BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE APPLICATION OF DOMINION ENERGY UTAH TO INCREASE DISTRIBUTION RATES AND CHARGES AND MAKE TARIFF MODIFICATIONS

DOCKET NO. 22-057-03

Direct Testimony and Exhibits of

Christopher C. Walters

On behalf of

Federal Executive Agencies

August 26, 2022

FEA Exhibit 1.0



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Table of Contents to the Direct Testimony of Christopher C. Walters

	<u>Page</u>
QUALIFICATIONS AND SUMMARY	1
SUMMARY	2
ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT	4
A. Regulated Utility Industry Authorized	
ROEs, Access to Capital, and Credit Strength	4
B. Federal Reserve Monetary Policy	12
RETURN ON EQUITY	21
A DEU's Investment Risk	23
B. DEU's Proposed Capital Structure	25
C. Development of Proxy Group	27
D. DCF Model	29
E. Sustainable Growth DCF	34
F. Multi-Stage Growth DCF Model	35
G. Risk Premium Model	
, , , ,	
	SUMMARY ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT A. Regulated Utility Industry Authorized ROEs, Access to Capital, and Credit Strength B. Federal Reserve Monetary Policy RETURN ON EQUITY A DEU's Investment Risk B. DEU's Proposed Capital Structure C. Development of Proxy Group D. DCF Model E. Sustainable Growth DCF F. Multi-Stage Growth DCF Model

V. RESPONSE T	O MS. NELSON	61
A. Nelson's	Constant Growth DCF Models	64
B. Nelson's	CAPM Studies	66
C. Nelson's	ECAPM Studies	70
D. Nelson's	Bond Yield Plus ("BYP") Risk Premium	75
E. Ms. Nelso	n's Consideration of Additional Risks	76
F. Capital Ma	arket Conditions	77
QUALIFICATIONS	OF CHRISTOPHER C. WALTERSAppendix A	
FEA Exhibit 1.01:	Valuation Metrics	
FEA Exhibit 1.02:	Proxy Group	
FEA Exhibit 1.03:	Consensus Analysts' Growth Rates	
FEA Exhibit 1.04:	Constant Growth DCF Model (Consensus Analysts' Growth F	≀ates)
FEA Exhibit 1.05:	Payout Ratios	
FEA Exhibit 1.06:	Sustainable Growth Rate	
FEA Exhibit 1.07:	Constant Growth DCF Model (Sustainable Growth Rate)	
FEA Exhibit 1.08:	Electricity Sales Are Linked to U.S. Economic Growth	
FEA Exhibit 1.09:	Multi-Stage Growth DCF Model	
FEA Exhibit 1.10:	Common Stock Market/Book Ratio	
FEA Exhibit 1.11:	Equity Risk Premium - Treasury Bond	
FEA Exhibit 1.12:	Equity Risk Premium - Utility Bond	
FEA Exhibit 1.13:	Bond Yield Spreads	
FEA Exhibit 1.14:	Treasury and Utility Bond Yields	
FEA Exhibit 1.15:	Beta	
FFA Exhibit 1 16.	CAPM Return and Development of the Market Risk Premium	

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Direct Testimony of Christopher C. Walters

1		I. QUALIFICATIONS AND SUMMARY
2	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
3	Α	My name is Christopher C. Walters. My business address is Brubaker &
4		Associates, Inc., 16690 Swingley Ridge Road, Suite 140, Chesterfield, MC
5		63017.
6	Q	WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?
7	Α	I am a consultant in the field of public utility regulation and an Associate with
8		the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and
9		regulatory consultants.

1	Q	PLEASE	DESCRIBE	YOUR	EDUCATION	AND	PROFESSIONAL
2		EXPERIEN	ICE.				
3	Α	My educat	ion and profes	ssional ex	perience are de	tailed in	my Appendix A to
4		this testimo	ony.				
5	Q	ON WHOS	E BEHALF AI	RE YOU	TESTIFYING?		
6	Α	I am offeri	ng testimony o	n behalf	of the Federal E	xecutive	Agencies ("FEA"),
7		including H	lill Air Force Ba	ase ("Hill <i>i</i>	AFB").		
8	Q	WHAT IS	THE PURPOS	E OF YO	JR DIRECT TES	TIMONY	(?
9	Α	My testimo	ony will addre	ss the cu	ırrent market co	st of ed	quity, and resulting
10		overall rate	e of return for	Dominion	Energy Utah ("[DEU" or	"Company"). I will
11		also respo	nd to Compa	ny witnes	s Ms. Jennifer	E. Nelso	on's recommended
12		Return on	Equity ("ROE")	of 10.30	%.		
13		My :	silence with re	gard to ar	ny position taken	by DEU	in its application or
14		direct testi	mony in this p	roceeding	does not indica	ite my e	ndorsement of that
15		position.					
16				II. SU	MMARY		
17	Q	PLEASE S	SUMMARIZE Y	OUR TE	STIMONY.		
18	Α	In Section	III of my tes	stimony,	I review and ar	nalyze tł	ne regulated utility
19		industry's	access to capi	ital, credit	t rating trends ar	nd outlo	oks, as well as the

overall trend in the authorized ROE for utilities throughout the country. I conclude that the trend in authorized ROEs for utilities has declined over the last several years and has remained below 10.0% more recently. I also review the impact that the Federal Reserve's (the "Fed") monetary policy actions have had on the cost of capital.

In Section IV of my testimony, I outline how a fair ROE should be established, provide an overview of the market's perception of the Company's investment risk, comment on the Company's proposed capital structure, and present the analyses I relied on to estimate an appropriate ROE for DEU. Based on the results of several cost of equity estimation methods performed on publicly traded utility companies, I estimate the current fair market ROE for the Company to fall within the range of 9.00% to 9.80%, with a midpoint of 9.40%. Should the Commission award DEU its requested equity ratio, given the significant differences in common equity ratios between the Company and the proxy group used to estimate the cost of equity, an ROE in the lower half of my range would be warranted.

In Section V of my testimony, I respond to the Company's witness Ms. Nelson's estimate of the current market cost of equity for DEU. Ms. Nelson recommends the Company be authorized an ROE of 10.30% at the Company's proposed common equity ratio of 53.21%.

III. ACCESS TO CAPITAL AND ECONOMIC ENVIRONMENT

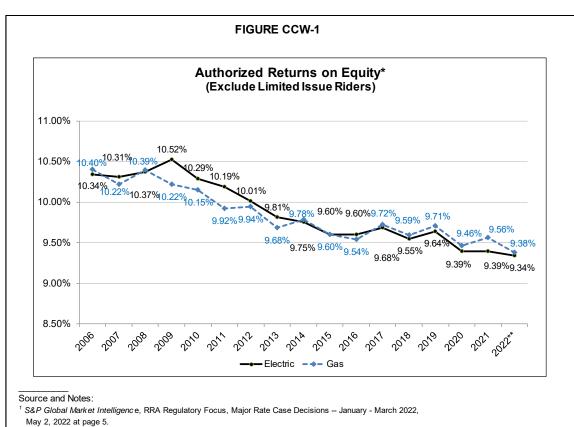
A. Regulated Utility Industry Authorized ROEs, Access to Capital, and Credit Strength

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- 4 Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN
 5 AUTHORIZED ROES FOR ELECTRIC AND GAS UTILITIES, UTILITIES'
 6 CREDIT STANDING, AND UTILITIES' ACCESS TO CAPITAL TO FUND
 7 INFRASTRUCTURE INVESTMENT.
- A Authorized ROEs for both electric and gas utilities have declined over the last 10 years, as illustrated in Figure CCW-1, and have been below 10.0% for about the last nine years.



- * Electric Returns exclude Limited Issue Riders.
- * RRA excludes the 2017 Alaska ENSTAR decision from its calculations.
- **Data represents January March.

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

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			Natur	al Gas ¹	
<u>Line</u>	<u>Year</u> (1)	Average (2)	Median (3)	Share of Decisions <u>≤ 9.5%</u>	Share of Decisions ≤ 9.7%
	(1)	(2)	(3)		
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%

Source and Notes:

Data through 7/8/2022.

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

¹ S&P Global Market Intelligence, downloaded 7/21/2022.

⁻ Excludes limited issue rider cases.

1 Q HOW HAS THE AUTHORIZED COMMON EQUITY RATIO FLUCTUATED

OVER THE SAME TIME PERIOD FOR UTILITIES?

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

TABLE CCW-2

<u>Trends in State Authorized Common Equity Ratios</u> (Natural Gas Utilities)

		Natural Gas ¹					
Line	<u>Year</u>	<u>Average</u>	<u>Median</u>				
	(1)	(2)	(3)				
1	2010	49.25%	49.90%				
2	2011	52.49%	52.45%				
3	2012	51.13%	51.47%				
4	2013	51.16%	50.43%				
5	2014	51.90%	51.99%				
6	2015	49.79%	50.33%				
7	2016	51.85%	51.35%				
8	2017	51.13%	51.76%				
9	2018	52.58%	53.08%				
10	2019	52.72%	52.22%				
11	2020	52.34%	52.00%				
12	2021	51.63%	52.00%				
13	2022	50.21%	50.00%				
44	Average	E1 400/	E1 460/				
14	Average	51.40%	51.46%				
15	Median	51.63%	51.76%				

Source and Notes:

¹ S&P Global Market Intelligence; data through 7/8/22.

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

- 1 Q HAVE REGULATED UTILITY COMPANIES BEEN ABLE TO MAINTAIN
- 2 RELATIVELY STRONG CREDIT RATINGS DURING PERIODS OF
- 3 **DECLINING AUTHORIZED ROEs?**
- 4 A Yes. As shown below in Table CCW-3, the credit rating of the industry has
- 5 improved since 2009. In 2009, approximately 88% of the industry was rated
- 6 BBB or higher. Currently, 100% of the industry has a rating of BBB or higher.

TABLE CCW-3														
				<u>Na</u>	S&P Ra atural Ga		Subsidi	-						
Description	2009	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	2022
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%	1009

7 Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO

- 8 SUPPORT CAPITAL EXPENDITURE PROGRAMS?
- Yes. In its April 11, 2022 Utility Capital Expenditures Update report, RRA
 Financial Focus, a division of S&P Global Market Intelligence, made several
- 11 relevant comments about utility investments generally:

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 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 1 companies. Much of the increased outlays are driven by 2 federal support for infrastructure investment that was 3 approved by Congress and signed into law late in 2021.

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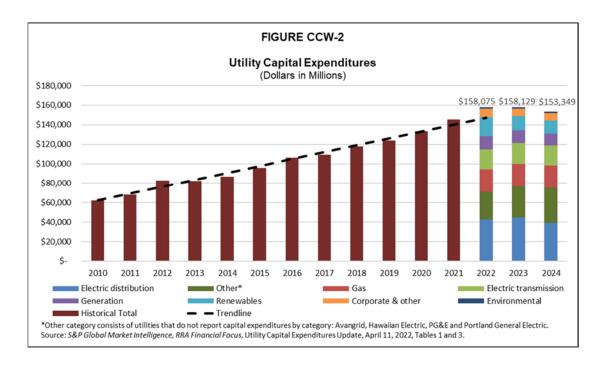
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- Investment across these 47 energy utilities may rise 15% or more by the close of 2022.
- 2021 energy utility capital expenditures marked a record high, about 1.3% above the \$130.1 billion invested in 2020. Investment in 2021 might have been even higher without the multiple supply chain issues associated with the ongoing coronavirus pandemic.
- 2022 aggregated capex indicates approximately earmarked \$154.2 billion for enerav infrastructure investments. The aggregated forecast for 2023 capex points to over \$154.0 billion of spending. While the 2024 estimate of \$149.3 billion of investment appears to signal the potential for a slight decline in capital expenditures compared with 2022 and 2023, it is anticipated that annual investments will ultimately be successively higher in each following year, considering that companies' plans for future projects will continue to gel around new federal legislation that supports infrastructure investment. It is notable that in nine out of the last 10 years, annual investments exceeded the prior year.¹

As shown in Figure CCW-2 below, capital expenditures for electric and natural gas utilities have increased considerably over the period 2010 through 2021, and the forecasted capital expenditures remain elevated through 2022 and 2023, albeit falling somewhat in 2024.

¹S&P Global Market Intelligence, RRA Financial Focus: "Utility Capital Expenditures Update," April 11, 2022, at 5 (footnotes omitted).



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

1 Q IS THERE EVIDENCE OF ROBUST VALUATIONS OF REGULATED

UTILITY EQUITY SECURITIES?

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Yes. Robust valuations are an indication that utilities can sell securities at high prices, which is a strong indication that they can access equity capital under reasonable terms and conditions, and at relatively low cost. As shown on FEA Exhibit 1.01, the historical valuation of utilities followed by *The Value Line Investment Survey* ("*Value Line*"), based on a price-to-earnings ("P/E") ratio, price-to-cash flow ("P/CF") ratio, and market price-to-book value ("M/B") ratio, indicates utility security valuations today are very strong and robust relative to the last several years. These strong valuations of utility stocks indicate that utilities have access to equity capital under reasonable terms and at lower costs.

Q HOW IS THIS OBSERVABLE MARKET DATA USED IN FORMING YOUR

RECOMMENDED ROE AND OVERALL RATE OF RETURN?

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 Public Service Commission of Utah ("Commission") ensure that utility rates are increased no more than necessary to provide fair compensation and maintain financial integrity.

B. Federal Reserve Monetary Policy

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2 Q ARE THE FEDERAL OPEN MARKET COMMITTEE'S ("FOMC") ACTIONS

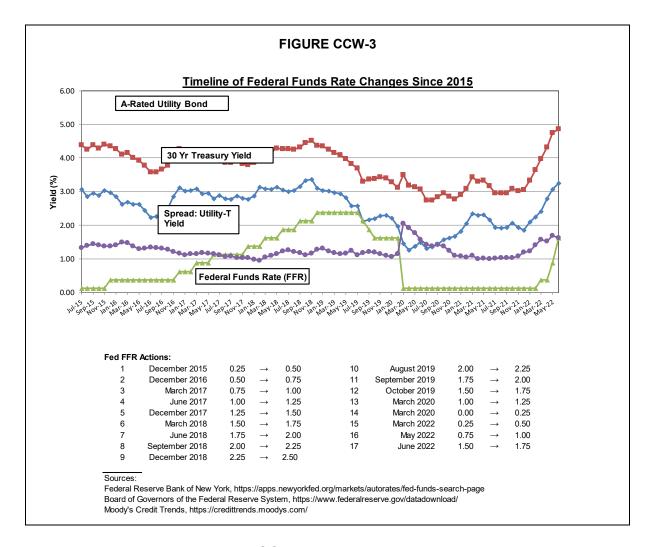
KNOWN TO THE MARKET PARTICIPANTS, AND IS IT REASONABLE TO

BELIEVE THEY ARE REFLECTED IN THE MARKET'S VALUATION OF

BOTH DEBT AND EQUITY SECURITIES?

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

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



As shown in Figure CCW-3 above, bond yields have increased over the last several months, bringing them in-line with yields during the various points in time during the 2015-2018 period.

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1 Q HAS THE FED MADE RECENT COMMENTS CONCERNING MONETARY POLICY AND THE POTENTIAL IMPACT ON INTEREST RATES? 2 3 Yes. In its March statement, the FOMC increased the target range for the Α 4 federal funds rate by 0.25%. The FOMC stated as follows in the March 5 Statement: 6 The Committee seeks to achieve maximum employment and 7 inflation at the rate of 2 percent over the longer run. With 8 appropriate firming in the stance of monetary policy, the 9 Committee expects inflation to return to its 2 percent objective 10 and the labor market to remain strong. In support of these 11 goals, the Committee decided to raise the target range for the 12 federal funds rate to 1/4 to 1/2 percent and anticipates that 13 ongoing increases in the target range will be appropriate. In 14 addition, the Committee expects to begin reducing its holdings 15 of Treasury securities and agency debt and agency mortgage-backed securities at a coming meeting.² 16 17 In a recent speech from Fed Chair Jerome Powell, he stated the following: 18 We raised our policy interest rate for the first time since the start 19 of the pandemic and said that we anticipate that ongoing rate increases will be appropriate to reach our objectives. We also 20 21 said that we expect to begin reducing the size of our balance 22 sheet at a coming meeting. In my press conference, I noted 23 that action could come as soon as our next meeting in May, 24 though that is not a decision that we have made. 25 actions, along with the adjustments we have made since last 26 fall, represent a substantial firming in the stance of policy with 27 the intention of restoring price stability.³ 28 In the same speech, Fed Chair Powell also stated that: 29 As the magnitude and persistence of the increase in inflation 30 became increasingly clear over the second half of last year, and 31 as the job market recovery accelerated beyond expectations,

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.

the FOMC pivoted to progressively less accommodative monetary policy. In June, the median FOMC participant projected that the federal funds rate would remain at its effective lower bound through the end of 2022, and as the news came in, the projected policy paths shifted higher (figure 5). The median projection that accompanied last week's 25 basis point rate increase shows the federal funds rate at 1.9 percent by the end of this year and rising above its estimated longer-run normal value in 2023. The latest FOMC statement also indicates that the Committee expects to begin reducing the size of our balance sheet at a coming meeting. I believe that these policy actions and those to come will help bring inflation down near 2 percent over the next 3 years.⁴

14 Q HAS THE FOMC MADE ANY ADDITIONAL MONETARY POLICY MOVES?

A Yes. In its May statement, the FOMC increased the target federal funds rate an additional 50 basis points. Similarly, in its June statement, the FOMC increased the target rate an additional 75 basis points. The FOMC stated the following:

The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. In support of these goals, the Committee decided to raise the target range for the federal funds rate to 1-1/2 to 1-3/4 percent and anticipates that ongoing increases in the target range will be appropriate. In addition, the Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities, as described in the Plans for Reducing the Size of the Federal Reserve's Balance Sheet that were issued in May. The Committee is strongly committed to returning inflation to its 2 percent objective.⁵

⁴Id.

