

Exhibit No.:
Issues: Rate of Return
Witness: Christopher C. Walters
Type of Exhibit: Direct Testimony
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: ER-2024-0319
Date Testimony Prepared: December 3, 2024

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

**In the Matter of Union Electric Company
d/b/a Ameren Missouri's Tariffs to Adjust
its Revenues for Electric Service**

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Case No. ER-2024-0319

Direct Testimony and Schedules of

Christopher C. Walters

On behalf of

Missouri Industrial Energy Consumers

REDACTED VERSION

December 3, 2024



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_____)

Case No. ER-2024-0319

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

Affidavit of Christopher C. Walters

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

1. My name is Christopher C. Walters. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.


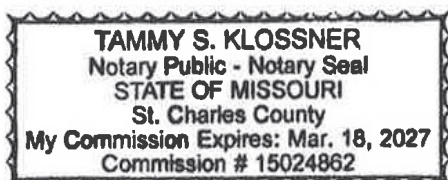
2. Attached hereto and made a part hereof for all purposes are my Direct Testimony and Schedules which were prepared in written form for introduction into evidence in the Missouri Public Service Commission Case No. ER-2024-0319.

3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.



Christopher C. Walters

Subscribed and sworn to before me this 3rd day of December, 2024.



Notary Public

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Direct Testimony of Christopher C. Walters**

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Docket No. ER-2024-0319

Direct Testimony of Christopher C. Walters

I. INTRODUCTION

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

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

4 **Q WHAT IS YOUR OCCUPATION?**

5 A I am a consultant in the field of public utility regulation and a Principal with the firm of
6 Brubaker & Associates, Inc., energy, economic and regulatory consultants.

7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A This information is included in Appendix A to my testimony.

9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

10 A This testimony is presented on behalf of the Missouri Industrial Energy
11 Consumers ("MIEC"), a non-profit corporation that represents the interests of large
12 consumers in Missouri rate matters.

1 **Q WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A My testimony addresses the overall rate of return (“ROR”) and its components including
3 an appropriate capital structure and a fair return on equity (“ROE”) that balances the
4 interests of ratepayers and shareholders.

5 My silence regarding any position taken by Ameren Missouri in its application
6 or direct testimony in this proceeding does not indicate my endorsement of that
7 position.

8 **II. SUMMARY**

9 **Q PLEASE BRIEFLY SUMMARIZE YOUR CONCLUSIONS AND**
10 **RECOMMENDATIONS IN THIS PROCEEDING.**

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

17 In Section IV of my testimony, I outline how a fair ROE should be established,
18 provide an overview of the market’s perception of the Company’s investment risk,
19 comment on the Company’s proposed capital structure, and present the analyses I
20 relied on to estimate an appropriate ROE for Ameren Missouri. Based on the results
21 of several cost of equity estimation methods performed on publicly traded utility
22 companies, I estimate the current fair market ROE for the Company to fall within the
23 range of 9.00% to 10.00%. Based on my assessment of the Company’s overall risk
24 profile and the results of the analytical methods, I recommend Ameren Missouri be

1 awarded an ROE of 9.50%, which is the mid-point of my estimated range. I conclude
2 that, while the Company's financial risk is much lower than that of the proxy group given
3 its equity ratio would warrant an ROE in the lower half of my recommended range, the
4 midpoint result of 9.50% is fair and reasonable.

5 Based on all the foregoing, I recommend this Commission adopt the following
6 recommendations:

- 7 1. Reject Ameren Missouri's proposed ROE of 10.25% and instead adopt my
8 recommended ROE of 9.50%, which is based on my assessment of the
9 current and expected capital market environment, the Company's overall
10 risk profile, and the results of several analytical methods which I have
11 analyzed, to determine a fair and reasonable ROE to be authorized for
12 Ameren Missouri.
- 13 2. My recommendations produce an overall ratemaking ROR of 7.01% and
14 would reduce Ameren Missouri's electric retail revenue requirements by
15 approximately \$72.1 million, assuming Ameren Missouri's proposed rate
16 base.

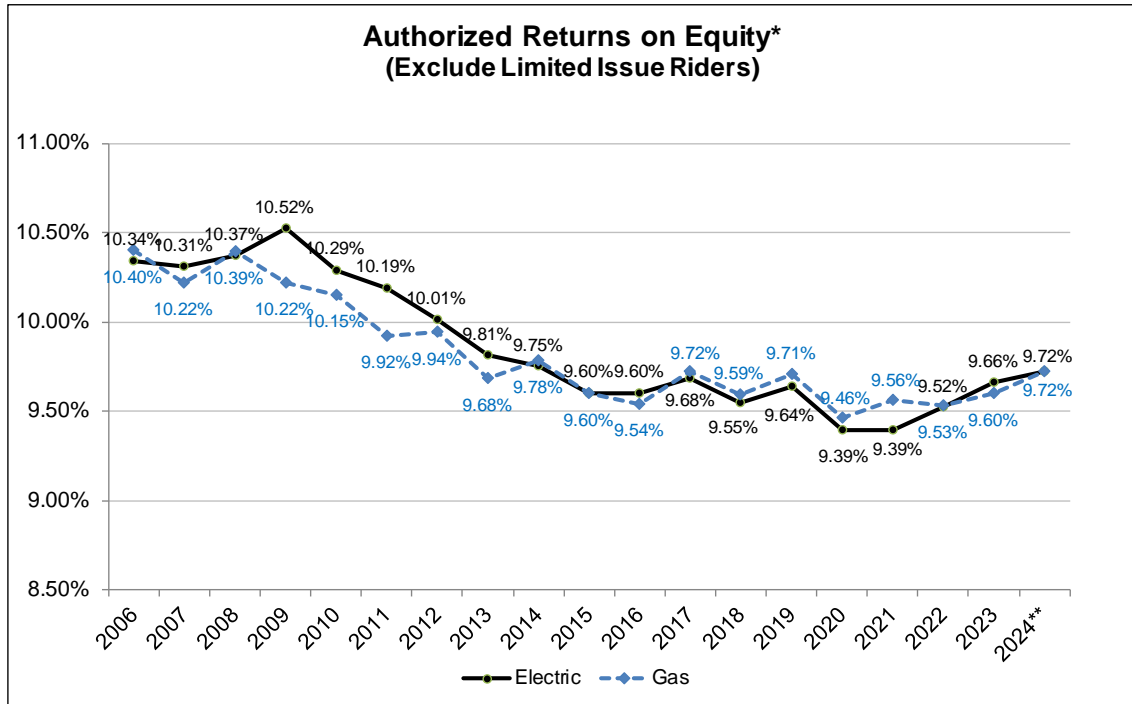
17 **III. INDUSTRY TRENDS**
18 **AND ECONOMIC ENVIRONMENT**

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

21 **Q PLEASE DESCRIBE THE OBSERVABLE EVIDENCE ON TRENDS IN**
22 **AUTHORIZED ROEs FOR ELECTRIC AND GAS UTILITIES.**

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

FIGURE CCW-1



Source and Notes:

* Electric Returns exclude Limited Issue Riders.

** S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions -- January - September 2024, October 30, 2024 at page 3.

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

TABLE CCW-1

Distribution of Authorized ROEs
(All Electric Utilities)*

<u>Year</u> (1)	<u>Average</u> (2)	<u>Median</u> (3)	Share of Decisions <u>≤ 9.5%</u> (4)	Share of Decisions <u>≤ 9.7%</u> (5)	Share of Decisions <u>≤ 10.0%</u> (6)
2016	9.60%	9.60%	41%	53%	94%
2017 ¹	9.67%	9.60%	42%	67%	81%
2018 ²	9.54%	9.57%	47%	63%	100%
2019	9.64%	9.65%	39%	58%	88%
2020 ³	9.38%	9.48%	64%	79%	100%
2021	9.39%	9.49%	58%	81%	97%
2022	9.52%	9.50%	53%	63%	84%
2023	9.66%	9.60%	38%	65%	85%
2024	9.78%	9.78%	19%	35%	87%
Average	9.58%	9.58%	45%	63%	91%
Median	9.60%	9.60%	42%	63%	88%

Source and Notes:

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

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

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

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

*Excludes Limited Issue Rider Cases.

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

1 Q HOW HAS THE AUTHORIZED COMMON EQUITY RATIO FLUCTUATED OVER
 2 THE SAME TIME PERIOD FOR UTILITIES?

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

TABLE CCW-2

Trends in State Authorized Common Equity Ratios
(Industry)

<u>Year</u> (1)	<u>Electric</u> ¹	
	<u>Average</u> (2)	<u>Median</u> (3)
2016	49.70%	49.99%
2017	50.02%	49.85%
2018	50.60%	50.23%
2019	51.55%	51.37%
2020	50.94%	51.17%
2021	51.01%	52.00%
2022	51.57%	51.92%
2023	51.59%	52.27%
2024	50.87%	52.10%
Average	50.87%	51.21%
Median	50.94%	51.37%

Source and Notes:
¹ S&P Global Market Intelligence, data through November 1, 2024.
² 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 DECLINING
 3 AUTHORIZED ROEs?

4 A Yes. As shown below in Table CCW-3, the credit ratings of the industry have improved
 5 since 2009. In 2009, approximately 53% of the industry was rated BBB+ or higher.
 6 Currently, 88% of the industry has a rating of BBB+ or higher.

TABLE CCW-3
S&P Ratings by Category
Electric Utility Subsidiaries
 (Year End)

<u>Description</u>	<u>2009</u>	<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>	<u>2022</u>	<u>2023</u>	<u>2024</u>
A or higher	12%	12%	12%	11%	13%	13%	13%	10%	10%	8%	14%	14%	10%	10%	12%	13%
A-	18%	20%	19%	22%	26%	26%	34%	43%	52%	54%	54%	53%	37%	37%	37%	33%
BBB+	23%	24%	28%	28%	25%	28%	24%	32%	21%	22%	18%	19%	35%	36%	36%	42%
BBB	36%	26%	24%	22%	26%	23%	18%	4%	7%	13%	12%	3%	16%	16%	15%	12%
BBB-	9%	16%	15%	17%	11%	11%	11%	11%	11%	2%	1%	0%	0%	0%	0%	0%
Below BBB-	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	10%	1%	1%	1%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: S&P CAPITAL IQ and Market Intelligence, downloaded 7/26/2024.
 Note: Subsidiary ratings used.

7 Q HAVE UTILITIES BEEN ABLE TO ACCESS EXTERNAL CAPITAL TO SUPPORT
 8 CAPITAL EXPENDITURE PROGRAMS?

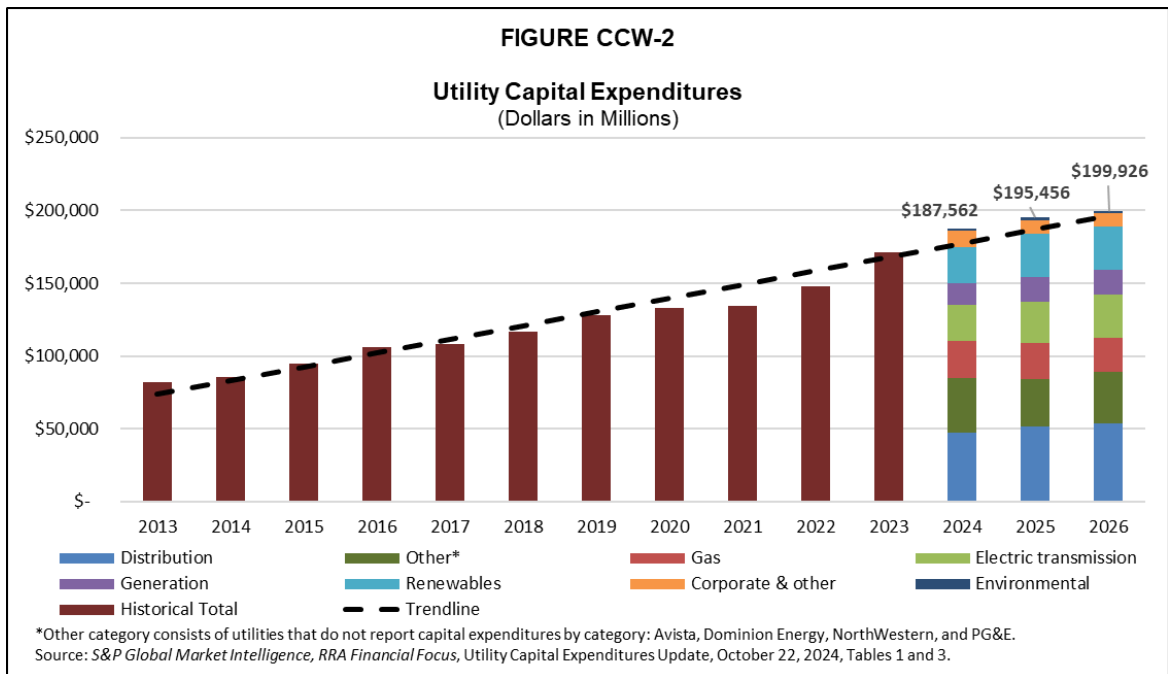
9 A Yes. Regulatory Research Associates' ("RRA") April 2, 2024 Utility Capital
 10 Expenditures report, *RRA Financial Focus*, a division of S&P Global Market
 11 Intelligence, made several relevant comments about utility investments generally:

- 12 • Energy utility capex estimates for 2025, 2026 and 2027 indicate
 13 successively higher spending levels, reaching \$192 billion, \$196.5 billion
 14 and \$197 billion, respectively. Spending in these years is likely to increase
 15 further, as the companies' plans for future projects continue to solidify
 16 around federal and state legislation supporting infrastructure investment.
- 17 • Multiple drivers are expected to elevate utility capital expenditures over the
 18 next several years. Pent-up demand to replace aging equipment is already
 19 pushing utilities to make considerable investments in infrastructure.
 20 Meanwhile, the renewable energy portfolio standards for multiple states
 21 continue to ramp up, with the plans specifying large expansions of
 22 low-carbon energy generation capacity. Amplifying these factors are

1 federal infrastructure investment plans, including the Inflation Reduction
 2 Act of 2022, which aim to convert the US power generation network to a
 3 majority of zero-carbon sources by 2035.

