) 2012 (1) 2011 (1)	2007 (17) 2006 (18) 3.08 2.77 1.35 1.03 2.98 2.66 2.86 2.86 NA N/A 0.72 1.47 2.68 2.81 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
Linu Vertuality Vertuality <th>zour, (17) zour, (18) 3.08 2.77 1.35 1.03 2.98 2.66 2.86 2.86 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.23 3.28 1.63 1.27 5.60 5.36 1.59 0.82</th>	zour, (17) zour, (18) 3.08 2.77 1.35 1.03 2.98 2.66 2.86 2.86 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.23 3.28 1.63 1.27 5.60 5.36 1.59 0.82
1 ALLETE 200 370 323 333 333 334 313 314 339 2.00 2.63 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.68 2.69 2.68 2.69 2.68 2.69 2.60 2.68 2.69 2.68 2.69 2.60 2.61 2.67 2.68 2.69 2.40 2.10 2.41 2.47 2.83 3.43 3.18 3.18 3.18 3.18 3.18 3.18 3.18 3.18 3.18 2.69 2.40 2.10 2.47 2.86 1.69 1.64 <th1.64< th=""> <th1.64< th=""> <th1.64< th="" th<=""><th>3.08 2.77 1.35 1.03 2.98 2.66 2.86 2.86 N/A N/A 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82</th></th1.64<></th1.64<></th1.64<>	3.08 2.77 1.35 1.03 2.98 2.66 2.86 2.86 N/A N/A 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
1 ALLETE 2.90 3.70 3.23 3.35 3.38 3.14 3.14 3.38 2.90 2.63 2.66 2.19 1.89 2.82 3 Ameren Corp. 2.83 4.10 3.84 3.50 3.35 3.32 2.77 2.68 2.38 2.40 2.10 2.41 2.47 2.77 2.78 2.88 4 Ameren Corp. 3.48 2.90 3.43 3.44 3.50 3.32 3.77 2.68 2.38 2.40 2.10 2.41 2.47 2.77 2.78 2.88 5 Avangrid Inc. 1.78 2.00 2.10 1.90 2.97 2.91 1.95 1.88 1.84 1.85 1.42 1.47 1.01 1.66 1.53 1.45 1.33 0.33 1.33 3.47 3.38 2.83 2.89 2.61 1.97 1.01 1.66 1.53 1.45 1.33 0.33 1.33 0.34 1.33 0.34 1.33 0.36 2.84 1.34 0.36 2.84 1.34 0.36 2.8	$\begin{array}{cccc} 3.08 & 2.77 \\ 1.35 & 1.03 \\ 2.98 & 2.66 \\ 2.86 & 2.86 \\ N/A & N/A \\ 0.72 & 1.47 \\ 2.68 & 2.21 \\ 1.17 & 1.33 \\ 0.64 & 0.64 \\ 3.48 & 2.95 \\ 2.13 & 2.40 \\ 2.66 & 2.45 \\ 3.60 & 2.73 \\ 3.62 & 3.28 \\ 1.63 & 1.27 \\ 5.60 & 5.36 \\ 1.59 & 0.82 \\ \end{array}$
2 Alliant Energy 1.70 2.80 2.63 2.47 2.33 2.19 1.99 1.65 1.69 1.74 1.65 1.53 1.38 0.95 1.27 3 American Electrio Power 3.48 5.20 4.96 4.42 4.08 3.90 3.62 4.23 3.59 3.34 3.18 2.98 3.13 2.60 2.77 7.78 2.88 6 Avista Corp. 1.78 2.00 2.10 1.90 2.97 2.07 1.95 2.15 1.89 1.84 1.85 1.32 1.72 1.65 1.58 1.36 7 Black Hills 2.55 4.05 3.74 3.73 3.53 3.47 3.38 2.63 2.83 2.49 1.41 1.44 1.44 1.44 1.44 1.45 1.31 0.30 4.13 3.14 3.33 1.23 1.17 1.01 1.16 2.32 0.11 1.30 1.41 1.44 1.43 1.43 1.43 1.34 0.31 1.23 1.23 1.33 0.31 1.23 1.27 </td <td>$\begin{array}{cccc} 1.35 & 1.03 \\ 2.98 & 2.66 \\ 2.86 & 2.86 \\ N/A & N/A \\ 0.72 & 1.47 \\ 2.66 & 2.21 \\ 1.17 & 1.33 \\ 0.64 & 0.64 \\ 3.48 & 2.95 \\ 2.13 & 2.40 \\ 2.66 & 2.45 \\ 3.60 & 2.73 \\ 3.32 & 3.28 \\ 1.63 & 1.27 \\ 5.60 & 5.36 \\ 1.59 & 0.82 \\ \end{array}$</td>	$\begin{array}{cccc} 1.35 & 1.03 \\ 2.98 & 2.66 \\ 2.86 & 2.86 \\ N/A & N/A \\ 0.72 & 1.47 \\ 2.66 & 2.21 \\ 1.17 & 1.33 \\ 0.64 & 0.64 \\ 3.48 & 2.95 \\ 2.13 & 2.40 \\ 2.66 & 2.45 \\ 3.60 & 2.73 \\ 3.32 & 3.28 \\ 1.63 & 1.27 \\ 5.60 & 5.36 \\ 1.59 & 0.82 \\ \end{array}$
3 Ameren Corp. 2.83 4.10 3.84 3.50 3.32 2.77 2.68 2.38 2.40 2.10 2.41 2.47 2.77 2.78 2.89 4 American Electic Power 3.48 5.20 4.97 1.78 2.30 1.97 1.88 2.61 1.98 0.86 N/A	$\begin{array}{cccc} 2.98 & 2.66 \\ 2.86 & 2.86 \\ N/A & N/A \\ 0.72 & 1.47 \\ 2.68 & 2.21 \\ 1.17 & 1.33 \\ 0.64 & 0.64 \\ 3.48 & 2.95 \\ 2.13 & 2.40 \\ 2.66 & 2.45 \\ 3.60 & 2.73 \\ 3.62 & 3.28 \\ 1.63 & 1.27 \\ 5.60 & 5.36 \\ 1.59 & 0.82 \\ \end{array}$
4 American Electric Power 3.48 5.20 4.49 4.40 4.30 3.62 4.23 3.59 3.14 2.18 2.29 2.99 5 Avaragrid, Inc. 1.76 2.30 2.10 1.90 2.27 2.97 2.97 2.95 1.89 1.84 1.85 1.32 1.72 1.65 1.58 1.56 1.58 1.36 6 Avisia Corp. 1.70 1.20 1.40 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 1.30 9 CMS Energy Corp. 1.70 2.90 2.56 2.64 4.59 4.10 3.44 4.05 3.14 3.26 3.33 3.68 3.57 3.74 4.16 1.66 1.53 1.45 1.33 0.93 1.23 0.93 1.23 0.93 3.24 2.42 2.33 10 Drescores 2.34 3.35 3.33 3.44 3.30 3.44 3.30 3.47 3.24 2.42 2.33 <td>2.86 2.86 N/A N/A 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82</td>	2.86 2.86 N/A N/A 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
5 Avangrid, Inc. 1.79 2.30 1.97 1.88 2.26 1.92 1.67 1.98 0.86 N/A N/	N/A N/A 0.72 1.47 2.68 2.21 1.17 1.33 0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
6 Avista Corp. 1.78 2.00 1.90 1.95 2.17 1.84 1.85 1.32 1.72 1.65 1.58 1.36 7 Black Hills 2.55 4.05 3.73 3.53 3.47 3.38 2.83 2.83 2.84 1.24 1.35 1.27 1.00 1.66 1.53 1.45 1.33 0.33 1.23 9 CMS Energy Corp. 1.70 2.90 2.58 2.64 2.39 2.32 2.17 1.88 1.89 1.84 1.66 1.53 1.45 1.33 0.33 1.23 10 Consol. Edison 3.80 4.60 4.74 3.94 4.05 3.64 3.20 3.05 3.09 2.75 2.76 2.89 2.64 3.03 12 DTE Energy 4.37 5.60 4.10 7.78 3.53 3.44 3.20 3.05 3.09 2.75 2.76 2.89 2.64 3.37 3.53 3.44 3.50 3.74 4.14 4.02 3.39 3.03 3.65 3.17 4.14	$\begin{array}{ccccc} 0.72 & 1.47 \\ 2.68 & 2.21 \\ 1.17 & 1.33 \\ 0.64 & 0.64 \\ 3.48 & 2.95 \\ 2.13 & 2.40 \\ 2.66 & 2.45 \\ 3.60 & 2.73 \\ 3.60 & 2.73 \\ 3.32 & 3.28 \\ 1.63 & 1.27 \\ 5.60 & 5.36 \\ 1.59 & 0.82 \\ \end{array}$
7 Black Hills 2.55 4.05 3.74 3.73 3.47 3.38 2.63 2.83 2.89 2.61 1.97 1.01 1.66 2.32 0.11 9 CMS Energy Corp. 1.70 2.90 2.88 2.64 2.39 2.22 2.17 1.88 1.89 1.74 1.66 1.53 1.43 0.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.33 0.33 1.34 3.36 3.34 3.34 3.33 3.34 3.34 3.35 3.34 3.36 3.34 3.36 3.35 3.34 3.35 3.34 3.36 3.35 3.34 3.36 3.36 3.36 3.37 3.44 4.44 5.10 3.46 3.57 3.36 3.35 3.33 3.33 3.33 3.33 3.33 3.3	$\begin{array}{cccc} 2.68 & 2.21 \\ 1.17 & 1.33 \\ 0.64 & 0.64 \\ 3.48 & 2.95 \\ 2.13 & 2.40 \\ 2.66 & 2.45 \\ 3.60 & 2.73 \\ 3.32 & 3.28 \\ 1.63 & 1.27 \\ 5.60 & 5.36 \\ 1.59 & 0.82 \\ \end{array}$
8 CenterPoint Energy 1.20 1.40 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 1.10 9 CMS Energy Corp. 3.70 2.50 2.64 2.39 2.32 2.17 1.88 1.89 1.74 1.66 1.53 1.45 1.33 0.93 1.23 10 Consol. Edison 3.80 4.60 3.74 3.94 4.05 3.62 3.93 3.66 3.57 3.47 3.44 3.24 11 Dominon Resources 2.84 4.05 3.92 5.07 4.13 4.22 3.71 4.10 4.13 3.98 3.67 3.74 3.24 2.13 12 DTE Energy 4.37 5.60 4.10 7.08 6.31 6.17 5.73 4.43 4.40 5.10 3.76 4.14 4.02 3.93 3.24 3.50 14 Edison Infl 3.24 4.15 2.00 1.72 3.98 1.14 4.15 4.33 3.78	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
9 CMS Energy Corp. 1.70 2.90 2.58 2.64 2.39 2.32 2.17 1.89 1.74 1.66 1.53 1.45 1.33 0.93 3.14 3.36 11 Dominion Resources 2.84 4.05 3.94 4.06 3.52 3.53 3.44 3.20 3.05 3.90 2.75 2.76 2.89 2.64 3.04 12 DTE Energy 3.93 5.20 4.93 3.92 5.07 4.13 4.22 3.14 4.10 4.13 3.98 3.71 4.14 4.02 3.39 3.86 3.57 3.48 3.67 3.37 3.24 2.33 3.38 3.67 3.33 3.88 3.67 3.33 3.84 3.67 3.24 3.83 3.03 14 Edison Int1 3.24 4.15 2.00 1.72 3.98 -1.26 4.51 3.94 4.15 4.33 3.78 4.50 3.23 3.35 3.24 3.68 15 El Paso 5.61 6.40 6.87 6.90 6.30 5.81 <td>0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82</td>	0.64 0.64 3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
10 Consol. Edison 3.80 4.60 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 11 Dorminon Resources 2.84 4.05 3.19 3.25 3.34 4.05 3.62 3.09 3.25 2.64 3.04 12 DTE Energy 4.37 5.60 4.10 7.08 6.31 6.17 5.73 4.84 4.40 5.10 3.76 3.88 3.67 3.74 3.24 2.72 2.03 3.05 3.23 3.35 3.24 3.68 3.61 4.55 3.23 3.35 3.24 3.68 3.61 4.15 4.33 3.78 4.55 3.23 3.35 3.24 3.68 15 El Paso Electric 2.02 NA N/A N/A N/A 2.42 2.39 2.03 2.27 2.20 2.66 2.60 6.60 6.20 6.20 1.72 3.88 3.11 2.68 5.81 5.77 4.86 6.27 5.66 6.60	3.48 2.95 2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
11 Dominon Resources 2.84 4.05 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 12 DTE Energy 3.37 5.60 4.10 7.08 6.17 5.73 4.83 4.44 5.10 3.76 3.88 3.67 3.74 4.14 4.02 3.39 3.23 3.03 3.02 3.03 3.02 3.03 3.71 4.10 4.13 3.98 3.71 4.14 4.02 3.39 3.24 3.88 3.67 3.74 4.14 4.02 3.39 3.24 3.88 3.67 3.44 3.98 3.71 4.14 4.02 3.39 3.24 3.88 3.67 3.74 4.14 4.10 4.13 3.88 3.71 4.14 4.02 3.39 3.24 3.88 3.67 3.84 3.45 3.81 4.14 4.13 3.98 3.71 4.14 4.10 4.13 3.87 4.16 4.13 3.88 3.67 3.24 3.88 3.67 3	2.13 2.40 2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