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

1 Q WHAT DO INDEPENDENT ECONOMISTS' OUTLOOKS FOR FUTURE

INTEREST RATES INDICATE?

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

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

Blue Chip Financial Forecasts <u>Projected Federal Funds Rate, 30-Year Treasury Bond Yields, and GDP Price Index</u>										
Publication Date	3Q 2021	4Q 2021	1Q 2022	2Q 2022	3Q 2022	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023
Federal Funds Rate	2021	2021	2022	2022	2022	2022	2023	2023	2023	2023
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		
Apr-22			0.1	0.8	1.4	1.8	2.2	2.4	2.6	
May-22			0.1	1.0	1.7	2.2	2.6	2.9	3.0	
Jun-22			0.1	1.0	1.9	2.4	2.8	3.0	3.1	
Jul-22				0.7	2.4	3.1	3.5	3.5	3.5	3.4
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.
GDP Price Index										
Oct-21	4.2	2.9	2.5	2.5	2.5	2.5	2.4			
Nov-21	5.7	3.4	2.7	2.6	2.5	2.4	2.3			
Dec-21	5.9	4.6	3.4	2.8	2.7	2.5	2.5			
Jan-22		4.6	3.7	3.1	2.8	2.6	2.5	2.5		
Feb-22		6.9	4.3	3.4	3.0	2.8	2.6	2.5		
Mar-22		7.1	4.8	3.8	3.1	2.8	2.6	2.5		
Apr-22			4.8	5.1	3.7	3.0	2.8	2.6	2.6	
May-22			8.0	5.6	4.0	3.4	3.0	2.8	2.6	
Jun-22			8.1	5.9	4.6	3.5	3.1	2.8	2.7	
Jul-22				5.9	5.2	3.9	3.4	2.8	2.7	2.0
Source and Note:										

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

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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%
2017			
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%
2019			
<u>2018</u> Q1	3.02%	3.63%	
Q2	3.02%	3.80%	4.2% - 4.4%
Q2 Q3	3.09%	3.73%	4.2/0 - 4.4/0
Q3 Q4	3.07%	3.73%	3.9% - 4.2%
Q4	3.2170	3.07 %	3.970 - 4.270
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%
2024			
<u>2021</u> Q1	2.07%	2.23%	
Q2	2.07%	2.23%	3.5% - 3.9%
Q2 Q3	1.93%	2.63%	0.070 - 0.070
Q3 Q4	1.95%	2.70%	3.4% - 3.8%
4	1.5570	2.1070	J. 4 /0 - J.U /0
2022			
Q1	2.25%	2.87%	

Source and Note:

Blue Chip Financial Forecasts, January 2016 through April 2022.

^{*}Average of all 3 reports in Quarter.

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

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

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

While the actual impact to the markets and global economy 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.

For example, a monograph published by the CFA Institute Research

Foundation concluded as follows:

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

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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.

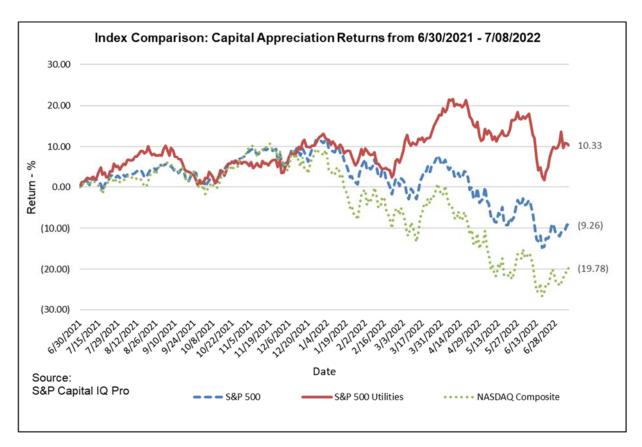
open economies—such as that of the United States—can.⁶

12 Q IN LIGHT OF HIGHER LEVELS OF INFLATION, EXPECTATIONS OF 13 HIGHER INTEREST RATES, AND THE WAR IN UKRAINE, HOW HAS THE 14 MARKET PERCEIVED UTILITIES AS INVESTMENT OPTIONS?

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

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

FIGURE CCW-4



IV. RETURN ON EQUITY

- 2 Q PLEASE DESCRIBE WHAT IS MEANT BY A "UTILITY'S COST OF
- 3 **COMMON EQUITY.**"

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

1 Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A 2 REGULATED UTILITY'S COST OF COMMON EQUITY.

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

The return should be reasonably sufficient to assure confidence in the <u>financial soundness</u> of the utility and should be adequate, under <u>efficient and economical management</u>, to maintain and <u>support its credit</u> and <u>enable it to raise the money</u> necessary for the proper discharge of its public duties.⁸

As such, a fair rate of return is based on the expectation that the utility costs reflect efficient and economical management, and the return will support its credit standing and access to capital, but the return will not be in excess of

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⁷Bluefield, 262 U.S. at 692-93.

⁸Id. at 693 (emphasis added).

this level. From these standards, rates to customers will be just and reasonable, and compensation to the utility will be fair and support financial integrity and credit standing, under economic management of the utility.

4 Q PLEASE DESCRIBE THE METHODS YOU HAVE USED TO ESTIMATE 5 DEU'S COST OF COMMON EQUITY.

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

12 A. DEU's Investment Risk

13 Q PLEASE DESCRIBE THE MARKET'S ASSESSMENT OF DEU'S 14 INVESTMENT RISK.

The market's assessment of DEU's investment risk is described by credit rating analysts' reports. DEU's current credit ratings from S&P and Moody's are BBB+ and A3, respectively. Importantly, the stand-alone credit profile ("SACP") rating for DEU is 'a-', but due to S&P's group ratings methodology and DEU's close affiliation with Dominion Energy Incorporated ("DEI"), S&P

BRUBAKER & ASSOCIATES, INC.

⁹S&P Capital IQ.

1 rates DEU the same as DEI. DEU currently has a "Stable" outlook from both 2 ratings agencies. 3 Specifically, in its most recent report covering DEU, S&P states: 4 **Business Risk: Excellent** 5 Our business risk assessment of QGC reflects the utility's low-6 risk regulated natural gas distribution business, above-average 7 size, and its effective management of regulatory risk. 8 QGC effectively manages regulatory risk through a credit-9 supportive rate design, the use of multiple cost recovery 10 mechanisms including a fuel cost adjustment, a weather 11 normalization adjustment, decoupling, and an infrastructure cost 12 tracking adjustment. QGC's cash flows are generally stable and 13 largely insulated from fluctuations in gas prices, weather, and 14 usage. Furthermore, most of the customer base is residential and commercial, providing an additional measure of cash flow 15 16 stability. The company's business risk profile is marginally offset 17 by lack of business or regulatory diversity. 18 QGC has access to gas supply (over half of the utility's supply) 19 due to its relationship with Wexpro, a cost-of-service exploration and production operation company providing natural gas to QGC 20 21 at cost plus a fixed return... 22 Financial Risk: Significant 23 We assess the company's financial measures using our medial 24 volatility financial benchmarks, reflecting the company's steady 25 cash flow and rate-regulated utility operations and effective 26 regulatory risk management. 27 Under our base-case scenario, which includes annual capital 28 spending averaging about \$300 million and modest customer 29 growth, we expect financial measures to consistently reflect the 30 higher end of the range for the company's financial risk category. 31 Specifically, we expect FFO to debt of about 19%-21%. 10

¹⁰S&P RatingsDirect®: Questar Gas Co.", April 13, 2022.

1 B. DEU's Proposed Capital Structure

- 2 Q WHAT IS DEU'S PROPOSED CAPITAL STRUCTURE?
- 3 A DEU's proposed capital structure is sponsored by Company witness Mr.
- 4 Jordan K. Stephenson¹¹ and is summarized in Table CCW-6 below:

TABLE CCW-6

Investor-Supplied Capital Structure

<u>Description</u>	<u>Weight</u>
Long-Term Debt	46.79%
Common Equity	<u>53.21%</u>
Total	100.00%

5 Q DO YOU HAVE ANY COMMENTS ON DEU'S ASSUMED CAPITAL

6 **STRUCTURE FOR THE PROJECT?**

- 7 A Yes. As I will discuss later, DEU's proposed equity ratio significantly exceeds
- 8 the equity ratio for the proxy group used to estimate the cost of equity for DEU.
- 9 As shown on in FEA Exhibit 1.02, the proxy group has an average common
- equity ratio of 38.6% (including short-term debt) and 44.6% (excluding short-
- 11 term debt). Notably, the proxy group I use is identical to that of DEU witness
- 12 Ms. Nelson.

¹¹ DEU Exhibit 3.33.

1 Q ARE YOU AWARE OF OTHER REGULATORY COMMISSIONS 2 RECOGNIZING THE NEED TO ALIGN THE COST OF EQUITY WITH THE 3 CAPITAL STRUCTURE?

Yes. In a recent Order, the Arkansas Public Service Commission imputed the capital structure of Southwestern Electric Power Company ("SWEPCO") to be more in-line with the comparable companies used to estimate the cost of equity.¹² The adjustment was to recognize that there must be *congruence* between the cost of equity and the capital structure. Specifically, the Order states as follows:

Consistent with our ruling in Order No. 10 of Docket No. 06-101-U, the Commission holds that there should be congruence between the estimated cost of equity and the [debt-to-equity "DTE")] ratio, whereby a lower DTE ratio decreases financial risk and decreases the cost of equity. The evidence of record supports imputing the average capital structure of companies with comparable risk to SWEPCO for the purposes of determining SWEPCO's overall cost of capital.¹³

As I described above, the proxy group has an average common equity ratio of 38.6% (including short-term debt) and 44.6% (excluding short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*, respectively. The Company's assumed equity ratio of 53.21% (excluding short-term debt) is nearly five percentage points higher than that of the proxy group's comparable equity ratio. Clearly, DEU's requested equity ratio exceeds the equity ratios of the proxy group used to assess the Company's

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

¹³*Id*. at 25.

1 cost of equity. As such, an ROE in the lower half of my range would be 2 warranted should the Company be authorized its requested equity ratio.

C. Development of Proxy Group

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- 4 Q PLEASE BRIEFLY DESCRIBE WHY A PROXY GROUP IS NEEDED IN
 5 ESTIMATING THE COST OF EQUITY.
 - There are a few reasons why a proxy group is needed to estimate the cost of equity. As an initial matter, to be consistent with the *Hope* and *Bluefield* standards, as described above, the allowed return should be commensurate with returns on investments in other firms of comparable risk. A proxy group of similarly situated companies of comparable risk is needed to meet this criteria.

Even if DEU were a publicly traded company whose securities could be used to estimate its cost of equity, there exists the potential for certain errors and biases making the reliance on a single estimate undesirable and potentially less accurate. A proxy group of comparable risk companies adds reliability to the estimates by mitigating the potential for bias that may be introduced by measurement errors of model inputs.

- 17 Q PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP
 18 THAT COULD BE USED TO ESTIMATE DEU'S CURRENT MARKET COST
 19 OF EQUITY.
- 20 A I relied on the same proxy group developed by DEU witness Ms. Nelson.

Q HOW DOES THE INVESTMENT RISK OF DEU COMPARE TO THAT OF

THE PROXY GROUP?

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As shown on my FEA Exhibit 1.02, the proxy group has average credit ratings of A- and A3 from S&P and Moody's, respectively. The proxy group's average rating of A- from S&P is one notch lower than DEU's BBB+ rating, but identical to DEU's SACP rating from S&P. The proxy group's average rating of A3 from Moody's identical to DEU's rating of A3.

As shown on the same exhibit, the proxy group has an average common equity ratio of 38.6% (including short-term debt) and 44.6% (excluding short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*, respectively. DEU's requested common equity ratio of 53.21% (excluding short-term debt) significantly exceeds the proxy group's equity ratio as described above.

Given the stark differences in common equity ratios between the Company and the proxy group, my ROE recommendation will be consistent with my recommended common equity ratio.

D. DCF Model

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

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$$P_0 = D_1 + D_2 \dots D_{\infty}$$
 (Equation 1)
7 $(1+K)^1 (1+K)^2 (1+K)^{\infty}$

- 8 P_0 = Current stock price
- 9 D = Dividends in periods 1 ∞
- 10 K = Investor's required return
- 11 This model can be rearranged in order to estimate the discount rate or
- investor-required return, known as "K." If it is reasonable to assume that
- earnings and dividends will grow at a constant rate, then Equation 1 can be
- 14 rearranged as follows:

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

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

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

2 **GROWTH DCF MODEL?**

I relied on the average of the weekly high and low stock prices of the utilities in
the proxy group over a 13-week period ending on 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.

9 Q WHAT DIVIDEND DID YOU USE IN YOUR CONSTANT GROWTH DCF

10 **MODEL?**

- 11 A I used the most recently paid quarterly dividend as reported in *Value Line*. 14
 12 This dividend was annualized (multiplied by 4) and adjusted for next year's
 13 growth to produce the D₁ factor for use in Equation 2 above. In other words, I
 14 calculate D₁ by multiplying the annualized dividend (D₀) by (1+G).
- 15 Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR
 16 CONSTANT GROWTH DCF MODEL?

17 A There are several methods that can be used to estimate the expected growth 18 in dividends. However, regardless of the method, for purposes of determining 19 the market-required return on common equity, one must attempt to estimate

¹⁴The Value Line Investment Survey.

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

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

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

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

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

A simple average of the growth forecasts gives equal weight to all surveyed analysts' projections. Therefore, a simple average, or arithmetic mean, of analysts' forecasts is a good proxy for investor expectations.

The growth rates I used in my DCF analysis are shown in FEA Exhibit 1.03. The average growth rate for my proxy group is 5.95% and a median growth rate of 5.81%.

7 Q WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF

8 MODEL?

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9 A As shown in FEA Exhibit 1.04, page 1, the average and median constant 10 growth DCF returns for my proxy group for the 13-week analysis are 9.31% 11 and 9.14%, respectively.

12 Q DO YOU HAVE ANY COMMENTS ON THE RESULTS OF YOUR 13 CONSTANT GROWTH DCF ANALYSIS?

Yes. The constant growth DCF analysis for my proxy group is based on a group average long-term growth rate of 5.95%. The three- to five-year growth rates are nearly 40% higher than the projected long-term projected GDP growth rate of 4.35%, described below. This is not a sustainable level of growth.

HOW DID YOU IDENTIFY THE LONG-TERM PROJECTED GDP GROWTH

RATE?

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

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

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

E. Sustainable Growth DCF

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

YOUR 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.

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

The payout ratios of the proxy group are shown in my FEA Exhibit 1.05.

These dividend payout ratios and earnings retention ratios then can be used to develop a long-term growth rate driven by earnings retention.

The data used to estimate the long-term sustainable growth rate is based on the Company's current market-to-book ratio and on *Value Line*'s

three- to five-year projections of earnings, dividends, earned returns on book equity, and stock issuances.

As shown in FEA Exhibit 1.06, the average and median sustainable growth rates for the proxy group using this internal growth rate model are 5.67% and 5.53%, respectively.

6 Q WHAT IS THE DCF ESTIMATE USING THESE SUSTAINABLE GROWTH

7 RATES?

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A DCF estimate based on these sustainable growth rates is developed in FEA Exhibit 1.07. 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.

12 F. Multi-Stage Growth DCF Model

13 Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?

Yes. As previously indicated, the DCF is designed to reflect a present value of an infinite string of future cash flow. That said, however, my first constant growth DCF is based on the analyst growth rate projections, so it is a reasonable reflection of rational investment expectations over the next three to five years. The limitation on this constant growth DCF model is that it cannot reflect a rational expectation that a period of high or low short-term growth can be followed by a change in growth to a rate that is more reflective of long-term

sustainable growth. In order to account for the outlook of changing growth expectations, I performed a multi-stage DCF analysis.

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WHY DO YOU BELIEVE GROWTH RATES CAN CHANGE OVER TIME?

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.

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

1 Q PLEASE DESCRIBE YOUR MULTI-STAGE DCF MODEL.

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

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

WHY IS THE GDP GROWTH PROJECTION A REASONABLE PROXY FOR

THE MAXIMUM SUSTAINABLE LONG-TERM GROWTH RATE?

Utilities cannot indefinitely sustain a growth rate that exceeds the growth rate of the economy in which they sell services. 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.

The U.S. Department of Energy, Energy Information Administration ("EIA") has observed that utility sales growth tracks U.S. GDP growth, albeit at a lower level, as shown in FEA Exhibit 1.08. Utility sales growth has lagged behind GDP growth for more than a decade. As a result, nominal GDP growth is a reasonable upper limit for utility sales growth, rate base growth, and earnings growth in the long-run. Therefore, the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility.