- 4 • Forecast aggregate utility investments in 2025, 2026 and 2027 are
 5 expected to reach new records of \$192 billion, \$196.5 billion and \$197
 6 billion, respectively. The increases are being driven in large part by federal
 7 legislation enacted in 2021 and 2022, supporting infrastructure investment
 8 and state-level energy transition plans and incentives, as well as robust
 9 growth in demand from datacenters, as the explosion in implementation of
 10 AI and cloud computing continues.
- 11 • Utilities have multiple opportunities to finance and support energy
 12 investments through mechanisms available within the Inflation Reduction
 13 Act and the Infrastructure Investment and Jobs Act of 2021. These pieces
 14 of legislation provide billions of dollars for power infrastructure investments,
 15 financial incentives for nuclear power plants and funding for battery storage
 16 technology, among other provisions.¹

17 As shown in Figure CCW-2 below, capital expenditures for the regulated electric
 18 and natural gas delivery utilities have increased considerably over the period 2023 into
 19 2024, and the forecasted capital expenditures remain elevated through the end of
 20 2026.



¹S&P Global Market Intelligence, RRA Financial Focus: “Utility capital expenditures update,” October 22, 2024.

1 As demonstrated in Figure CCW-2 above, and in the comments made by *RRA*
2 *S&P Global Market Intelligence*, capital investments for the utility industry continue to
3 stay at elevated levels, and these capital expenditures are expected to fuel utilities'
4 profit growth into the foreseeable future. This is clear evidence that the capital
5 investments are enhancing shareholder value and are attracting both equity and debt
6 capital to the utility industry in a manner that allows for funding these elevated capital
7 investments. While capital markets embrace these profit-driven capital investments,
8 regulatory commissions also must be careful to maintain reasonable prices and tariff
9 terms and conditions to protect customers' need for reliable utility service at reasonable
10 rates. If this is not done, utility rates will expand beyond the ability of customers to pay,
11 resulting in revenue constraints for utilities, which will impact their financial integrity.

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

14 A Yes. Strong valuations demonstrate that utilities can issue securities at favorable
15 prices and price multiples, signaling their ability to access equity capital on reasonable
16 terms and at a relatively low cost. As shown on Schedule CCW-1, the historical
17 valuation of utilities followed by *The Value Line Investment Survey* ("*Value Line*"),
18 based on a price-to-earnings ("P/E") ratio, price-to-cash flow ("P/CF") ratio, and market
19 price-to-book value ("M/B") ratio, indicates utility security valuations today are very
20 strong and robust relative to the last several years. These strong valuations of utility
21 stocks indicate that utilities have access to equity capital under reasonable terms and
22 at lower costs.

1 **Q WHAT CONCLUSION DO YOU DRAW FROM THIS OBSERVABLE MARKET DATA**
2 **IN FORMING YOUR RECOMMENDED ROE AND OVERALL RATE OF RETURN?**

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

7 **B. Impact of Monetary Policy**

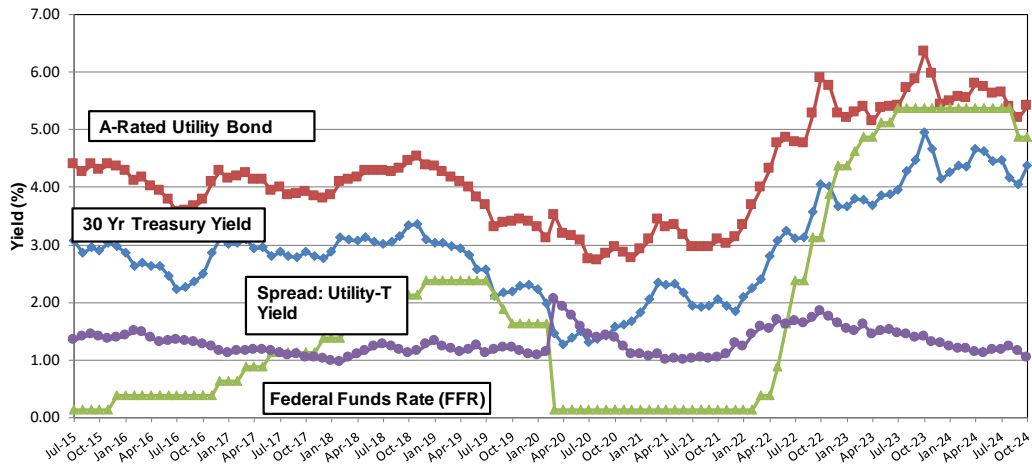
8 **Q ARE THE FEDERAL OPEN MARKET COMMITTEE'S ("FOMC") ACTIONS KNOWN**
9 **TO THE MARKET PARTICIPANTS, AND IS IT REASONABLE TO BELIEVE THEY**
10 **ARE REFLECTED IN THE MARKET'S VALUATION OF BOTH DEBT AND EQUITY**
11 **SECURITIES?**

12 A Yes to both questions. The Federal Reserve has been transparent about its efforts to
13 support the economy to achieve maximum employment, and to manage long-term
14 inflation to around a 2% level. The Fed has implemented procedures to support the
15 economy's efforts to achieve these policy objectives. Specifically, The Fed had
16 previously lowered the Federal Overnight Rate for securities and had engaged in a
17 Quantitative Easing program where The Fed was buying, monthly, Treasury and
18 mortgage-backed securities in order to moderate the demand in the marketplaces and
19 support the economy. Currently, The Fed is reducing its holdings of Treasury securities
20 and agency debt and agency mortgage-backed securities. Such monetary policy
21 actions include raising the target federal funds rate and allowing maturing bonds to roll
22 off its balance sheet.

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

FIGURE CCW-3

Timeline of Federal Funds Rate Changes Since 2015



Fed FFR Actions:

1	December 2015	0.25	→	0.50	14	March 2020	0.00	→	0.25
2	December 2016	0.50	→	0.75	15	March 2022	0.25	→	0.50
3	March 2017	0.75	→	1.00	16	May 2022	0.75	→	1.00
4	June 2017	1.00	→	1.25	17	June 2022	1.50	→	1.75
5	December 2017	1.25	→	1.50	18	July 2022	2.25	→	2.50
6	March 2018	1.50	→	1.75	19	September 2022	3.00	→	3.25
7	June 2018	1.75	→	2.00	20	November 2022	3.75	→	4.00
8	September 2018	2.00	→	2.25	21	December 2022	4.25	→	4.50
9	December 2018	2.25	→	2.50	22	February 2023	4.50	→	4.75
10	August 2019	2.00	→	2.25	23	March 2023	4.75	→	5.00
11	September 2019	1.75	→	2.00	24	May 2023	5.00	→	5.25
12	October 2019	1.50	→	1.75	25	July 2023	5.25	→	5.50
13	March 2020	1.00	→	1.25	26	September 2024	4.75	→	5.00

Sources:

Federal Reserve Bank of New York, <https://apps.newyorkfed.org/markets/autorates/fed-funds-search-page>
 Board of Governors of the Federal Reserve System, <https://www.federalreserve.gov/datadownload/>
 Mergent Bond Record.

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

4 **Q HAS THE FED MADE RECENT COMMENTS CONCERNING MONETARY POLICY**
 5 **AND THE POTENTIAL IMPACT ON INTEREST RATES?**

6 **A** Yes. On July 31, 2024, The FOMC released the following statement:

7 Recent indicators suggest that economic activity has continued to
 8 expand at a solid pace. Since earlier in the year, labor market

1 conditions have generally eased, and the unemployment rate has
2 moved up but remains low. Inflation has made progress toward the
3 Committee's 2 percent objective but remains somewhat elevated.

4 The Committee seeks to achieve maximum employment and inflation
5 at the rate of 2 percent over the longer run. The Committee judges that
6 the risks to achieving its employment and inflation goals are roughly in
7 balance. The economic outlook is uncertain, and the Committee is
8 attentive to the risks to both sides of its dual mandate.

9 In support of its goals, the Committee decided to lower the target range
10 for the federal funds rate by 1/4 percentage point to 4-1/2 to 4-3/4
11 percent. In considering additional adjustments to the target range for
12 the federal funds rate, the Committee will carefully assess incoming
13 data, the evolving outlook, and the balance of risks. The Committee
14 will continue reducing its holdings of Treasury securities and agency
15 debt and agency mortgage-backed securities. The Committee is
16 strongly committed to supporting maximum employment and returning
17 inflation to its 2 percent objective.

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

26 The above quote suggests economic activity is expanding solidly, with easing
27 labor market conditions and inflation progressing toward its 2% goal, though still
28 elevated. To support maximum employment and price stability, the Fed reduced the
29 federal funds rate target by 0.25% and will continue to monitor economic data and risks.
30 It remains committed to achieving its dual mandate while reducing its holdings of
31 securities and adjusting policy as needed based on evolving conditions.

²[Federal Reserve Board - Federal Reserve issues FOMC statement](#), November 7, 2024.

1 Q **WHAT DO INDEPENDENT ECONOMISTS' OUTLOOKS FOR FUTURE INTEREST**
2 **RATES INDICATE?**

3 A Independent economists, surveyed by *Blue Chip Financial Forecasts*, expect current
4 capital costs to increase at mixed rates over the near term, while maintaining levels
5 that are still low by historical standards. For example, independent projections show
6 that the consensus is the federal funds rate will increase at a rate much faster than that
7 of long-term interest rates as measured by the 30-year Treasury bond. Inflation, as
8 measured through the Gross Domestic Product ("GDP") price index, is expected to cool
9 off in the near to intermediate term. The consensus projections for the next several
10 quarters are provided in Table CCW-4 below.

TABLE CCW-4

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

<u>Publication Date</u>	<u>3Q</u> <u>2023</u>	<u>4Q</u> <u>2023</u>	<u>1Q</u> <u>2024</u>	<u>2Q</u> <u>2024</u>	<u>3Q</u> <u>2024</u>	<u>4Q</u> <u>2024</u>	<u>1Q</u> <u>2025</u>	<u>2Q</u> <u>2025</u>	<u>3Q</u> <u>2025</u>	<u>4Q</u> <u>2025</u>	<u>1Q</u> <u>2026</u>
<u>Federal Funds Rate</u>											
Nov-23	5.3	5.4	5.4	5.2	4.9	4.5	4.1				
Dec-23	5.3	5.4	5.4	5.2	4.9	4.6	4.2				
Jan-24		5.3	5.3	5.1	4.8	4.4	4.1	3.8			
Feb-24		5.3	5.3	5.1	4.7	4.4	4.1	3.8			
Mar-24		5.3	5.4	5.2	4.9	4.5	4.2	3.8			
Apr-24			5.3	5.2	5.0	4.6	4.2	3.9	3.7		
May-24			5.3	5.4	5.2	4.9	4.6	4.3	4.0		
Jun-24			5.3	5.4	5.2	5.0	4.7	4.4	4.1		
Jul-24				5.3	5.3	5.0	4.7	4.4	4.1	3.9	
Aug-24				5.3	5.3	5.0	4.7	4.4	4.1	3.9	
Sep-24				5.3	5.2	4.8	4.4	4.0	3.8	3.6	
Oct-24					5.3	4.6	4.1	3.8	3.5	3.3	3.3
Nov-24					5.3	4.6	4.1	3.8	3.5	3.3	3.2
<u>T-Bond, 30 yr.</u>											
Nov-23	4.2	4.8	4.7	4.5	4.5	4.3	4.2				
Dec-23	4.2	4.8	4.7	4.5	4.5	4.4	4.3				
Jan-24		4.6	4.3	4.3	4.2	4.1	4.0	4.0			
Feb-24		4.6	4.3	4.2	4.2	4.1	4.0	4.0			
Mar-24		4.6	4.4	4.3	4.2	4.2	4.1	4.1			
Apr-24			4.3	4.3	4.2	4.2	4.1	4.1	4.0		
May-24			4.3	4.6	4.5	4.4	4.3	4.2	4.2		
Jun-24			4.3	4.6	4.5	4.5	4.4	4.3	4.3		
Jul-24				4.6	4.5	4.4	4.4	4.3	4.3	4.2	
Aug-24				4.6	4.5	4.4	4.4	4.3	4.3	4.3	
Sep-24				4.6	4.2	4.2	4.1	4.1	4.1	4.1	
Oct-24					4.2	4.1	4.0	4.0	4.0	4.1	4.0
Nov-24					4.2	4.3	4.2	4.2	4.2	4.2	4.2
<u>GDP Price Index</u>											
Nov-23	3.5	2.7	2.4	2.3	2.2	2.2	2.3				
Dec-23	3.6	2.7	2.4	2.3	2.2	2.2	2.2				
Jan-24		2.7	2.3	2.3	2.3	2.2	2.2	2.1			
Feb-24		1.5	2.2	2.2	2.3	2.2	2.2	2.1			
Mar-24		1.6	2.2	2.3	2.2	2.2	2.1	2.1			
Apr-24			2.2	2.4	2.3	2.2	2.2	2.1	2.2		
May-24			3.1	2.7	2.4	2.3	2.3	2.2	2.2		
Jun-24			3.0	2.8	2.5	2.3	2.3	2.3	2.2		
Jul-24				2.8	2.3	2.3	2.4	2.2	2.2	2.1	
Aug-24				2.3	2.3	2.3	2.3	2.2	2.2	2.1	
Sep-24				2.5	2.2	2.2	2.3	2.2	2.2	2.1	
Oct-24					2.2	2.0	2.2	2.2	2.1	2.1	2.1
Nov-24					1.8	2.1	2.2	2.1	2.1	2.1	2.2

Source and Note:

Blue Chip Financial Forecasts, Jan 2022 through November 2024.
 Actual Yields in Bold.

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

TABLE CCW-5

30-Year Treasury Bond Yield Actual Vs. Projection

<u>Description</u>	<u>Actual</u>	<u>Near-Term Projected*</u>	<u>5- to 10-Year Projected</u>
<u>2020</u>			
Q1	1.88%	2.57%	
Q2	1.38%	1.90%	3.0% - 3.8%
Q3	1.36%	1.87%	
Q4	1.62%	1.97%	2.8% - 3.6%
<u>2021</u>			
Q1	2.07%	2.23%	
Q2	2.26%	2.77%	3.5% - 3.9%
Q3	1.93%	2.63%	
Q4	1.95%	2.70%	3.4% - 3.8%
<u>2022</u>			
Q1	2.25%	2.87%	
Q2	3.04%	3.47%	3.8% - 3.9%
Q3	3.26%	3.63%	
Q4	3.90%	3.87%	3.9% - 4.0%
<u>2023</u>			
Q1	3.74%	3.77%	
Q2	3.80%	3.70%	3.8% - 3.9%
Q3	4.24%	3.83%	
Q4	4.58%	4.17%	4.1% - 4.2%
<u>2024</u>			
Q1	4.33%	4.03%	
Q2	4.57%	4.17%	4.3% - 4.4%

Source and Note:
Blue Chip Financial Forecasts, January 2019 through
 September 2024.
 *Average of all 3 reports in Quarter.