12 DTE Energy 4.37 5.60 4.10 7.08 6.31 6.17 5.73 4.83 4.44 5.10 3.76 3.88 3.67 3.74 3.24 2.73 13 Duke Energy 3.93 5.20 4.83 3.92 5.07 4.13 4.22 3.71 4.10 4.13 3.88 3.71 4.14 4.02 3.39 3.33 3.24 3.88 3.67 3.74 4.14 4.02 3.38 3.71 4.14 4.02 3.38 3.71 4.14 4.02 3.39 3.24 3.88 3.67 3.74 4.14 4.02 3.38 3.57 4.84 5.07 3.20 2.26 2.48 2.07 1.50 1.73 16 Entergy Corp. 6.14 6.40 6.87 6.30 5.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 1.50 1.40 1.88 1.83 1.44 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1.40 1	2.66 2.45 3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
13 Duke Energy 3.93 5.20 4.93 3.92 5.07 4.13 4.22 3.71 4.10 4.13 3.98 3.71 4.14 4.02 3.39 3.03 14 Edison Intil 3.24 4.15 2.00 1.72 3.98 -1.26 4.51 3.94 4.15 4.13 3.78 4.55 3.23 3.32 3.24 3.88 15 El Paso Electric 2.02 N/A N/A N/A N/A 2.42 2.39 2.03 2.27 2.20 2.26 2.48 2.07 1.50 6.66 6.30 6.20 16 Energy Corp. 2.51 4.05 3.54 3.55 3.11 2.96 2.76 2.58 2.49 1.89 2.21 1.91 1.91 1.86 19 Exergy, Inc. 3.83 3.03 3.45 3.45 3.25 3.11 2.40 2.69 1.81 1.39 2.73 2.10 2.01 1.31 1.80 2.27 2.31 1.92 3.75 3.87 4.29 4.10 1	3.60 2.73 3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
14 Edison Int1 3.24 4.15 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 15 El Paso Electric 2.02 N/A N/A N/A 2.07 2.42 2.29 2.20 2.20 2.24 2.48 2.07 2.56 6.40 6.07 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 17 Eversource Energy 0.61 4.05 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 18 Evergy, Inc. 3.83 3.50 3.83 3.55 3.45 3.25 3.11 2.96 2.49 2.49 1.89 2.22 4.10 2.01 1.91 1.86 1.87 1.80 2.54 2.10 2.31 1.88 3.87 3.29 3.32 4.29 4.10 19 Exelon Corp	3.32 3.28 1.63 1.27 5.60 5.36 1.59 0.82
15 El Paso Electric 2.02 NA N/A N/A N/A N/A 2.07 2.42 2.39 2.03 2.27 2.20 2.26 2.48 2.07 1.50 1.73 16 Entergy Corp. 6.14 6.40 6.87 6.90 6.30 5.88 5.81 6.88 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 17 Eversource Energy 2.51 4.05 3.84 3.55 3.11 2.96 2.76 2.58 2.49 1.89 2.22 2.10 1.91 1.86 18 Evergy, Inc. 3.83 3.50 3.83 N/A	1.63 1.27 5.60 5.36 1.59 0.82
16 Entergy Corp. 6.14 6.40 6.87 6.90 6.30 5.88 5.19 5.81 5.77 4.96 6.02 7.55 6.66 6.30 6.20 17 Eversource Energy 2.51 4.05 3.55 3.45 3.25 2.40 2.40 2.40 N/A N/A </td <td>5.60 5.36 1.59 0.82</td>	5.60 5.36 1.59 0.82
17 Eversource Energy 2.51 4.05 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 18 Evergy, Inc. 3.83 3.50 3.83 N/A N/A <td< td=""><td>1.59 0.82</td></td<>	1.59 0.82
18 Evergy, Inc. 3.83 3.50 3.83 N/A	
19 Exelon Corp. 2.90 2.25 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 20 FirstEnergy Corp. 2.59 2.40 2.69 2.64 2.69 2.13 1.88 3.25 3.22 4.38 21 Fortis Inc. 1.92 2.75 2.61 2.60 2.68 2.52 2.66 1.89 2.11 1.38 1.65 1.74 1.62 1.51 1.52 22 Great Plains Energy 1.33 N/A N/A N/A N/A N/A N/A 1.64 2.29 1.50 1.64 1.62 1.67 1.44 1.21 0.91 1.07 24 IDACORP, Inc. 1.58 2.10 2.25 1.81 1.99 1.64 4.29 1.50 1.64 1.62 1.67 1.44 1.21 0.91 1.07 24 IDACORP, Inc. 1.35 5.05 4.85 4.69 4.61 4.21 3.84 3.87 3.85 <	N/A N/A
20 FirstEnergy Corp. 2.59 2.40 2.69 1.84 1.33 2.73 2.10 2.00 8.65 2.97 2.13 1.88 3.25 3.32 4.38 21 Fortis Inc. 1.92 2.75 2.61 2.66 1.89 2.11 1.88 1.63 1.65 1.74 1.62 1.51 1.52 1.52 22 Great Plains Energy 1.33 N/A N/A N/A N/A N/A 0.06 1.61 1.37 1.62 1.35 1.25 1.53 1.03 1.16 23 Great Plains Energy 1.58 2.10 2.25 1.81 1.99 1.85 1.64 2.29 1.50 1.64 1.62 1.67 1.44 1.21 0.91 1.07 24 IDACORP. Inc. 3.55 5.05 4.85 4.69 4.61 4.49 3.45 3.45 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64 3.64	4.03 3.50
21 Fortis Inc. 1.92 2.75 2.61 2.60 2.68 2.52 2.666 1.89 2.11 1.38 1.65 1.74 1.62 1.51 1.52 22 Great Plains Energy 1.33 N/A	4.22 3.82
22 Great Plains Energy 1.33 NA N/A N/A N/A N/A N/A N/A OPA -0.06 1.61 1.37 1.57 1.62 1.35 1.25 1.53 1.03 1.16 23 Hawaiina Elec. 1.58 2.10 2.25 1.81 1.99 1.85 1.64 2.29 1.50 1.64 1.62 1.62 1.67 1.44 1.21 0.91 1.07 24 IDACORP, Inc. 3.55 5.05 4.86 4.61 4.49 4.21 3.87 3.86 3.64 3.37 3.36 2.95 2.64 2.18 25 NextEr Energy, Inc. 1.37 1.16 1.14 1.21 1.19 0.91 1.02 26 NorthWestern Corp 2.63 3.30 3.60 3.68 3.40 3.34 3.39 2.90 2.46 2.26 2.53 2.14 2.02 1.77 20 Detergy 1.62 5.30 4.23 2.17 2.06 1.69 1.69 1.99 1.49 1.69 1.69	1.29 1.36
23 Hawaiian Elec. 1.58 2.10 2.25 1.81 1.99 1.85 1.64 2.29 1.50 1.64 1.62 1.67 1.44 1.21 0.91 1.07 24 IDACORP, Inc. 3.55 5.05 4.69 4.61 4.49 4.21 3.44 3.85 3.64 3.37 3.36 2.95 2.9 1.60 1.61 1.21 1.14 1.21 0.91 1.07 25 NextEra Energy, Inc. 1.37 2.15 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 26 NorthWestern Corp 2.63 3.30 3.60 3.66 3.53 3.40 3.34 3.39 2.90 2.99 2.46 2.26 2.53 2.14 2.02 1.77 27 OEE Energy 1.62 5.30 4.23 2.44 2.12 1.99 1.60 1.69 1.69 1.69 1.69 1.69 1.69 1.69 1.69 1.69 1.69	1.85 1.62
24 IDACORP, Inc. 3.55 5.05 4.85 4.69 4.61 4.49 4.21 3.87 3.85 3.64 3.37 3.36 2.95 2.64 2.18 25 NextEre Energy, Inc. 1.37 2.15 1.81 2.10 1.94 1.63 1.45 1.52 1.40 1.21 1.14 1.21 1.14 1.21 1.19 1.02 26 NorthWestern Corp 2.63 3.30 3.06 3.06 3.53 3.40 3.34 3.39 2.90 2.99 2.46 2.26 2.53 2.14 2.02 1.77 27 OEE Energy 1.76 2.55 2.36 2.08 2.24 2.12 1.99 1.69 1.	1.11 1.33
25 NextEra Energy, Inc. 1.37 2.15 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 26 NorthWestern Corp 2.63 3.30 3.60 3.53 3.40 3.34 3.39 2.90 2.46 2.26 2.53 2.14 2.02 1.77 27 OGE Energy 1.76 2.55 2.36 2.08 2.24 2.12 1.92 1.69 1.98 1.94 1.79 1.73 1.50 1.33 1.25 28 Otter Tail Corp. 1.62 5.30 4.23 2.34 2.17 2.06 1.86 1.60 1.55 1.37 1.05 0.45 0.38 0.71 1.09 29 Pinnacle West Capital 3.70 3.75 5.47 4.87 4.77 4.54 4.43 3.95 3.92 3.58 3.66 3.50 2.99 3.08 2.76 2.12 29 Pinnacle West Capital 3.70 3.25 2.27 2.15 2.28	1.86 2.35
26 NorthWestern Corp 2.63 3.30 3.06 3.06 3.53 3.40 3.34 3.39 2.90 2.99 2.46 2.26 2.53 2.14 2.02 1.77 27 OEE Energy 1.76 2.55 2.86 2.08 2.24 2.12 1.92 1.69 1.69 1.69 1.94 1.79 1.73 1.50 1.33 1.25 28 Otter Tail Corp. 1.62 5.30 4.23 2.34 2.17 2.06 1.86 1.60 1.55 1.37 1.05 0.45 0.38 0.71 1.09 29 Pinnacle West Capital 3.70 3.95 5.47 4.87 4.77 4.54 4.43 3.95 3.56 3.66 3.50 2.99 3.08 2.62 2.12 30 PNM Resources 1.43 2.55 2.27 2.15 2.28 1.65 1.64 1.45 1.41 1.31 1.08 0.87 0.58 0.11	0.82 0.81
27 OGE Energy 1.76 2.55 2.36 2.08 2.24 2.12 1.92 1.69 1.69 1.94 1.79 1.73 1.50 1.33 1.25 28 Otter Tail Corp. 1.62 5.30 4.23 2.34 2.17 2.06 1.86 1.60 1.55 1.37 1.05 0.43 0.71 1.09 29 Pinnacle West Capital 3.70 3.95 5.47 4.87 4.77 4.54 4.43 3.55 3.92 3.58 3.66 3.50 2.99 3.08 2.26 2.12 30 PNM Resources 1.43 2.55 2.27 2.15 2.28 1.66 1.92 1.64 1.45 1.41 1.31 1.08 0.87 0.58 0.11	1.44 1.31
28 Other Tail Corp. 1.62 5.30 4.23 2.34 2.17 2.06 1.86 1.60 1.55 1.37 1.05 0.45 0.38 0.71 1.09 29 Pinnacle West Capital 3.70 3.95 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 30 PNM Resources 1.43 2.55 2.27 2.15 2.28 1.66 1.64 1.45 1.41 1.31 1.08 0.87 0.58 0.11	1.32 1.23
29 Pinnacle West Capital 3.70 3.95 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 30 PNM Resources 1.43 2.55 2.27 2.15 2.28 1.66 1.92 1.65 1.64 1.41 1.31 1.08 0.87 0.58 0.11	1.78 1.69
30 PNM Resources 1.43 2.55 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	2.96 3.17
	0.76 1.72
31 Portland General 1.96 2.90 2.72 1.72 2.39 2.37 2.29 2.16 2.04 2.18 1.77 1.87 1.95 1.66 1.31 1.39 20 DDI	2.33 1.14
32 PPL Corp. 2.23 1.30 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	2.63 2.29
33 Public Serv. Enterprise 2.89 2.20 2.55 3.61 3.90 2.76 2.82 2.83 3.30 2.99 2.45 2.44 3.11 3.07 3.08 2.90	2.59 1.85
34 SCANA Corp. 3.30 N/A N/A N/A N/A N/A 4.20 4.16 3.81 3.79 3.39 3.15 2.97 2.98 2.85 2.95	2.74 2.59
35 Sempra Energy 4.72 8.35 4.01 6.58 5.97 5.48 4.63 4.24 5.23 4.63 4.22 4.35 4.47 4.02 4.78 4.43	4.26 4.23
36 Southern Co. 2.73 3.55 3.42 3.25 3.17 3.00 3.21 2.83 2.84 2.77 2.70 2.67 2.55 2.36 2.32 2.25	2.28 2.10
37 vectren Corp. 1.94 N/A N/A N/A N/A N/A N/A 2.60 2.55 2.39 2.02 1.66 1.94 1.73 1.64 1.79 1.63	1.83 1.44
38 WEC Energy Group 2.54 4.40 4.11 3.79 3.58 3.34 3.14 2.96 2.34 2.59 2.51 2.35 2.18 1.92 1.60 1.52	1.42 1.32
39 Westar Energy 1.90 N/A N/A N/A N/A N/A 2.27 2.43 2.09 2.35 2.27 2.15 1.79 1.80 1.28 1.31	1.84 1.88
40 Xcel ⊵nergy inc. 2.01 3.15 2.96 2.79 2.64 2.47 2.30 2.21 2.10 2.03 1.91 1.85 1.72 1.56 1.49 1.46	1.35 1.35
41 Average 2.70 3.61 3.24 3.18 3.30 2.89 2.92 2.82 2.70 2.66 2.53 2.45 2.45 2.36 2.19 2.20	2.27 2.11
42 Industry Average Growth 3.50% 11.32% 1.94% -3.70% 14.28% -0.95% 3.31% 4.55% 1.35% 5.18% 3.33% -0.08% 3.73% 8.14% -0.77% -2.88%	