Q IS THERE RESEARCH THAT SUPPORTS YOUR POSITION THAT, OVER THE LONG TERM, A COMPANY'S EARNINGS AND DIVIDENDS CANNOT GROW AT A RATE GREATER THAN THE GROWTH OF THE U.S. GDP?

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

The constant growth model is most appropriate for mature companies with a stable history of growth and stable future expectations. Expected growth rates vary somewhat among companies, but <u>dividends for mature firms are often expected to grow in the future at about the same rate as nominal gross domestic product (real GDP plus inflation).¹⁷</u>

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

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).

Estimating Growth Rates

One of the advantages of a three-stage discounted cash flow model is that it fits with life cycle theories in regards to company growth. In these theories, companies are assumed to have a life cycle with varying growth characteristics. Typically, the potential for extraordinary growth in the near term eases over time and eventually growth slows to a more stable level.

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Another approach to estimating long-term growth rates is to focus on estimating the overall economic growth rate. Again, this is the approach used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic growth rate, a forecast is made of the growth rate's component parts. Expected growth can be broken into two main parts: expected inflation and expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.¹⁸

17 Q HOW DID YOU DETERMINE A LONG-TERM GROWTH RATE THAT

REFLECTS THE CURRENT CONSENSUS OF INDEPENDENT MARKET

PARTICIPANTS?

I relied on the consensus of long-term GDP growth projections as projected by independent economists. *Blue Chip Financial Forecasts* publishes the consensus for GDP growth projections twice a year. These projections reflect current outlooks for GDP and are likely to be influential on investors' expectations of future growth outlooks. The consensus of projected GDP growth is about 4.35% over the next 10 years.¹⁹

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

2 GDP GROWTH?

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

TABLE CCW-7				
GDP Forecasts				
Source	Projected <u>Period</u>	Real GDP	Inflation	Nominal GDP
Blue Chip 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%

29 Yrs

1.7%

2.2%

3.9%

Sources:

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Economist Intelligence Unit⁶

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

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

²U.S. EnergyInformation Administration (EIA), Annual Energy Outlook 2022, March 3, 2022.

³Congressional Budget Office, Long-Term Budget Outlook, March 2021.

⁴Moody's Analytics Forecast, downloaded June 29, 2022.

⁵Social Security Administration, "2021 OASDI Trustees Report," Table VI.G4, August 31, 2021.

⁶S&P MI, Economist Intelligence Unit, downloaded on March 9, 2022.

made by these independent sources support my use of 4.35% as a reasonable estimate of market participants' expectations for long-term GDP growth.

4 Q WHAT STOCK PRICE, DIVIDEND, AND GROWTH RATES DID YOU USE IN

YOUR MULTI-STAGE DCF ANALYSIS?

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

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

A As shown in FEA Exhibit 1.09, the average and median DCF ROEs for my proxy group using the 13-week average stock price are 7.99% and 8.19%, respectively.

1 Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.

2 A The DCF results are summarized in Table CCW-8 below. It is my opinion a

reasonable ROE based on the DCF results summarized in Table CCW-8 is

4 9.0%.

TABLE CCW-8 <u>Summary of DCF Results</u>		
	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%

5 G. Risk Premium Model

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

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

Therefore, common equity securities are considered to be riskier than bond securities.

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

The second equity risk premium estimate is based on the difference between regulatory commission-authorized returns on common equity and contemporary "A" rated utility bond yields by Moody's. I selected the period 1986 through 2021 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in FEA Exhibit 1.10, which shows the market-to-book ratio since 1986 for the utility industry was consistently above a multiple of 1.0x. Over this period, an analyst can infer that authorized ROEs were sufficient to support market prices that at least exceeded book value. This is an indication that commission-authorized returns on common equity supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that

utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in FEA Exhibit 1.11, 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 FEA Exhibit 1.11, 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 FEA Exhibit 1.12, 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.

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

Q

Α

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

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' 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.

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

Α

The equity risk premium should reflect the market's perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in FEA Exhibit 1.13, where I show the yield spread between utility bonds and Treasury bonds over the last 43 years. As shown in this schedule, the average utility bond yield spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.48% 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 FEA Exhibit 1.14, 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.

Q WHAT IS YOUR RECOMMENDED RETURN FOR THE COMPANY BASED

ON YOUR RISK PREMIUM STUDY?

Α

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

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

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

TABLE CCW-9			
Summary of Risk Premium Results			
Description	ROE <u>Estimate</u>		
Projected Treasury Yield	9.48% - 10.24%		
A-Rated Utility Bond Baa-Rated Utility Bond	9.27% - 10.07% 9.62% - 10.42%		

4 H. Capital Asset Pricing Model ("CAPM")

5 Q PLEASE DESCRIBE THE CAPM.

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- The CAPM method of analysis is based upon the theory that the market-required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. This relationship between risk and return can be expressed mathematically as follows:
- 10 $R_i = R_f + B_i x (R_m R_f)$ where:
- 11 R_i = Required return for stock i
- $R_f = Risk-free rate$
- 13 R_m = Expected return for the market portfolio
- B_i = Beta Measure of the risk for stock
- The stock-specific risk term in the above equation is beta. Beta represents the investment risk that cannot be diversified away when the security is held in a

diversified portfolio. When stocks are held in a diversified portfolio, stock-specific risks can be eliminated by balancing the portfolio with securities that react in the opposite direction to firm-specific risk factors (e.g., business cycle, competition, product mix, and production limitations).

The risks that cannot be eliminated when held in a diversified portfolio are non-diversifiable risks. Non-diversifiable risks are related to the market in general and referred to as systematic risks. Risks that can be eliminated by diversification are non-systematic risks. In a broad sense, systematic risks are market risks and non-systematic risks are business risks. The CAPM theory suggests the market will not compensate investors for assuming risks that can be diversified away. Therefore, the only risk investors will be compensated for are systematic, or non-diversifiable, risks. The beta is a measure of the systematic, or non-diversifiable risks.

14 Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.

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

1 Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE

2 **RATE?**

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As previously noted, *Blue Chip Financial Forecasts*' projected 30-year

Treasury bond yield is 3.80%.²⁰ The current 30-year Treasury bond yield is

3.11%, as shown in FEA Exhibit 1.14 at page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 3.80% for my CAPM analysis.

8 Q WHY DID YOU USE LONG-TERM TREASURY BOND YIELDS AS AN 9 ESTIMATE OF THE RISK-FREE RATE?

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

Treasury bond yields, however, do include risk premiums related to future inflation and liquidity. In this regard, a Treasury bond yield is not entirely risk-free. Risk premiums related to unanticipated inflation and interest

²⁰Blue Chip Financial Forecast, July 1, 2022.

rates reflect systematic market risks. Consequently, for a company with a beta less than 1.0, using the Treasury bond yield as a proxy for the risk-free rate in the CAPM analysis can produce an overstated estimate of the CAPM return.

WHAT BETA DID YOU USE IN YOUR ANALYSIS?

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As shown in FEA Exhibit 1.15, the current proxy group average and median *Value Line* beta estimates are 0.83 and 0.80, respectively. In my experience, these beta estimates are abnormally high and are unlikely to be sustained over the long-term. As such, I have also reviewed the historical average of the proxy group's *Value Line* betas. The historical average *Value Line* beta since 2014 is 0.74 and has ranged from 0.58 to 0.87. Prior to the recent pandemic, the high end of this range was 0.78.

In addition to *Value Line*, I have also included adjusted beta estimates as provided by Market Intelligence's Beta Generator Model. This model relied on a five-year period on a weekly basis ending July 8, 2022. The average and median Market Intelligence betas are 0.58 and 0.59, respectively. Market Intelligence betas as calculated using its Beta Generator Model are adjusted using the Vasicek method and calculated using the S&P 500 as the proxy for the investable market. This is in stark contrast with the *Value Line* beta estimates that are adjusted using a constant weighting of 67%/35% to the raw beta/market beta and use the New York Stock Exchange as the proxy for the

investable market. Because I rely on the S&P 500 to estimate the expected return on the investable market, it makes sense to rely on beta estimates that are calculated using the S&P 500 as the benchmark for the market. Further, as S&P explains:

The Vasicek Method is a superior alternative to the Bloomberg Beta adjustment. The Bloomberg adjustment is not appropriate for a vast number of situations, as it assigns constant weighting regardless of the standard error in the raw beta estimation (Bloomberg Beta = 1/3*market beta + 2/3*Raw Beta). Given the statistical fact that a larger sample size yields a smaller error, the Vasicek method more appropriately adjusts the raw beta via weights determined by the variance of the individual security versus the variance of a larger sample of comparable companies. The weights are designed to bring the raw beta closer to whichever beta estimation has the smallest error. This is a feature the Bloomberg beta cannot replicate.²¹

17 Q HOW DID YOU DERIVE YOUR MARKET RISK PREMIUM ESTIMATES?

A My market risk premium estimates are derived using two general approaches:
a risk premium approach and a DCF approach. I also consider the normalized
market risk premium of 5.50% with the normalized risk-free rate of 3.50% as
published by Kroll, formerly known as Duff & Phelps.

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.

1 Q PLEASE DESCRIBE YOUR MARKET RISK PREMIUM ESTIMATE

DERIVED USING THE RISK PREMIUM METHODOLOGY.

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

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

16 Q PLEASE DESCRIBE YOUR MARKET RISK PREMIUM ESTIMATES 17 DERIVED USING THE DCF METHODOLOGY.

I employed two versions of the constant growth DCF model to develop estimates of the market risk premium. I first employed the Federal Energy Regulatory Commission's ("FERC") method of estimating the expected return

²²Kroll, 2022 SBBI Yearbook at 146.

²³Blue Chip Financial Forecast, July 1, 2022.

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

on the market that was established in its Opinion No. 569-A. FERC's method for estimating the expected return on the market is to perform a constant growth DCF analysis on each of the dividend paying companies of the S&P 500 index. The growth rate component is based on the average of the growth projections excluding companies with growth rates that were negative or greater than 20%. The weighted average growth rate for the remaining companies is 10.40%. After reflecting the FERC prescribed method of adjusting the dividend yield by (1+ 0.5g), the weighted average expected dividend yield is 1.89%. Thus, the DCF-derived expected return on the market is the sum of 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%.

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

²⁵Opinion No. 569-A, at p. 210.

- expected market return of 12.48% less the projected risk-free rate of 3.80%, or 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%.
- 6 Q HOW DO YOUR EXPECTED MARKET RETURNS COMPARE TO
- 7 CURRENT EXPECTATIONS OF FINANCIAL INSTITUTIONS?
- 8 A As shown in Table CCW-10, my average expected market return of 11.11%²⁶
- 9 exceeds long-term market expectations of several financial institutions.

 $^{^{26}11.11\% = (9.00\% + 12.39\% + 11.93\%) / 3.}$

TABLE CCW-10

Long-Term Expected Return on the Market

Source	<u>Term</u>	Expected Return Large Cap <u>Equities</u>
BlackRock Capital Management ¹	30 Years	7.40%
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%

Sources:

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When compared to the expected market returns of financial institutions above, my average expected market return of 11.11% is more than two times higher than all but one projection. For these reasons, my expected market returns, and the associated market risk premiums, should be considered reasonable, if not high-end estimates.

¹BlackRock Investment Institute, February 2022 report.

²JP Morgan Chase, Long-Term Capital Market Assumptions, 2022 Report.

³Vanguard economic and market outlook for 2022: Striking a better balance.

⁴Research Affiliates, Asset Allocation Interactive.

1 Q HOW DO YOUR ESTIMATED MARKET RISK PREMIUMS COMPARE TO

2 THAT ESTIMATED BY KROLL?

3 A The Kroll analysis indicates a market risk premium falls somewhere in the

range of 5.50% to 7.46%. My market risk premium estimates are in the range

5 of 5.50% to 8.60%.

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6 Q HOW DOES KROLL MEASURE A MARKET RISK PREMIUM?

Kroll's range is based on several methodologies. First, Kroll estimated a market risk premium of 7.46% 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

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

²⁷Kroll, 2022 SBBI Yearbook at 199.

²⁸*Id.* at 207.

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

It should be noted that Kroll's market risk premiums are measured over a 20-year Treasury bond. Because I am relying on a projected 30-year Treasury bond yield, the results of my CAPM analysis should be considered conservative estimates for the cost of equity.

Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?

Α

As shown in FEA Exhibit 1.16, I have provided the results of nine different applications of the CAPM. The first three results presented are based on the proxy group's current average *Value Line* beta of 0.83. The results of the CAPM based on these inputs range from 8.08% to 10.97%.

The next set of three results presented are based on the proxy group's historical *Value Line* beta of 0.74. The results of the CAPM based on these inputs range from 7.56% to 10.15%.

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.

The last set of three results presented are based on the proxy group's current S&P Global Market Intelligence beta of 0.58. The results of the CAPM based on these inputs range from 6.71% to 8.82%. My CAPM results are summarized in Table CCW-11.

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TABLE CCW-11 CAPM Results Summary			
Description	Current VL <u>Beta</u>	Historical VL <u>Beta</u>	Current MI <u>Beta</u>
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%

5 Q WHAT IS YOUR RECOMMENDED RETURN FOR THE COMPANY BASED 6 ON YOUR CAPM?

The average of my CAPM results is approximately 9.02%, while the median is 8.82%. Based on the results summarized above, I recommend a CAPM return estimate of 9.4%.

1 I. Return on Equity Summary

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- 2 Q BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY
- 3 ANALYSES DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY
- 4 DO YOU RECOMMEND FOR THE COMPANY?
- 5 A The results of my analyses are summarized in Table CCW-12.

TABLE CCW-12			
Return on Common Equity Summary			
<u>Description</u>	Results		
DCF	9.0%		
Risk Premium	9.8%		
CAPM	9.4%		

Based on my analyses described above, I estimate the Company's current market cost of equity to be in the reasonable range of 9.00% to 9.80%. I recommend that the Commission authorize DEU an ROE of 9.40%, which is the midpoint of my recommended range. Given the significant differences in equity ratios between DEU and the proxy group, an ROE in the lower half of my range would be warranted if the Commission authorized DEU its requested equity ratio.

1 V. RESPONSE TO MS. NELSON 2 Q WHAT RETURN ON COMMON EQUITY IS DEU PROPOSING FOR THIS 3 PROCEEDING? 4 Ms. Nelson recommends a range of 9.60% to 10.75% and concludes that an Α 5 ROE of 10.30% is reasonable. Her recommendation reflects her assessment 6 of the current capital market conditions and DEU's risk profile associated with 7 its capital expenditure plans, the regulatory environment in which DEU 8 operates, the increased leverage based on the Company's requested capital structure, and the current capital market environment.30 9 10 Finally, she concludes that the Company's requested capital structure 11 including 53.21% common equity and 46.79% long-term debt is consistent 12 with the investor-supplied capital portions for her proxy companies. 13 ARE MS. NELSON'S ROE ESTIMATES REASONABLE? Q 14 Α No. Ms. Nelson's estimated ROE is overstated and should be rejected. Ms. 15 Nelson's analyses produce excessive results for various reasons, including 16 the following: 17 1. Her constant growth DCF results are based on unsustainably high 18 growth rates; 2. Her application of the quarterly DCF overstates a fair ROE; 19 20 3. Her CAPM is based on inflated market risk premiums; 21 4. Her Empirical CAPM ("ECAPM") is based on a flawed methodology; 22 and

³⁰ Nelson Direct Testimony at 67-68.

1 5. Her consideration of additional business risks is inappropriate.

2 Q PLEASE COMPARE YOUR RECOMMENDED ROE WITH MS. NELSON'S

3 **ROE ESTIMATES.**

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4 A Ms. Nelson's ROE estimates are summarized in Table CCW-13 below. In the 5 "Adjusted" Column 2, I show the results with prudent and sound adjustments 6 to correct the flaws referenced above. With such adjustments to Ms. Nelson's 7 proxy group's DCF, CAPM, ECAPM and Risk Premium return estimates, Ms. 8 Nelson's studies show that my 9.40% recommended ROE for DEU is more

reasonable and consistent with the current capital market environment.

TABLE CC	W-13		
Nelson's Adjusted ROE Estimates			
Description	Nelson ¹	<u>Adjusted</u>	
Constant Crowth DCE (Mass DCE)	(1)	(2)	
<u>Constant Growth DCF (Mean ROE)</u> 30-Day Average	9.79%	8.90%	
90-Day Average	9.89%	8.95%	
180-Day Average	9.86%	8.93%	
Quarterly Growth DCF (Mean ROE)			
30-Day Average	9.93%	8.90%	
90-Day Average	10.05%	8.95%	
180-Day Average	10.01%	8.93%	
<u>CAPM</u>			
Current 30-Yr Treasury (2.20%)	10.21% / 13.13%	9.24% / 9.77%	
Projected 30-Yr Treasury (3.13%)	10.40% / 13.27%	9.33% / 9.91%	
<u>ECAPM</u>			
Current 30-Yr Treasury (2.20%)	10.76% / 13.49%	Reject	
Projected 30-Yr Treasury (3.13%)	10.91% / 13.60%	Reject	
Risk Premium			
Current 30-Yr Treasury (2.20%)	9.75%	9.75%	
Projected 30-Yr Treasury (3.13%)	9.76%	9.76%	
Recommended ROE	10.30%	9.40%	
Sources: ¹ Nelson Direct Testimony at 3-4 and DEU Exhibit 2.02 thought DEU Exhibit 2.08.			