1 As outlined in Table CCW-5 above, the outlook for increases in interest rates
2 has jumped more recently relative to 2020 and part of 2021, but is still relatively modest
3 compared to time periods prior to the beginning of the worldwide pandemic. For
4 example, near-term projections for 30-year Treasury yields ranged from 2.50% to
5 3.80% in 2018-2019, while the projections five to ten years out were in the range of
6 3.2% to 4.4%. Indeed, relatively low capital market costs are expected to prevail at
7 least in the near-term and out over the next five to ten years. While there is potential
8 for some upward movement in the cost of capital, that upward movement is uncertain.
9 In fact, as shown on Figure CCW-3 above, increases in the federal funds rate do not
10 necessarily translate into increases in longer-term yields.

11 **C. Market Sentiments and Utility Industry Outlook**

12 **Q PLEASE DESCRIBE THE CREDIT RATING OUTLOOK FOR REGULATED**
13 **UTILITIES.**

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

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

18 **Key Takeaways**

- 19 - We are updating our 2024 outlook on the investor-owned North
20 American regulated utility industry to negative.
- 21 - Given the relatively high percentage of companies with negative
22 outlooks, we expect that 2024 will likely be the fifth consecutive
23 year that downgrades outpace upgrades.
- 24 - The industry faces rising physical risks and high cash flow
25 deficits that may not be sufficiently funded in a credit-supportive
26 manner.

- 1 - Still, we expect that the utility industry will maintain a median
2 investment-grade rating of 'BBB+'.
3 - We also expect that a smaller percentage of companies rated
4 'BBB' or lower are more likely to implement measures to maintain
5 or even improve credit quality.³

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

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

18 A Yes. Credit rating agencies have been emphasizing rate affordability, maintaining
19 adequate financial coverages of debt obligations, and supporting utilities' overall
20 investment grade bond ratings.

21 In a recent industry report, Moody's explained that the regulated electric and
22 gas utilities' outlook remains "Negative" largely due to increased pricing pressures on

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

⁴*Id.*

1 customers. Moody's stated that it changed its outlook from "Positive" to "Negative" due
2 to the following:

3 We have revised our outlook on the US regulated utilities sector to
4 negative from stable. We changed the outlook because of increasingly
5 challenging business and financial conditions stemming from higher
6 natural gas prices, inflation and rising interest rates. These
7 developments raise residential customer affordability issues, increasing
8 the level of uncertainty with regard to the timely recovery of costs for fuel
9 and purchased power, as well as for rate cases more broadly.⁵

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

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

17 Specifically, Fitch states:

18 Fitch Ratings' deteriorating outlook for the North American Utilities,
19 Power & Gas sector reflects continuing macroeconomic headwinds and
20 elevated capex that are putting pressure on credit metrics in the
21 high-cost funding environment. Bill affordability concerns for ratepayers
22 continue to persist despite the pull back in natural gas prices and
23 inflationary pressures. Fitch expects utility capex to grow by double
24 digits in 2024, underpinned by investments needed to make the electric
25 infrastructure more resilient against extreme weather events and to
26 accommodate renewable generation, including distributed sources. Rate
27 case outcomes are key to watch as regulators balance more rate requests
28 with increases in customer bills. Authorized ROEs could prove to be
29 sticky despite an increase in cost of capital. Higher weather-normalized
30 retail electricity sales, driven by datacenter growth and onshoring of
31 manufacturing activities, and tax transferability provisions of the
32 Inflation Reduction Act could somewhat offset headwinds to utilities.
33 Ongoing management actions to sell assets and issue equity, in some

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

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

1 cases, is supportive of parent companies' ratings. Within Fitch's
2 coverage, 90% of ratings hold Stable Rating Outlooks. We expect limited
3 rating movement in 2024. The number of upgrades in 2023 so far
4 exceeds the number of downgrades, and is driven by positive rating
5 actions on several parent holding companies and their regulated
6 subsidiaries.⁷

7 As outlined by Moody's, S&P and Fitch above, credit analysts are focusing on
8 rate affordability as an important factor needed to support strong credit standing.
9 Customers must be able to afford to pay their utility bills in order for utilities to maintain
10 their financial integrity and strong investment grade credit standing. For this reason,
11 this Commission should carefully assess the reasonableness of cost of service in this
12 proceeding, including an appropriate overall rate of return necessitated by a reasonably
13 cost-effective balanced ratemaking capital structure, and a return on equity that
14 represents fair compensation but also maintains competitive, just and reasonable rates.

15 **D. Additional Remarks**

16 **Q IN LIGHT OF HIGHER LEVELS OF INFLATION, EXPECTATIONS OF HIGHER**
17 **INTEREST RATES, AND GEOPOLITICAL EVENTS AROUND THE WORLD, HOW**
18 **HAS THE MARKET PERCEIVED UTILITIES AS INVESTMENT OPTIONS?**

19 **A** In 2023, the utility sector underperformed the S&P 500 but has turned it around in 2024.
20 This is presented below in Figure CCW-4. It is important to note that the S&P 500's
21 strong performance in 2023 and early 2024 was largely driven by a small group of
22 "mega-cap" companies known as the Magnificent 7. The Magnificent 7 stocks were
23 among the most valuable companies in the S&P 500 index and rallied significantly over
24 this time. Those seven stocks accounted for a majority of the S&P 500's returns even
25 though there were 493 other companies in the index. This is because the S&P 500 is

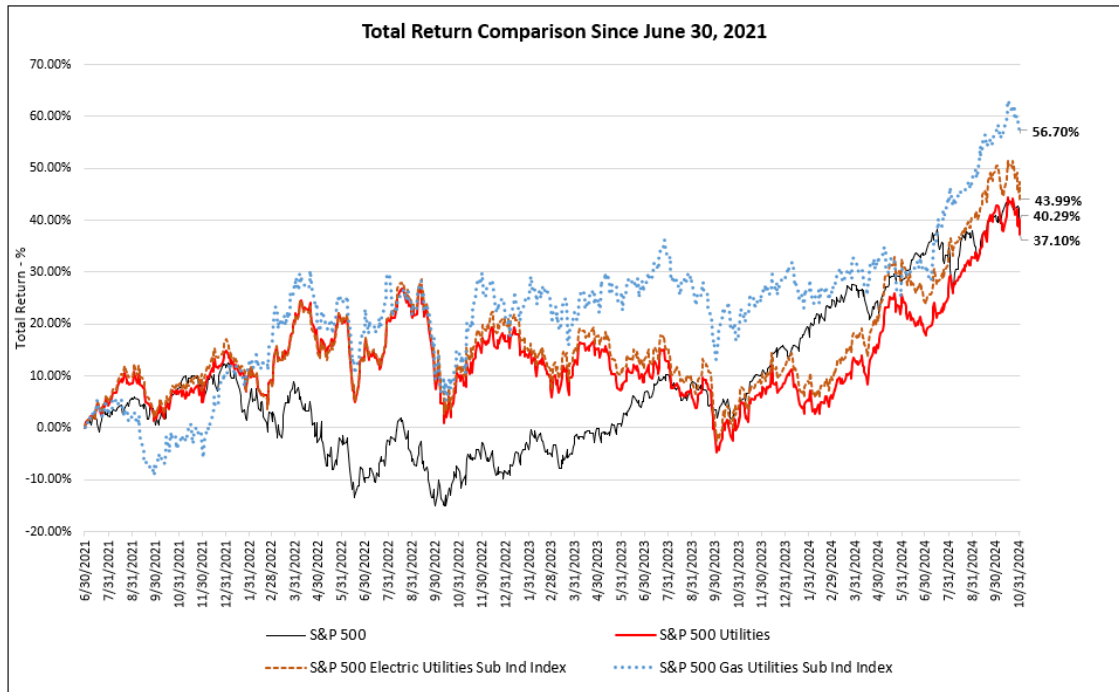
⁷*FitchRatings*. "North American Utilities, Power & Gas Outlook 2024," December 6, 2023 at 1.
(emphasis added)

1 a market capitalization-weighted index, meaning companies with larger market
2 capitalizations have a greater impact on the index's overall performance. This is
3 explained in the S&P Dow Jones Indices report "U.S. Equity Market Attributes April
4 2024," it is noted that:

5 Year-to-date, the S&P 500 remained up 5.57% (with 10 of the 11 sectors
6 up; Real Estate was down 9.86%), as breadth declined but remained
7 positive (302 up and 199 down, compared to last March's 369 and 134
8 YTD, respectively). The Magnificent 7 as a group still dominated,
9 accounting for 51% of the index return (which included Apple's 11.5%
10 YTD decline and Tesla's 26.2% YTD decline), as NVIDIA (up 74.5%
11 YTD) represented 41% of the S&P 500's YTD gain.⁸

12 Generally, the utility sector has been able to deliver positive and relatively stable
13 returns during a period of elevated inflation, rising interest rates, and uncertainty
14 because of geopolitical events around the world.

Figure CCW-4



⁸<https://www.spglobal.com/spdji/en/documents/commentary/market-attributes-us-equities-202404.pdf>

1 **IV. RETURN ON EQUITY**

2 **Q PLEASE DESCRIBE WHAT IS MEANT BY A “UTILITY’S COST OF COMMON**
3 **EQUITY.”**

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

7 **Q PLEASE DESCRIBE THE FRAMEWORK FOR DETERMINING A REGULATED**
8 **UTILITY’S COST OF COMMON EQUITY.**

9 A In general, determining a fair cost of common equity for a regulated utility has been
10 framed by two hallmark decisions of the U.S. Supreme Court: Bluefield Water Works
11 & Improvement Co. v. Pub. Serv. Comm’n of W. Va., 262 U.S. 679 (1923) and
12 Fed. Power Comm’n v. Hope Natural Gas Co., 320 U.S. 591 (1944). In these
13 decisions, the Supreme Court found that just compensation depends on many
14 circumstances and must be determined by fair and enlightened judgments based on
15 relevant facts. The Court also found that a utility is entitled to such rates as would
16 permit it to earn a return on a property devoted to the convenience of the public that is
17 generally consistent with the same returns available in other investments of
18 corresponding risk. The Court continued that the utility has “no constitutional rights to
19 profits” such as those “realized or anticipated in highly profitable enterprises or
20 speculative ventures,”⁹ and defined the ratepayer/investor balance as follows:

21 The return should be reasonably sufficient to assure confidence in the
22 financial soundness of the utility and should be adequate, under efficient
23 and economical management, to maintain and support its credit and
24 enable it to raise the money necessary for the proper discharge of its
25 public duties.¹⁰

⁹*Bluefield*, 262 U.S. at 692-93.

¹⁰*Id.* at 693 (emphasis added).

1 As such, a fair rate of return is based on the expectation that the utility costs
2 reflect efficient and economical management, and the return will support its credit
3 standing and access to capital, but the return will not be in excess of this level. Utility
4 rates that are consistent with these standards will be just and reasonable, and
5 compensation to the utility will be fair and support financial integrity and credit-standing,
6 under economic management of the utility.

7 **Q PLEASE DESCRIBE THE PROCESS YOU HAVE USED TO ESTIMATE AMEREN**
8 **MISSOURI’S COST OF COMMON EQUITY.**

9 A First, I assessed the market’s perspective of Ameren Missouri’s risk. Then, I developed
10 a proxy group of publicly traded utility companies that have similar risks and
11 characteristics to Ameren Missouri and compared potential differences in risks. I then
12 performed several models based on financial theory to estimate Ameren Missouri’s
13 cost of common equity. These models are: (1) a constant growth Discounted Cash
14 Flow (“DCF”) model using consensus analysts’ growth rate projections; (2) a constant
15 growth DCF model using sustainable growth rate estimates; (3) a multi-stage growth
16 DCF model; (4) a Risk Premium model; and (5) a Capital Asset Pricing Model
17 (“CAPM”).

18 **A. Investment Risk Assessment of the Company**

19 **Q PLEASE DESCRIBE THE MARKET’S ASSESSMENT OF AMEREN MISSOURI’S**
20 **INVESTMENT RISK.**

21 A The market’s assessment of a company’s investment risk is generally described by
22 credit rating analysts’ reports. The current credit ratings for Ameren Missouri are BBB+

1 and Baa1, from S&P and Moody's respectively.¹¹ The Company currently has a
2 "stable" outlook from S&P and a "stable" outlook from Moody's. In its August 2023
3 report covering Ameren Missouri, S&P stated as follows:

4 *What's new:*

5 Union Electric Co. (dba Ameren Missouri) recently retired its
6 1,200-megawatt (MW) coal-fired Rush Island Energy Center, in
7 compliance with a ruling issued by the U.S. District Court for the
8 Eastern District of Missouri to either close the plant or install
9 pollution-control equipment at the facility. To recover the remaining
10 \$0.5 billion of net plant balance associated with the facility, the
11 company received approval from the Missouri Public Service
12 Commission in June to securitize about \$470 million of costs.

13 *Why it matters:*

14 We believe the retirement of Rush Island reduces some of the
15 company's business risk, given the age and cost to install
16 environmental compliance equipment at the coal-fired energy facility.
17 We believe its retirement reduces Ameren Missouri's greenhouse gas
18 emissions and avoids significant capital costs.

19 **Outlook**

20 The stable outlook on Ameren Missouri reflects that of parent Ameren
21 Corp., and our expectation that Ameren's consolidated S&P Global
22 Ratings-adjusted funds from operations (FFO) to debt will remain
23 between 15% and 17% through 2026. Our expectation the company
24 will continue to manage its regulatory risk, enabling some of its
25 regulated subsidiaries to earn their allowed return on equity, underpins
26 our outlook. We also expect Ameren will fund its capital spending in a
27 credit-supportive manner.

28 **Downside Scenario**

29 We could lower our ratings on Ameren and its subsidiaries within the
30 next two years if its ability to manage regulatory risk weakens or
31 financial performance unexpectedly deteriorates, causing S&P Global
32 Ratings-adjusted FFO to debt to fall to, and remain below, 13%. This
33 could occur because the companies receive lower-than-expected cash
34 flow support through the regulatory process, or it materially increases
35 its debt-funded capital spending.

36 **Upside Scenario**

37 We could raise our ratings on Ameren and its subsidiaries within the
38 next two years if its financial performance strengthens because of more
39 credit-supportive and prudent capital structure management, as well as

¹¹S&P Capital IQ, accessed on November 1, 2024.