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 year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Electric Utilities (Valuation Metrics)

			Ca	sh Flow / (Capital Sp	ending	
	-						3 - 5 yr ⁴
Line	Company	2019 ¹	2020 ¹	2021 ²	2022 ³	2023 ⁴	Projection
	<u> </u>	(1)	(2)	(3)	(4)	(5)	(5)
		()	()	(-)	()	(-)	(-)
1	ALLETE	0.63x	0.74x	0.80x	2.26x	1.42x	1.34x
2	Alliant Energy	0.73x	0.82x	0.97x	0.94x	0.97x	1.08x
3	Ameren Corp.	0.79x	0.51x	0.59x	0.72x	0.80x	0.90x
4	American Electric Power	0.75x	0.74x	0.69x	0.73x	0.84x	1.00x
5	Avangrid, Inc.	0.70x	0.56x	0.62x	0.61x	0.57x	0.61x
6	Avista Corp.	0.89x	0.85x	0.87x	0.83x	0.95x	1.13x
7	Black Hills	0.51x	0.72x	0.76x	0.85x	0.93x	1.03x
8	CenterPoint Energy	0.83x	0.88x	0.62x	0.62x	0.52x	0.62x
9	CMS Energy Corp.	0.79x	0.82x	0.77x	0.78x	0.75x	0.90x
10	Consol. Edison	0.79x	0.82x	0.89x	0.83x	0.73x	0.84x
11	Dominion Resources	0.81x	1.00x	0.89x	0.74x	0.66x	1.09x
12	DTE Energy	0.83x	0.67x	0.70x	0.75x	0.83x	0.92x
13	Duke Energy	0.78x	0.86x	0.93x	0.81x	0.83x	0.96x
14	Edison Int'l	0.69x	0.67x	0.74x	0.67x	0.76x	0.78x
15	El Paso Electric	0.96x	1.00x	0.83x	N/A	N/A	N/A
16	Entergy Corp.	0.79x	0.81x	1.05x	0.98x	0.94x	1.04x
17	Eversource Energy	0.78x	0.95x	0.74x	0.72x	0.80x	1.03x
18	Evergy, Inc.	1.34x	1.06x	0.96x	0.94x	0.91x	1.05x
19	Exelon Corp.	1.18x	1.30x	1.32x	0.96x	0.99x	1.07x
20	FirstEnergy Corp.	0.74x	0.96x	0.91x	0.86x	0.90x	1.04x
21	Fortis Inc.	0.68x	0.60x	0.74x	0.75x	0.82x	0.91x
22	Hawaiian Elec.	1.12x	1.10x	1.42x	1.30x	1.18x	1.38x
23	IDACORP, Inc.	1.25x	1.25x	1.16x	0.83x	0.61x	1.03x
24	NextEra Energy, Inc.	0.67x	0.58x	0.69x	0.54x	0.63x	0.65x
25	NorthWestern Corp	1.07x	0.98x	0.82x	0.66x	0.74x	1.23x
26	OGE Energy	1.26x	1.43x	1.13x	0.99x	1.06x	1.32x
27	Otter Tail Corp.	0.80x	0.45x	1.42x	1.45x	1.09x	1.08x
28	Pinnacle West Capital	0.98x	0.98x	0.85x	0.78x	0.83x	0.97x
29	PNM Resources	0.72x	0.59x	0.51x	0.63x	0.63x	0.89x
30	Portland General	0.99x	0.75x	0.97x	1.01x	1.08x	1.27x
31	PPL Corp.	0.92x	1.06x	1.12x	1.35x	1.61x	2.00x
32	Public Serv. Enterprise	1.07x	1.00x	1.05x	0.82x	0.88x	1.07x
33	Sempra Energy	0.66x	0.92x	0.78x	0.92x	1.17x	1.42x
34	Southern Co.	0.88x	1.01x	0.93x	0.97x	0.97x	1.23x
35	WEC Energy Group	0.91x	0.70x	0.75x	0.87x	0.92x	1.11x
36	Xcel Energy Inc.	0.69x	0.99x	0.86x	0.80x	0.92x	1.11x
37	Average	0.86x	0.86x	0.88x	0.89x	0.89x	1.06x
38	Median	0.80x	0.86x	0.86x	0.83x	0.88x	1.04x

Source:

¹ The Value Line Investment Survey, January 24, February 14, and March 13, 2020.

 2 The Value Line Investment Survey, March 12, April 23, and May 14, 2021.

 3 The Value Line Investment Survey, March 11, April 22, and May 13, 2022.

⁴ The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Notes:

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

Electric Utilities (Valuation Metrics)

									Percer	nt Dividend	ls to Book	Value ¹							
		17-Year	0/-																
Line	Company	Average (1)	2022 2/3 (2)	2021	2020	<u>2019</u> (5)	2018	2017	2016	2015	2014	2013	2012	<u>2011</u> (12)	2010 (14)	2009	2008 (16)	2007 (17)	2006
		(1)	(2)	(3)	(4)	(3)	(0)	(1)	(0)	(3)	(10)	(11)	(12)	(13)	(14)	(13)	(10)	(17)	(10)
1	ALLETE	5.95%	5.48%	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	6.33%	6.83%	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.	6.02%	5.87%	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	6.28%	6.70%	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.	3.05%	3.53%	3.57%	3.58%	3.57%	3.57%	3.54%	3.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	4.99%	5.72%	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%
7	Black Hills	5.33%	5.31%	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	9.85%	4.81%	4.82%	8.35%	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%	12.09%
9	CMS Energy Corp.	6.56%	7.93%	7.87%	8.57%	8.66%	8.52%	8.43%	8.14%	8.16%	8.10%	7.86%	7.94%	7.05%	5.90%	4.38%	3.31%	2.11%	0.00%
10	Consol. Edison	6.05%	5.37%	5.48%	5.56%	5.46%	5.49%	5.55%	5.72%	5.84%	5.87%	5.88%	5.97%	6.15%	6.27%	6.47%	6.60%	7.12%	7.40%
11	Dominion Resources	10.35%	7.77%	8.00%	11.72%	10.39%	11.31%	11.41%	12.04%	12.20%	12.16%	11.24%	11.50%	9.81%	8.86%	9.38%	9.14%	8.95%	7.46%
12	DTE Energy	6.11%	7.11%	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	5.36%	6.35%	6.34%	6.39%	6.12%	6.04%	5.85%	5.73%	5.61%	5.45%	5.28%	5.22%	5.81%	5.72%	5.66%	5.45%	5.12%	0.00%
14	Edison Int'l	5.26%	7.47%	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	5.13%	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.	6.72%	6.78%	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	4.95%	5.76%	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.	5.37%	5.63%	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.	7.21%	5.65%	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.	8.79%	9.66%	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.	5.36%	5.70%	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	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.	7.23%	6.21%	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.	4.59%	5.56%	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	NextEra Energy, Inc.	6.49%	8.63%	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%
26	NorthWestern Corp	5.84%	5.66%	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%
27	OGE Energy	6.78%	7.48%	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%
28	Otter Tail Corp.	7.19%	5.99%	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%
29	Pinnacle West Capital	6.18%	6.52%	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%
30	PNM Resources	3.83%	6.54%	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%
31	Portland General	4.79%	5.74%	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%
32	PPL Corp.	8.96%	4.17%	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%
33	Public Serv. Enterprise	6.89%	7.67%	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%
34	SCANA Corp.	6.44%	N/A	N/A	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%
35	Sempra Energy	5.32%	5.53%	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%
36	Southern Co.	9.55%	9.98%	9.96%	9.59%	9.42%	9.95%	9.59%	8.89%	9.53%	9.48%	9.39%	9.22%	9.22%	9.38%	9.55%	9.74%	9.83%	10.07%
37	Vectren Corp.	7.71%	N/A	N/A	N/A	N/A	N/A	7.67%	7.60%	7.57%	7.51%	7.55%	7.57%	7.74%	7.78%	7.84%	7.85%	7.86%	7.97%
38	WEC Energy Group	6.20%	8.11%	7.83%	7.62%	7.36%	7.12%	6.94%	7.00%	6.35%	7.96%	7.71%	6.65%	6.05%	4.92%	4.42%	3.78%	3.77%	3.72%
39	Westar Energy	5.71%	N/A	N/A	N/A	N/A	N/A	5.82%	5.66%	5.57%	5.60%	5.70%	5.77%	5.81%	5.84%	5.83%	5.75%	5.64%	5.56%
40	Xcel Energy Inc.	6.15%	6.47%	6.38%	6.34%	6.42%	6.39%	6.38%	6.26%	6.13%	5.94%	5.78%	5.88%	5.91%	5.97%	6.09%	6.13%	6.19%	6.16%
41	Average	6.34%	6.45%	6.50%	6.69%	6.60%	6.72%	6.76%	6.48%	6.14%	6.10%	6.11%	6.29%	6.10%	6.06%	6.12%	6.36%	6.27%	6.06%
42	Median	6.19%	6.21%	6.34%	6.26%	6.32%	6.24%	6.27%	5.86%	5.81%	5.83%	5.82%	5.98%	6.06%	5.99%	5.99%	6.21%	6.21%	6.19%

 Sources:
 1
 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 year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021.
 Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022.

 ² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.
 ^a Based on the projected 2022 Dividend Declared per share and Book Value per share, published in The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Electric Utilities (Valuation Metrics)

									Divi	dends to E	arnings R	atio '							
		17-Year																	
Line	Company	Average	2022 ^{2/a}	2021	2020	2019	2018	2017	<u>2016</u>	2015	<u>2014</u>	2013	2012	<u>2011</u>	<u>2010</u>	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	ALLETE	0.69	0.70	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	0.61	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.	0.67	0.58	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	0.60	0.61	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.	0.90	0.77	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.	0.67	0.88	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	1.11	0.60	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	0.75	0.51	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.	0.57	0.63	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	0.69	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	0.66	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	DTE Energy	0.67	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	Duke Energy	0.81	0.77	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	0.38	0.68	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	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	0.64	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	0.63	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.	0.57	0.67	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	0.60	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.	0.80	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	0.80	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	-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.	0.84	0.67	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.	0.50	0.60	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	NextEra Energy, Inc.	0.56	0.79	0.85	0.67	0.64	0.66	0.60	0.60	0.51	0.52	0.55	0.53	0.45	0.42	0.47	0.44	0.50	0.47
26	NorthWestern Corp	0.68	0.76	0.69	0.78	0.65	0.65	0.63	0.59	0.66	0.54	0.62	0.65	0.57	0.64	0.66	0.75	0.89	0.95
27	OGE Energy	0.58	0.65	0.69	0.76	0.67	0.66	0.66	0.68	0.62	0.48	0.44	0.45	0.44	0.49	0.54	0.56	0.52	0.55
28	Otter Tail Corp.	1.08	0.31	0.37	0.63	0.65	0.65	0.69	0.78	0.79	0.78	0.87	1.13	2.64	3.13	1.68	1.09	0.66	0.68
29	Pinnacle West Capital	0.69	0.87	0.61	0.66	0.64	0.63	0.61	0.65	0.62	0.65	0.61	0.76	0.70	0.68	0.93	0.99	0.71	0.64
30	PNM Resources	0.89	0.69	0.43	0.58	0.52	0.65	0.52	0.53	0.49	0.52	0.48	0.44	0.46	0.57	0.86	5.50	1.20	0.50
31	Portland General	0.62	0.62	0.63	0.92	0.64	0.60	0.59	0.58	0.58	0.51	0.62	0.57	0.54	0.62	0.77	0.70	0.40	0.59
32	PPL Corp.	0.80	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	0.55	0.46	0.48
33	Public Serv. Enterprise	0.54	0.98	0.80	0.54	0.48	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
34	SCANA Corp.	0.61	N/A	N/A	N/A	N/A	N/A	0.58	0.55	0.57	0.55	0.60	0.63	0.65	0.64	0.00	0.62	0.64	0.05
30	Sempra Energy	0.55	0.55	1.10	0.64	0.05	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
30	Southern Co.	0.75	0.76	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
37	WEO Engent Oneur	0.75	N/A	N/A	N/A	N/A	N/A	0.66	0.64	0.64	0.72	0.66	0.72	0.80	0.64	0.75	0.80	0.69	0.05
38	WEC Energy Group	0.55	0.66	0.00	0.67	0.00	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
39	vvesidr Energy	0.08	IN/A	N/A	IN/A	IN/A	N/A	0.70	0.03	0.69	0.60	0.00	0.61	0.72	0.09	0.94	0.89	0.59	0.52
40	AGEI ETIETYY INC.	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
41	Average	0.66	0.67	0.78	0.76	0.67	0.64	0.17	0.66	0.64	0.64	0.62	0.66	0.67	0.68	0.70	0.97	0.62	0.61
42	Median	0.63	0.65	0.68	0.67	0.64	0.65	0.63	0.64	0.63	0.60	0.61	0.63	0.62	0.62	0.66	0.61	0.59	0.56

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 year 2020 was retrieved from Value Line Investment Surveys, March 12, April 23, and May 14, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, March 11, April 22, and May 13, 2022. ² The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

^b Based on the projected 2022 Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Electric Utilities (Valuation Metrics)

									Cash Flo	ow to Capit	al Spendir	ng Ratio ¹							
		17-Year	2/2																
Line	<u>Company</u>	Average (1)	(2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
1	ALLETE	0.80	2.15	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	0.93	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.	0.88	0.74	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	0.87	0.75	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.	0.70	0.61	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.	0.90	0.83	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	0.65	0.85	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	1.03	0.60	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.	0.87	0.78	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	0.83	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	0.78	0.74	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	1.00	0.70	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	0.81	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	0.67	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	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.	0.98	0.97	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	0.72	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.	1.03	0.92	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
19	Exelon Corp.	1.24	0.96	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.	1.02	0.86	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.	0.68	0.75	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.	1.09	1.30	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.	1.12	0.83	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	NextEra Energy, Inc.	0.62	0.54	0.58	0.58	0.67	0.50	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
20	NorthWestern Corp	1.04	0.66	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
27	OGE Energy	0.91	1.00	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
28	Otter Tall Corp.	0.84	1.76	0.48	0.48	0.80	1.49	1.10	0.84	0.74	0.70	0.67	0.85	1.10	1.09	0.56	0.37	0.65	1.44
29	Pinnacie West Capital	0.95	0.78	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
30	Pinivi Resources	0.71	0.63	0.72	0.72	1.02	0.02	1.07	0.37	0.57	0.03	0.80	1.00	1.25	0.82	0.70	0.44	0.43	0.09
31	Politario General	0.04	1.01	0.76	0.78	1.03	0.02	1.07	0.00	0.80	0.47	0.59	0.01	1.20	0.01	1.07	1.25	0.72	0.70
32	PPL COIP. Dublic Cory, Enterprise	0.90	1.35	0.90	0.90	1.00	0.93	0.62	1.00	0.72	1.04	0.09	0.91	1.07	1.11	1.07	1.20	1.13	1.10
24	SCANA Corp	0.96	0.62	1.13 N/A	1.13 N/A	1.00 N/A	0.70 N/A	0.64	0.61	0.80	0.00	0.93	0.90	0.99	1.23	0.76	0.76	0.02	1.94
25	Sompra Enorgy	0.00	0.02	0.77	0.77	0.99	0.90	0.80	0.00	0.03	0.50	0.03	0.77	0.00	0.00	1.02	0.70	0.92	0.02
36	Southorn Co	0.01	0.92	0.00	0.00	0.00	0.00	0.07	0.30	0.01	0.74	0.84	0.73	0.72	0.90	0.79	0.87	0.50	1.00
27	Voctron Corn	1.00	0.57 N/A	0.55 N/A	0.55 N/A	0.00 N/A	0.03 N/A	0.90	0.77	0.00	0.00	1.05	1 1 2	1 20	1.33	0.70	0.07	0.91	1.00
20	WEC Enorgy Group	0.09	0.96	0.07	0.07	0.01	0.00	0.02	1.20	0.93	1 27	1.05	1.13	1.20	0.07	0.00	0.02	0.50	0.60
20	Wester Energy	0.50	0.00 N/A	0.57 N/A	0.57 N/A	0.91 N/A	0.50 N/A	0.92	0.62	0.97	0.70	0.72	0.67	0.71	0.97	0.09	0.01	0.30	1.00
40	Xcel Energy Inc.	0.75	0.80	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
41	Average	0.89	0.90	0.83	0.82	0.88	0.89	0.89	0.87	0.85	0.86	0.88	0.88	0.95	0.97	0.86	0.80	0.89	1.06
42	Median	0.83	0.83	0.81	0.78	0.83	0.84	0.84	0.84	0.83	0.82	0.86	0.87	0.96	0.90	0.80	0.77	0.82	1.00

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^c Based on the projected Cash Flow per share and Capital Spending per share published in The Value Line Investment Survey, April 22, May 13, and June 10, 2022.

Natural Gas Utilities (Valuation Metrics)

									Pric	e to Earnir	gs (P/E) R	atio ¹							
Line	Company	17-Year Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
	<u></u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	17.37	20.00	19.30	22.30	23.22	21.75	22.04	20.80	17.50	16.09	15.87	15.93	14.36	13.21	12.54	13.59	15.87	13.52
2	Chesapeake Utilities	18.86	25.50	26.30	21.57	24.74	22.94	27.84	21.77	19.15	17.70	15.62	14.81	14.16	12.21	14.20	14.15	16.72	17.85
3	New Jersey Resources	17.29	19.10	17.50	17.70	24.33	15.64	22.38	21.25	16.61	11.73	15.98	16.83	16.76	14.98	14.93	12.27	21.61	16.13
4	NiSource Inc.	19.86	21.00	19.50	18.67	21.32	19.34	NMF	23.18	37.34	22.74	18.89	17.87	19.36	15.33	14.34	12.07	18.82	19.16
5	Northwest Nat. Gas	20.91	19.90	17.60	24.96	30.85	26.63	NMF	26.92	23.69	20.69	19.38	21.08	19.02	16.97	15.17	18.08	16.74	15.85
0 7	ONE Gas Inc.	21.50	21.20	14.20	21.71	25.27	23.00	23.47	22.74	19.79	17.83	IN/A	IN/A	IN/A	IN/A	IN/A	IN/A	IN/A	IN/A
0	South Jersey Inds.	18.55	19.10	14.30	14.89	28.28	22.04	27.92	21.71	17.95	18.03	18.90	16.94	18.48	12.07	12 20	15.90	17.18	11.80
0	Spire Inc	19.06	17.60	10.00	51 12	21.30	16 74	10.92	10.61	16.40	10.80	21.25	14.46	12.05	13.57	12.20	14.21	1/.20	12.60
10	UGI Com	15.50	12 70	12.00	13.80	22.75	17 77	20.84	10.33	17 71	15.80	15.44	16.38	15.03	10.86	10.30	13 30	15.14	13.00
11	WGL Holdings Inc.	16.71	N/A	N/A	N/A	N/A	N/A	25.40	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12	Average	18.45	19.77	18.03	22.35	24.55	20.71	23.55	21.73	20.23	17.58	17.53	16.46	16.29	14.32	13.46	14.76	16.91	15.33
13	Median	17.83	19.95	18.10	20.12	23.87	21.18	22.38	21.64	17.95	17.83	17.11	16.15	16.22	14.48	13.80	13.91	16.73	15.66
									Market Pr	ce to Cash	Flow (MP/	CF) Ratio ¹							
Line	Compony	17-Year	2022 2	2024	2020	2010	2019	2017	2016	2015	2014	2012	2012	2011	2010	2000	2008	2007	2006
Line	company	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
14	Atmos Energy	9.04	12.31	10.99	13.11	13.35	12.02	11.99	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
15	Chesapeake Utilities	10.17	14.07	14.20	12.31	14.17	12.24	13.78	12.06	10.10	9.25	8.12	7.40	1.35	6.30	9.48	7.88	8.58	9.40
10	New Jersey Resources	12.00	11.68	7.00	7.02	15.98	11.44	14.45	13.94	11.71	8.95	0.74	7.01	12.71	F 00	11.34	9.15	13.76	11.01
10	Northwort Not. Gas	12.66	9.22	7.89	7.83	0.01	8.91	12.11	0.00	10.38	10.56	8.71	7.81	0.01	5.09	4.06	4.87	0.09	0.87
10	ONE Gas Inc.	10.64	10.04	0.37	10.10	12.15	11.75	11 90	11.57	0.10	9.16	N/A	9.40 N/A	5.00 N/A	0.94 N/A	0.20 N/A	0.75 N/A	N/A	N/A
20	South Jersey Inde	10.04	10.04	9.32	7.54	12.73	10.72	12.33	10.88	10.70	10.10	11.57	10.95	11 08	10.78	9.57	10.38	11.23	8 32
20	Southwest Gas	6 4 4	7.01	6.87	7.04	8.92	9.32	9.10	7 41	6.56	6.35	5.94	5 55	5.60	4 91	3.84	4.89	5.42	5.28
22	Spire Inc	9.80	8 40	7.55	14.01	11 27	9.60	10.39	10.32	8 47	12.03	13.76	8.80	8.08	8.12	8 58	8 95	8.46	8 46
23	UGI Corp.	8.04	7.70	9.56	7.39	12.95	9.01	10.09	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
24	WGL Holdings Inc.	9.17	N/A	N/A	N/A	N/A	N/A	12.92	11.36	9.59	8.46	9.83	9.03	9.52	8.34	7.17	7.68	8.39	7.81
25	Average	9.61	9.88	9.58	10.13	12.37	10.69	16.25	10.69	9.45	9.04	9.21	8.47	8.55	7.60	7.38	7.62	8.64	7.88
26	Median	8.84	9.63	9.29	10.47	12.85	11.08	12.11	11.10	9.46	8.84	8.66	8.31	7.80	7.24	7.71	7.78	8.42	7.82
									Market Pri	ce to Book	Value (MP	/BV) Ratio	1						
		17-Year																	
<u>Line</u>	<u>Company</u>	Average (1)	<u>2022 ²</u> (2)	<u>2021</u> (3)	<u>2020</u> (4)	<u>2019</u> (5)	<u>2018</u> (6)	<u>2017</u> (7)	<u>2016</u> (8)	<u>2015</u> (9)	<u>2014</u> (10)	<u>2013</u> (11)	<u>2012</u> (12)	<u>2011</u> (13)	<u>2010</u> (14)	<u>2009</u> (15)	<u>2008</u> (16)	<u>2007</u> (17)	<u>2006</u> (18)
27	Atmos Energy	1.58	1.73	1.59	1.95	2.10	2.03	2.16	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
28	Chesapeake Utilities	2.03	2.83	2.77	2.27	2.69	2.50	2.51	2.28	2.19	2.12	1.83	1.66	1.61	1.40	1.37	1.64	1.84	1.85
29	New Jersey Resources	2.26	2.28	2.26	1.90	2.75	2.63	2.70	2.52	2.28	2.13	2.05	2.33	2.31	2.09	2.16	1.92	2.17	2.01
30	NiSource Inc.	1.53	2.14	1.86	1.95	2.09	1.92	1.96	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
31	Northwest Nat. Gas	1.87	1.77	1.45	1.98	2.38	2.35	2.41	1.92	1.63	1.59	1.56	1.72	1.70	1.78	1.73	1.96	2.05	1.69
32	UNE Gas Inc.	1.69	1.39	1.57	1.90	2.20	1.93	1.89	1.67	1.26	1.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	2.05	1.40	1.54	1.52	2.06	2.11	2.29	1.79	1.77	2.07	2.27	2.21	2.59	2.38	1.95	2.08	2.21	1.93
34	SouthWest Gas	1.55	1.46	1.32	1.49	1.84	1.79	2.13	1.96	1.68	1.68	1.61	1.51	1.43	1.24	0.97	1.20	1.46	1.46
30	Spire Inc.	1.57	1.30	1.4/	1.07	1.78	1.03	1.00	1.04	1.44	1.33	1.34	1.51	1.40	1.39	1.08	1.71	1.00	1.71
36 37	WGL Holdings Inc.	2.03	1.44 N/A	N/A	N/A	2.92 N/A	2.30 N/A	2.62	2.41	2.29	1.69	1.69	1.45	1.63	1.55	1.66	1.59	2.16 1.64	2.21
38	Average	1.82	1.78	1.75	1.85	2.28	2.12	2.27	2.05	1.85	1.74	1.70	1.67	1.69	1.54	1.47	1.62	1.78	1.70
39	Median	1.69	1.60	1.58	1.90	2.15	2.07	2.29	1.96	1.77	1.69	1.65	1.58	1.62	1.45	1.56	1.67	1.75	1.70