As shown in Table CCW-13 above, corrections and improvements to the accuracy of Ms. Nelson's ROE estimates support an ROE for DEU of no higher than 9.40% in the current market.

2 CCW-13 above, a description of the bases for my adjustments to Ms. Nelson's 3 ROE estimates is presented below. 4 A. Nelson's Constant Growth DCF Models 5 Q PLEASE DESCRIBE MS. NELSON'S CONSTANT GROWTH DCF RETURN 6 ESTIMATES. 7 Α Ms. Nelson's constant growth DCF returns are developed on her DEU Exhibit 8 2.02. Ms. Nelson's constant growth DCF models are based on consensus 9 growth rates published by Yahoo! Finance and Zacks and individual growth 10 rate projections made by Value Line. 11 She relied on dividend yield calculations based on average stock prices 12 30-day, 90-day, and 180-day ending over three different time periods: 13 February 28, 2022 – all reflecting a half year of dividend growth adjustments.

While my adjustments are presented in Adjusted Column 2 of Table

14 Q DO YOU HAVE ANY ISSUES WITH MS. NELSON'S CONSTANT GROWTH

DCF RESULTS?

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Yes. As discussed in regard to my own DCF study, the current consensus analysts' growth rates are higher than the long-term sustainable growth rate of 4.35%. Ms. Nelson's constant growth DCF model is based on an average proxy group growth rate of 6.04%, which is significantly above the long-term

growth rate for the U.S. economy. As such, her constant growth DCF results potentially overstate the cost of equity for DEU.

DO YOU HAVE ANY CONCERNS WITH MS. NELSON'S QUARTERLY DCF

RETURN ESTIMATES?

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Yes. Ms. Nelson included quarterly compounding in her DCF return estimates to replicate reinvestment of quarterly dividends over a year, but that can overstate a fair ROE for setting rates. This occurs because the return available to investors from reinvesting dividends is not a cost to the utility. Therefore, it should not be reflected as a cost of capital in setting utility rates. By including the quarterly compounding adjustment in the authorized returns used to set rates, investors are provided an opportunity to earn that quarterly compounding return twice: first, by setting rates to increase the allowed ROE to include a dividend reinvestment return despite the absence of actual reinvestment of the dividend in the utility; and second, investors are able to earn the reinvestment dividend return again when they receive dividends from the utilities and actually reinvest in alternative investments.

As such, including the quarterly compounding return in the DCF return estimates overstates a fair ROE for setting rates because it overstates the utility's cost of capital. Removing the quarterly compounding from Ms. Nelson's DCF return estimates causes that model to yield the same results as

- 1 her constant growth DCF model, which again should be considered as a high-
- 2 end DCF return for DEU.
- 3 Q IS THERE A WAY TO CORRECT MS. NELSON'S CONSTANT GROWTH
- 4 DCF RESULTS TO REFLECT A REASONABLE GROWTH RATE
- 5 **EXPECTATION?**
- 6 A Yes. In Column 2 in Table CCW-13 above, I present the midpoint of DCF
- 7 results from Ms. Nelson's constant growth DCF analysis along with the results
- 8 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
- 10 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%.

12 B. Nelson's CAPM Studies

- 13 Q PLEASE DESCRIBE MS. NELSON'S CAPM ANALYSIS.
- 14 A Ms. Nelson's CAPM analyses consider current and projected Treasury bond
- 15 yields, ten-year and five-year beta estimates from Bloomberg and *Value Line*,
- 16 respectively, and market risk premiums based on the long-term historical
- 17 market return and projected market returns. Her mean traditional CAPM
- results fall in the range of 10.24% to 13.12%. Her mean empirical CAPM
- results fall in the range of 10.76% to 13.60%.

1 Q PLEASE DESCRIBE MS. NELSON'S MARKET RISK PREMIUMS.

Ms. Nelson derived her ex-ante market risk premiums by developing a DCF analysis for the market (S&P 500) less her current and projected risk-free rates of 2.20% and 3.13%. Her DCF-derived expected market return is 15.06%. As such, her market risk premium estimates are 12.86%, and 11.93% based on the DCF market return of 15.06% from Bloomberg less the current and projected 30-year Treasury bond yields of 2.20%, and 3.13%, respectively.³¹

Ms. Nelson also develops an ex-post market risk premium based on the historical market return of 12.33% less her current and projected risk-free rates. This produces market risk premiums of 10.13% and 9.20%.³²

12 Q WHAT ISSUES DO YOU HAVE WITH MS. NELSON'S DCF-DERIVED

MARKET RISK PREMIUM ESTIMATES?

Ms. Nelson's DCF-derived market risk premiums are based on a market return of approximately 15.06%.³³ 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 DEU Exhibit 2.04, Ms. Nelson's DCF-based expected return on the market includes individual growth rates as high as 153.32% (Norwegian Cruise Line Holdings). Including Norwegian Cruise Line, Ms. Nelson's DCF for the market includes 73 growth rates that exceed 20%.

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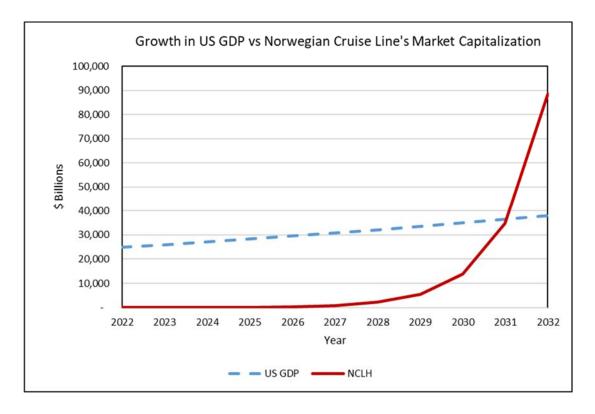
³¹ DEU Exhibit 2.05.

³² *Id.*

³³DEU Exhibit 2.04, page 1.

To put a growth rate of 153.32% into perspective, it would take a little less than nine years for Norwegian Cruise Line's reported market capitalization of approximately \$8.13 billion to exceed the most recently reported GDP of the United States of \$24.85 trillion. Based on these growth rates, by 2032 Norwegian Cruise Line's market capitalization would outgrow the U.S. economy, assuming the economy grew at 4.35% year over year. Explained another way, assuming the long-term growth rate of 4.35%, U.S. GDP would reach a nominal level of \$38.1 trillion in 2032. Assuming a growth rate of 153.32% for Norwegian Cruise Line as Ms. Nelson has done, its market capitalization will reach \$88.4 trillion by the end of 2032, exceeding the U.S. GDP by \$50.3 trillion at that time. I present this graphically below in Figure CCW-5. This is simply an impossible outcome, rendering Ms. Nelson's assumptions unreasonable and economically and financially unfeasible.

FIGURE CCW-5



From another perspective, 314 of the growth rates relied on by Ms. Nelson are 8.7% or higher, which is two times the projected growth of the U.S. economy. As pointed out in my example above, it simply is not reasonable to believe individual companies, and as a result the overall market, can sustain growth rates as high as Ms. Nelson has assumed. In fact, in the CFA curriculum textbooks, the CFA Institute notes as follows with regard to earnings growth rates for the companies within the composite indices (i.e., S&P 500):

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Earnings growth for the overall national economy can differ from the growth of earnings per share in a country's equity market composites. This is due to the presence of new businesses that are not yet included in the equity indices and are typically

1 growing at a faster rate than the mature companies that make 2 up the composites. Thus, the earnings growth rate of 3 companies making up the composites should be lower than 4 the earnings growth rate for the overall economy.³⁴ 5 As a result of these unreasonably high long-term market growth rate 6 estimates, Ms. Nelson's market DCF returns used within her CAPM analysis 7 are inflated and not reliable. 8 Q CAN MS. NELSON'S CAPM ANALYSIS BE REVISED TO REFLECT A 9 MORE REASONABLE MARKET RISK PREMIUM AND RECENT RISK-10 FREE RATES? 11 As described above, based on several methodologies my average Α 12 expected market return is 11.11%. Revising her CAPM analyses with my 13 more recent average expected market return of 11.11% produces mean 14 CAPM results of 9.24% to 9.43% based on her 10-year Bloomberg betas, and 15 9.77% to 9.91% using her *Value Line* betas. C. Nelson's ECAPM Studies 16 17 PLEASE DESCRIBE MS. NELSON'S ECAPM ANALYSIS. Q 18 Α Ms. Nelson relies on empirical tests of the traditional CAPM model to modify it 19 in such a way to attempt to correct the original CAPM for some deficiencies 20 inherent in the original model. Empirical tests show that the expected return

³⁴CFA 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).

line, or security market line, predicted by the CAPM is not as steep as the model would have us believe. In other words, the traditional CAPM understates the expected return for securities with betas less than 1, and overstates the expected return for securities with betas greater than 1. In order to correct for this empirical finding, Ms. Nelson modifies the traditional CAPM model as follows:

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

R_i = Required return for stock i

R_f = Risk-free rate

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R_m = Expected return for the market portfolio

 B_m = Beta of the market

 B_i = Beta - Measure of the risk for stock

WHAT ISSUES DO YOU TAKE WITH MS. NELSON'S ECAPM ANALYSIS?

The biggest issue I have with Ms. Nelson's ECAPM analysis is her use of an adjusted beta as published by *Value Line*. The impact of Ms. Nelson's ECAPM adjustments increases her adjusted beta estimate of 0.85 to 0.90.³⁵ The weighting adjustments applied in the ECAPM are mathematically the same as adjusting beta since the inputs are all multiplicative as shown in the formula above.

Further, Ms. Nelson's reliance on an adjusted *Value Line* beta in her ECAPM study is inconsistent with the academic research that I am aware of

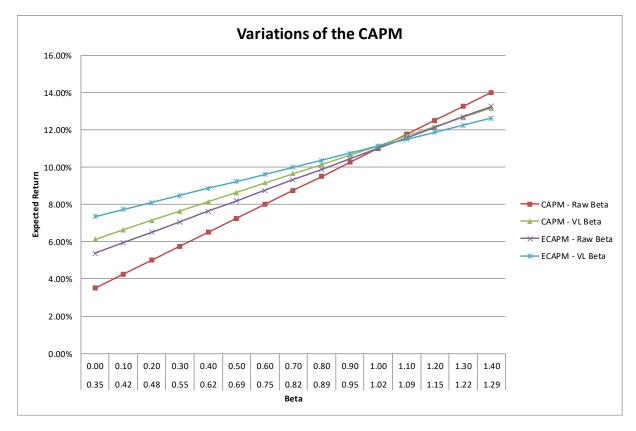
 $^{^{35}}$ 75% x 0.85 + 25% x 1 = 0.89.

supporting the development of the ECAPM.³⁶ The end result of using adjusted betas in the ECAPM is essentially an expected return line that has been flattened by two adjustments. In other words, the vertical intercept has been raised twice and the security market line has been flattened twice: once through the adjustments *Value Line* made to the raw beta, and again by weighting the risk-adjusted market risk premium as Ms. Nelson has done. In addition to the many adjustments employed by Ms. Nelson, she further increases the intercept and flattens the security market line by using projected long-term Treasury yields that are at odds with current market expectations and inconsistent with the Federal Reserve's projections and monetary policy.

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

³⁶ 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.

FIGURE CCW-6



Along the horizontal axis in Figure CCW-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 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

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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.

- 6 Q IN YOUR EXPERIENCE, IS MS. NELSON'S PROPOSED USE OF AN
 7 ADJUSTED BETA IN AN ECAPM STUDY WIDELY ACCEPTED IN THE
 8 REGULATORY ARENA?
- 9 A No. In my experience, regulatory commissions generally disregard the use of 10 the ECAPM, particularly when an adjusted beta is used in the model. For 11 example,

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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 instant proceeding, the record supports a finding that use of adjusted betas in the ECAPM is inappropriate. As Staff witness Ms. Freetly explained, by using adjusted betas she already effectively transformed her Traditional CAPM into an ECAPM. Therefore, including an additional beta adjustment in the ECAPM model would result in inflated estimates of the samples' cost of common equity.³⁷

³⁷Illinois-American Water Company, ICC Order Docket No. 11-0767, 109 (July 31, 2012).

1 D. Nelson's Bond Yield Plus ("BYP") Risk Premium

- 2 Q PLEASE DESCRIBE MS. NELSON'S BYP RISK PREMIUM
- 3 **METHODOLOGY**.

 $9.76\%.^{38}$

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4 As shown on her DEU Exhibit 2.06, Ms. Nelson constructs a risk premium Α 5 ROE estimate based on the premise that equity risk premiums are inversely 6 related to interest rates. She estimates the equity risk premium over the 7 period January 1980 through February 2022. She then applies a regression 8 formula to the current, projected 30-year Treasury bond yields of 2.20% and 9 3.13%, respectively, to produce equity risk premiums of 7.55% and 6.64%, 10 respectively. She calculates a risk premium ROE estimate of 9.75% to

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

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

³⁸ DEU Exhibit 2.06.

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

2 Q DID MS. NELSON CONSIDER ADDITIONAL BUSINESS RISKS TO

3 **JUSTIFY HER ROE?**

A It appears so. Ms. Nelson believes that DEU is exposed to additional risks
that should be accounted for: (1) DEU's regulatory environment and its capital
expenditure plan; and (2) DEU's need for financial liquidity.³⁹ Ms. Nelson
believes that these additional risks should be considered in determining DEU's

8 ROE. I disagree.

9 **Q PLEASE EXPLAIN.**

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

The average S&P credit rating for my proxy group of A-, as shown on my FEA Exhibit 1.02, is identical to DEU's SACP rating from S&P. The relative risks discussed by Ms. Nelson are already incorporated in the credit ratings of the proxy group companies. Indeed, S&P and other credit rating agencies go to great lengths and detail in assessing a utility's business risk and financial risk in order to evaluate total investment risk. The use of my proxy group fully captures the investment risk of DEU.

In addition, financial theory generally, and the CAPM specifically, is predicated on the idea that investors should only be compensated for taking

³⁹ Nelson Direct Testimony at 41.

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.

F. Capital Market Conditions

- 8 Q DID MS. NELSON ALSO OFFER AN ASSESSMENT OF CURRENT
- 9 MARKET CONDITIONS IN SUPPORT OF HER RECOMMENDED ROE
- 10 **RANGE?**

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- 11 A Yes. Ms. Nelson observes the market volatility levels as measured by the
- 12 Chicago Board of Exchange ("CBOE"), Volatility Index ("VIX") and the VVIX
- index which measures the expected volatility of the VIX.⁴⁰ Specifically, Ms.
- Nelson also states that the VIX has increased relative to historical standards
- and it is expected to remain elevated.⁴¹

⁴⁰ Nelson Direct at 51-55.

⁴¹ *Id.* 54-55.

1 Q IS THE VIX INDEX ADEQUATE TO SUPPORT THE NOTION THAT THE MARKET PERCEPTION OF THE INVESTMENT RISK OF DEU OR 2 3 **UTILITIES GENERALLY IS INCREASING?** 4 No. First, the VIX is a broader-based market index of stock price volatility, and Α 5 not that of subgroups within the market generally, and certainly not applicable 6 to the utility subsector. The VIX index may indicate greater risk in the overall 7 market but that does not indicate a similar change in investment risk for lower-8 risk regulated utility companies. Second, the VIX is a measure of 30-day 9 expected volatility, which is a relatively short-term estimate and it does not 10 represent the volatility level effective during the period rates determined in this 11 regulatory proceeding. 12 DO YOU BELIEVE THAT MS. NELSON'S USE OF THESE MARKET Q 13 SENTIMENTS SUPPORTS HER FINDINGS THAT DEU'S MARKET COST 14 **OF EQUITY IS CURRENTLY 10.30%?** 15 Α In many instances, Ms. Nelson's analysis simply ignores market No. 16 sentiments favorable toward utility companies and instead lumps utility 17 investments in with general corporate investments. A fair analysis of utility

very low in today's marketplace.

securities shows the market generally regards utility securities as low-risk

investment instruments and supports the finding that utilities' cost of capital is

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Q WHAT IS THE MARKET SENTIMENT FOR UTILITY INVESTMENTS?

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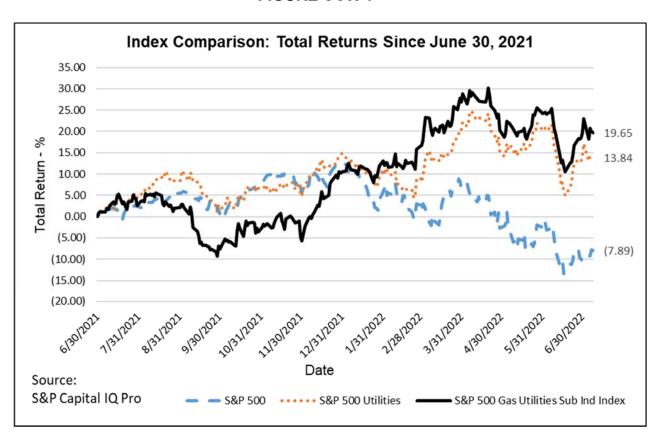
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As shown in Figure CCW-4 above, since June 30, 2021 utility equities have significantly outperformed the broader market, despite rising inflation, rising interest rates, and geopolitical events around the world.