1 higher operating cash flows, that support S&P Global Ratings-adjusted
2 FFO to debt of consistently at or above 18% over the next few years.¹²

3 As noted above, S&P views Ameren Missouri's retirement of the Rush Island
4 Energy Center as reducing business risk by avoiding significant capital costs and
5 lowering greenhouse gas emissions. The stable outlook reflects expectations that the
6 company will maintain regulatory risk management and achieve an S&P-adjusted
7 FFO-to-debt ratio of 15%-17% through 2026. A downgrade is possible if financial
8 performance weakens, regulatory cash flow support declines, or debt-funded capital
9 spending increases, reducing FFO-to-debt below 13%. An upgrade could occur if
10 prudent capital management and higher operating cash flows improve FFO-to-debt to
11 18% or higher consistently.

12 **B. The Company's Proposed Capital Structure**

13 **Q WHAT IS AMEREN MISSOURI'S PROPOSED CAPITAL STRUCTURE?**

14 **A** Ameren Missouri's proposed capital structure is summarized in Table CCW-6 below:

Table CCW-6	
<u>Investor-Supplied Capital Structure</u>	
<u>Description</u>	<u>Weight</u>
Long-term Debt	*****
Preferred Stock	*****
Common Equity	*****
Total	<u>100.00%</u>

¹²S&P Global Ratings, RatingsDirect, Consumers Energy Co., August 20, 2024.

1 Q DO YOU HAVE ANY COMMENTS ON AMEREN MISSOURI'S PROPOSED
2 CAPITAL STRUCTURE?

3 A Yes. As I will discuss, Ameren Missouri's proposed equity ratio of *****
4 significantly exceeds the equity ratio for the proxy group used to estimate the cost of
5 equity for Ameren Missouri. As shown on Schedule CCW-2, the proxy group has an
6 average common equity ratio of 40.2% (including short-term debt) and 43.9%
7 (excluding short-term debt). Either an adjustment to the capital structure or a reduction
8 in the authorized ROE could be warranted given Ameren Missouri's stronger financial
9 position relative to the proxy group used to assess the Company's cost of equity.

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

12 A Yes. In a recent Order, the Arkansas Public Service Commission imputed the capital
13 structure of Southwestern Electric Power Company ("SWEPCO") to be more in-line
14 with the comparable companies used to estimate the cost of equity.¹³ The adjustment
15 was to recognize that there must be *congruence* between the cost of equity and the
16 capital structure. Specifically, the Order states as follows:

17 Consistent with our ruling in Order No. 10 of Docket No. 06-101-U, the
18 Commission holds that there should be congruence between the
19 estimated cost of equity and the debt-to-equity ratio, whereby a lower
20 DTE ratio decreases financial risk and decreases the cost of equity. The
21 evidence of record supports imputing the average capital structure of
22 companies with comparable risk to SWEPCO for the purposes of
23 determining SWEPCO's overall cost of capital.¹⁴

24 As I described above, the Company's proxy group here has an average
25 common equity ratio of 40.2% (including short-term debt) and 43.9% (excluding

¹³APSC Docket No. 21-170-U, Doc. No. 323, May 23, 2022, Order No. 14.

¹⁴*Id.* at 25.

1 short-term debt) as calculated by S&P Global Market Intelligence and *Value Line*,
2 respectively. The Company's proposed equity ratio of ***** (excluding
3 short-term debt) exceeds that of the proxy group's comparable equity ratio of 43.9%.

4 **C. Development of Proxy Group**

5 **Q PLEASE BRIEFLY DESCRIBE WHY A PROXY GROUP IS NEEDED IN**
6 **ESTIMATING THE COST OF EQUITY.**

7 A There are a few reasons why a proxy group is needed to estimate the cost of equity.
8 As an initial matter, to be consistent with the *Hope* and *Bluefield* standards, as
9 described above, the allowed return should be commensurate with returns on
10 investments in other firms of comparable risk. A proxy group of similarly situated
11 companies of comparable risk is needed to assess the Company's proposal under this
12 standard.

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

19 **Q PLEASE DESCRIBE HOW YOU IDENTIFIED A PROXY UTILITY GROUP THAT**
20 **COULD BE USED TO ESTIMATE AMEREN MISSOURI'S CURRENT MARKET**
21 **COST OF EQUITY.**

22 A I started with the proxy group developed by Ameren Missouri's witness Ms. Bulkley. I
23 then reviewed each company to see if there were any significant changes between the

1 date of Ms. Bulkley's analysis and the time of my analysis (i.e. November 1, 2024) that
2 would potentially impact the risk level. Such factors would include significant merger
3 and/or acquisition activity, credit ratings upgrades/downgrades, or dividend cuts.
4 Based on my review, I found that no changes were necessary to the proxy group. As
5 such, I relied on the same 17 company proxy group utilized by Ms. Bulkley.

6 **Q HOW DOES THE INVESTMENT RISK OF AMEREN MISSOURI COMPARE TO**
7 **THAT OF THE PROXY GROUP?**

8 A As shown on my Schedule CCW-2, the proxy group has average credit ratings of BBB+
9 and Baa2 from S&P and Moody's, respectively. The proxy group's average rating of
10 BBB+ from S&P is identical to Ameren Missouri's rating of BBB+ from S&P. The proxy
11 group's average rating of Baa2 from Moody's is one notch lower than Ameren
12 Missouri's rating of Baa1.

13 As shown on the same exhibit, the proxy group has an average common equity
14 ratio of 40.2% (including short-term debt) and 43.9% (excluding short-term debt) as
15 calculated by S&P Global Market Intelligence and *Value Line*, respectively. Ameren
16 Missouri's requested common equity ratio of ***** (including short-term debt)
17 significantly exceeds the proxy group's equity ratio as described above.

18 Based on the difference in Moody's credit ratings, as well as the significant
19 difference in equity ratios, the Company's cost of equity capital is most likely to be
20 below the midpoint of the cost of equity range indicated by the proxy group results.

1 **D. DCF Model**

2 **Q PLEASE DESCRIBE THE DCF MODEL.**

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

6
$$P_0 = \frac{D_1}{(1+K)^1} + \frac{D_2}{(1+K)^2} \dots \frac{D_\infty}{(1+K)^\infty} \quad (\text{Equation 1})$$

7

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
12 return, known as "K." If it is reasonable to assume that earnings and dividends will
13 grow at a constant rate, then Equation 1 can be rearranged as follows:

14
$$K = D_1/P_0 + G \quad (\text{Equation 2})$$

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

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

20 **Q PLEASE DESCRIBE THE INPUTS TO YOUR CONSTANT GROWTH DCF MODEL.**

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

23 **Q WHAT STOCK PRICE HAVE YOU RELIED ON IN YOUR CONSTANT GROWTH**
24 **DCF MODEL?**

25 A I relied on the average of the weekly high and low stock prices of the utilities in the
26 proxy group over a 13-week period ending on November 1, 2024. An average stock

1 price is less susceptible to market price variations than a price at a single point in time.
2 Therefore, an average stock price is less susceptible to aberrant market price
3 movements, which may not reflect the stock's long-term value.

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

5 A I used each proxy company's most recently paid quarterly dividend as reported in
6 *Value Line*.¹⁵ This dividend was annualized (multiplied by 4) and adjusted for next
7 year's growth to produce the D_1 factor for use in Equation 2 above. In other words, I
8 calculate D_1 by multiplying the annualized dividend (D_0) by $(1+G)$.

9 **Q WHAT DIVIDEND GROWTH RATES HAVE YOU USED IN YOUR CONSTANT**
10 **GROWTH DCF MODEL?**

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

16 As predictors of future returns, securities analysts' growth estimates have been
17 shown to be more accurate than growth rates derived from historical data.¹⁶ That is,
18 assuming the market generally makes rational investment decisions, analysts' growth
19 projections are more likely to influence investors' decisions, which are captured in
20 observable stock prices, than growth rates derived only from historical data.

¹⁵The Value Line Investment Survey, August 9, September 6, and October 18, 2024..

¹⁶See, e.g., David Gordon, Myron Gordon, and Lawrence Gould, Choice Among Methods of Estimating Share Yield, *The Journal of Portfolio Management*, Spring 1989.

1 For my constant growth DCF analysis, I have relied on a consensus, or mean,
2 of professional securities analysts' earnings growth estimates as a proxy for investors'
3 dividend growth rate expectations. I used the average of analysts' growth rate
4 estimates from three sources: Zacks, S&P Capital IQ Market Intelligence ("MI"), and
5 Yahoo! Finance. All such projections were available on November 1, 2024, and all
6 were reported online.¹⁷

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

15 The growth rates I used in my DCF analysis are shown in Schedule CCW-3.
16 The average growth rate for my proxy group is 6.90% and a median growth rate of
17 6.84%.

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

19 A As shown in Schedule CCW-4, page 1, the average and median constant growth DCF
20 returns for my proxy group for the 13-week analysis are 10.81% and 10.49%,
21 respectively.

¹⁷www.zacks.com; <https://finance.yahoo.com>; and <https://www.capitaliq.spglobal.com/>.

1 **Q ARE THERE LIMITATIONS OF THE CONSTANT GROWTH DCF ANALYSIS?**

2 A Yes. The constant growth DCF analysis for my proxy group is based on a group
3 average long-term growth rate of 6.90%. The three- to five-year growth rates are
4 approximately 67% higher than the long-term projected GDP growth rate of 4.14%,
5 described below. As I explain in detail below, a utility's growth rate cannot exceed the
6 growth rate of the economy in which it provides services in perpetuity, which is the time
7 period assumed by the DCF model.

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

9 A Although there may be short-term peaks, the long-term sustainable growth rate for a
10 utility stock cannot exceed the growth rate of the economy in which it sells its goods
11 and services. The long-term maximum sustainable growth rate for a utility investment
12 is limited by the projected long-term GDP growth rate, as that reflects the projected
13 long-term growth rate of the economy. The consensus projection for U.S. GDP, as
14 published by Blue Chip Economic Indicators, is an annual growth rate of approximately
15 4.14% over the next 10 years. In my opinion, this is a reasonable proxy of long-term
16 growth.

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

1 **E. Sustainable Growth DCF**

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

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

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

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

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

22 As shown in Schedule CCW-6, the average and median sustainable growth
23 rates for the proxy group using this internal growth rate model are 4.87% and 4.91%,
24 respectively.

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

2 A A DCF estimate based on these sustainable growth rates is developed in Schedule
3 CCW-7. As shown there, and using the same formula in Equation 2 above, a
4 sustainable growth DCF analysis produces proxy group average and median DCF
5 results for the 13-week period of 8.70% and 8.72%, respectively.

6 **F. Multi-Stage Growth DCF Model**

7 **Q HAVE YOU CONDUCTED ANY OTHER DCF STUDIES?**

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

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

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

1 growth rate declines from an abnormally high three-to-five-year rate to a lower,
2 sustainable growth rate.

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

10 **Q PLEASE DESCRIBE YOUR MULTI-STAGE DCF MODEL.**

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

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

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

1 A As discussed above, utilities cannot indefinitely sustain a growth rate that exceeds the
2 growth rate of the economy in which they sell services. A utilities' earnings and
3 dividend growth is created by increased utility investment in its rate base. Examples of
4 what can drive such investment are: service area economic growth, system reliability
5 upgrades, or state and federal green energy initiatives. As such, nominal GDP growth
6 is a reasonable upper limit for utility sales growth, rate base growth, and earnings
7 growth in the long-run. Therefore, the U.S. GDP nominal growth rate is a conservative
8 proxy for the highest sustainable long-term growth rate of a utility.

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

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

15 The constant growth model is most appropriate for mature companies
16 with a stable history of growth and stable future expectations. Expected
17 growth rates vary somewhat among companies, but dividends for
18 mature firms are often expected to grow in the future at about the same
19 rate as nominal gross domestic product (real GDP plus inflation).¹⁸

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

22 **Estimating Growth Rates**

23 One of the advantages of a three-stage discounted cash flow model is
24 that it fits with life cycle theories in regards to company growth. In these
25 theories, companies are assumed to have a life cycle with varying
26 growth characteristics. Typically, the potential for extraordinary growth

¹⁸*Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at 298 (emphasis added).

1 in the near term eases over time and eventually growth slows to a more
2 stable level.

3 * * *

4 Another approach to estimating long-term growth rates is to focus on
5 estimating the overall economic growth rate. Again, this is the approach
6 used in the *Ibbotson Cost of Capital Yearbook*. To obtain the economic
7 growth rate, a forecast is made of the growth rate's component parts.
8 Expected growth can be broken into two main parts: expected inflation
9 and expected real growth. By analyzing these components separately,
10 it is easier to see the factors that drive growth.¹⁹

11 **Q HOW DID YOU DETERMINE A LONG-TERM GROWTH RATE THAT REFLECTS**
12 **THE CURRENT CONSENSUS OF INDEPENDENT MARKET PARTICIPANTS?**

13 A I relied on the consensus of long-term GDP growth projections as projected by
14 independent economists. Blue Chip Economic Indicators publishes the consensus for
15 GDP growth projections twice a year. These projections reflect current outlooks for
16 GDP and are likely to be influential on investors' expectations of future growth outlooks.
17 The consensus of projected GDP growth is about 4.14% over the next 10 years.²⁰

18 **Q DO YOU CONSIDER OTHER SOURCES OF PROJECTED LONG-TERM GDP**
19 **GROWTH?**

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

¹⁹Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook at 51 and 52.

²⁰Blue Chip Economic Indicators, October 10, 2024 at page 14.

TABLE CCW-7

GDP Forecasts

<u>Source</u>	<u>Projected Period</u>	<u>Real GDP</u>	<u>Inflation</u>	<u>Nominal GDP</u>
Blue Chip Economic Indicators ¹	5-10 Yrs	2.0%	2.2%	4.1%
EIA - Annual Energy Outlook ²	27 Yrs	1.9%	2.3%	4.3%
Congressional Budget Office ³	30 Yrs	1.7%	2.0%	3.8%
Moody's Analytics ⁴	31 Yrs	1.9%	2.1%	4.1%
Social Security Administration ⁵	76 Yrs	1.6%	2.4%	4.0%
Economist Intelligence Unit ⁶	31 Yrs	1.7%	2.2%	4.0%

Sources:

¹Blue Chip Economic Indicators, October 10, 2024 at 14.

²U.S. Energy Information Administration (EIA), Annual Energy Outlook 2023, September, 2022.

³Congressional Budget Office, Long-Term Budget Outlook, March 28, 2024.

⁴Moody's Analytics Forecast, last updated March 11, 2024.

⁵Social Security Administration, "2024 OASDI Trustees Report," Table VI.G6. May 6, 2024.

⁶S&P MI, Economist Intelligence Unit, downloaded on October 14, 2024.