Sources: ¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022 ² The Value Line Investment Survey, May 13, 2022 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)

										Dividen	d Yield ¹								
		17-Year																	
Line	Company	Average	2022 2/a	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	3.45%	2.44%	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	2.75%	1.52%	1.50%	1.86%	1.68%	1.76%	1.69%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.21%	3.40%	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.	3.99%	3.19%	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	3.56%	3.73%	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.	2.54%	2.99%	3.21%	2.70%	2.25%	2.46%	2.37%	2.32%	2.71%	2.28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	3.48%	4.28%	4.88%	4.76%	3.66%	3.62%	3.20%	3.64%	3.95%	3.40%	3.14%	3.22%	2.81%	3.00%	3.43%	3.08%	2.81%	3.15%
8	Southwest Gas	2.92%	3.20%	3.65%	3.28%	2.60%	2.74%	2.46%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
9	Spire Inc.	3.78%	3.88%	3.79%	3.38%	2.95%	3.10%	3.09%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.91%	3.94%	4.43%	4.34%
10	UGI Corp.	2.86%	3.45%	3.25%	3.56%	2.16%	2.09%	2.01%	2.35%	2.50%	2.61%	3.01%	3.68%	3.30%	3.48%	3.23%	2.85%	2.69%	2.96%
11	WGL Holdings Inc.	3.91%	N/A	N/A	N/A	N/A	N/A	2.56%	2.94%	3.41%	4.24%	3.94%	3.89%	4.06%	4.37%	4.62%	4.22%	4.19%	4.48%
12	Average	3.34%	3.21%	3.39%	3.19%	2.56%	2.68%	2.56%	2.74%	3.16%	3.17%	3.44%	3.61%	3.65%	4.03%	4.35%	3.85%	3.49%	3.71%
13	Median	3.37%	3.30%	3.55%	3.35%	2.55%	2.68%	2.56%	2.76%	3.14%	3.11%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
14	20-Yr Treasury Yields ³	3 16%	2 78%	1 98%	1 35%	2 40%	3.02%	2.65%	2 23%	2 55%	3.07%	3 12%	2 54%	3 62%	4.03%	4 11%	4 36%	4 91%	4 99%
15	20-Vr TIPS ³	0.00%	0.00%	-0.43%	-0.30%	0.60%	0.02%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1 10%	1 73%	2 21%	2 10%	2 36%	2 31%
10	20-11 HF3	0.55%	0.09%	-0.43%	-0.30%	4.700/	0.54%	4.000/	0.00%	4.750/	0.07 /0	0.75%	0.21/0	0.400/	0.000/	2.21/0	2.19/0	2.30%	2.31%
16	Implied Inflation	2.14%	2.69%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
17	Real Dividend Yield ^c	1.17%	0.51%	0.95%	1.51%	0.75%	0.60%	0.65%	1.17%	1.38%	0.96%	1.06%	1.25%	1.22%	1.73%	2.45%	1.68%	0.97%	1.06%
	Utility																		
18	Nominal "A" Rated Yield ⁴	4.62%	4.20%	3.10%	3.05%	3.77%	4.25%	4.00%	3.93%	4.12%	4.28%	4.48%	4.13%	5.04%	5.46%	6.04%	6.53%	6.07%	6.07%
19	Real "A" Rated Yield	2.42%	1.47%	0.67%	1.37%	1.94%	2.14%	2.07%	2.34%	2.33%	2.04%	2.08%	1.76%	2.58%	3.13%	4.11%	4.31%	3.49%	3.36%
	Spreads (Utility Bond - Stock)																		
20	Nominal ^d	1 28%	0 99%	-0 20%	-0 1/%	1 21%	1 57%	1 44%	1 10%	0.96%	1 11%	1 04%	0 52%	1 30%	1 / 3%	1 69%	2 68%	2 50%	2 36%
20	Beel ^e	1.20 /0	0.33%	-0.29%	-0.14%	1.21/0	1.57 /0	1.44 /0	1.13/0	0.50 %	1.11/0	1.04 /0	0.52 /6	1.35%	1.43/0	1.05%	2.00 %	2.35%	2.30%
21	Real	1.25%	0.97%	-0.28%	-0.14%	1.19%	1.54%	1.41%	1.17%	0.94%	1.08%	1.01%	0.51%	1.36%	1.40%	1.66%	2.62%	2.52%	2.30%
	Spreads (Treasury Bond - Stock)	-																	
22	Nominal ^t	-0.18%	-0.43%	-1.41%	-1.84%	-0.15%	0.34%	0.09%	-0.52%	-0.61%	-0.10%	-0.32%	-1.06%	-0.03%	0.00%	-0.24%	0.51%	1.42%	1.28%
23	Real ⁹	-0.18%	-0.41%	-1.38%	-1.81%	-0.15%	0.34%	0.09%	-0.51%	-0.60%	-0.10%	-0.31%	-1.04%	-0.03%	0.00%	-0.23%	0.50%	1.39%	1.25%
_																			



Sources:
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² The Value Line Investment Survey, May 13, 2022

Line 16 = (1 + Line 14) / (1 + Line 15) - 1. Line 17 = (1 + Line 12) / (1 + Line 16) - 1.

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

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

⁴ www.moodys.com, Bond Yields and Key Indicators, through July 8, 2022. Notes: ^a Based on the average of the high and low price for the year and the project 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.

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).

Natural Gas Utilities (Valuation Metrics)

											Dividend p	per Share ¹									
		17-Year																		2018	2017
Line	Company	Average	2022 ²	2021	2020	<u>2019</u>	<u>2018</u>	2017	2016	2015	2014	2013	2012	<u>2011</u>	<u>2010</u>	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)
1	Atmos Energy	1.52	2.72	2.30	1.48	1.40	1.94	1.80	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26	2.89%	3.30%
2	Chesapeake Utilities	1.05	2.03	1.69	1.07	1.01	1.39	1.26	1.19	1.12	1.07	1.01	0.96	0.91	0.87	0.83	0.81	0.78	0.77	3.97%	4.58%
3	New Jersey Resources	0.81	1.45	1.27	0.86	0.81	1.11	1.04	0.98	0.93	0.86	0.81	0.77	0.72	0.68	0.62	0.56	0.51	0.48	5.70%	7.28%
4	NiSource Inc.	0.89	0.94	0.84	1.02	0.98	0.78	0.70	0.64	0.83	1.02	0.98	0.94	0.92	0.92	0.92	0.92	0.92	0.92	-1.08%	-2.45%
5	Northwest Nat. Gas	1.75	1.93	1.91	1.85	1.83	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	2.05%	2.78%
6	ONE Gas Inc.	1.42	2.48	2.16	0.84	N/A	1.84	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11.58%	25.99%
7	South Jersey Inds.	0.85	1.25	1.19	0.96	0.90	1.13	1.10	1.06	1.02	0.96	0.90	0.83	0.75	0.68	0.61	0.56	0.51	0.46	6.11%	8.25%
8	Southwest Gas	1.38	2.48	2.26	1.46	1.32	2.08	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82	6.33%	8.34%
9	Spire Inc.	1.77	2.74	2.49	1.76	1.70	2.25	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40	3.18%	3.75%
10	UGI Corp.	0.76	1.38	1.32	0.79	0.74	1.02	0.96	0.93	0.89	0.79	0.74	0.71	0.68	0.60	0.52	0.50	0.48	0.46	5.47%	7.02%
11	WGL Holdings Inc.	1.63	N/A	N/A	1.72	1.66	N/A	2.02	1.93	1.83	1.72	1.66	1.59	1.55	1.50	1.47	1.41	1.37	1.35	N/A	3.77%
12	Average	1.28	1.94	1.74	1.25	1.24	1.54	1.50	1.40	1.34	1.25	1.24	1.18	1.13	1.08	1.04	1.00	0.96	0.93	4.62%	6.60%
13	Industry Average Growth	5.23%	11.30%	38.90%	1.58%	-19.95%	2.76%	6.99%	5.03%	6.50%	1.58%	4.67%	4.35%	4.34%	4.47%	4.20%	3.83%	3.13%			

Sources:

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Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022

² The Value Line Investment Survey, May 13, 2022

Natural Gas Utilities (Valuation Metrics)

										Earnings p	er Share ¹								
		17-Year																	
Line	Company	Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	<u>2014</u>	2013	2012	2011	<u>2010</u>	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	3.01	5.50	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	2.50	5.00	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	1.60	2.30	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.	1.16	1.45	1.35	1.32	1.31	1.30	0.39	1.00	0.63	1.67	1.57	1.37	1.05	1.06	0.84	1.34	1.14	1.14
5	Northwest Nat. Gas	2.11	2.55	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.	3.03	4.05	3.85	3.68	3.51	3.25	3.02	2.65	2.24	2.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	1.36	1.75	1.65	1.68	1.12	1.38	1.23	1.34	1.44	1.57	1.52	1.52	1.45	1.35	1.19	1.14	1.05	1.23
8	Southwest Gas	2.89	4.25	3.80	4.14	3.94	3.68	3.62	3.18	2.92	3.01	3.11	2.86	2.43	2.27	1.94	1.39	1.95	1.98
9	Spire Inc.	2.92	3.90	4.96	1.44	3.52	4.33	3.43	3.24	3.16	2.35	2.02	2.79	2.86	2.43	2.92	2.64	2.31	2.37
10	UGI Corp.	1.86	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
11	WGL Holdings Inc.	2.56	N/A	N/A	N/A	N/A	N/A	3.11	3.27	3.16	2.68	2.31	2.68	2.25	2.27	2.53	2.44	2.09	1.94
12	Average	2.30	3.37	3.31	2.82	2.79	2.92	2.11	2.43	2.28	2.27	2.05	2.01	1.93	1.89	1.84	1.76	1.65	1.62
13	Industry Average Growth	5.17%	1.82%	17.07%	1.18%	-4.39%	38.59%	-13.26%	6.50%	0.54%	10.67%	2.13%	4.13%	1.87%	2.61%	4.79%	6.67%	1.82%	

Sources:

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

Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021.

Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022

² The Value Line Investment Survey, May 13, 2022

Natural Gas Utilities (Valuation Metrics)

			C	ash Flow /	Capital Spo	ending	
<u>Line</u>	<u>Company</u>	<u>2019¹</u> (1)	<u>2020¹</u> (2)	<u>2021²</u> (3)	<u>2022³</u> (4)	<u>2023</u> ⁴ (5)	3 - 5 yr ³ <u>Projection</u> (5)
1	Atmos Energy	0.53x	0.53x	0.53x	0.52x	0.57x	0.66x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	0.84x	0.89x	0.93x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.68x	0.71x	0.77x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.73x	0.79x	1.00x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.70x	0.75x	0.81x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.89x	0.91x	1.07x
7	South Jersey Inds.	0.48x	0.47x	0.49x	0.51x	0.51x	0.53x
8	Southwest Gas	0.62x	0.53x	0.61x	0.80x	0.95x	0.79x
9	Spire Inc.	0.65x	0.65x	0.70x	0.71x	0.82x	0.95x
10	UGI Corp.	1.33x	1.54x	1.66x	1.55x	1.72x	1.96x
11	Average	0.79x	0.73x	0.77x	0.79x	0.86x	0.95x
12	Median	0.66x	0.65x	0.69x	0.72x	0.80x	0.87x

Sources:

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

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

³ The Value Line Investment Survey, February 25, 2022

⁴ The Value Line Investment Survey, May 13, 2022

Notes:

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

Natural Gas Utilities (Valuation Metrics)

									Perce	nt Dividen	ds to Book	Value ¹							
Line	Company	17-Year <u>Average</u>	2022 ^{2/a}	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	5.10%	4.23%	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	5.21%	4.31%	4.15%	4.23%	4.53%	4.39%	4.23%	4.35%	4.78%	5.18%	5.25%	5.39%	5.42%	5.49%	5.60%	6.71%	6.66%	6.95%
3	New Jersey Resources	7.19%	7.75%	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.	5.59%	6.81%	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	6.53%	6.60%	5.66%	6.57%	6.69%	7.16%	7.27%	6.30%	6.53%	6.58%	6.59%	6.57%	6.55%	6.44%	6.43%	6.41%	6.39%	6.32%
6	ONE Gas Inc.	4.26%	4.15%	5.04%	5.14%	4.96%	4.73%	4.48%	3.88%	3.41%	2.44%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	6.99%	6.00%	7.53%	7.21%	7.53%	7.63%	7.34%	6.53%	6.98%	7.04%	7.12%	7.09%	7.26%	7.13%	6.69%	6.40%	6.22%	6.09%
8	Southwest Gas	4.42%	4.68%	4.80%	4.87%	4.79%	4.90%	5.25%	5.14%	4.82%	4.57%	4.33%	4.16%	3.98%	3.90%	3.89%	3.83%	3.74%	3.80%
9	Spire Inc.	5.89%	5.28%	5.56%	5.63%	5.25%	5.06%	5.09%	5.06%	5.07%	5.04%	5.31%	6.22%	6.30%	6.53%	6.56%	6.74%	7.33%	7.43%
10	UGI Corp.	5.62%	4.97%	5.34%	6.65%	6.30%	4.82%	5.28%	5.65%	5.72%	5.14%	5.07%	5.35%	5.77%	5.41%	5.35%	5.72%	5.82%	6.54%
11	WGL Holdings Inc.	6.86%	N/A	N/A	N/A	N/A	N/A	6.88%	7.21%	7.33%	7.14%	6.73%	6.45%	6.60%	6.57%	6.72%	6.71%	6.88%	7.13%
12	Average	5.82%	5.48%	5.69%	5.78%	5.72%	5.60%	5.77%	5.59%	5.78%	5.51%	5.82%	5.96%	6.02%	6.00%	5.96%	6.00%	6.04%	6.19%
13	Median	5.72%	5.13%	5.45%	6.10%	5.62%	4.98%	5.28%	5.14%	5.72%	5.18%	5.28%	5.80%	6.03%	5.99%	6.02%	6.41%	6.30%	6.36%
									Div	idends to E	Earnings R	atio ¹							
		17-Year	0000 ^{2/a}																
Line	Company	Average (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
14	Atmos Energy	0.56	0.49	0.49	0.49	0.48	0.49	0.50	0.50	0.50	0.50	0.56	0.66	0.60	0.62	0.67	0.65	0.66	0.63
15	Chesapeake Utilities	0.48	0.41	0.39	0.40	0.42	0.40	0.47	0.42	0.42	0.43	0.45	0.48	0.48	0.48	0.58	0.58	0.61	0.67
16	New Jersey Resources	0.55	0.63	0.63	0.61	0.61	0.41	0.60	0.61	0.52	0.41	0.59	0.57	0.56	0.55	0.52	0.41	0.65	0.51
17	NiSource Inc.	0.83	0.65	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.61	0.62	0.69	0.88	0.87	1.10	0.69	0.81	0.81
18	Northwest Nat. Gas	0.64	0.76	0.77	0.83	0.87	0.81	- 0.97	0.88	0.95	0.86	0.82	0.81	0.73	0.62	0.57	0.59	0.52	0.59
19	ONE Gas Inc.	0.54	0.61	0.60	0.59	0.57	0.57	0.56	0.53	0.54	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	0.65	0.71	0.74	0.71	1.04	0.82	0.89	0.79	0.71	0.61	0.59	0.54	0.52	0.50	0.51	0.49	0.48	0.37
21	Southwest Gas	0.51	0.58	0.63	0.55	0.55	0.57	0.55	0.57	0.55	0.49	0.42	0.41	0.44	0.44	0.49	0.65	0.44	0.41
22	Spire Inc.	0.68	0.70	0.52	1.73	0.67	0.52	0.61	0.60	0.58	0.75	0.84	0.59	0.56	0.65	0.52	0.56	0.63	0.59
23	UGI Corp.	0.44	0.48	0.46	0.49	0.50	0.37	0.42	0.45	0.44	0.41	0.46	0.60	0.50	0.38	0.33	0.38	0.41	0.41
24	WGL Holdings Inc.	0.64	N/A	N/A	N/A	N/A	N/A	0.65	0.59	0.58	0.64	0.72	0.59	0.69	0.66	0.58	0.58	0.65	0.69
25	Average	0.59	0.60	0.59	0.70	0.63	0.55	0.55	0.60	0.65	0.56	0.61	0.59	0.59	0.58	0.59	0.56	0.59	0.57
26	Median	0.59	0.62	0.61	0.60	0.59	0.54	0.56	0.59	0.55	0.50	0.59	0.59	0.56	0.58	0.54	0.58	0.62	0.59
									Cash Fl	ow to Capi	tal Spendii	ng Ratio ¹							
		17-Year	-																
Line	Company	Average	2022 2/a	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
27	Atmos Energy	0.66	0.52	0.58	0.52	0.53	0.55	0.62	0.59	0.60	0.65	0.55	0.59	0.68	0.77	0.78	0.81	0.94	0.82
28	Chesapeake Utilities	0.73	0.84	0.81	0.78	0.62	0.39	0.50	0.50	0.53	0.71	0.65	0.79	1.12	1.10	1.14	0.83	0.82	0.45
29	New Jersey Resources	1.26	0.68	0.62	0.71	0.51	0.85	0.70	0.59	0.67	1.79	1.46	1.48	1.51	1.55	1.75	2.11	1.67	2.14
30	NiSource Inc.	0.76	0.72	0.68	0.66	0.61	0.58	0.41	0.59	0.53	0.56	0.57	0.65	0.75	1.11	1.06	0.94	1.11	1.37
31	Northwest Nat. Gas	0.94	0.72	0.68	0.66	0.69	0.71	0.14	1.01	1.12	1.15	0.98	1.01	1.33	0.55	1.02	1.35	1.21	1.34
32	ONE Gas Inc.	0.86	0.88	0.86	0.83	0.89	0.84	0.87	0.92	0.86	0.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	0.82	0.51	0.55	0.54	0.40	0.73	0.81	0.76	0.50	0.53	0.51	0.58	0.70	0.75	1.01	1.67	1.70	1.40
34	Southwest Gas	0.86	1.00	0.86	0.69	0.53	0.56	0.68	0.83	0.84	0.99	1.05	0.90	0.82	1.37	1.28	0.85	0.78	0.72
35	Spire Inc.	1.07	0.81	0.75	0.42	0.44	0.77	0.72	0.96	0.92	0.98	0.78	0.95	1.53	1.61	1.93	1.64	1.42	1.28
36	UGI Corp.	1.47	1.55	1.32	1.59	1.22	1.64	1.29	1.35	1.48	1.53	1.32	1.52	1.28	1.36	1.52	1.72	1.62	1.69
37	WGL Holdings Inc.	1.02	N/A	N/A	N/A	N/A	N/A	0.61	0.56	0.60	0.63	0.71	0.93	1.02	1.60	1.60	1.60	1.17	1.18
38	Average	0.95	0.82	0.77	0.74	0.64	0.76	0.67	0.79	0.79	0.94	0.86	0.94	1.07	1.18	1.31	1.35	1.24	1.24
39	Median	0.76	0.76	0.72	0.67	0.57	0.72	0.68	0.76	0.67	0.79	0.74	0.92	1.07	1.23	1.21	1.48	1.19	1.31

Sources: ¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the year 2020 was retrieved from Value Line Investment Surveys, Feb 26, 2021. Data for the year 2021 was retrieved from Value Line Investment Surveys, February 25, 2022 ² The Value Line Investment Survey, May 13, 2022 Natarce

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

Proxy Group

		Credit	Ratings ¹	Common I	Equity Ratios
<u>Line</u>	<u>Company</u>	S&P	Moody's	<u>MI¹</u>	Value Line ²
		(1)	(2)	(3)	(4)
1	Atmos Energy Corporation	A-	A1	51.1%	61.6%
2	New Jersey Resources Corporation	NR	A1	37.2%	43.0%
3	NiSource Inc.	BBB+	Baa2	31.6%	33.5%
4	Northwest Natural Holding Company	A+	Baa1	38.2%	47.2%
5	ONE Gas, Inc.	BBB+	A3	35.8%	39.0%
6	Spire Inc.	A-	Baa2	37.8%	43.2%
7	Average	A-	A3	38.6%	44.6%
8	Median			37.5%	43.1%
9	Florida City Gas ^{3,4}	Α	A1		59.6%

Sources:

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

¹ S&P Global Market Intelligence, Downloaded on July 12, 2022.

² The Value Line Investment Survey, May 27, 2022.

³ Florida Power & Light credit ratings used. Nelson Direct, Page 16.

⁴ Nelson Direct, Page 6.