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.

FIGURE CCW-7



- 1 Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
- 2 A Yes, it does.

Qualifications of Christopher C. Walters

1	Q	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
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- 2 A Christopher C. Walters. My business address is 16690 Swingley Ridge Road,
- 3 Suite 140, Chesterfield, MO 63017.

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4 Q PLEASE STATE YOUR OCCUPATION.

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

7 Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND

8 PROFESSIONAL EMPLOYMENT EXPERIENCE.

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

As an Associate at BAI, I perform detailed technical analyses and research to support regulatory projects including expert testimony covering various regulatory issues. Since my career at BAI began in 2011, I have held the positions of Analyst, Associate Consultant, Consultant, Senior Consultant, and Associate. Throughout my tenure, I have been involved with several regulated projects for electric, natural gas and water and wastewater utilities, as well as competitive procurement of electric power and gas supply. My

Docket No. 22-057-03 FEA Exhibit 1.0 Appendix A Christopher C. Walters Page 2

regulatory project work includes estimating the cost of equity capital, capital structure evaluations, assessing financial integrity, merger and acquisition related issues, risk management related issues, depreciation rate studies, and other revenue requirement issues.

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

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

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

1 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.

8 Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR 9 ORGANIZATIONS TO WHICH YOU BELONG.

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I earned the Chartered Financial Analyst ("CFA") designation from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting and reporting analysis, corporate finance, economics, fixed income and equity valuation, derivatives, alternative investments, risk management, and professional and ethical conduct. I am a member of the CFA Institute and the CFA Society of St. Louis.

BEFORE THE

PUBLIC SERVICE COMMISSION OF UTAH

ENERGY UTA DISTRIBUTIO	N OF DOMINION H TO INCREASE N RATES AND ID MAKE TARIFF)))) DOCKET NO. 22-057-03)))	
State of Missouri)		
County of Saint Louis) ss.)		

I, Christopher C. Walters, being first duly sworn on oath, state that the answers in the foregoing written testimony are true and correct to the best of my knowledge, information and belief.

Christopher C. Walters

SUBSCRIBED AND SWORN TO 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

Notary Public

Electric Utilities (Valuation Metrics)

											Price	to Earning	gs (P/E) Ra	tio ¹									
Line	Company	21-Year Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2012	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Line	<u>Company</u>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	<u>2016</u> (8)	(9)	(10)	<u>2013</u> (11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	2002 (22)
	ALLETE	40.00	10.70	40.70	40.00	04.75	00.47	00.05	40.00	45.00	47.00	40.50	45.00	44.00	45.00	10.00	40.05	4470	40.55	47.04	05.04	N1/A	A1/A
	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
	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 4	Ameren Corp. American Electric Power	16.54 14.92	23.50 19.90	21.10 17.90	22.23 19.57	22.09 21.41	18.29	20.60	18.29	17.55 15.77	16.71	16.52	13.35	11.93 11.92	9.66	9.26 10.03	14.21 13.06	17.45 16.27	19.39	16.72 13.70	16.28 12.42	13.51 10.66	15.78
4 5	American Electric Power Avangrid, Inc.	14.92 25.91	19.90	17.90	19.57 25.34	21.41	18.04 26.05	19.33 27.27	15.16 20.49	40.94	15.88 N/A	14.49 N/A	13.77 N/A	11.92 N/A	13.42 N/A	10.03 N/A	13.06 N/A	16.27 N/A	12.91 N/A	13.70 N/A	12.42 N/A	10.66 N/A	12.68 N/A
-	Avangna, inc. 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	15.39	17.27	17.13	15.64	12.52
	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	15.02	10.27	19.06	17.13	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
-	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	15.02	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
	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
	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
	Entergy Corp.	13.81	18.90	15.40	15.26	16.50	13.81	15.01	10.92	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	19.47	18.69	18.11	17.92	16.94	19.86	15.35	13.42	11.96	13.66	18.75	27.07	19.76	20.77	13.35	16.07
	Evergy, 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
19	Exelon Corp.	15.11	20.70	20.70	15.39	15.75	20.09	13.41	18.68	12.58	16.02	13.43	19.08	11.30	10.97	11.49	17.97	18.22	16.53	15.37	12.99	11.77	10.46
	FirstEnergy Corp.	18.25	17.90	17.90	20.24	23.78	26.47	11.41	15.91	17.02	39.79	13.06	21.10	22.39	11.75	13.02	15.64	15.59	14.23	16.07	14.13	22.47	12.95
21	Fortis Inc.	19.29	23.20	21.30	20.63	19.22	17.08	16.81	21.60	18.00	24.29	19.97	20.12	18.79	18.22	16.36	17.48	21.14	17.68	N/A	N/A	N/A	N/A
		15.52	N/A	N/A	N/A	N/A	N/A	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
23	Hawaiian Elec.	18.51	20.70	20.70	21.48	21.27	18.95	20.69	13.56	20.40	15.88	16.21	15.81	17.09	18.59	19.79	23.16	21.57	20.33	18.27	19.18	13.76	13.47
	IDACORP. Inc.	17.05	23.50	23.50	19.88	22.31	20.50	20.60	19.06	16.22	14.67	13.45	12.41	11.54	11.83	10.20	13.93	18.19	15.07	16.70	15.49	26.51	18.88
25	NextEra Energy, Inc.	18.46	32.50	32.50	31.75	26.79	24.80	21.65	20.71	16.89	17.25	16.57	14.43	11.54	10.83	13.42	14.48	18.90	13.65	17.88	13.65	17.88	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	N/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
	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
	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
.2			_0.00	_00		25			. 0.00					0						.0.02	.0.20	.0.00	.0.00

Sources

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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)

											Market Pric	e to Cash	Flow (MP/0	CF) Ratio 1									
		20-Year	2022 ^{2/a}																				
Line	<u>Company</u>	Average (1)	(2)	2021 (3)	2020 (4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)	2005 (19)	2004 (20)	2003 (21)	2002 (22)
											` '	` '	. ,	` '	` '			` '	` '	` '	` '		
1		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		7.27	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 8.56	7.09	7.00	6.57	5.93	5.46	5.54 N/A	4.71	5.71	6.84	5.54 N/A	6.07	5.50	4.69	5.19
5 6	Avangrid, Inc.	9.99	9.20	11.19	9.39	9.11	10.24	10.14		11.30	N/A	N/A	N/A	N/A		N/A	N/A	N/A		N/A	N/A	N/A	N/A
7	Avista Corp. Black Hills	6.86 7.87	8.45 9.16	8.03 8.84	7.80 8.56	7.34 10.65	10.14 8.83	9.35 9.20	7.63 9.33	6.76 8.06	7.30 8.81	6.21 8.03	6.88	6.40 7.85	5.80 6.16	4.06 4.25	5.12 11.26	7.58 7.62	5.30 6.92	6.58 7.57	7.58 6.69	5.36 6.89	5.90 5.92
8	CenterPoint Energy	5.34	8.08	7.95	5.94		8.45	6.97		5.75		6.56	6.04 5.15			4.25	4.29	5.17	3.94	4.70	4.26		2.16
9	CMS Energy Corp.	6.27	9.64	9.27	9.87	7.03 9.85	8.40	8.75	5.96 8.50	7.53	6.25 7.13	6.68	6.03	5.39 5.41	4.70 4.48	3.64	3.45	5.17	4.40	4.70	3.20	2.08 2.88	NMF
-	Consol. Edison	8.22	8.62	7.26	8.35	9.46	8.73	9.64	9.39	7.96	7.13	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		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
	DTE Energy	6.68	10.03	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	. 37	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		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	7.10	5.87	5.61	6.84	2.82	2.96
15		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		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		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		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		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		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		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		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		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		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		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		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		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	8.41	8.28	8.28	7.83
37		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		9.07	12.14	11.99	13.67	12.88	10.82	11.04	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
40	Xcel Energy Inc.	6.93	8.99	9.19	10.07	9.44	7.90	8.50	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
41	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:

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

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

Electric Utilities (Valuation Metrics)

											Market Pric	e to Book	Value (MP/	BV) Ratio ¹						
		17-Year												,						
Line	Company	Average	2022 2/b	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	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 A	LLETE	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
	Iliant 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
	meren 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
	merican 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
	vangrid, 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
	vista 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
	lack 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
	enterPoint 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
	MS 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
	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
	ominion 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
	TE 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
	ouke 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
	dison 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 E		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
	intergy 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
	versource 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
	vergy, 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
	xelon 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
	irstEnergy 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
	ortis 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
	Freat Plains Energy	1.21	N/A	N/A	N/A	N/A	N/A	1.33	1.17	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86
	lawaiian 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
	DACORP. Inc.	1.48	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
	lextEra Energy, Inc.	2.26	4.11	4.27	3.58	2.75	2.32	2.35	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
	lorthWestern 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
	GE Enerav	1.84	1.75	1.67	1.45	2.06	1.75	1.82	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.13	1.46	1.03	1.80
	Otter Tail Corp.	1.87	2.35	2.33	2.04	2.62	2.49	2.33	1.73	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
	rinnacle West Capital	1.43	1.39	1.45	1.63	1.91	1.74	1.91	1.72	1.52	1.44	1.47	1.39	1.25	1.19	0.95	1.00	1.26	1.76	1.74
	'NM Resources	1.32	1.72	1.86	1.87	2.28	1.83	1.84	1.56	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45
	ortland General	1.35	1.68	1.55	1.57	1.84	1.56	1.69	1.56	1.42	1.37	1.28	1.14	1.09	0.03	0.92	1.05	1.32	1.36	N/A
	PL Corp.	2.06	1.45	1.52	1.63	1.86	1.81	2.40	2.46	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50
	ublic Serv. Enterprise	1.91	2.43	2.11	1.70	1.97	1.81	1.68	1.67	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45
	CANA Corp.	1.51	N/A	N/A	N/A	N/A	N/A	1.65	1.74	1.47	1.48	1.48	1.48	1.36	1.33	1.70	1.45	1.62	1.64	1.72
	empra Energy	1.80	1.81	1.64	1.84	2.22	2.06	2.24	2.00	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.72
	iouthern Co.	2.08	2.57	2.39	2.20	2.22	1.89	2.24	2.00	1.99	2.20	2.04	2.15	1.26	1.83	1.73	2.12	2.24	2.23	2.35
	ectren Corp.	1.83	2.57 N/A	2.39 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	1.63	1.73	1.64	1.74	1.77	1.82
	VEC Energy Group	2.02	2.72	2.61	2.84	2.62	2.11	2.75	2.29	1.82	2.06	2.21	2.05	1.81	1.65	1.40	1.57	1.74	1.77	1.62
	VEC Energy Group Vestar Energy	1.37	2.72 N/A	2.61 N/A	2.84 N/A	2.62 N/A	2.11 N/A	1.94	1.95	1.82		1.33	1.26	1.81	1.65	0.93	1.57	1.77	1.71	1.62
		1.37	N/A 2.31	N/A 2.27	N/A 2.46	N/A 2.34	1.97	2.06	1.95	1.49	1.44 1.55	1.50	1.26	1.20		1.19	1.10	1.53	1.40	1.41
40 X	cel Energy Inc.	1.09	2.31	2.21	2.40	2.34	1.97	2.00	1.00	1.00	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
/11 A	verage	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
41 A		1.68	1.88	1.75	1.84	2.07	1.83	1.96	1.74	1.55	1.53	1.59	1.47	1.42	1.34	1.24	1.63	1.68	1.77	1.79
42 IV	iculaii	1.00	1.00	1.75	1.04	2.04	1.03	1.91	1.74	1.00	1.00	1.49	1.47	1.33	1.31	1.14	1.40	1.00	1.71	1.72

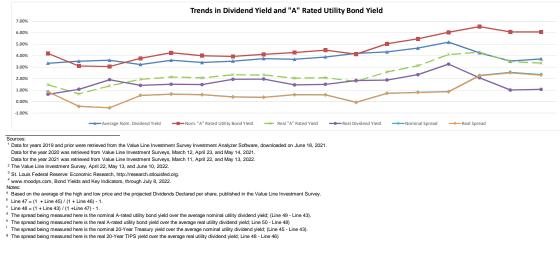
Sources:

Notes:

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.

										Dividen	d Yield ¹								
Line	Company	17-Year Average	2022 ^{2/a}	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	ALLETE	3.94%	4.11%	3.88%	4.03%	2.85%	2.99%	2.97%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.16%
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 5	American Electric Power	4.00% 3.71%	3.35%	3.61%	3.28%	3.10%	3.60%	3.42%	3.54% 4.26%	3.80% N/A	3.83% N/A	4.23% N/A	4.58% N/A	4.96% N/A	4.90% N/A	5.50% N/A	4.20% N/A	3.40% N/A	4.06% N/A
6	Avangrid, Inc. Avista Corp.	3.71%	3.79%	3.53%	4.03%	3.52%	2.93%	3.79%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.72%	3.35%	3.50%	3.42%	2.74%	3.31%	2.75%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	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%
11 12	Dominion Resources DTE Energy	4.01% 4.05%	3.24% 2.83%	3.38%	4.31% 3.57%	4.76% 3.07%	4.72%	3.88%	3.82%	3.66%	3.43%	3.78%	4.06% 4.19%	4.13% 4.68%	4.41% 4.75%	5.20% 6.29%	3.77% 5.24%	3.32% 4.36%	3.60% 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%	4.19%	5.21%	5.71%	6.25%	5.16%	4.44%	4.00% 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
16	Entergy Corp.	4.04%	3.60%	3.84%	3.55%	3.52%	4.41%	4.49%	4.55%	4.59%	4.47%	5.07%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.24%	2.94% 3.51%	2.85%	2.63% N/A	2.81% N/A	3.32% N/A	3.14% N/A	3.22% N/A	3.34% N/A	3.40% N/A	3.48% N/A	3.52% N/A	3.23% N/A	3.64% N/A	4.16% N/A	3.25% N/A	2.60% N/A	3.27% N/A
18 19	Evergy, Inc. Exelon Corp.	3.59%	2.75%	3.59%	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.	3.81% 4.35%	3.56%	4.39%	3.82% 4.17%	3.06%	5.17%	4.62%	4.31%	4.23%	4.26%	4.69%	4.90%	4.96% 5.23%	4.95% 5.76%	5.09%	3.21%	3.12%	3.40%
21	Fortis Inc.	3.68%	3.63%	3.77%	3.66%	3.60%	4.07%	3.69%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
22	Great Plains Energy	4.52%	N/A	N/A	N/A	N/A	N/A	3.58%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
23	Hawaiian Elec.	4.47%	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 25	IDACORP, Inc.	3.17% 2.97%	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% N/A	3.95% N/A	3.55% N/A	3.39% N/A
25 26	NextEra Energy, Inc. NorthWestern Corp.	2.97% 4.07%	2.10% 4.26%	1.90%	4.02%	3.28%	3.86%	3.52%	2.91%	3.01%	3.02%	3.30%	3.65% 4.17%	3.96% 4.51%	3.90% 4.93%	N/A 5.75%	N/A 5.38%	N/A 4.09%	N/A 3.65%
27	OGE Energy	3.75%	4.26%	4.81%	4.68%	3.54%	3.98%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
28	Otter Tail Corp.	4.02%	2.55%	2.81%	3.45%	2.74%	2.92%	3.12%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
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% 2.87%	3.62% 5.83%	3.47% 5.84%	2.85% 5.24%	3.27%	2.92%	3.06% 4.25%	3.27% 4.55%	3.34% 4.45%	3.67%	4.11% 5.07%	4.37%	5.20%	5.36% 4.51%	4.28%	3.34%	2.54% 3.41%
32 33	PPL Corp. Public Serv. Enterprise	4.61% 3.76%	3.16%	3.37%	3.64%	3.19%	5.61% 3.49%	4.24% 3.74%	3.78%	4.55% 3.81%	3.92%	4.81% 4.35%	4.55%	5.10% 4.24%	5.12% 4.30%	4.51%	3.10% 3.26%	2.69% 2.73%	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.	4.38%	N/A	N/A	N/A	N/A	N/A	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
38 39	WEC Energy Group Westar Energy	3.02% 4.37%	2.98% N/A	3.00% N/A	2.68% N/A	2.81% N/A	3.38% N/A	3.31%	3.35% 2.90%	3.49%	3.40%	3.49% 4.27%	3.24% 4.57%	3.35% 4.84%	2.97% 5.32%	3.16% 6.27%	2.41% 5.22%	2.14% 4.16%	2.18% 4.28%
40	Xcel Energy Inc.	3.76%	2.80%	2.81%	2.58%	2 75%	3.25%	3.10%	3.33%	3.73%	3.83%	3.86%	3.90%	4.04%	4.54%	5.14%	4.70%	4.16%	4.20%
-10	Add Energy Inc.	0.7070	2.0070	2.0170	2.0070	2.7070	0.2070	0.1070	0.0070	0.0070	0.0070	0.0070	0.0070	4.2070	4.0470	0.1470	4.7070	4.0070	4.4070
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%	4.66%	5.18%	4.25%	3.53%	3.72%
42	Median	3.62%	3.35%	3.50%	3.61%	3.06%	3.38%	3.16%	3.46%	3.75%	3.76%	3.85%	4.18%	4.48%	4.79%	5.28%	4.25%	3.43%	3.62%
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 ^c	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%	0.86%	-0.41%	-0.55%	0.54%	0.65%	0.60%	0.41%	0.37%	0.60%	0.59%	-0.07%	0.72%	0.80%	0.86%	2.28%	2.55%	2.35%
52	Real Spread ^e	0.76%	0.84%	-0.40%	-0.54%	0.53%	0.64%	0.59%	0.40%	0.36%	0.59%	0.58%	-0.07%	0.70%	0.79%	0.85%	2.23%	2.49%	2.29%
53	Spreads (Baa-Rated Utility Bond - Stock) 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%
	Spreade /Treasury Bond - Starts																		
55	Spreads (Treasury Bond - Stock) Nominal -0.69% -0.56% -1.54% -2.24% -0.83% -0.55% -1.30% -1.20% -0.60% -0.77% -1.66% -0.70% -0.63% -1.07% 0.11% 1.38% 1.28%																		
56	Real ⁹	-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%
		/0									/0			/-	/-				
					rende :	n Divid	end Yie	ld and '	'A" Pat	ad Hitilia	ty Rond	Viold							
	7.00%				i ciius I	DIVIU	ciiu ile	iu aiiu	A NOU	eu Oull	Ly DUITU	rieid							
	6.00%																_		_