1 As shown in the table above, the real GDP and the inflation fall in the range of
2 1.6% to 2.0% and 2.0% to 2.4%, respectively. This results in a nominal GDP in the
3 range of 3.8% to 4.3%. Therefore, the nominal GDP growth projections made by these
4 independent sources support my use of 4.14% as a reasonable estimate of market
5 participants' expectations for long-term GDP growth. The real GDP and nominal GDP
6 growth projections made by these independent sources support my use of 4.14% as a
7 reasonable estimate of market participants' expectations for long-term GDP growth.

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

3 A I relied on the same 13-week average stock prices and the most recent quarterly
4 dividend payment data discussed above. For the first stage, I used the consensus of
5 analysts' growth rate projections discussed above in my constant growth DCF model.
6 The first stage covers the first five years, consistent with the time horizon of the
7 securities analysts' growth rate projections. The second stage, or transition stage,
8 begins in year 6 and extends through year 10. The second stage growth transitions
9 the growth rate from the first stage to the third stage using a straight linear trend. For
10 the third stage, or long-term sustainable growth stage, starting in year 11, I used a
11 4.14% long-term sustainable growth rate based on the consensus of economists'
12 long-term projected nominal GDP growth rate.

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

14 A As shown in Schedule CCW-8, the average and median DCF ROEs for my proxy group
15 using the 13-week average stock price are 8.67% and 8.43%, respectively.

16 **Q PLEASE SUMMARIZE THE RESULTS FROM YOUR DCF ANALYSES.**

17 A The DCF results are summarized in Table CCW-8 below. As described above, the
18 results of the constant growth DCF using analysts' growth rates assume an average
19 long-term growth rate of 6.90%, which is approximately 67% higher than the long-term
20 projected GDP growth rate of 4.14%. This is an unsustainable assumption, and likely
21 leads to an overstatement in the cost of equity for a low-risk regulated utility. As such,
22 it is my opinion that more weight should be given to the sustainable growth and multi-
23 stage models of the DCF.

Table CCW-8
Summary of DCF Results

<u>Description</u>	<u>Proxy Group</u>	
	<u>Mean</u>	<u>Median</u>
Constant Growth DCF Model (Analysts' Growth)	10.81%	10.49%
Constant Growth DCF Model (Sustainable Growth)	8.70%	8.72%
Multi-Stage DCF Model	8.67%	8.43%

1 **G. Risk Premium Model**

2 **Q PLEASE DESCRIBE YOUR BOND YIELD PLUS RISK PREMIUM MODEL.**

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

9 This risk premium model is based on two estimates of an equity risk premium.
10 First, I quantify the difference between regulatory commission-authorized returns on
11 common equity and contemporary U.S. Treasury bonds. The difference between the
12 authorized return on common equity and the Treasury bond yield is the risk premium.
13 I estimated the risk premium on an annual basis for each year since January 1986.
14 The authorized ROEs were based on regulatory commission-authorized returns for

1 utility companies. Authorized returns are typically based on expert witnesses'
2 estimates of the investor-required return at the time of the proceeding.

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

15 Based on this analysis, as shown in Schedule CCW-10, the average indicated
16 equity risk premium over U.S. Treasury bond yields has been 5.70%. Since the risk
17 premium can vary depending upon market conditions and changing investor risk
18 perceptions, I believe using an estimated range of risk premiums provides the best
19 method to measure the current return on common equity for a risk premium
20 methodology.

21 In addition, I assessed the five-year and ten-year rolling average risk premiums
22 over the study period to gauge the variability over time of risk premiums. These rolling
23 average risk premiums mitigate the impact of anomalous market conditions and
24 skewed risk premiums over an entire business cycle. As shown on my
25 Schedule CCW-10, the five-year rolling average risk premium over Treasury bonds

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

3 As shown on my Schedule CCW-11, the average indicated equity risk premium
4 over contemporary "A" rated Moody's utility bond yields was 4.34%. The five-year and
5 ten-year rolling average risk premiums ranged from 2.88% to 5.90% and 3.20% to
6 5.73%, respectively.

7 **Q WHY IS THE TIME PERIOD USED TO DERIVE THESE EQUITY RISK PREMIUM**
8 **ESTIMATES APPROPRIATE TO FORM ACCURATE CONCLUSIONS ABOUT**
9 **CONTEMPORARY MARKET CONDITIONS?**

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

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

21 A The equity risk premium should reflect the market's perception of risk in the utility
22 industry today. I have gauged investor perceptions in utility risk today in
23 Schedule CCW-12, where I show the yield-spread between utility bonds and Treasury

1 bonds since 1980. As shown in this schedule, the average utility bond yield-spreads
2 over Treasury bonds for “A” and “Baa” rated utility bonds for this historical period are
3 1.48% and 1.90%, respectively.

4 A current three-month average “A” rated utility bond yield of 5.41% when
5 compared to the current Treasury bond yield of 4.22%, as shown in Schedule CCW-13,
6 page 1, implies a yield-spread of 1.19%. This current utility bond yield-spread is lower
7 than the long-term average-spread for “A” rated utility bonds of 1.48%. The
8 three-month average yield on “Baa” rated utility bonds is 5.62%. This indicates a
9 current spread for the “Baa” rated utility bond yield of 1.40%, which is lower than the
10 long-term average of 1.90%.

11 **Q WHAT ARE THE RESULTS BASED ON YOUR RISK PREMIUM ANALYSES?**

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

16 Considering the current and projected economic environment, current yield
17 spreads and equity risk premiums, as well as current levels of interest rates and interest
18 rate projections, a more normalized equity risk premium is warranted. As such, I
19 believe an average equity risk premium over Treasury yields of 5.70% is appropriate.
20 Adding this risk premium to the most recent consensus projected Treasury yield of
21 4.20%²¹ produces an ROE of 9.90%.

22 Applying a similar methodology as described above, the average risk premium
23 over A-rated utility bonds is 4.34%. The A-rated utility bond yield has averaged 5.41%

²¹Blue Chip Financial Forecast November 1, 2024.

1 over the three-month period through September 2024 while the Baa-rated utility bond
 2 yield has averaged 5.62% over the same period. Adding the average equity risk
 3 premium of 4.34% to the three-month average A-rated utility bond yield of 5.41%
 4 produces an estimated cost of equity of 9.75%. Adding the same equity risk premium
 5 to the three-month average Baa-rated utility bond yield of 5.62% produces an estimated
 6 cost of equity of 9.96%.

7 The A-rated utility bond yield has averaged 5.56% over the six-month period
 8 ending September 2024 while the Baa-rated utility bond yield has averaged 5.78% over
 9 the same period. Adding the average equity risk premium of 4.34% to the six-month
 10 average A-rated utility bond yield of 5.56% produces an estimated cost of equity of
 11 9.90%. Adding the equity risk premium of 4.34% to the six-month average Baa-rated
 12 utility bond yield of 5.78% produces an estimated cost of equity of 10.12%.

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

Table CCW-9	
<u>Summary of Risk Premium Results</u>	
<u>Description</u>	<u>Results</u>
Projected Treasury Yield	9.90%
<u>3-Month Average Yields</u>	
A-Rated Utility Bond	9.75%
Baa-Rated Utility Bond	9.96%
<u>6-Month Average Yields</u>	
A-Rated Utility Bond	9.90%
Baa-Rated Utility Bond	10.12%

1 **H. Capital Asset Pricing Model (“CAPM”)**

2 **Q PLEASE DESCRIBE THE CAPM.**

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

7
$$R_i = R_f + B_i \times (R_m - R_f) \text{ where:}$$

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

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

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

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

1 **Q PLEASE DESCRIBE THE INPUTS TO YOUR CAPM.**

2 A The CAPM requires an estimate of the market risk-free rate, the company's beta, and
3 the market risk premium ("MRP"). The MRP is the difference between the expected
4 market return and the risk-free rate.

5 **Q WHAT DID YOU USE AS AN ESTIMATE OF THE MARKET RISK-FREE RATE?**

6 A As previously noted, *Blue Chip Financial Forecasts'* projected 30-year Treasury bond
7 yield is 4.20%.²² The current 30-year Treasury bond yield is 4.22%, as shown in
8 Schedule CCW-13 at page 1. I used *Blue Chip Financial Forecasts'* projected 30-year
9 Treasury bond yield of 4.20% for my CAPM analysis.

10 **Q WHAT BETA DID YOU USE IN YOUR ANALYSIS?**

11 A As shown in Schedule CCW-14, the current proxy group average and median *Value*
12 *Line* beta estimates are 0.95 and 0.95, respectively. In my experience, these beta
13 estimates are abnormally high and are unlikely to be sustained over the long-term. As
14 such, I have also reviewed the historical average of the proxy group's *Value Line* betas.
15 The historical average *Value Line* beta since 2014 is 0.78 and has ranged from 0.55 to
16 0.91. Prior to the recent pandemic, the high end of this range was 0.74.

17 In addition to *Value Line*, I have also included adjusted beta estimates as
18 provided by Market Intelligence's Beta Generator Model. This model relied on a
19 five-year period on a weekly basis ending November 1, 2024. The average and median
20 Market Intelligence betas are 0.84 and 0.83, respectively. Market Intelligence betas,
21 as calculated using its Beta Generator Model, are adjusted using the Vasicek method
22 and calculated using the S&P 500 as the proxy for the investable market. This is in

²²Blue Chip Financial Forecast November 1, 2024.

1 stark contrast with the *Value Line* beta estimates that are adjusted using a constant
2 weighting of 67%/35% to the raw beta/market beta and use the New York Stock
3 Exchange (“NYSE”) as the proxy for the investable market. Because I rely on the
4 S&P 500 to estimate the expected return on the investable market, it makes sense to
5 rely on beta estimates that are calculated using the S&P 500 as the benchmark for the
6 market. Further, as S&P explains:

7 The Vasicek Method is a superior alternative to the Bloomberg Beta
8 adjustment. The Bloomberg adjustment is not appropriate for a vast
9 number of situations, as it assigns constant weighting regardless of the
10 standard error in the raw beta estimation (Bloomberg Beta = $1/3 \times \text{market beta} + 2/3 \times \text{Raw Beta}$). Given the statistical fact that a larger sample size
11 yields a smaller error, the Vasicek method more appropriately adjusts
12 the raw beta via weights determined by the variance of the individual
13 security versus the variance of a larger sample of comparable
14 companies. The weights are designed to bring the raw beta closer to
15 whichever beta estimation has the smallest error. This is a feature the
16 Bloomberg beta cannot replicate.²³
17

18 Notably, while S&P makes reference to the Bloomberg method of applying
19 $2/3$ and $1/3$ weights to the raw beta and market beta, respectively, the comparison still
20 applies to *Value Line*’s methodology of applying 67% and 35% weights. Both methods
21 are forms of the Blume adjustment.²⁴ While the weights are slightly different between
22 the Bloomberg and *Value Line* methods, they are similar and apply a constant weight
23 without any regard to accuracy. As such, S&P’s criticisms apply to both Bloomberg
24 betas and *Value Line* betas.

25 Because current beta estimates are based on the most recent five years of
26 historical stock returns and volatility, they are being heavily impacted by the market

²³S&P Market Intelligence, Beta Generator Model.

²⁴The Blume adjustment is a tool used to refine a beta measurement in finance. In general, Beta attempts to explain how much a particular investment’s price moves compared to the overall market. But beta is often based on historical data, which may not be an accurate method for predicting the future. The Blume adjustment tries to address this by considering the idea that, in the long run, most investments tend to become more similar in their riskiness to the overall market (represented by a beta of 1).

1 fallout in early 2020 as the global pandemic set in and the market reacted, with this
2 S&P 500 falling more than 40%. For this reason, it is not reasonable to assume current
3 beta estimates, particularly Blume-adjusted betas such as those published by
4 *Value Line*, are reflective of investor expectations at this time.

5 **Q YOU MENTION THAT THE CURRENT 5-YEAR BETA ESTIMATES MIGHT NOT BE**
6 **REFLECTIVE OF INVESTOR EXPECTATIONS, AND POTENTIALLY OVERSTATE**
7 **THE COST OF EQUITY. DO YOU HAVE EVIDENCE TO SUPPORT THAT**
8 **HYPOTHESIS?**

9 A Yes. As mentioned above, all beta estimates calculated over a 5-year historical price
10 period will include the unprecedented volatility and market prices caused by the onset
11 of the Covid-19 pandemic in early 2020. It is unreasonable to assume that those prices
12 and resulting volatility resemble investor expectations going forward. Prior to the
13 market fallout from the pandemic, utility beta estimates were at several year lows.
14 Subsequent to the period of peak volatility from the pandemic, utility betas have actually
15 declined back toward their normalized levels. This is demonstrated in Table CCW-10
16 below. In this table, I present the raw unadjusted beta estimates for the 5-year and
17 3-year periods ending November 1, 2024. I then apply Blume adjustment using the
18 same weighting applied by *Value Line*.²⁵

²⁵The Value Line method to calculated adjusted betas is as follows: $B_{adjusted} = 0.35 + 0.67 \times B_{unadjusted}$

Table CCW-10				
<u>Beta Comparison</u>				
Proxy Group	5-Year Beta¹		3-Year Beta²	
	Unadjusted	Adjusted³	Unadjusted	Adjusted³
Alliant Energy Corporation	0.81	0.89	0.56	0.73
American Electric Power Company, Inc.	0.74	0.85	0.43	0.64
Avista Corporation	0.74	0.84	0.47	0.66
CMS Energy Corporation	0.75	0.85	0.47	0.66
DTE Energy Company	0.88	0.94	0.51	0.69
Duke Energy Corporation	0.72	0.83	0.41	0.62
Entergy Corporation	0.94	0.98	0.52	0.70
Evergy, Inc.	0.82	0.90	0.48	0.67
IDACORP, Inc.	0.77	0.87	0.41	0.63
NextEra Energy, Inc.	0.88	0.94	0.72	0.83
NorthWestern Corporation	0.98	1.01	0.48	0.67
OGE Energy Corp.	1.01	1.02	0.55	0.72
Pinnacle West Capital Corporation	0.89	0.95	0.49	0.68
Portland General Electric Company	0.80	0.89	0.52	0.70
PPL Corporation	1.07	1.07	0.57	0.73
Southern Company	0.82	0.90	0.39	0.61
Xcel Energy Inc.	0.72	0.83	0.40	0.62
Average	0.84	0.91	0.49	0.68
Median	0.82	0.90	0.48	0.67
Source:				
¹ S&P Global Market Intelligence, betas for the period 11/1/2019 - 11/1/2024.				
² S&P Global Market Intelligence, betas for the period 11/1/2021 - 11/1/2024.				
³ Adjusted using Value Line's Blume adjustment methodology: $0.35+(0.67 \times \text{Unadjusted Beta})$				

1 These data clearly demonstrate that systematic market risk has subsided for
2 regulated utilities after controlling for the impacts of the global pandemic with average
3 and median beta estimates of 0.68 and 0.67, respectively.