Consensus Analysts' Growth Rates

		Za	cks	Ν	/1	Yahoo!	Finance	Average of
<u>Line</u>	<u>Company</u>	Estimated <u>Growth %¹</u> (1)	Number of <u>Estimates</u> (2)	Estimated Growth % ² (3)	Number of <u>Estimates</u> (4)	Estimated Growth % ³ (5)	Number of <u>Estimates</u> (6)	Growth <u>Rates</u> (7)
1	Atmos Energy Corporation	7.28%	N/A	7.37%	2	8.61%	N/A	7.75%
2	New Jersey Resources Corporation	6.00%	N/A	6.85%	2	6.00%	N/A	6.28%
3	NiSource Inc.	7.19%	N/A	6.73%	4	7.18%	N/A	7.03%
4	Northwest Natural Holding Company	4.65%	N/A	4.70%	4	4.60%	N/A	4.65%
5	ONE Gas, Inc.	5.00%	N/A	6.00%	3	5.00%	N/A	5.33%
6	Spire Inc.	5.00%	N/A	4.65%	2	4.30%	N/A	4.65%
7	Average	5.85%	N/A	6.05%	3	5.95%	N/A	5.95%
8	Median							5.81%

Sources:

¹ Zacks, http://www.zacks.com/, downloaded on July 8, 2022.

² S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on July 8, 2022.

³ Yahoo! Finance, http://www.finance.yahoo.com/, downloaded on July 8, 2022.

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Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	Company	13-Week AVG <u>Stock Price¹</u> (1)	Analysts' <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yield</u> (4)	Constant <u>Growth DCF</u> (5)
1	Atmos Energy Corporation	\$113.77	7.75%	\$2.72	2.58%	10.33%
2	New Jersey Resources Corporation	\$44.78	6.28%	\$1.45	3.44%	9.73%
3	NiSource Inc.	\$30.01	7.03%	\$0.94	3.35%	10.39%
4	Northwest Natural Holding Company	\$51.79	4.65%	\$1.93	3.90%	8.55%
5	ONE Gas, Inc.	\$84.97	5.33%	\$2.48	3.07%	8.41%
6	Spire Inc.	\$75.17	4.65%	\$2.74	3.81%	8.46%
7	Average	\$66.74	5.95%	\$2.04	3.36%	9.31%
8	Median					9.14%

Sources:

¹ S&P Global Market Intelligence, Downloaded on July 11, 2022.

² Exhibit CCW-3.
³ The Value Line Investment Survey, May 27, 2022.

Payout Ratios

		Dividend	s Per Share	Earnings	S Per Share	Ρауοι	ıt Ratio
Line	<u>Company</u>	2021	Projected	<u>2021</u>	Projected	2021	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
1	Atmos Energy Corporation	\$2.50	\$3.50	\$5.12	\$7.30	48.83%	47.95%
2	New Jersey Resources Corporation	\$1.36	\$1.70	\$2.16	\$2.80	62.96%	60.71%
3	NiSource Inc.	\$0.88	\$1.08	\$1.37	\$2.30	64.23%	46.96%
4	Northwest Natural Holding Company	\$1.92	\$1.96	\$2.56	\$3.45	75.00%	56.81%
5	ONE Gas, Inc.	\$2.32	\$3.12	\$3.85	\$5.30	60.26%	58.87%
6	Spire Inc.	\$2.60	\$3.30	\$4.96	\$5.50	52.42%	60.00%
7	Average	\$1.93	\$2.44	\$3.34	\$4.44	60.62%	55.22%

Source:

The Value Line Investment Survey, May 27, 2022.

Sustainable Growth Rate

						3 to 5 Ye	ar Projections					Sustainable
		Dividends	Earnings	Book Value	Book Value		Adjustment	Adjusted	Payout	Retention	Internal	Growth
Line	Company	Per Share	Per Share	Per Share	Growth	ROE	Factor	ROE	Ratio	Rate	Growth Rate	Rate
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Atmos Energy Corporation	\$3.50	\$7.30	\$82.85	6.77%	8.81%	1.03	9.10%	47.95%	52.05%	4.74%	7.63%
2	New Jersey Resources Corporation	\$1.70	\$2.80	\$23.15	6.15%	12.10%	1.03	12.46%	60.71%	39.29%	4.89%	6.57%
3	NiSource Inc.	\$1.08	\$2.30	\$17.40	5.47%	13.22%	1.03	13.57%	46.96%	53.04%	7.20%	7.85%
4	Northwest Natural Holding Company	\$1.96	\$3.45	\$37.20	4.37%	9.27%	1.02	9.47%	56.81%	43.19%	4.09%	4.49%
5	ONE Gas, Inc.	\$3.12	\$5.30	\$71.60	10.32%	7.40%	1.05	7.77%	58.87%	41.13%	3.19%	3.32%
6	Spire Inc.	\$3.30	\$5.50	\$67.10	7.50%	8.20%	1.04	8.49%	60.00%	40.00%	3.40%	4.15%
7	Average	\$2.44	\$4.44	\$49.88	6.76%	9.83%	1.03	10.14%	55.22%	44.78%	4.59%	5.67%
8	Median											5.53%

 Sources and Notes:

 Cols. (1), (2) and (3):
 The Value Line Investment Survey, May 27, 2022.

 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	2021	Market	Commo	n Shares				
		Average	Book Value	to Book	Outstandin	g (in Millions) ²				
<u>Line</u>	<u>Company</u>	<u>Stock Price¹</u> (1)	Per Share ² (2)	<u>Ratio</u> (3)	<u>2021</u> (4)	<u>3-5 Years</u> (5)	<u>Growth</u> (6)	<u>S Factor³</u> (7)	V Factor ⁴ (8)	<u>S * V</u> (9)
1	Atmos Energy Corporation	\$113.77	\$59.71	1.91	132.42	155.00	3.20%	6.10%	47.51%	2.90%
2	New Jersey Resources Corporation	\$44.78	\$17.18	2.61	94.95	100.00	1.04%	2.72%	61.63%	1.67%
3	NiSource Inc.	\$30.01	\$13.33	2.25	404.30	415.00	0.52%	1.18%	55.58%	0.66%
4	Northwest Natural Holding Company	\$51.79	\$30.04	1.72	31.13	32.00	0.55%	0.95%	41.99%	0.40%
5	ONE Gas, Inc.	\$84.97	\$43.81	1.94	56.63	57.00	0.13%	0.25%	48.44%	0.12%
6	Spire Inc.	\$75.17	\$46.74	1.61	51.70	55.00	1.25%	2.00%	37.82%	0.76%
7	Average	\$66.74	\$35.14	2.01	128.52	135.67	1.12%	2.20%	48.83%	1.08%

 Sources and Notes:

 ¹ S&P Global Market Intelligence, Downloaded on July 11, 2022.

 ² The Value Line Investment Survey, May 27, 2022.

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

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

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Florida City Gas

Constant Growth DCF Model (Sustainable Growth Rate)

		13-Week AVG	Sustainable	Annualized	Adjusted	Constant
Line	<u>Company</u>	Stock Price ¹	<u>Growth</u> ²	<u>Dividend</u> ³	Yield	Growth DCF
		(1)	(2)	(3)	(4)	(5)
1	Atmos Energy Corporation	\$113.77	7.63%	\$2.72	2.57%	10.21%
2	New Jersey Resources Corporation	\$44.78	6.57%	\$1.45	3.45%	10.02%
3	NiSource Inc.	\$30.01	7.85%	\$0.94	3.38%	11.23%
4	Northwest Natural Holding Company	\$51.79	4.49%	\$1.93	3.90%	8.39%
5	ONE Gas, Inc.	\$84.97	3.32%	\$2.48	3.02%	6.33%
6	Spire Inc.	\$75.17	4.15%	\$2.74	3.80%	7.95%
7	Average	\$66.74	5.67%	\$2.04	3.35%	9.02%
8	Median					9.20%

Sources:

¹ S&P Global Market Intelligence, Downloaded on July 11, 2022.

² Exhibit CCW-6, page 1.

³ The Value Line Investment Survey, May 27, 2022.





Note:

1988 represents the base year. Graph depicts increases or decreases from the base year.

Sources: U.S. Energy Information Administration Federal Reserve Bank of St. Louis

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Multi-Stage Growth DCF Model

		13-Week AVG	Annualized	First Stage		Seco	ond Stage Grow	ţ		Third Stage	Multi-Stage
Line	Company	<u>Stock Price¹</u> (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)
-	Atmos Energy Corporation	\$113.77	\$2.72	7.75%	7.19%	6.62%	6.05%	5.48%	4.91%	4.35%	7.45%
7	New Jersey Resources Corporation	\$44.78	\$1.45	6.28%	5.96%	5.64%	5.31%	4.99%	4.67%	4.35%	8.16%
e	NiSource Inc.	\$30.01	\$0.94	7.03%	6.59%	6.14%	5.69%	5.24%	4.79%	4.35%	8.22%
4	Northwest Natural Holding Company	\$51.79	\$1.93	4.65%	4.60%	4.55%	4.50%	4.45%	4.40%	4.35%	8.31%
5	ONE Gas, Inc.	\$84.97	\$2.48	5.33%	5.17%	5.00%	4.84%	4.68%	4.51%	4.35%	7.59%
9	Spire Inc.	\$75.17	\$2.74	4.65%	4.60%	4.55%	4.50%	4.45%	4.40%	4.35%	8.22%
7 8	Average Median	\$66.74	\$2.04	5.95%	5.68%	5.42%	5.15%	4.88%	4.61%	4.35%	7.99% 8.19%

Sources: ¹ S&P Global Market Intelligence, Downloaded on July 11, 2022. ² The Value Line Investment Survey, May 27, 2022. ³ Exhibit CCW-3. ⁴ Blue Chip Financial Forecasts, June 1, 2022 at page 14.

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Common Stock Market/Book Ratio



Source:

^{1980 - 2000:} Mergent Public Utility Manual.

 ^{2001 - 2015:} AUS Utility Reports, multiple dates.
 2016 - 2021: Value Line Investment Survey, multiple dates.
 * Value Line Investment Survey Reports, April 22, May 22, May 23, and June 10, 2022.

Equity Risk Premium - Treasury Bond

		Authorized	30 yr. Treasury	Indicated Risk	Rolling	Rolling
l ine	Year	Returns ¹	Bond Yield ²	Premium	Average	Average
<u></u>	<u>- 1001</u>	(1)	(2)	(3)	(4)	(5)
			()		()	
1	1986	13.46%	7.80%	5.66%		
2	1987	12.74%	8.58%	4.16%		
3	1988	12.85%	8.96%	3.89%		
4	1989	12.88%	8.45%	4.43%		
5	1990	12.67%	8.61%	4.06%	4.44%	
6	1991	12.46%	8.14%	4.32%	4.17%	
7	1992	12.01%	7.67%	4.34%	4.21%	
8	1993	11.35%	6.60%	4.75%	4.38%	
9	1994	11.35%	7.37%	3.98%	4.29%	
10	1995	11.43%	6.88%	4.55%	4.39%	4.42%
11	1996	11.19%	6.70%	4.49%	4.42%	4.30%
12	1997	11.29%	6.61%	4.68%	4.49%	4.35%
13	1998	11.51%	5.58%	5.93%	4.73%	4.55%
14	1999	10.66%	5.87%	4.79%	4.89%	4.59%
15	2000	11.39%	5.94%	5.45%	5.07%	4.73%
16	2001	10.95%	5.49%	5.46%	5.26%	4.84%
17	2002	11.03%	5.43%	5.60%	5.45%	4.97%
18	2003	10.99%	4.96%	6.03%	5.47%	5.10%
19	2004	10.59%	5.05%	5.54%	5.62%	5.25%
20	2005	10.46%	4.65%	5.81%	5.69%	5.38%
21	2006	10.40%	4.87%	5.53%	5.70%	5.48%
22	2007	10.22%	4.83%	5.39%	5.66%	5.55%
23	2008	10.39%	4.28%	6.11%	5.68%	5.57%
24	2009	10.22%	4.07%	6.15%	5.80%	5.71%
25	2010	10.15%	4.25%	5.90%	5.81%	5.75%
26	2011	9.92%	3.91%	6.01%	5.91%	5.81%
27	2012	9.94%	2.92%	7.02%	6.24%	5.95%
28	2013	9.68%	3.45%	6.23%	6.26%	5.97%
29	2014	9.78%	3.34%	6.44%	6.32%	6.06%
30	2015	9.60%	2.84%	6.76%	6.49%	6.15%
31	2016	9.54%	2.60%	6.94%	6.68%	6.29%
32	2017	9.72%	2.90%	6.83%	6.64%	6.44%
33	2018	9.59%	3.11%	6.48%	6.69%	6.48%
34	2019	9.71%	2.58%	7.13%	6.83%	6.57%
35	2020	9.46%	1.56%	7.90%	7.05%	6.77%
36	2021	9.56%	2.05%	7.51%	7.17%	6.92%
37	2022 ³	9.38%	2.25%	7.13%	7.23%	6.93%
-	-					
38	Average	10.82%	5.17%	5.66%	5.61%	5.60%
39	Minimum				4.17%	4.30%
40	Maximum				7.23%	6.93%

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 - March 2022
 May 2, 2022, p. 4.