										Dividend	per Share ¹								
		17-Year																	
Line	Company	Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	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	Enteray 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

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

		17-Year								Earn	ings per S	hare ¹							
Line	Company	Average	2022 ²	2021	2020	2019	2018	2017	2016	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	2.90	3.70	3.23	3.35	3.33	3.38	3.13	3.14	3.38	2.90	2.63	2.58	2.65	2.19	1.89	2.82	3.08	2.77
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	1.38	0.95	1.27	1.35	1.03
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	2.98	2.66
4	American Electric 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	2.97	2.99	2.86	2.86
5	Avangrid, Inc.	1.79	2.30	1.97	1.88	2.26	1.92	1.67	1.98	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	0.72	1.47
7	Black Hills	2.55	4.05	3.74	3.73	3.53	3.47	3.38	2.63	2.83	2.89	2.61	1.97	1.01	1.66	2.32	0.18	2.68	2.21
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	1.30	1.17	1.33
9	CMS Energy Corp.	1.70	2.90	2.58	2.64	2.39	2.32	2.17	1.98	1.89	1.74	1.66	1.53	1.45	1.33	0.93	1.23	0.64	0.64
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	3.48	2.95
11	Dominion 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	2.13	2.40
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	2.66	2.45
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	3.60	2.73
14	Edison Int'l	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	3.32	3.28
15	El Paso Electric	2.02	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	1.63	1.27
16	Entergy Corp.	6.14	6.40	6.87	6.90	6.30	5.88	5.19	6.88	5.81	5.77	4.96	6.02	7.55	6.66	6.30	6.20	5.60	5.36
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	1.59	0.82
18	Evergy, Inc.	3.83	3.50	3.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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	4.03	3.50
20	FirstEnergy Corp.	2.59	2.40	2.69	1.85	1.84	1.33	2.73	2.10	2.00	0.85	2.97	2.13	1.88	3.25	3.32	4.38	4.22	3.82
21	Fortis Inc.	1.92	2.75	2.61	2.60	2.68	2.52	2.66	1.89	2.11	1.38	1.63	1.65	1.74	1.62	1.51	1.52	1.29	1.36
22	Great Plains Energy	1.33	N/A	N/A	N/A	N/A	N/A	-0.06	1.61	1.37	1.57	1.62	1.35	1.25	1.53	1.03	1.16	1.85	1.62
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	1.11	1.33
24	IDACORP, Inc.	3.55	5.05	4.85	4.69	4.61	4.49	4.21	3.94	3.87	3.85	3.64	3.37	3.36	2.95	2.64	2.18	1.86	2.35
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 2.53	1.19	0.99	1.02	0.82	0.81
26 27	NorthWestern Corp	2.63 1.76	3.30 2.55	3.60 2.36	3.06 2.08	3.53 2.24	3.40 2.12	3.34 1.92	3.39 1.69	2.90 1.69	2.99 1.98	2.46 1.94	2.26 1.79	1.73	2.14	2.02 1.33	1.77 1.25	1.44 1.32	1.31 1.23
28	OGE Energy Otter Tail Corp.	1.62	5.30	4.23	2.08	2.24	2.12	1.86	1.69	1.56	1.55	1.94	1.79	0.45	1.50 0.38	0.71	1.09	1.32	1.69
	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	2.96	3.17
29 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	0.76	1.72
31	Portland General	1.43	2.55	2.72	1.72	2.20	2.37	2.29	2.16	2.04	2.18	1.77	1.87	1.06	1.66	1.31	1.39	2.33	1.14
32	PPL Corp.	2.23	1.30	0.53	2.04	2.39	2.58	2.29	2.79	2.04	2.16	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	2.73	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	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	1.96	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 Energy 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 42	Average Industry Average Growth	2.70 3.50%	3.61 11.32%	3.24 1.94%	3.18 -3.70%	3.30 14.28%	2.89 -0.95%	2.92 3.31%	2.82 4.55%	2.70 1.35%	2.66 5.18%	2.53 3.33%	2.45 -0.08%	2.45 3.73%	2.36 8.14%	2.19 -0.77%	2.20 -2.88%	2.27 7.31%	2.11
42	muusuy Average Glowin	3.50%	11.3270	1.54%	-3.70%	14.20%	-0.33%	J.J 170	4.00%	1.35%	J. 10%	3.33%	-0.00%	3.1370	0.1476	-0.7770	-2.00%	1.3170	

Sources:

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

Electric Utilities (Valuation Metrics)

			Ca	sh Flow /	Capital Sp	endina	
	-						3 - 5 yr ⁴
Line	Company	2019 ¹	2020 ¹	2021 ²	2022 ³	2023 ⁴	Projection
Line	<u>oompany</u>	(1)	(2)	(3)	(4)	(5)	(5)
		(.,	(-)	(0)	(4)	(0)	(0)
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
	Hawaiian Elec.	1.12x	1.10x	1.42x	1.30x	1.18x	1.38x
	IDACORP, Inc.	1.25x	1.25x	1.16x	0.83x	0.61x	1.03x
	NextEra Energy, Inc.	0.67x	0.58x	0.69x	0.54x	0.63x	0.65x
	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		0.80x	0.45x	1.42x	1.45x	1.09x	1.08x
28		0.98x	0.98x	0.85x	0.78x	0.83x	0.97x
	PNM Resources	0.72x	0.59x	0.51x	0.63x	0.63x	0.89x
	Portland General	0.99x	0.75x	0.97x	1.01x	1.08x	1.27x
31		0.92x	1.06x	1.12x	1.35x	1.61x	2.00x
	Public Serv. Enterprise	1.07x	1.00x	1.05x	0.82x	0.88x	1.07x
33	, 0,	0.66x	0.92x	0.78x	0.92x	1.17x	1.42x
34		0.88x	1.01x	0.93x	0.97x	0.97x	1.23x
	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
00		J.00A	0.007	0.000	0.00%	0.000	1.0-1

Notes:

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

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.

									Percer	nt Dividend	is to Book	Value ¹							
	0	17-Year	2022 ^{2/a}	0004	2020	2040	2040	2047	2040	2045	2044	2042	2042	0044	2040	2000	2000	0007	2000
Line	Company	Average (1)	(2)	2021 (3)	2020 (4)	2019 (5)	2018 (6)	2017 (7)	2016 (8)	2015 (9)	2014 (10)	2013 (11)	2012 (12)	2011 (13)	2010 (14)	2009 (15)	2008 (16)	2007 (17)	2006 (18)
		(-/	(-/	(-)	(-)	(-)	(-)	(-,	(-)	(-)	(,	()	(/	(,	(,	()	(,	(,	(,
1	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 5	American Electric Power	6.28% 3.05%	6.70% 3.53%	6.74% 3.57%	6.86% 3.58%	6.82% 3.57%	6.56% 3.57%	6.43% 3.54%	6.42% 3.53%	5.90%	5.91% N/A	5.91% N/A	5.99% N/A	6.10% N/A	6.04% N/A	5.97% N/A	6.23% N/A	6.28% N/A	6.32% N/A
5 6	Avangrid, Inc. 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%
ნ 7	Avista Corp. Black Hills	5.33%	5.72%	5.32%	5.32%	5.34%	5.31%	5.67%	5.55%	5.66%	5.06%	5.17%	5.31%	5.42%	5.07%	4.23% 5.10%	5.15%	5.34%	5.58%
8	CenterPoint Energy	9.85%	4.81%	5.32% 4.82%	5.32% 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% 4.17%	5.61%	5.45% 9.55%	5.24%	5.09%	4.94%	4.78%	4.64%	4.56%	4.70% 7.43%	4.70% 8.00%	4.78%	4.90%	4.93% 9.47%	4.48%	4.42%	3.45% 8.27%
32 33	PPL Corp. Public Serv. Enterprise	8.96% 6.89%	7.67%	8.89% 7.12%	6.18%	9.74% 6.28%	10.13% 6.31%	10.18% 6.27%	10.44% 6.31%	10.19% 6.03%	7.28% 6.14%	6.28%	6.66%	7.48% 6.75%	8.24% 7.20%	7.66%	9.89% 8.40%	8.20% 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	9.35 /6 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%
.0																			,
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 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.

The Company										Divi	dends to E	arnings Ra	atio ¹							
1 ALLETE 0.69 0.70 0.78 0.74 0.71 0.66 0.68 0.68 0.60 0.60 0.68 0.67 0.72 0.71 0.67 0.80 0.93 0.61 0.53 0.55 0.89 0.52 0.57 0.79 0.55 0.47 0.56 0.68 0.68 0.68 0.69 0.69 0.72 0.75 0.76 0.68 0.68 0.55 0.89 0.62 0.67 0.79 0.55 0.47 0.56 0.68 0.68 0.68 0.69 0.62 0.67 0.79 0.65 0.57 0.79 0.55 0.47 0.56 0.68 0.68 0.68 0.69 0.62 0.67 0.79 0.65 0.68 0.65 0.69 0.62 0.67 0.79 0.65 0.68 0.68 0.68 0.68 0.68 0.69 0.62 0.69 0.		0		2022 ^{2/a}	0004	2020	2040	204.0	2047	0040	2045	2044	2042	2042	0044	2040	2000	2000	2007	2000
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11 Dominion Resources 0.87 0.66 0.79 1.90 1.88 1.03 0.86 0.81 0.79 0.73 0.77 0.71 0.63 0.66 0.52 0.58 0.58 0.55 0.58 0.55 0.58 0.55 0.58 0.55 0.58 0.55 0.58 0.55 0.78 0.08 0.55 0.58 0.55 0.78 0.08 0.55 0.55 0.55 0.55 0.55 0.55 0.78 0.08 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.78 0.08 0.55 0.	-																			
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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 NA 1 Edison Int 1 0.38 0.88 1.35 1.50 0.62 -1.33 0.50 0.50 0.42 0.34 0.36 0.29 0.40 0.38 0.38 0.33 0.35 0.34 1.51 El Paso Electric 0.50 N/A																				
14 Edison Int Edison Detail 0.38 0.38 1.35 1.50 0.62 -1.93 0.50 0.50 0.42 0.34 0.36 0.29 0.40 0.38 0.33 0.33 0.35 0.34 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 0.48 0.48 0.48 0.43 0.27 NA N/A																				
15 El Paso Electric 0.50 N/A N/A N/A N/A N/A 0.68 0.54 0.51 0.57 0.49 0.48 0.43 0.27 N/A																				
Teversource Energy 0.60	15	El Paso Electric													0.27					
18 Evergy, Inc. 0.57 0.67 0.57 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
19 Exelor 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	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
PristEnergy 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	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
21 Fortis Inc.	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
22 Great Plains Energy - 0.82 N/A N/A N/A N/A N/A N/A - 18.33 0.66 0.73 0.60 0.54 0.63 0.67 0.54 0.81 1.43 0.90 1.02 23 Hawaiian Elec. 0.84 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 1.43 0.90 1.02 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 0.36 0.41 0.45 0.55 0.65 0.51 0.52 0.58 0.56 0.53 0.53 0.50 0.46 0.43 0.41 0.36 0.41 0.45 0.55 0.65 0.51 0.52 0.58 0.56 0.53 0.53 0.50 0.46 0.60 0.51 0.52 0.55 0.53 0.45 0.42 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.47 0.44 0.50 0.45 0.45 0.45 0.45 0.45 0.45	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
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 1 0 0 0 0.59 0.58 0.56 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 0 0 0 0.59 0.58 0.56 0.59 0.58 0.56 0.50 0.59 0.58 0.55 0.50 0.50 0.46 0.43 0.41 0.36 0.41 0.45 0.55 0.65 0.51 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																				
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 0.55 NextEra Energy, Inc. 0.56 0.79 0.85 0.67 0.64 0.66 0.60 0.51 0.52 0.55 0.53 0.45 0.42 0.47 0.44 0.50 0.47 0.47 0.47 0.47 0.47 0.47 0.47 0.4	22																			
25 NextEra Energy, Inc. 0.56 0.79 0.85 0.67 0.64 0.66 0.60 0.60 0.51 0.52 0.53 0.43 0.45 0.42 0.47 0.44 0.50 0.47 0.66 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 0.76 0.67 0.68 0.67 0.66 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 0.53 0.67 0.68 0.65 0.65 0.65 0.65 0.69 0.78 0.79 0.78 0.87 1.13 0.264 0.31 0.37 0.63 0.65 0.65 0.65 0.69 0.78 0.79 0.78 0.87 1.13 0.264 0.31 0.39 0.71 0.64 0.66 0.68 0.62 0.65 0.65 0.69 0.78 0.79 0.78 0.87 1.13 0.264 0.31 0.39 0.71 0.64 0.66 0.68 0.62 0.65 0.65 0.65 0.65 0.69 0.78 0.79 0.78 0.87 1.13 0.264 0.31 0.59 0.71 0.64 0.66 0.68 0.68 0.62 0.65 0.65 0.65 0.65 0.65 0.65 0.65 0.65																				
26 NorthWestern Corp 0.68 0.76 0.69 0.78 0.65 0.65 0.65 0.65 0.63 0.59 0.66 0.54 0.62 0.65 0.67 0.64 0.66 0.75 0.89 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.9																				
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 0.55 0.54 0.61 0.69 0.77 0.70 0.64 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 0.68 0.69 0.78 0.79 0.78 0.87 1.13 2.64 3.13 1.68 1.09 0.66 0.68 0.68 0.69 0.78 0.79 0.78 0.87 1.13 2.64 3.13 1.68 1.09 0.66 0.68 0.68 0.69 0.78 0.79 0.78 0.87 1.13 2.64 3.13 1.68 1.09 0.66 0.68 0.68 0.69 0.78 0.79 0.78 0.87 0.76 0.76 0.70 0.68 0.93 0.99 0.71 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 0.63 0.69 0.78 0.79 0.78 0.89 0.52 0.48 0.44 0.46 0.57 0.86 5.50 1.20 0.50 0.59 0.58 0.51 0.62 0.57 0.54 0.62 0.77 0.70 0.40 0.59 0.59 0.58 0.58 0.51 0.62 0.57 0.54 0.62 0.77 0.70 0.40 0.59 0.59 0.58 0.58 0.51 0.62 0.57 0.54 0.62 0.77 0.70 0.40 0.59 0.59 0.58 0.58 0.51 0.62 0.57 0.54 0.62 0.77 0.70 0.40 0.59 0.59 0.58 0.58 0.51 0.62 0.57 0.54 0.62 0.77 0.70 0.40 0.59 0.59 0.58 0.58 0.51 0.52 0.53 0.49 0.52 0.48 0.44 0.45 0.62 0.77 0.70 0.40 0.59 0.59 0.58 0.58 0.51 0.52 0.53 0.59 0.58 0.58 0.51 0.52 0.53 0.59 0.58 0.58 0.51 0.52 0.53 0.59 0.58 0.58 0.51 0.52 0.53 0.59 0.58 0.58 0.59 0.58 0.58 0.59 0.58 0.58 0.59 0.58 0.59 0.58 0.59 0.59 0.58 0.59 0.59 0.58 0.59 0.59 0.59 0.58 0.59 0.59 0.59 0.59 0.59 0.59 0.59 0.59																				
28 Otter Tail Córp. 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 1.09 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 0.70 0.70 0.68 0.93 0.99 0.71 0.64 0.67 0.70 0.70 0.71 0.64 0.65 0.62 0.65 0.61 0.70 0.70 0.68 0.77 0.70 0.68 0.77 0.70 0.60 0.59 0.71 0.64 0.65 0.62 0.65 0.62 0.65 0.61 0.76 0.70 0.68 0.57 0.86 0.57 0.50 0.50 0.50 0.50 0.50 0.50 0.52 0.53 0.49 0.52 0.48 0.44 0.46 0.57 0.86 0.57 0.86 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.5																				
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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 0.59 1 Porlland 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 0.70 0.70 0.59 0.58 0.59 0.58 0.51 0.62 0.57 0.54 0.62 0.77 0.70 0.70 0.70 0.59 0.58 0.51 0.62 0.55 0.54 0.62 0.77 0.70 0.70 0.64 0.48 0.65 0.61 0.65 0.61 0.62 0.55 0.54 0.62 0.57 0.55 0.54 0.62 0.77 0.70 0.70 0.40 0.59 0.58 0.44 0.45 0.42 0.42 0.42 0.42 0.42 0.45 0.62 0.57 0.54 0.62 0.77 0.78 0.78 0.79 0.79 0.79 0.76 0.75 0.55 0.50 0.60 0.63 0.65 0.43 0.44 0.45 0.42 0.45 0.62 0.65 0.64 0.66 0.62 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.64 0.65 0.65 0.71 0.71 0.54 0.57 0.60 0.55 0.43 0.39 0.33 0.31 0.29 0.28 0.28 0.28 0.28 0.28 0.28 0.28 0.28																				
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32 PPL Corp. 0.80 0.62 3.13 0.81 0.70 0.64 0.75 0.54 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 3.43 SCANA Corp. 0.61 N/A																				
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36 Southern Co. 0.75 0.76 0.77 0.78 0.78 0.79 0.72 0.79 0.76 0.75 0.75 0.75 0.73 0.73 0.76 0.75 0.74 0.70 0.73 37 Vectren Corp. 0.75 N/A N/A N/A N/A N/A N/A N/A N/A 0.66 0.64 0.64 0.64 0.72 0.86 0.72 0.80 0.84 0.75 0.80 0.69 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85																				
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40 Xcel Energy 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							N/A													
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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																				
	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.