4 **Q HOW DID YOU DERIVE YOUR MRP ESTIMATES?**

5 A My MRP estimates are derived using two general approaches: a risk premium
6 approach and a DCF approach. I also consider the normalized MRP of 5.00% with the
7 normalized risk-free rate of 4.30% as recommended by Kroll, formerly known as

1 Duff & Phelps.²⁶ Based on this methodology and utilizing a “normalized” risk-free rate
2 of 4.30%, Kroll concludes that the current expected, or forward-looking, MRP is 5.00%,
3 implying an expected return on the market of 9.30%.²⁷

4 **Q PLEASE DESCRIBE YOUR MRP ESTIMATE DERIVED USING THE RISK**
5 **PREMIUM METHODOLOGY.**

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

12 Morningstar Direct calculates the historical arithmetic-average real-market
13 return over the period 1926 to 2023 to be 9.02%.²⁸ A current consensus for projected
14 inflation is 2.40%.²⁹ Using these estimates, the expected market return is 11.64%.³⁰
15 The MRP then is the difference between the 11.64% expected market return and the
16 projected risk-free rate of 4.20%, or 7.40%.

²⁶Kroll, and its predecessor Duff & Phelps, is a provider of economic, financial, and valuation data that is often relied on by finance professionals and cited in ROR testimony.

²⁷Kroll, *Kroll Increases U.S. Normalized Risk-Free Rate from 3.0% to 3.5%, but Spot 20-Year U.S. Treasury Yield Preferred When Higher* (Jun. 16, 2022). The current 20-year yield of 4.30% exceeds the “normalized” yield of 3.5%. In accordance with Kroll’s prescribed method, the greater of the two shall be used under the normalized Kroll methodology, i.e., 4.30%.

²⁸Morningstar Direct, data through 2023.

²⁹Blue Chip Financial Forecast November 1, 2024.

³⁰ $[(1 + 9.02\%) * (1 + 2.40\%) - 1] * 100$.

1 **Q PLEASE DESCRIBE YOUR MRP ESTIMATES DERIVED USING THE DCF**
2 **METHODOLOGY.**

3 A I employed two versions of the constant growth DCF model to develop estimates of the
4 MRP. I first employed the Federal Energy Regulatory Commission's ("FERC") method
5 of estimating the expected return on the market that was established in its
6 Opinion No. 569-A. FERC's method for estimating the expected return on the market
7 is to perform a constant growth DCF analysis on each of the dividend-paying
8 companies of the S&P 500 index. The growth rate component is based on the average
9 of the growth projections excluding companies with growth rates that were negative or
10 greater than 20%.³¹ The weighted average growth rate for the remaining companies
11 is 10.60%. After reflecting the FERC prescribed method of adjusting the dividend yield
12 by $(1 + 0.5g)$, the weighted average expected dividend yield is 1.79%. Thus, the
13 DCF-derived expected return on the market is the sum of those two components, or
14 12.39%. The MRP then is the expected market return of 12.39%, less the projected
15 risk-free rate of 4.20%, or 8.20%.

16 My second DCF-based MRP estimate was derived by performing the same
17 DCF analysis described above, except I used all companies in the S&P 500 index
18 rather than just the dividend-paying companies. The weighted average growth rate for
19 these companies is 10.60%. After reflecting the FERC-prescribed method of adjusting
20 the dividend yield by $(1 + 0.5g)$, the weighted average expected dividend yield is 1.58%.
21 Thus, the DCF-derived expected return on the market is the sum of those two
22 components, or 12.18%. The MRP then is the expected market return of 12.18% less
23 the projected risk-free rate of 4.20%, or 8.00%.

³¹Opinion No. 569-A, at 210.

1 The average expected market return based on the DCF model is 12.29% and
2 the average MRP based on the two DCF estimates is 8.10%.

3 **Q HOW DO YOUR EXPECTED MARKET RETURNS COMPARE TO CURRENT**
4 **EXPECTATIONS OF FINANCIAL INSTITUTIONS?**

5 A As shown in Table CCW-11, my average expected market return of 11.08%³² exceeds
6 long-term market expectations of several financial institutions.

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

Sources:
¹BlackRock Investment Institute, November 2023 report.
²JP Morgan Chase, Long-Term Capital Market Assumptions, 2024 Report.
³Vanguard economic and market outlook for 2024: A Return to Sound Money.
⁴Research Affiliates, Asset Allocation Interactive. Retrieved 1/05/2024.

7 When compared to the expected market returns of financial institutions above,
8 my average expected market return of 11.08% is greater than all of them. For these

³²11.08% = (9.30% + 12.29% + 11.64%) / 3.

1 reasons, my expected market returns, and the associated MRPs, should be considered
2 reasonable, if not high-end estimates.

3 **Q HOW DO YOUR ESTIMATED MRPS COMPARE TO THAT ESTIMATED BY**
4 **KROLL?**

5 A On its Cost of Capital portal, Kroll's MRP falls somewhere in the range of 5.00% to
6 7.17%. My MRP estimates are in the range of 5.00% to 8.10%.

7 **Q HOW DOES KROLL MEASURE A MRP?**

8 A Kroll's range is based on several methodologies. First, Kroll estimated a MRP of 7.17%
9 based on the difference between the total market return on common stocks (S&P 500)
10 less the income return on 20-year Treasury bond investments over the 1926-2023
11 period.³³

12 Second, Kroll used the Ibbotson & Chen supply-side model which produced a
13 MRP estimate of 6.22%.³⁴ Kroll explains that the historical MRP based on the S&P
14 500 was influenced by an abnormal expansion of P/E ratios relative to earnings and
15 dividend growth. To control for the volatility of extraordinary events and their impacts
16 on P/E ratios, Kroll takes into consideration the three-year average P/E ratio as the
17 current P/E ratio. Therefore, Kroll adjusted this MRP estimate to normalize the growth
18 in the P/E ratio to be more in line with the growth in dividends and earnings.

19 Finally, Kroll developed its own recommended equity, or MRP, by employing an
20 analysis that takes into consideration a wide range of economic information, multiple
21 risk premium estimation methodologies, and the current state of the economy by

³³Kroll Cost of Capital Navigator.

³⁴*Id.*

1 observing measures such as the level of stock indices and corporate spreads as
2 indicators of perceived risk. Based on this methodology, and utilizing a “normalized”
3 risk-free rate of 4.30%, Kroll concludes that the current expected, or forward-looking,
4 MRP is 5.00%, implying an expected return on the market of 9.30%.³⁵

5 **Q WHAT ARE THE RESULTS OF YOUR CAPM ANALYSIS?**

6 A As shown in Schedule CCW-15, I have provided the results of twelve different
7 applications of the CAPM. The first three results presented are based on the proxy
8 group’s current average *Value Line* beta of 0.95. The results of the CAPM based on
9 these inputs range from 9.07% to 11.92%.

10 The next set of three results presented are based on the proxy group’s historical
11 *Value Line* beta of 0.78. The results of the CAPM based on these inputs range from
12 8.20% to 10.51%.

13 The third set of results presented are based on the proxy group’s current S&P
14 Global Market Intelligence beta of 0.84. The results of the CAPM based on these inputs
15 range from 8.49% to 10.99%.

16 The final set of results presented are based on the proxy group’s three-year
17 beta estimate of 0.68. The results of the CAPM based on these inputs range from
18 7.70% to 9.71%.

³⁵Kroll, *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* (Jun. 16, 2022).

1 My CAPM results are summarized in Table CCW-12.

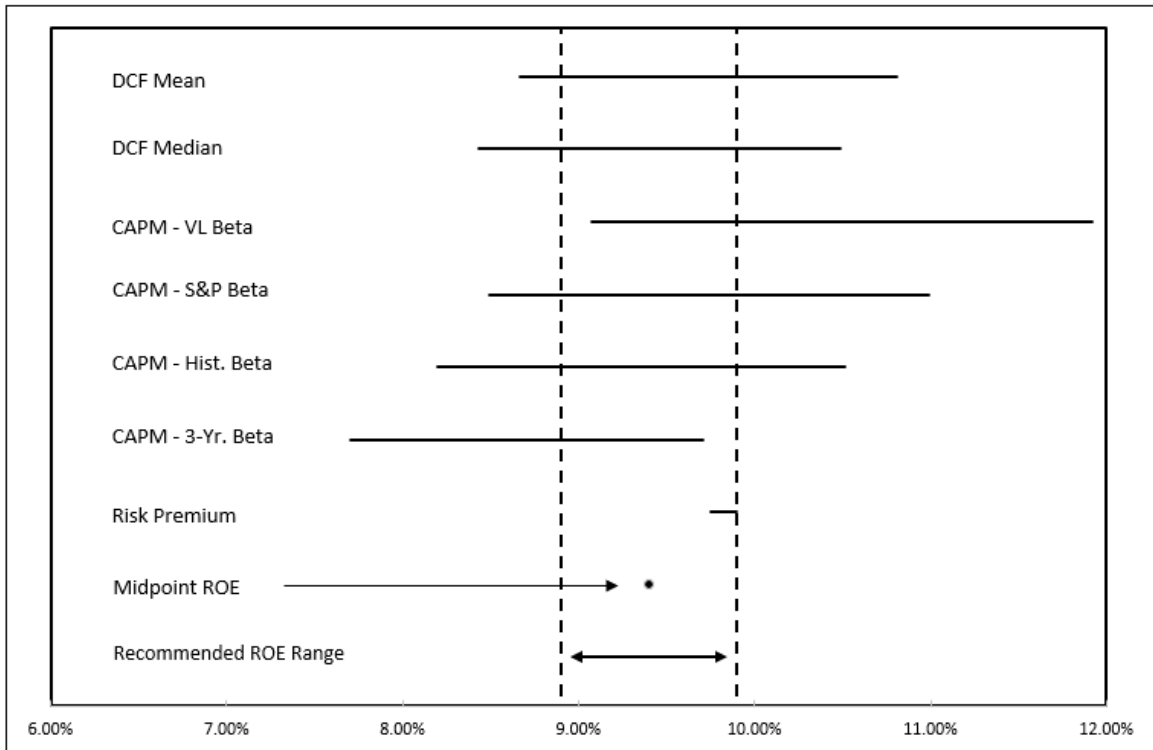
<u>Description</u>	<u>Current VL Beta</u>	<u>Historical VL Beta</u>	<u>Current S&P Beta</u>	<u>3-Year Beta</u>
Kroll Method	9.07%	8.20%	8.49%	7.70%
Risk Premium Method	11.25%	9.96%	10.40%	9.24%
FERC DCF Method	<u>11.92%</u>	<u>10.51%</u>	<u>10.99%</u>	<u>9.71%</u>
Average	10.75%	9.56%	9.96%	8.89%

2 **I. Return on Equity Summary**

3 **Q. BASED ON THE RESULTS OF YOUR RETURN ON COMMON EQUITY ANALYSES**
4 **DESCRIBED ABOVE, WHAT RETURN ON COMMON EQUITY DO YOU**
5 **RECOMMEND FOR THE COMPANY?**

6 **A.** The results of my analyses are summarized in Figure CCW-5. In this figure, I present
7 the various measures of central tendency for each of my analytical models.

Figure CCW-5



1 Based on my analyses of the various methodologies described above, I
2 estimate the Company's current market COE to be in the reasonable range of 9.00%
3 to 10.00%. My recommended range accounts for the unsustainable growth rates
4 assumed in the constant growth DCF model and the irrational assumption that *Value*
5 *Line's* current beta estimates are reflective of current investor expectations. In addition,
6 my recommended range is captured by the range of results for each of the models and
7 is consistent with measures of central tendency of those results. Based on my
8 assessment of Ameren Missouri's overall risk profile and the results of these analytical
9 methods, I would recommend that this Commission authorize Ameren Missouri a ROE
10 of 9.50%, which is the midpoint of the range produced by these models.

Christopher C. Walters
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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.**

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

4 **Q PLEASE STATE YOUR OCCUPATION.**

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

7 **Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL
8 EMPLOYMENT EXPERIENCE.**

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

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

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

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

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

13 **Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?**

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

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

22 A I earned the Chartered Financial Analyst ("CFA") designation from the CFA Institute.
23 The CFA charter was awarded after successfully completing three examinations which

1 covered the subject areas of financial accounting and reporting analysis, corporate
2 finance, economics, fixed income and equity valuation, derivatives, alternative
3 investments, risk management, and professional and ethical conduct. I am a member
4 of the CFA Institute and the CFA Society of St. Louis.