The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank.

³ Data represents January - March, 2022.

² St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

Equity Risk Premium - Utility Bond

		Authorized Gas	Average "A" Rated Utility	Indicated Risk	Rolling 5 - Year	Rolling 10 - Year
Line	Year	Returns ¹	Bond Yield ²	Premium	<u>Average</u>	Average
		(1)	(2)	(3)	(4)	(5)
1	1986	13.46%	9.58%	3.88%		
2	1987	12.74%	10.10%	2.64%		
3	1988	12.85%	10.49%	2.36%		
4	1989	12.88%	9.77%	3.11%		
5	1990	12.67%	9.86%	2.81%	2.96%	
6	1991	12.46%	9.36%	3.10%	2.80%	
7	1992	12.01%	8.69%	3.32%	2.94%	
8	1993	11.35%	7.59%	3.76%	3.22%	
9	1994	11.35%	8.31%	3.04%	3.21%	
10	1995	11.43%	7.89%	3.54%	3.35%	3.16%
11	1996	11.19%	7.75%	3.44%	3.42%	3.11%
12	1997	11.29%	7.60%	3.69%	3.49%	3.22%
13	1998	11.51%	7.04%	4.47%	3.64%	3.43%
14	1999	10.66%	7.62%	3.04%	3.64%	3.42%
15	2000	11.39%	8.24%	3.15%	3.56%	3.45%
16	2001	10.95%	7.76%	3.19%	3.51%	3.46%
17	2002	11.03%	7.37%	3.66%	3.50%	3.50%
18	2003	10.99%	6.58%	4.41%	3.49%	3.56%
19	2004	10.59%	6.16%	4.43%	3.77%	3.70%
20	2005	10.46%	5.65%	4.81%	4.10%	3.83%
21	2006	10.40%	6.07%	4.33%	4.33%	3.92%
22	2007	10.22%	6.07%	4.15%	4.43%	3.96%
23	2008	10.39%	6.53%	3.86%	4.32%	3.90%
24	2009	10.22%	6.04%	4.18%	4.27%	4.02%
25	2010	10.15%	5.47%	4.68%	4.24%	4.17%
26	2011	9.92%	5.04%	4.88%	4.35%	4.34%
27	2012	9.94%	4.13%	5.81%	4.68%	4.55%
28	2013	9.68%	4.48%	5.20%	4.95%	4.63%
29	2014	9.78%	4.28%	5.50%	5.22%	4.74%
30	2015	9.60%	4.12%	5.48%	5.38%	4.81%
31	2016	9.54%	3.93%	5.61%	5.52%	4.94%
32	2017	9.72%	4.00%	5.72%	5.50%	5.09%
33	2018	9.59%	4.25%	5.34%	5.53%	5.24%
34	2019	9.71%	3.77%	5.94%	5.62%	5.42%
35	2020	9.46%	3.05%	6.41%	5.80%	5.59%
36	2021	9.56%	3.10%	6.46%	5.97%	5.75%
37	2022 ³	9.38%	3.65%	5.73%	5.97%	5.74%
38	Average	10.82%	6.52%	4.30%	4.26%	4.24%
39	Minimum				2.80%	3.11%
40	Maximum				5.97%	5.75%

Sources:

¹ Regulatory Research Associates, Inc., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3. S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - March 2022, May 2, 2022, p. 4.

² St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

Bond Yield Spreads

				Publi	c Utility Bond			Co	orporate 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	<u>A</u> 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%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.87%	6.07%	6.32%	1.20%	1.44%	5.59%	6.48%	0.71%	1.61%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3 45%	4 48%	4 98%	1.03%	1 53%	4 24%	5 10%	0.79%	1.65%	-0.12%	0.24%
35	2010	3 34%	4 28%	4.80%	0.94%	1.00%	4.16%	4 86%	0.82%	1.52%	-0.06%	0.12%
26	2014	0.04%	4.20%	F.00%	1.070/	2.40%	2 000/	F.00%	1.059/	2.469/	-0.00%	0.1270
30	2015	2.04%	4.12%	5.03%	1.27%	2.19%	3.09%	5.00%	1.05%	2.10%	0.03%	0.23%
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%
39	2018	3.11%	4.25%	4.67%	1.14%	1.56%	3.93%	4.80%	0.82%	1.69%	-0.13%	0.32%
40	2019	2.58%	3.77%	4.19%	1.18%	1.61%	3.39%	4.38%	0.81%	1.79%	-0.18%	0.38%
41	2020	1.56%	3.05%	3.44%	1.49%	1.87%	2.53%	3.66%	0.96%	2.10%	-0.22%	0.53%
42	2021	2.05%	3.10%	3.36%	1.05%	1.30%	2.70%	3.39%	0.65%	1.34%	-0.04%	0.40%
43	2022 4	2.25%	3.65%	3.92%	1.40%	1.67%	3.20%	3.94%	0.95%	1.68%	-0.02%	0.45%
44	Average	6.12%	7.60%	8.02%	1.48%	1.91%	6.96%	8.03%	0.84%	1.91%	0.00%	0.64%

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 Bohd Record. The utility yields for the period 2010-2022 were obtained from http://credittrends.moodys.com/.

The corporate yields for the period 2010-2022 were obtained from the Li Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/. The corporate yields from 2010-2022 were obtained from the Li. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/. The corporate yields from 2010-2022 were obtained from thtp://credittrends.moodys.com/.

⁴ Data represents January - March, 2022
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Florida City Gas

Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield ¹	"A" Rated Utility Bond Yield ²	"Baa" Rated Utility Bond Yield ²
		(1)	(2)	(3)
1	07/08/22	3.27%	4.98%	5.34%
2	07/01/22	3.11%	4.85%	5.23%
3	06/24/22	3.26%	4.93%	5.30%
4	06/17/22	3.30%	4.97%	5.35%
5	06/10/22	3.20%	4.79%	5.14%
6	06/03/22	3.11%	4.66%	5.03%
7	05/27/22	2.97%	4.62%	4.97%
8	05/20/22	2.99%	4.74%	5.08%
9	05/13/22	3.10%	4.80%	5.12%
10	05/06/22	3.23%	4.87%	5.17%
11	04/29/22	2.96%	4.58%	4.88%
12	04/22/22	2.95%	4.49%	4.80%
13	04/14/22	2.92%	4.40%	4.71%
14	Average	3.11%	4.74%	5.09%
15	Spread To Treasury		1.63%	1.98%

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/

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Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Mergent Bond Record.

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

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

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Docket No. 20220069-GU Beta Analysis Exhibit CCW-15, Page 1 of 2

Florida City Gas

<u>Beta</u>

<u>Line</u>	<u>Company</u>	<u>Beta¹</u>	S&P Global Market Intelligence <u>Beta²</u>
1	Atmos Energy Corporation	0.80	0.58
2	New Jersey Resources Corporation	0.95	0.61
3	NiSource Inc.	0.85	0.60
4	Northwest Natural Holding Company	0.80	0.53
5	ONE Gas, Inc.	0.80	0.60
6	Spire Inc.	0.80	0.59
7	Average	0.83	0.58
8	Median	0.80	0.59
9	Historical Beta ³	0.74	

Source:

¹ The Value Line Investment Survey, May 27, 2022.

² S&P Global Market Intelligence, betas for the period 7/8/2017 - 7/8/2022.

³ Exhibit CCW-15, page 2.

Historica Betas																																	
(Naturai Gas Utilities)																																	
Line Company	Average	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)
													0.00	0.05				0.70			0.70				0.75	0.75			0.05	0.05			
 Atmos Energy Corporation 	0.74	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.55	0.60	0.60	0.65	0.60	0.60	0.60	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.85	0.85	0.85	0.80	0.80
2 New Jersey Resources Corporation	0.82	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.90	0.90	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.80	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.85	0.80	0.80	0.80	0.80
3 NiSource Inc.	0.72	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.55	0.55	0.55	0.55	0.55	0.50	0.55	0.60	0.60	0.60	NMF	0.65	NMF	0.85	0.85	0.85	0.80						
4 Northwest Natural Holding Company	0.70	0.80	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.55	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.65	0.70	0.70	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70
5 ONE Gas, Inc.	0.72	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	N/A										
6 Spire Inc.	0.73	0.80	0.85	0.85	0.85	0.85	0.85	1.00	0.80	0.80	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
7 Average	0.74	0.83	0.85	0.86	0.86	0.86	0.84	0.87	0.83	0.83	0.58	0.63	0.63	0.63	0.63	0.62	0.63	0.70	0.68	0.70	0.72	0.70	0.71	0.71	0.73	0.73	0.74	0.74	0.78	0.78	0.78	0.77	0.76

Source: Value Line Software Analyzer

CAPM Return

Line	<u>Description</u>	Duff & Phelps Normalized ² <u>MRP</u> (1)	Risk Premium ³ Derived <u>MRP</u> (2)	Average FERC S&P 500 DCF ⁴ Derived <u>MRP</u> (3)
	Current Beta			(-)
1	Risk-Free Rate ^{1,2}	3.50%	3.80%	3.80%
2	Market Risk Premium	5.50%	8.10%	8.60%
3	Beta ⁵	0.83	0.83	0.83
4	CAPM	8.08%	10.55%	10.97%
	Historical Beta			
5	Risk-Free Rate ^{1,2}	3.50%	3.80%	3.80%
6	Market Risk Premium	5.50%	8.10%	8.60%
7	Beta ⁵	0.74	0.74	0.74
8	САРМ	7.56%	9.78%	10.15%
	Current S&P Global Market Int	elligence Beta		
9	Risk-Free Rate ^{1,2}	3.50%	3.80%	3.80%
10	Market Risk Premium	5.50%	8.10%	8.60%
11	Beta ⁵	0.58	0.58	0.58
12	САРМ	6.71%	8.53%	8.82%

Sources:

⁵ Exhibit CCW-15, page 1.

¹ 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 13-Wk Average 20-Yr Treasury Yield is 3.32%, Kroll Risk-Free Rate used in study.

 $^{^{\}scriptscriptstyle 2}$ Blue Chip Financial Forecasts, July 1, 2022 at 2.

³ Kroll 2022 SBBI Yearbook, page 207.

⁴ Exhibit CCW-16, page 2.

Development of the Market Risk Premium

Line	Description	<u>MRP</u>
Diak I	Promium Record Mothed	
	La Co. Stock Bool Morket Beturn	0.200/ 1
1	Lg. Co. Slock Real Market Return	9.20%
2	Projected Consumer Price Index	<u>2.50%</u> -
3	Expected Market Return	11.93%
4	RISK-Free Rate	<u>3.80%</u> -
5	Market Risk Premium	8.10%
FERC	S&P 500 (Dividend Companies) 1-Step DCF Based Method:	
6	S&P 500 Growth	10.40% ³
7	Index Dividend Yield	1.80% ³
8	Adjusted Yield	<u>1.89%</u>
9	Expected Market Return	12.29%
10	Risk-Free Rate	3.80% ²
11	Market Risk Premium	8.50%
<u>FERC</u>	S&P 500 (All Companies) 1-Step DCF Based Method:	
12	Short-Term S&P 500 Growth	11.00% ^₄
13	Index Dividend Yield	1.40% 4
14	Adjusted Yield	<u>1.48%</u>
15	Expected Market Return	12.48%
16	Risk-Free Rate	<u>3.80%</u> ²
17	Market Risk Premium	8.70%
18	Average DCF Based MRP	8.60%

Sources & Note:

¹ Kroll 2022 SBBI Yearbook, page 146.

- ² Blue Chip Financial Forecast, July 1, 2022.
- ³ S&P 500 1-Step DCF through June, 2022 for Dividend Paying Companies.

⁴ S&P 500 1-Step DCF through June, 2022 for all Companies.