Note:

^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.

									Cash Flo	w to Capit	al Spendin	g Ratio ¹							
Line	Company	17-Year Average	2022 ^{2/a}	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
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 0.77	0.86	0.89	N/A	N/A	N/A	N/A 0.90	N/A 0.99	N/A	N/A	N/A	N/A
6 7	Avista Corp. Black Hills	0.90 0.65	0.83 0.85	0.88	0.88	0.92 0.53	0.78 0.87	1.17	0.84	0.76 0.64	0.80 0.70	0.86 0.74	0.80		0.99	1.15 0.61	0.97 0.35	0.73	1.36 0.55
8				0.61	0.61				0.71				0.71	0.40				0.76	
9	CenterPoint Energy CMS Energy Corp.	1.03 0.87	0.60 0.78	0.73 0.78	0.73 0.78	0.83 0.79	0.98 0.77	1.22 0.89	1.12 0.81	0.92 0.81	1.20 0.74	1.18 0.82	1.37 0.82	1.12 1.05	0.88 1.13	0.99 0.97	1.16 1.11	0.98 0.55	1.08 1.07
10	Consol, Edison	0.82	0.78	0.78	0.78	0.79	0.77	0.89	0.65	0.76	0.74	0.86	1.01	0.98	0.90	0.97	0.70	0.55	0.74
11	Dominion Resources	0.82	0.83	0.83	0.83	0.87	1.04	0.76	0.65	0.76	0.88	0.86	0.73	0.98	0.90	0.75	0.70	0.81	0.74
	DTE Energy	1.00	0.74	0.73	0.73	0.96	0.84	0.81	0.65	0.64	1.02	0.77	0.73	1.09	1.51	1.50	0.83	1.07	1.03
13	Duke Energy	0.89	0.70	0.74	0.74	0.80	0.84	0.94	0.93	0.96	1.20	1.09	0.93	0.89	0.78	0.77	0.96	1.07	0.97
14	Edison Int'l	0.89	0.67	0.65	0.65	0.68	0.34	0.87	0.62	0.80	0.83	0.80	0.87	0.69	0.76	0.77	0.71	0.88	0.93
15	El Paso Electric	0.74	N/A	0.83	0.55 N/A	0.66 N/A	0.86	1.04	0.85	0.67	0.69	0.80	0.76	1.03	0.00	0.79	0.93	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	0.73	1.14	1.13
17	Eversource Energy	0.85	0.72	0.80	0.80	0.75	0.73	0.79	0.87	0.91	0.90	1.13	0.86	0.80	1.05	0.96	0.33	0.68	0.67
18	Evergy, Inc.	1.03	0.72	1.03	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	0.56	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
26	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 Tail 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	1.16	1.09	0.56	0.37	0.65	1.44
29	Pinnacle 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	PNM Resources	0.71	0.63	0.72	0.72	0.78	0.82	0.84	0.57	0.57	0.63	0.80	0.87	0.77	0.82	0.70	0.44	0.43	0.89
31	Portland General	0.84	1.01	0.78	0.78	1.03	1.00	1.07	0.88	0.80	0.47	0.59	1.28	1.25	0.81	0.44	0.77	0.72	0.78
32	PPL Corp.	0.96	1.35	0.90	0.90	0.98	0.93	0.82	1.00	0.72	0.75	0.69	0.91	1.07	1.11	1.07	1.25	1.13	1.18
33	Public Serv. Enterprise	1.12	0.82	1.13	1.13	1.08	0.70	0.64	0.61	0.80	1.04	0.93	0.96	1.30	1.23	1.41	1.34	1.64	1.94
34	SCANA Corp.	0.86	N/A	N/A	N/A	N/A	N/A	0.86	0.66	0.83	0.90	0.83	0.77	0.88	0.86	0.76	0.76	0.92	1.26
35	Sempra Energy	0.81	0.92	0.77	0.77	0.88	0.80	0.67	0.56	0.81	0.74	0.84	0.73	0.72	0.90	1.02	0.87	0.90	0.93
36	Southern Co.	0.89	0.97	0.99	0.99	0.88	0.83	0.90	0.77	0.88	0.80	0.86	0.93	0.94	0.93	0.78	0.87	0.91	1.00
37	Vectren Corp.	1.00	N/A	N/A	N/A	N/A	N/A	0.82	0.87	0.95	0.98	1.05	1.13	1.20	1.31	0.83	0.82	0.98	1.00
38	WEC Energy Group	0.98	0.86	0.97	0.97	0.91	0.90	0.92	1.20	0.97	1.37	1.42	1.30	1.02	0.97	0.89	0.61	0.56	0.69
39	Westar Energy	0.72	N/A	N/A	N/A	N/A	N/A	0.91	0.63	0.86	0.70	0.72	0.67	0.71	0.88	0.68	0.36	0.48	1.00
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

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.

Notes:
 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)

		Price to Earnings (P/E) Ratio ¹																	
Line	Company	17-Year Average (1)	2022 ² (2)	2021 (3)	<u>2020</u> (4)	<u>2019</u> (5)	2018 (6)	2017 (7)	2016 (8)	2015 (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 2	Atmos Energy Chesapeake Utilities	17.37 18.86	20.00 25.50	19.30 26.30	22.30 21.57	23.22 24.74	21.75 22.94	22.04 27.84	20.80 21.77	17.50 19.15	16.09 17.70	15.87 15.62	15.93 14.81	14.36 14.16	13.21 12.21	12.54 14.20	13.59 14.15	15.87 16.72	13.52 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 5	NiSource Inc. Northwest Nat. Gas	19.86 20.91	21.00 19.90	19.50 17.60	18.67 24.96	21.32 30.85	19.34 26.63	NMF NMF	23.18 26.92	37.34 23.69	22.74 20.69	18.89 19.38	17.87 21.08	19.36 19.02	15.33 16.97	14.34 15.17	12.07 18.08	18.82 16.74	19.16 15.85
6	ONE Gas Inc.	21.56	21.20	18.60	21.71	25.27	23.06	23.47	22.74	19.79	17.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	18.55	19.10	14.30	14.89	28.28	22.64	27.92	21.71	17.95	18.03	18.90	16.94	18.48	16.81	14.96	15.90	17.18	11.86
8	Southwest Gas	17.57	21.60	15.30	16.80	21.30	20.61	22.21	21.64	19.35	17.86	15.76	15.00	15.69	13.97	12.20	20.27	17.26	15.94
9 10	Spire Inc. UGI Corp.	18.96 15.75	17.60 12.70	19.00 12.90	51.12 13.80	22.79 23.40	16.74 17.77	19.82 20.84	19.61 19.33	16.49 17.71	19.80 15.81	21.25 15.44	14.46 16.38	13.05 15.03	13.74 10.86	13.39 10.30	14.31 13.30	14.19 15.14	13.60 13.97
11	WGL Holdings Inc.	16.71	N/A	N/A	N/A	N/A	N/A	25.40	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12 13	Average Median	18.45 17.83	19.77 19.95	18.03 18.10	22.35 20.12	24.55 23.87	20.71 21.18	23.55 22.38	21.73 21.64	20.23 17.95	17.58 17.83	17.53 17.11	16.46 16.15	16.29 16.22	14.32 14.48	13.46 13.80	14.76 13.91	16.91 16.73	15.33 15.66
									Market Pri	ce to Cash	Flow (MP/	(CF) Ratio ¹							
		17-Year									(.,							
Line	Company	Average (1)	2022 ² (2)	(3)	(4)	<u>2019</u> (5)	(6)	<u>2017</u> (7)	2016 (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)	2009 (15)	2008 (16)	2007 (17)	2006 (18)
14	Atmos Energy Chesapeake Utilities	9.04 10.17	12.31 14.07	10.99 14.20	13.11 12.31	13.35 14.17	12.02 12.24	11.99 13.78	11.36 12.06	9.30 10.16	8.79 9.25	7.72 8.12	7.02 7.46	6.87 7.35	6.15 6.36	5.76 9.48	6.48 7.88	7.44 8.58	6.36 9.40
15 16	New Jersey Resources	12.00	11.68	11.56	11.10	15.98	11.44	14.45	13.94	11.71	8.95	11.29	12.29	12.71	11.32	11.34	9.15	13.76	11.01
17	NiSource Inc.	7.87	9.22	7.89	7.83	8.81	8.91	12.11	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
18	Northwest Nat. Gas	12.66	8.34	8.57	10.10	13.13	11.75	59.72	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
19	ONE Gas Inc.	10.64	10.04	9.32	10.85	12.75	11.85	11.89	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20 21	South Jersey Inds. Southwest Gas	10.57 6.44	10.07 7.01	9.26 6.87	7.54 7.05	12.38 8.92	10.72 9.32	12.33 9.10	10.88 7.41	10.70 6.56	10.57 6.35	11.57 5.94	10.95 5.55	11.98 5.60	10.78 4.91	9.57 3.84	10.38 4.89	11.23 5.42	8.32 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 26	Average Median	9.61 8.84	9.88 9.63	9.58 9.29	10.13 10.47	12.37 12.85	10.69 11.08	16.25 12.11	10.69 11.10	9.45 9.46	9.04 8.84	9.21 8.66	8.47 8.31	8.55 7.80	7.60 7.24	7.38 7.71	7.62 7.78	8.64 8.42	7.88 7.82
20	Wedan	0.04	3.03	3.23	10.47	12.00	11.00	12.11	11.10	3.40	0.04	0.00	0.01	7.00	7.27	7.71	7.70	0.42	7.02
		17-Year							Market Pric	ce to Book	Value (MP	/BV) Ratio	!						
Line	Company	Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
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 29	Chesapeake Utilities New Jersey Resources	2.03 2.26	2.83	2.77 2.26	2.27 1.90	2.69 2.75	2.50 2.63	2.51 2.70	2.28 2.52	2.19 2.28	2.12 2.13	1.83 2.05	1.66 2.33	1.61 2.31	1.40 2.09	1.37 2.16	1.64 1.92	1.84 2.17	1.85 2.01
30	NiSource Inc.	1.53	2.20	1.86	1.95	2.75	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	ONE 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 1.63	2.13	1.96	1.68	1.68	1.61	1.51	1.43 1.46	1.24	0.97	1.20	1.46	1.46
35 36	Spire Inc. UGI Corp.	1.57 2.03	1.36 1.44	1.47 1.64	1.67 1.87	1.78 2.92	2.30	1.65 2.62	1.64 2.41	1.44 2.29	1.33 1.97	1.34 1.69	1.51 1.45	1.46	1.39 1.55	1.68 1.66	1.71 2.01	1.66 2.16	1.71 2.21
37	WGL Holdings Inc.	1.81	N/A	N/A	N/A	N/A	N/A	2.69	2.45	2.15	1.69	1.71	1.66	1.63	1.50	1.45	1.59	1.64	1.59
38	Average	1.82	1.78	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

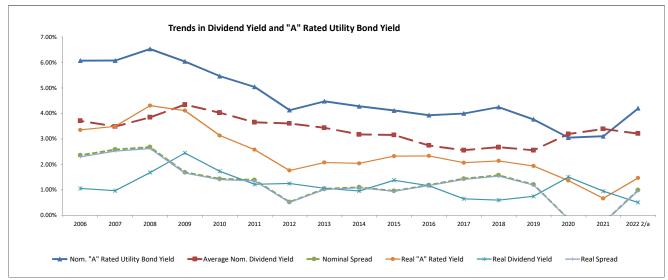
Notes:

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.

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 (1)	2022 ^{2/a} (2)	2021 (3)	2020 (4)	<u>2019</u> (5)	2018 (6)	2017 (7)	2016 (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)	2009 (15)	2008 (16)	2007 (17)	<u>2006</u> (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-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%
	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%
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																		
	Nominal "A" Rated Yield ⁴																		
18	Real "A" Rated Yield	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%	-0.29%	-0.14%	1.21%	1.57%	1.44%	1.19%	0.96%	1.11%	1.04%	0.52%	1.39%	1.43%	1.69%	2.68%	2.59%	2.36%
21	Reale	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 ^f	-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 ^g	-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:

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

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:

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

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

The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 18 - Line 12). The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 19 - Line 17) The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 14 - Line 12).

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

Natural Gas Utilities (Valuation Metrics)

		Dividend per Share ¹																			
		17-Year																		2018	2017
Line	Company	Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	CAGR	CAGR
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
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	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:

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

Docket No. 22-057-03 FEA Exhibit 1.01 Christopher C. Walters Page 14 of 16

Dominion Energy Utah

Natural Gas Utilities (Valuation Metrics)

		Earnings per Share ¹																	
		17-Year																	
Line	<u>Company</u>	Average	2022 ²	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Atmos Energy	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						
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)

Cash Flow / Capital Spending

<u>Line</u>	<u>Company</u>	2019 ¹ (1)	2020 ¹ (2)	2021 ² (3)	2022 ³ (4)	2023 ⁴ (5)	3 - 5 yr ³ Projection (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

Notes:

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

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

Natural Gas Utilities (Valuation Metrics)

		Percent Dividends to Book Value ¹																	
Line	Company	17-Year Average (1)	2022 ^{2/a} (2)	2021 (3)	2020 (4)	<u>2019</u> (5)	2018 (6)	2017 (7)	2016 (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)	2008 (16)	<u>2007</u> (17)	<u>2006</u> (18)
1 2	Atmos Energy Chesapeake Utilities	5.10% 5.21%	4.23% 4.31%	4.19% 4.15%	4.26% 4.23%	4.36% 4.53%	4.53% 4.39%	4.90% 4.23%	5.04% 4.35%	4.96% 4.78%	4.81% 5.18%	4.92% 5.25%	5.28% 5.39%	5.44% 5.42%	5.55% 5.49%	5.61% 5.60%	5.75% 6.71%	5.82% 6.66%	6.25% 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 6	Northwest Nat. Gas ONE Gas Inc.	6.53% 4.26%	6.60% 4.15%	5.66% 5.04%	6.57% 5.14%	6.69% 4.96%	7.16% 4.73%	7.27% 4.48%	6.30% 3.88%	6.53% 3.41%	6.58% 2.44%	6.59% N/A	6.57% N/A	6.55% N/A	6.44% N/A	6.43% N/A	6.41% N/A	6.39% N/A	6.32% 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 13	Average Median	5.82% 5.72%	5.48% 5.13%	5.69% 5.45%	5.78% 6.10%	5.72% 5.62%	5.60% 4.98%	5.77% 5.28%	5.59% 5.14%	5.78% 5.72%	5.51% 5.18%	5.82% 5.28%	5.96% 5.80%	6.02% 6.03%	6.00% 5.99%	5.96% 6.02%	6.00% 6.41%	6.04% 6.30%	6.19% 6.36%
									Divi	dends to E	arnings Ra	atio ¹							
	•	17-Year	0000 2/a																
Line	Company	Average (1)	2022 ^{2/a} (2)	(3)	(4)	<u>2019</u> (5)	(6)	(7)	(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)	2009 (15)	2008 (16)	<u>2007</u> (17)	2006 (18)
	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 16	Chesapeake Utilities New Jersey Resources	0.48 0.55	0.41 0.63	0.39 0.63	0.40 0.61	0.42 0.61	0.40 0.41	0.47 0.60	0.42 0.61	0.42 0.52	0.43 0.41	0.45 0.59	0.48 0.57	0.48 0.56	0.48 0.55	0.58 0.52	0.58 0.41	0.61 0.65	0.67 0.51
17	NiSource Inc.	0.83	0.65	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.41	0.62	0.69	0.88	0.87	1.10	0.41	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 22	Southwest Gas	0.51 0.68	0.58 0.70	0.63 0.52	0.55 1.73	0.55 0.67	0.57 0.52	0.55 0.61	0.57 0.60	0.55 0.58	0.49 0.75	0.42 0.84	0.41 0.59	0.44 0.56	0.44 0.65	0.49 0.52	0.65 0.56	0.44 0.63	0.41 0.59
23	Spire Inc. UGI Corp.	0.66	0.70	0.52	0.49	0.50	0.32	0.61	0.60	0.36	0.75	0.46	0.60	0.50	0.88	0.32	0.38	0.63	0.59
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 26	Average Median	0.59 0.59	0.60 0.62	0.59 0.61	0.70 0.60	0.63 0.59	0.55 0.54	0.55 0.56	0.60 0.59	0.65 0.55	0.56 0.50	0.61 0.59	0.59 0.59	0.59 0.56	0.58 0.58	0.59 0.54	0.56 0.58	0.59 0.62	0.57 0.59
		17-Year							Cash Flo	ow to Capit	tal Spendir	ng Ratio							
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)
	Atmos Energy	0.66 0.73	0.52	0.58	0.52	0.53	0.55 0.39	0.62	0.59	0.60	0.65 0.71	0.55	0.59	0.68	0.77	0.78	0.81	0.94	0.82
28 29	Chesapeake Utilities New Jersev Resources	1.26	0.84 0.68	0.81 0.62	0.78 0.71	0.62 0.51	0.39	0.50 0.70	0.50 0.59	0.53 0.67	1.79	0.65 1.46	0.79 1.48	1.12 1.51	1.10 1.55	1.14 1.75	0.83 2.11	0.82 1.67	0.45 2.14
30	NiSource Inc.	0.76	0.66	0.62	0.71	0.61	0.58	0.70	0.59	0.53	0.56	0.57	0.65	0.75	1.11	1.75	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 37	UGI Corp.	1.47 1.02	1.55 N/A	1.32 N/A	1.59 N/A	1.22 N/A	1.64 N/A	1.29 0.61	1.35 0.56	1.48 0.60	1.53 0.63	1.32 0.71	1.52 0.93	1.28 1.02	1.36 1.60	1.52 1.60	1.72 1.60	1.62 1.17	1.69 1.18
	WGL Holdings Inc.																		
38 39	Average Median	0.95 0.76	0.82 0.76	0.77 0.72	0.74 0.67	0.64 0.57	0.76 0.72	0.67 0.68	0.79 0.76	0.79 0.67	0.94 0.79	0.86 0.74	0.94 0.92	1.07 1.07	1.18 1.23	1.31 1.21	1.35 1.48	1.24 1.19	1.24 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