514080

Ameren Missouri

Electric Utilities (Valuation Metrics)

Price to Earnings (P/E) Ratio ¹

Line	Company	23-Year																							
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)	2005 (21)	2004 (22)	2003 (23)	2002 (24)
1	ALLETE	18.14	16.60	16.80	18.10	20.60	18.30	24.70	22.20	23.00	18.60	15.10	17.20	18.60	15.90	14.70	16.00	16.10	13.90	14.80	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	17.06	19.00	16.40	21.40	21.20	21.20	21.20	19.10	20.60	22.30	18.10	16.60	15.30	14.50	14.50	12.50	13.90	13.40	15.10	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	16.75	17.10	15.50	21.50	21.40	22.20	22.10	18.30	20.60	18.30	17.50	16.70	16.50	13.40	11.90	9.70	9.30	14.20	17.40	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	15.28	16.80	15.90	21.10	17.10	19.60	21.40	18.00	19.30	15.20	15.80	15.90	14.50	13.80	11.90	13.40	10.00	13.10	16.30	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	22.89	15.70	16.30	19.60	23.20	23.60	23.10	26.10	27.30	20.50	33.50	N/A	N/A	N/A	N/A	N/A	N/A	15.00	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	18.18	15.20	14.60	20.00	20.20	21.20	15.00	24.50	23.40	18.80	17.60	17.30	14.60	19.30	14.10	12.70	11.40	15.00	30.90	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.51	15.20	14.20	18.10	17.70	17.00	21.20	16.80	19.50	22.30	16.10	19.00	18.20	17.10	31.10	18.10	9.90	NMF	15.00	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	16.90	17.30	20.40	18.70	26.10	15.90	19.50	37.00	17.90	21.90	18.10	17.00	18.70	14.80	14.60	13.80	11.80	11.30	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	18.45	20.60	18.60	22.90	23.60	23.30	24.30	20.30	21.30	20.90	18.30	17.30	16.30	15.10	13.60	12.50	13.60	10.90	26.80	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	16.23	18.60	17.70	20.30	17.20	19.00	19.70	17.10	19.80	18.80	15.60	15.90	14.70	15.40	15.10	13.30	12.50	12.30	13.80	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	18.29	17.30	18.30	18.70	19.50	22.60	18.20	17.50	22.20	21.30	22.10	23.00	19.20	18.90	17.30	14.30	12.70	13.80	20.60	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	16.71	16.40	16.90	22.40	30.00	16.30	19.90	17.40	18.60	19.00	18.10	14.90	17.90	14.90	13.50	12.30	10.40	14.80	18.30	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	17.24	18.20	16.50	19.60	18.90	17.10	17.70	17.00	19.90	21.30	18.20	17.90	17.40	17.50	13.80	12.70	13.30	17.30	16.10	N/A	N/A	N/A	N/A	N/A
14	Edison Intl	17.06	16.50	14.30	40.60	29.70	34.90	16.70	N/A	17.20	17.90	14.80	13.00	12.70	9.70	11.80	10.30	9.70	12.40	16.00	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	17.68	N/A	N/A	N/A	N/A	N/A	N/A	26.85	21.78	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	14.71	20.80	20.60	21.10	15.00	15.30	16.50	13.80	15.00	10.90	12.50	12.90	13.20	11.20	9.10	11.60	12.00	16.60	19.30	14.28	16.28	15.09	13.77	11.53
17	Eversource Energy	18.07	13.80	13.10	20.90	22.20	23.70	22.10	18.70	19.50	18.70	18.10	17.90	16.90	19.90	15.40	13.40	12.00	13.70	18.70	27.07	19.76	20.77	13.35	16.07
18	Evergy, Inc.	18.86	14.90	14.80	19.90	16.20	21.70	21.80	22.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	14.39	14.60	15.40	19.90	16.60	12.40	14.70	13.30	13.40	12.50	12.60	16.00	13.40	19.10	11.30	11.00	11.50	18.00	18.20	16.53	15.37	12.99	11.77	10.46
20	FirstEnergy Corp.	15.18	15.00	14.40	17.00	14.10	15.70	17.10	13.60	11.40	12.70	12.60	13.20	13.10	21.10	22.40	11.70	13.00	15.60	15.60	14.23	16.07	14.13	22.47	12.95
21	Fortis Inc.	19.20	18.10	17.00	21.10	21.20	20.60	19.20	17.10	16.80	21.60	18.00	24.30	20.00	20.10	18.80	18.20	16.40	17.50	21.10	17.68	N/A	N/A	N/A	N/A
22	Great Plains Energy	15.52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
23	Hawaiian Elec.	17.65	NMF	6.00	18.50	18.20	21.50	21.30	18.90	20.70	13.60	20.40	15.90	16.20	15.80	17.10	18.60	19.80	23.20	21.6	20.33	18.27	19.18	13.76	13.47
24	IDACORP, Inc.	17.19	18.20	18.10	21.00	20.80	19.90	22.30	20.50	20.60	19.10	16.20	14.70	13.40	12.40	11.50	11.80	10.20	13.90	18.20	15.07	16.70	15.49	26.51	18.88
25	MGE Energy	20.22	23.10	21.10	24.70	25.50	26.40	28.40	25.10	29.40	24.90	20.30	17.20	17.00	17.20	15.80	15.00	15.10	14.20	15.00	15.88	22.40	17.98	17.55	15.96
26	NextEra Energy, Inc.	18.87	21.30	19.80	27.80	31.30	28.90	26.80	24.80	21.60	20.70	16.90	17.30	16.60	14.40	11.50	10.80	13.40	14.50	18.90	13.65	17.88	13.65	17.88	13.60
27	NorthWestern Corp.	16.84	15.20	13.70	17.30	17.40	18.60	19.90	16.80	17.80	17.20	18.40	16.20	16.90	15.70	12.60	12.90	11.50	13.90	21.70	25.95	17.09	N/A	N/A	N/A
28	OGE Energy	15.42	16.10	17.00	17.20	14.30	16.20	19.00	16.50	18.30	17.70	17.70	18.30	17.70	15.20	14.40	13.30	10.80	12.40	13.80	13.68	14.95	14.13	11.84	14.12
29	Otter Tail Corp.	20.38	14.50	14.30	9.50	12.30	18.30	23.50	22.20	22.10	20.20	18.20	18.80	21.10	21.70	47.50	NMF	31.20	30.10	19.00	17.35	15.40	17.34	17.77	16.01
30	Pinnacle West Capital	15.98	18.10	15.80	17.10	14.10	16.70	19.40	17.80	19.30	18.70	16.00	15.90	15.30	14.30	14.60	12.60	13.70	16.10	14.90	13.69	19.24	15.80	13.96	14.43
31	TXNM Energy	18.15	15.30	14.20	17.40	19.90	19.60	22.20	19.40	20.40	22.40	18.70	18.70	16.10	15.00	14.50	14.00	18.10	N/A	35.60	15.57	17.38	15.02	14.73	15.08
32	Portland General	16.65	15.50	14.30	18.20	17.70	16.60	22.30	18.40	20.00	19.10	17.70	15.30	16.90	14.00	12.40	12.00	14.40	16.30	11.90	23.35	N/A	N/A	N/A	N/A
33	PPL Corp.	16.31	17.90	16.20	20.00	54.10	13.90	13.30	11.30	17.60	12.80	13.90	14.10	12.80	10.90	10.50	11.90	25.70	17.60	17.30	14.10	15.12	12.51	10.59	11.06
34	Public Serv. Enterprise	14.79	20.90	18.80	18.50	16.80	15.70	18.00	16.60	16.30	15.30	14.10	12.60	13.50	12.80	10.40	10.40	10.00	13.60	16.50	17.81	16.74	14.26	10.58	10.00
35	SCANA Corp.	13.96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.46	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
36	Sempra Energy	15.60	16.80	15.00	16.80	15.40	17.50	22.50	20.40	24.30	24.40	19.70	21.90	19.70	14.90	11.80	12.60	10.10	11.80	14.00	11.50	11.79	8.65	8.96	8.19
37	Southern Co.	16.48	20.90	18.60	19.60	18.40	17.90	17.60	15.10	15.50	17.80	15.80	16.00	16.20	17.00	15.80	14.90	13.50	16.10	16.00	16.00	15.92	14.68	14.83	14.63
38	Vectren Corp.	17.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23.54	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
39	WEC Energy Group	17.50	18.90	16.50	21.90	22.30	24.90	23.50	19.60	20.00	19.90	21.30	17.70	16.50	15.80	14.20	14.00	13.30	14.80	16.50	15.97	14.46	17.51	12.43	10.46
40	Westar Energy	15.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23.40	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
41	Xcel Energy Inc.	17.86	17.60	15.30	22.20	22.50	23.90	22.30	18.90	20.20	18.50	16.50	15.40	15.00	14.80	14.20	14.10	12.70	13.70	16.70	14.80	15.36	13.65	11.62	40.80
42	Average	17.05	17.37	16.18	20.29	20.91	19.95	20.51	19.43	19.85	18.75	17.58	16.77	16.19	15.56	15.30	13.16	13.57	15.27	17.66	16.51	16.56	16.65	13.83	14.31
43	Median	16.25	17.10	16.25	19.90	19.70	19.30	21.20	18.55	20.00	18.80	17.81	16.47	16.20	15.02	14.20	12.80	12.70	14.20	16.32	15.92	15.99	15.49	13.69	13.47

Sources:

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

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Ameren Missouri

Electric Utilities
(Valuation Metrics)

Line	Company	Market Price to Cash Flow (MP/CF) Ratio ¹																							
		23-Year		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
		Average	2024 ²	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	ALLETE	9.09	7.34	6.69	7.56	8.61	8.14	11.38	10.16	10.95	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	8.30	9.50	9.43	10.43	10.31	10.66	10.74	9.71	13.21	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	7.40	7.18	8.05	9.54	9.03	9.63	9.45	7.95	8.38	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.77	7.71	7.68	8.67	7.57	8.41	9.34	8.03	8.81	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	9.21	6.36	7.12	8.69	11.19	9.39	9.11	10.24	10.14	8.56	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	6.93	6.09	6.73	9.39	8.03	7.80	7.34	10.14	9.35	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.87	6.91	7.76	8.92	8.84	8.56	10.65	8.83	9.27	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	5.64	7.22	7.75	8.01	7.95	5.94	7.03	8.45	6.97	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	6.58	8.10	8.28	9.43	9.27	9.87	9.85	8.40	8.75	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.21	7.62	8.26	8.70	7.26	8.35	9.46	8.73	9.64	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.79	7.52	9.24	9.35	11.15	14.59	13.47	10.94	11.35	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.80	7.53	7.27	7.96	10.82	7.85	9.67	8.54	9.05	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.60	7.38	7.17	7.75	7.89	8.06	7.40	7.65	8.40	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Intl	6.01	5.91	5.67	6.83	7.14	7.57	7.25	13.46	7.05	6.77	5.92	5.88	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.93	N/A	N/A	N/A	N/A	N/A	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	Evergy Corp.	5.78	6.78	4.62	7.15	5.61	5.78	6.05	4.92	4.66	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	7.59	6.25	10.39	9.39	11.41	12.53	11.47	9.16	10.36	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Evergy, Inc.	7.42	6.86	6.74	8.66	7.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	6.04	5.78	6.41	7.69	5.08	4.44	5.29	5.05	4.45	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
20	FirstEnergy Corp.	6.94	7.78	7.90	8.93	6.60	9.23	11.09	8.84	4.76	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
21	Fortis Inc.	8.44	7.96	8.34	9.10	9.57	9.50	9.46	7.97	8.23	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
22	Great Plains Energy	6.89	N/A	N/A	N/A	N/A	N/A	N/A	14.62	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14	5.14
23	Hawaiian Elec.	7.69	1.86	5.70	7.95	8.23	8.69	9.30	8.34	9.21	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
24	IDACORP, Inc.	9.02	10.08	11.04	12.42	11.84	11.38	12.75	11.72	11.56	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
25	MGE Energy	11.66	11.25	12.31	13.63	N/A	14.90	15.58	15.04	17.33	15.66	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
26	NextEra Energy, Inc.	9.25	10.34	10.89	15.17	20.40	15.48	12.33	10.77	11.61	9.24	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
27	NorthWestern Corp	7.87	7.30	8.01	8.65	8.83	8.88	9.93	8.19	8.82	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
28	OGE Energy	7.92	7.71	7.78	8.36	7.64	8.38	10.58	9.36	10.52	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
29	Otter Tail Corp.	9.31	10.33	8.02	7.70	8.61	9.99	12.42	11.58	11.09	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
30	Pinnacle West Capital	6.21	6.15	6.47	5.19	6.19	7.49	8.30	7.09	8.73	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
31	TXNM Energy	6.85	5.80	6.87	6.95	7.81	7.87	7.92	7.57	7.40	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
32	Portland General	5.98	5.60	6.56	6.65	6.48	6.72	7.65	6.56	7.45	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
33	PPL Corp.	7.84	7.77	7.83	8.82	13.74	7.46	7.99	7.02	10.11	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
34	Public Serv. Enterprise	8.05	10.33	9.68	10.53	11.32	8.22	8.72	9.48	8.67	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
35	SCANA Corp.	7.09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.26	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
36	Sempra Energy	8.48	9.15	8.93	9.75	13.23	10.40	12.05	10.10	10.65	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
37	Southern Co.	8.33	9.22	8.64	9.63	8.72	8.34	8.80	7.05	7.49	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
38	Vectren Corp.	7.08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.32	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
39	WEC Energy Group	9.23	9.02	10.12	11.81	11.99	13.67	12.88	10.82	11.04	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
40	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
41	Xcel Energy Inc.	7.03	6.53	7.96	8.62	9.19	10.07	9.44	7.90	8.50	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
42	Average	7.65	7.56	8.01	9.00	9.28	9.26	9.78	9.03	9.41	8.68	8.07	7.90	7.41	7.01	6.56	6.02	5.61	7.01	7.77	7.17	7.18	6.82	5.75	5.58
43	Median	7.45	7.45	7.87	8.69	8.72	8.56	9.46	8.78	9.13	8.58	7.94	7.57	7.23	6.85	6.40	5.80	5.37	7.10	7.84	7.44	7.05	6.72	5.66	5.46

Sources:

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

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Note:

³ Based on the average of the high and low price and the projected Cash Flow per share.

Ameren Missouri

Electric Utilities (Valuation Metrics)