Notes:

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

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

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

Proxy Group

<u>Line</u>		Credit	Ratings ¹	Common I	Equity Ratios
<u>Line</u>	<u>Company</u>	<u>S&P</u> (1)	Moody's (2)	MI ¹ (3)	Value Line ² (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	Α-	А3	38.6%	44.6%
8	Median			37.5%	43.1%
9	Dominion Energy Utah ^{3,4}	BBB+	А3		53.2%

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 DEU Exhibit 2.0, Page 15.

⁴ DEU Exhibit 2.0, Page 3.

Consensus Analysts' Growth Rates

		Za	cks	N	ΛI	Yahoo!	Finance	Average of
<u>Line</u>	<u>Company</u>	Estimated Growth % ¹ (1)	Number of Estimates (2)	Estimated Growth % ² (3)	Number of Estimates (4)	Estimated Growth % ³ (5)	Number of Estimates (6)	Growth Rates (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							FEA Exhibit 1.0

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.

Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	<u>Company</u>	13-Week AVG <u>Stock Price¹</u> (1)	Analysts' <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yield</u> (4)	Constant Growth DCF (5)
1	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%

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

² FEA Exhibit 1.03. ³ The Value Line Investment Survey, May 27, 2022.

Payout Ratios

		Dividend	s Per Share	Earnings	s Per Share	Payou	ıt Ratio
<u>Line</u>	<u>Company</u>	2021	Projected	2021	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.

Docket No. 22-057-03 FEA Exhibit 1.06 Christopher C. Walters Page 1 of 2

Dominion Energy Utah

Sustainable Growth Rate

						3 to 5 Ye	ar Projections					Sustainable
		Dividends	Earnings	Book Value	Book Value		Adjustment	Adjusted	Payout	Retention	Internal	Growth
Line	<u>Company</u>	Per Share	Per Share	Per Share	Growth	ROE	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).

Docket No. 22-057-03 FEA Exhibit 1.06 Christopher C. Walters Page 2 of 2

Dominion Energy Utah

Sustainable Growth Rate

		13-Week Average	<u>2021</u> Book Value	Market to Book		n Shares g (in Millions)²				
<u>Line</u>	<u>Company</u>	Stock Price ¹ (1)	Per Share ² (2)	Ratio (3)	<u>2021</u> (4)	2021 3-5 Years		S Factor ³ (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)].

Constant Growth DCF Model (Sustainable Growth Rate)

<u>Line</u>	<u>Company</u>	13-Week AVG <u>Stock Price¹</u> (1)	Sustainable <u>Growth²</u> (2)	Annualized <u>Dividend³</u> (3)	Adjusted <u>Yield</u> (4)	Constant Growth DCF (5)
1	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%

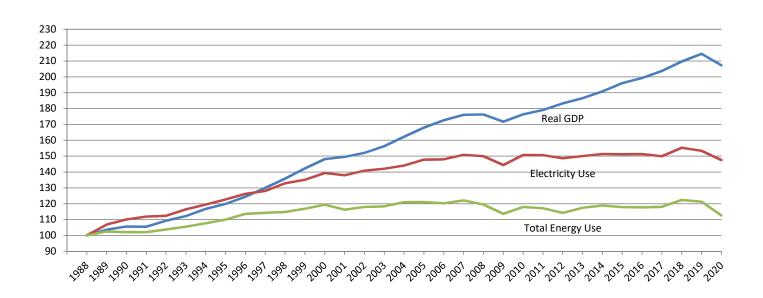
Sources:

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

² FEA Exhibit 1.06, page 1.

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

Electricity Sales Are Linked to U.S. Economic Growth



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

Multi-Stage Growth DCF Model

13-Week AVG Annualized First Stage Second Stage Growth										Third Stage	Multi-Stage	
<u>Line</u>	<u>Company</u>	Stock Price1	Dividend ²	Growth ³	Year 6	Year 7	Year 8	Year 9	Year 10	Growth ⁴	Growth DCF	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1	Atmos Energy Corporation	\$113.77	\$2.72	7.75%	7.19%	6.62%	6.05%	5.48%	4.91%	4.35%	7.45%	
2	New Jersey Resources Corporation	\$44.78	\$1.45	6.28%	5.96%	5.64%	5.31%	4.99%	4.67%	4.35%	8.16%	
3	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%	
6	Spire Inc.	\$75.17	\$2.74	4.65%	4.60%	4.55%	4.50%	4.45%	4.40%	4.35%	8.22%	
7	Average	\$66.74	\$2.04	5.95%	5.68%	5.42%	5.15%	4.88%	4.61%	4.35%	7.99%	
8	Median										8.19%	

Sources

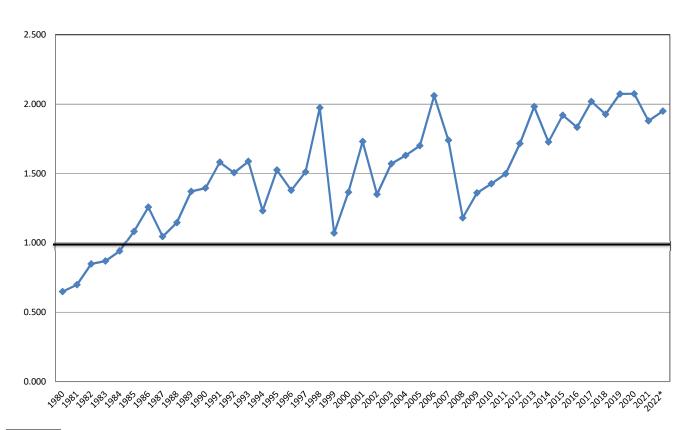
¹ S&P Global Market Intelligence, Downloaded on July 11, 2022.

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

³ FEA Exhibit 1.03.

⁴ Blue Chip Financial Forecasts, June 1, 2022 at page 14.

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

<u>Line</u>	<u>Year</u>	Authorized Gas <u>Returns¹</u> (1)	30 yr. Treasury <u>Bond Yield²</u> (2)	Indicated Risk <u>Premium</u> (3)	Rolling 5 - Year <u>Average</u> (4)	Rolling 10 - Year <u>Average</u> (5)
1	1986	13.46%	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 36	2020	9.46%	1.56%	7.90%	7.05%	6.77%
36	2021 2022 ³	9.56%	2.05%	7.51%	7.17%	6.92%
31	2022	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:

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/.

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

³ Data represents January - March, 2022.

Equity Risk Premium - Utility Bond

<u>Line</u>	<u>Year</u>	Authorized Gas <u>Returns¹</u> (1)	Average "A" Rated Utility <u>Bond Yield²</u> (2)	Indicated Risk <u>Premium</u> (3)	Rolling 5 - Year <u>Average</u> (4)	Rolling 10 - Year <u>Average</u> (5)
1	1986	13.46%	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:

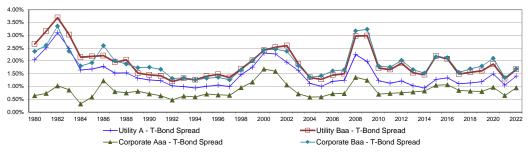
¹ Regulatory Research Associates, Inc., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3. S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - March 2022, May 2, 2022, p. 4.

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

Bond Yield Spreads

				Publ	ic Utility Bond	ı		Co	orporate Bond		Utility to Corporate					
	T-Bone				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%	.67% 0.64% 2.37%		0.28%	1.40%				
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%				
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%				
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%				
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%				
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%				
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%				
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%				
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%				
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%				
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%				
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%				
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%				
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%				
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%				
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%				
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%				
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%				
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%				
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%				
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%				
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%				
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%				
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%				
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%				
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%				
27	2006	4.87%	6.07%	6.32%	1.20%	1.44%	5.59%	6.48%	0.71%	1.61%	-0.16%	0.48%				
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%				
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%				
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%				
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%				
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%				
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%				
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%				
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%				
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%				
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%				
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%				
39	2018	3.11%	4.25%	4.67%	1.14%	1.56%	3.93%	4.80%	0.82%	1.69%	-0.13%	0.32%				
40	2019	2.58%	3.77%	4.19%	1.18%	1.61%	3.39%	4.38%	0.81%	1.79%	-0.18%	0.38%				
41	2020	1.56%	3.05%	3.44%	1.49%	1.87%			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/.

² The utility yields for the period 1980-2000 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003. The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.

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

The corporate yields for the period 1980-2009 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
 The corporate yields from 2010-2022 were obtained from the St. Louis Federal Reserve: Economic Research, http://creadittends.moodys.com/.
 Data represents January - March, 2022

Treasury and Utility Bond Yields

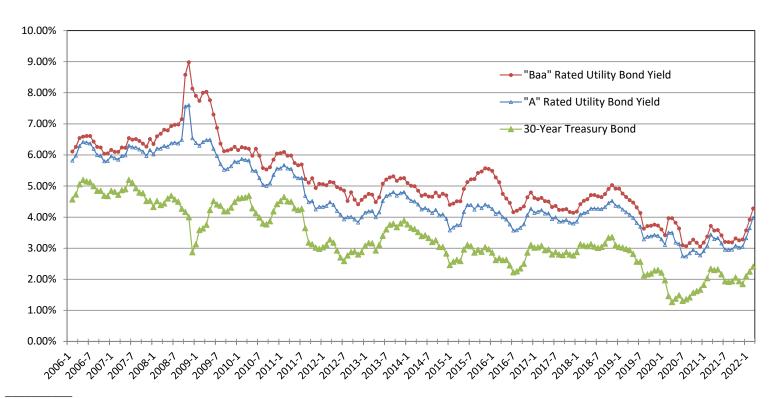
<u>Line</u>	<u>Date</u>	Treasury Bond Yield ¹ (1)	"A" Rated Utility <u>Bond Yield²</u> (2)	"Baa" Rated Utility <u>Bond Yield²</u> (3)
1	07/08/22	3.27%	4.98%	5.34%
2	07/01/22	3.11%	4.85%	5.23%
3	06/24/22	3.26%	4.93%	5.30%
4	06/17/22	3.30%	4.97%	5.35%
5	06/10/22	3.20%	4.79%	5.14%
6	06/03/22	3.11%	4.66%	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



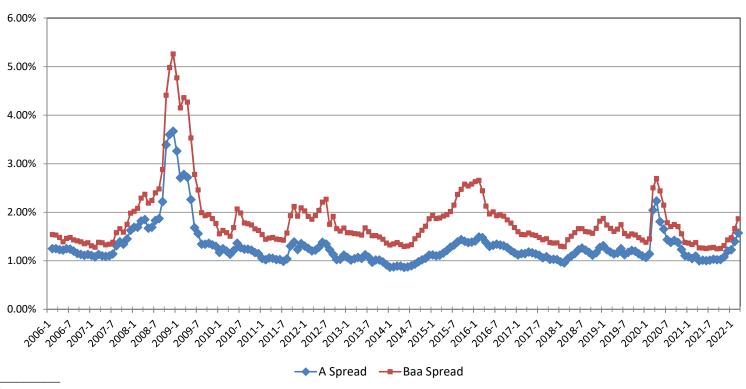
Sources:

Mergent Bond Record.

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

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

Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:

Mergent Bond Record.

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

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

Beta

<u>Line</u>	<u>Company</u>	Beta ¹	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 FEA Exhibit 1.15, page 2.

Docket No. 22-057-03 FEA Exhibit 1.15 Christopher C. Walters Page 2 of 2

Dominion Energy Utah

<u>Historical Betas</u> (Natural Gas Utilities)

Line	Company	Average (1)	2Q22 (2)	1Q22 (3)	4Q21 (4)	3Q21 (5)	2Q21 (6)	1Q21 (7)	4Q20 (8)	3Q20 (9)	2Q20 (10)	1Q20 (11)	4Q19 (12)	3Q19 (13)	2Q19 (14)	1Q19 (15)	4Q18 (16)	3Q18 (17)	2Q18 (18)	1Q18 (19)	4Q17 (20)	3Q17 (21)	2Q17 (22)	1Q17 (23)	4Q16 (24)	3Q16 (25)	2Q16 (26)	1Q16 (27)	4Q15 (28)	3Q15 (29)	2Q15 (30)	1Q15 (31)	4Q14 (32)	3Q14 (33)
2 3 4 5	Atmos Energy Corporation New Jersey Resources Corporation NiSource Inc. Northwest Natural Holding Company ONE Gas, Inc. Spire Inc.	0.74 0.82 0.72 0.70 0.72 0.73	0.80 0.95 0.85 0.80 0.80 0.80	0.80 1.00 0.85 0.80 0.80 0.85	0.80 1.00 0.85 0.85 0.80 0.85	0.80 1.00 0.85 0.85 0.80 0.85	0.80 1.00 0.85 0.85 0.80 0.85	0.80 0.95 0.85 0.80 0.80 0.85	0.80 0.95 0.85 0.80 0.80 1.00	0.80 0.90 0.85 0.80 0.80 0.80	0.80 0.90 0.85 0.80 0.80 0.80	0.55 0.65 0.55 0.55 0.60 0.60	0.60 0.70 0.55 0.60 0.65 0.65	0.60 0.70 0.55 0.60 0.65 0.65	0.65 0.70 0.55 0.60 0.65 0.65	0.60 0.70 0.55 0.65 0.65 0.65	0.60 0.70 0.50 0.60 0.65 0.65	0.60 0.70 0.55 0.65 0.65 0.65	0.70 0.80 0.60 0.70 0.70 0.70	0.70 0.75 0.60 0.65 0.70 0.65	0.70 0.80 0.60 0.70 0.70 0.70	0.70 0.80 NMF 0.70 0.70 0.70	0.70 0.80 0.65 0.65 0.70 0.70	0.70 0.80 NMF 0.65 N/A 0.70	0.70 0.80 NMF 0.65 N/A 0.70	0.75 0.80 NMF 0.65 N/A 0.70	0.75 0.80 NMF 0.65 N/A 0.70	0.80 0.80 NMF 0.65 N/A 0.70	0.80 0.80 NMF 0.65 N/A 0.70	0.85 0.85 NMF 0.70 N/A 0.70	0.85 0.80 0.85 0.70 N/A 0.70	0.85 0.80 0.85 0.70 N/A 0.70	0.80 0.80 0.85 0.70 N/A 0.70	0.80 0.80 0.80 0.70 N/A 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

<u>Line</u>	<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 ² 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%
5	Historical Beta 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 In	telligence 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	CAPM	6.71%	8.53%	8.82%

Sources:

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.

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

³ Kroll 2022 SBBI Yearbook, page 207.

⁴ FEA Exhibit 1.16, page 2.

⁵ FEA Exhibit 1.15, page 1.

Development of the Market Risk Premium

<u>Line</u>	<u>Description</u>	MRP
Risk	Premium Based Method:	
1	Lg. Co. Stock Real Market Return	9.20% 1
2	Projected Consumer Price Index	2.50% ²
3	Expected Market Return	11.93%
4	Risk-Free Rate	3.80% ²
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%
FERC	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	1.48%
15	Expected Market Return	12.48%
16	Risk-Free Rate	3.80% 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.