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

Line	Company	20-Year																				
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)	2005 (21)
1	ALLETE	1.53	1.19	1.19	1.24	1.43	1.39	1.91	1.79	1.78	1.53	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22
2	Alliant Energy	1.82	1.91	1.92	2.25	2.26	2.30	2.32	2.16	2.38	2.17	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33
3	Ameren Corp.	1.60	1.76	2.00	2.15	2.13	2.21	2.26	1.95	1.93	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68
4	American Electric Power	1.64	1.63	1.73	1.99	1.87	2.09	2.20	1.82	1.88	1.81	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57
5	Avangrid, Inc.	0.88	0.66	0.71	0.89	1.01	0.97	1.02	1.02	0.93	0.83	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.32	1.09	1.19	1.33	1.42	1.37	1.54	1.88	1.73	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13
7	Black Hills	1.49	1.14	1.28	1.54	1.52	1.55	1.95	1.61	2.06	1.94	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63
8	CenterPoint Energy	2.25	1.75	1.86	1.99	1.74	1.90	2.21	2.18	2.59	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06
9	CMS Energy Corp.	2.18	2.28	2.33	2.71	2.69	3.24	3.28	2.81	2.93	2.72	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32
10	Consol. Edison	1.42	1.45	1.48	1.55	1.34	1.44	1.59	1.49	1.63	1.58	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52
11	Dominion Resources	2.50	1.58	1.68	2.34	2.37	2.72	2.18	2.40	2.94	3.15	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50
12	DTE Energy	1.67	2.05	1.97	2.41	2.82	1.80	2.07	1.91	2.01	1.82	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39
13	Duke Energy	1.30	1.51	1.49	1.63	1.58	1.47	1.47	1.33	1.41	1.35	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A
14	Edison Intl	1.72	2.00	1.86	2.08	1.67	1.62	1.80	1.97	2.17	1.92	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93
15	El Paso Electric	1.56	N/A	N/A	N/A	N/A	N/A	N/A	1.94	1.87	1.68	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76
16	Entergy Corp.	1.73	1.55	1.45	1.81	1.75	1.93	2.03	1.74	1.76	1.67	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01
17	Eversource Energy	1.54	1.39	1.71	1.86	2.00	2.11	1.99	1.68	1.73	1.64	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05
18	Evergy, Inc.	1.40	1.24	1.33	1.52	1.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.04	1.37	1.52	1.88	1.37	1.20	1.43	1.31	1.20	1.20	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60
20	FirstEnergy Corp.	2.06	2.03	2.08	2.37	2.33	2.81	3.39	2.67	3.53	2.37	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64
21	Fortis Inc.	1.47	1.35	1.43	1.56	1.48	1.47	1.41	1.24	1.41	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A
22	Great Plains Energy	1.21	N/A	N/A	N/A	N/A	N/A	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
23	Hawaiian Elec.	1.65	1.57	1.24	1.94	1.81	1.82	2.02	1.76	1.76	1.63	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78
24	IDACORP, Inc.	1.52	1.51	1.75	1.91	1.88	1.84	2.10	1.96	1.94	1.76	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22
25	MGE Energy	2.16	2.29	2.35	2.47	N/A	2.54	2.88	2.59	2.88	2.60	2.10	2.10	2.06	1.92	1.75	1.65	1.54	1.62	1.75	1.83	2.09
26	NextEra Energy, Inc.	2.40	2.73	2.89	4.07	4.27	3.58	2.75	2.32	2.35	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
27	NorthWestern Corp	1.42	1.12	1.18	1.25	1.43	1.45	1.74	1.48	1.64	1.68	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42
28	OGE Energy	1.81	1.57	1.62	1.74	1.67	1.86	2.06	1.75	1.82	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80
29	Otter Tail Corp.	1.98	2.90	2.55	2.30	2.33	2.04	2.62	2.49	2.33	1.90	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
30	Pinnacle West Capital	1.41	1.31	1.42	1.31	1.45	1.63	1.91	1.74	1.91	1.72	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25
31	TXNM Energy	1.37	1.45	1.75	1.81	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
32	Portland General	1.36	1.29	1.37	1.58	1.55	1.57	1.84	1.56	1.69	1.56	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A
33	PPL Corp.	1.96	1.39	1.43	1.44	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
34	Public Serv. Enterprise	1.94	2.07	1.92	2.32	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
35	SCANA Corp.	1.51	N/A	N/A	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	1.20	1.45	1.62	1.64	1.72
36	Sempra Energy	1.78	1.61	1.65	1.84	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	1.73
37	Southern Co.	2.14	2.50	2.34	2.53	2.39	2.20	2.13	1.89	2.07	2.01	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35
38	Vectren Corp.	1.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.75	2.29	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82
39	WEC Energy Group	2.07	2.23	2.35	2.57	2.61	2.84	2.62	2.11	2.10	2.09	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62
40	Westar Energy	1.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.94	1.95	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41
41	Xcel Energy Inc.	1.73	1.69	2.00	2.22	2.27	2.46	2.34	1.97	2.06	1.88	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
42	Average	1.73	1.67	1.72	1.96	1.92	1.96	2.10	1.89	2.01	1.86	1.67	1.69	1.60	1.52	1.43	1.35	1.25	1.63	1.90	1.78	1.80
43	Median	1.69	1.57	1.69	1.89	1.75	1.84	2.06	1.86	1.92	1.75	1.57	1.54	1.50	1.47	1.36	1.31	1.15	1.48	1.69	1.71	1.73

Sources:

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

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Notes:

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

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Electric Utilities
(Valuation Metrics)

Line	Company	Dividend Yield ¹																				
		19-Year Average (1)	2024 ^{2a} (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)	
1	ALLETE	4.05%	4.63%	4.67%	4.47%	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	3.81%	3.64%	3.57%	3.04%	2.97%	2.90%	2.88%	3.20%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.75%	4.10%	3.13%	3.32%	
3	Ameren Corp.	4.08%	3.54%	3.13%	2.74%	2.74%	2.57%	2.59%	3.04%	3.12%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%	
4	American Electric Power	3.97%	4.01%	4.02%	3.41%	3.61%	3.28%	3.10%	3.60%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	5.09%	5.20%	4.20%	3.40%	4.06%	
5	Avangrid, Inc.	4.04%	5.22%	4.87%	3.94%	3.53%	3.69%	3.52%	3.49%	3.79%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
6	Avista Corp.	3.94%	5.42%	4.85%	4.26%	3.94%	4.03%	3.46%	2.93%	3.14%	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	3.78%	4.67%	4.15%	3.44%	3.50%	3.42%	2.74%	3.31%	2.75%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.75%		
8	CenterPoint Energy	4.08%	2.91%	2.71%	2.46%	2.77%	4.38%	2.98%	4.09%	4.79%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%	
9	CMS Energy Corp.	3.21%	3.38%	3.37%	2.92%	2.92%	2.65%	2.64%	3.03%	2.88%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A	
10	Consol. Edison	4.25%	3.60%	3.57%	3.51%	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	Dominion Resources	4.13%	5.47%	5.18%	3.66%	3.38%	4.31%	4.75%	4.72%	3.88%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%	
12	DTE Energy	3.96%	3.56%	3.67%	3.17%	3.06%	3.57%	3.07%	3.34%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%	
13	Duke Energy	4.58%	4.14%	4.28%	3.98%	4.02%	4.35%	4.17%	4.54%	4.15%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A	
14	Edison Int'l	3.41%	4.13%	4.47%	4.45%	4.39%	4.29%	3.73%	3.84%	2.87%	2.81%	2.83%	2.82%	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	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		
16	Entergy Corp.	4.04%	4.15%	4.36%	3.70%	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	3.35%	4.87%	3.89%	3.09%	2.85%	2.63%	2.81%	3.32%	3.14%	3.40%	3.40%	3.40%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%		
18	Evergy, Inc.	4.11%	4.78%	4.42%	3.66%	3.59%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
19	Exelon Corp.	3.77%	4.20%	3.67%	2.89%	3.17%	3.82%	3.06%	3.32%	3.51%	3.75%	3.88%	3.69%	4.89%	5.78%	4.96%	4.95%	4.26%	2.78%	2.46%	2.83%	
20	FirstEnergy Corp.	4.31%	4.42%	4.24%	3.71%	4.39%	4.17%	3.50%	5.17%	4.62%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%	
21	Fortis Inc.	3.74%	4.27%	4.09%	3.82%	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	N/A	N/A	N/A	N/A	3.76%	3.62%	3.94%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.80%	
23	Hawaiian Elec.	3.54%	4.40%	4.09%	3.04%	2.99%	2.40%	2.45%	2.79%	3.88%	3.59%	3.61%	3.95%	4.17%	4.51%	4.09%	5.19%	4.76%	4.85%	3.36%	3.21%	
24	IDACORP, Inc.	3.18%	3.51%	3.18%	2.86%	2.89%	2.92%	2.49%	2.61%	2.58%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%	
25	MGE Energy	2.97%	2.42%	2.25%	2.15%	N/A	2.10%	1.94%	2.16%	1.95%	2.23%	2.78%	2.91%	3.25%	3.63%	3.98%	4.66%	4.24%	4.14%	4.25%		
26	NexEra Energy, Inc.	2.91%	3.07%	2.80%	2.11%	1.90%	2.10%	2.41%	2.68%	2.79%	2.91%	3.01%	3.02%	3.30%	3.65%	3.96%	3.90%	N/A	N/A	N/A		
27	NorthWestern Corp	4.18%	5.01%	4.78%	4.51%	4.10%	4.02%	3.28%	3.98%	3.52%	3.42%	3.51%	3.51%	3.95%	4.17%	4.51%	5.09%	5.67%	5.82%	4.09%	4.21%	
28	OGE Energy	3.87%	4.66%	4.63%	4.30%	4.81%	4.68%	3.54%	3.98%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%	
29	Other Tail Corp.	3.75%	2.07%	2.33%	2.44%	2.81%	3.45%	2.74%	2.92%	3.12%	3.87%	4.33%	4.14%	5.21%	5.78%	5.68%	5.78%	3.63%	3.46%	3.92%		
30	Pinnacle West Capital	4.51%	4.53%	4.51%	4.90%	4.44%	3.97%	3.29%	3.55%	3.16%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.17%	4.75%	4.67%		
31	TXNM Energy	3.20%	3.95%	3.27%	3.04%	2.49%	2.40%	2.45%	2.79%	2.55%	2.69%	2.90%	2.79%	2.99%	2.96%	3.04%	3.19%	4.09%	4.76%	4.85%	3.36%	
32	Portland General	3.73%	4.47%	4.20%	3.63%	3.62%	3.47%	2.85%	3.27%	2.92%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.86%	4.28%	3.34%	2.54%	
33	PPL Corp.	4.44%	3.73%	3.53%	3.23%	5.83%	5.84%	5.24%	5.61%	4.24%	4.55%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%	
34	Public Serv. Enterprise	3.73%	3.57%	3.83%	3.37%	3.37%	3.64%	3.19%	3.49%	3.74%	3.78%	3.81%	3.92%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%	
35	SCANA Corp.	4.37%	N/A	N/A	N/A	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%	4.21%	
36	Sempra Energy	3.02%	3.29%	3.27%	2.99%	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%	
37	Southern Co.	4.54%	3.83%	4.13%	3.82%	4.17%	4.36%	4.41%	5.27%	4.63%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%	
38	Vacran Corp.	4.38%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%	
39	WEC Energy Group	3.10%	3.96%	3.57%	3.08%	3.00%	2.68%	2.81%	3.38%	3.11%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%	
40	Westar Energy	4.37%	N/A	N/A	N/A	N/A	N/A	N/A	3.00%	2.90%	3.73%	3.98%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%		
41	Xcel Energy Inc.	3.70%	3.90%	3.28%	2.90%	2.81%	2.58%	2.75%	3.25%	3.10%	3.33%	3.69%	3.83%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%		
42	Average	3.84%	4.03%	3.86%	3.42%	3.52%	3.56%	3.19%	3.56%	3.36%	3.49%	3.72%	3.66%	3.86%	4.18%	4.30%	4.64%	5.16%	4.25%	3.54%	3.73%	
43	Median	3.69%	4.01%	3.95%	3.43%	3.50%	3.57%	3.08%	3.36%	3.16%	3.45%	3.73%	3.69%	3.84%	4.17%	4.46%	4.78%	5.20%	4.24%	3.46%	3.65%	
44	20-Yr Treasury Yields ³	3.31%	4.47%	4.25%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	3.07%	3.12%	2.54%	3.07%	3.12%	2.54%	4.03%	4.11%	4.36%	4.91%	4.99%
45	20-Yr TIPS ³	1.12%	2.04%	1.73%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%	
46	Implied Inflation ³	2.17%	2.39%	2.48%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.19%	2.49%	2.62%	
47	Real Dividend Yield^d	1.64%	1.60%	1.34%	0.77%	1.07%	1.86%	1.37%	1.47%	1.44%	1.91%	1.94%	1.43%	1.48%	1.81%	1.86%	2.33%	3.24%	2.07%	1.02%	1.08%	
A-Rated Utility																						
48	Nominal "A" Rated Yield ⁴	4.75%	5.55%	5.55%	4.74%	3.10%	3.05%	3.77%	4.25%	4.00%	3.93%	4.12%	4.28%	4.48%	4.13%	5.04%	5.46%	6.04%	6.53%	6.07%	6.07%	
49	Real "A" Rated Yield	2.52%	3.09%	2.99%	2.05%	0.67%	1.37%	1.94%	2.14%	2.07%	2.34%	2.33%	2.04%	2.08%	1.76%	2.58%	3.13%	4.11%	4.31%	3.49%	3.36%	
Baa-Rated Utility																						
50	Nominal "Baa" Rated Yield	5.24%	5.78%	5.85%	5.05%	3.36%	3.44%	4.19%	4.67%	4.38%	4.67%	5.03%	4.80%	4.98%	4.83%	5.57%	5.96%	7.06%	7.25%	6.33%	6.32%	
51	Real "Baa" Rated Yield	3.00%	3.31%	3.29%	2.35%	0.91%	1.74%	2.36%	2.55%	2.44%	3.07%	3.22%	2.55%	2.77%	2.44%	3.09%	3.62%	5.11%	5.01%	3.74%	3.60%	
Spreads (A-Rated Utility Bond - Stock)																						
52	Nominal Spread ⁵	0.90%	1.52%	1.69%	1.32%	-0.41%	-0.50%	0.58%	0.64%	0.64%	0.44%	0.40%	0.62%	0.61%	-0.05%	0.74%	0.82%	0.88%	2.28%	2.53%	2.34%	
53	Real Spread ⁶	0.98%	1.49%	1.65%	1.28%	-0.40%	-0.49%	0.57%	0.68%	0.62%	0.43%	0.40%	0.61%	0.60%								

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Electric Utilities (Valuation Metrics)

Line	Company	Dividend per Share ¹																			
		19-Year																			
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
1	ALLETE	2.09	2.82	2.71	2.60	2.52	2.47	2.35	2.24	2.14	2.08	2.02	1.96	1.90	1.84	1.78	1.76	1.72	1.64	1.45	
2	Alliant Energy	1.16	1.92	1.81	1.71	1.61	1.52	1.42	1.34	1.26	1.18	1.10	1.02	0.94	0.90	0.85	0.79	0.75	0.70	0.58	
3	Ameren Corp.	1.99	2.68	2.52	2.36	2.20	2.00	1.92	1.85	1.78	1.72	1.66	1.61	1.60	1.60	1.56	1.54	1.54	2.54	2.54	
4	American Electric Power	2.31	3.60	3.37	3.17	3.00	2.84	2.71	2.53	2.39	2.27	2.15	2.03	1.95	1.88	1.85	1.71	1.64	1.58	1.50	
5	Avangrid, Inc.	1.75	1.76	1.76	1.76	1.76	1.76	1.76	1.74	1.73	1.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
6	Avista Corp.	1.29	1.95	1.84	1.76	1.69	1.62	1.55	1.49	1.43	1.37	1.32	1.27	1.22	1.16	1.10	1.00	0.81	0.69	0.60	
7	Black Hills	1.79	2.60	2.50	2.41	2.29	2.17	2.05	1.93	1.81	1.68	1.62	1.56	1.52	1.48	1.46	1.44	1.42	1.40	1.37	
8	CenterPoint Energy	0.85	0.83	0.77	0.72	0.66	0.90	0.86	1.12	1.35	1.03	0.99	0.95	0.83	0.81	0.79	0.78	0.76	0.73	0.68	
9	CMS Energy Corp.	1.20	2.08	1.95	1.84	1.74	1.63	1.53	1.43	1.33	1.24	1.16	1.08	1.02	0.96	0.84	0.66	0.50	0.36	0.20	
10	Consol. Edison	2.70	3.32	3.24	3.16	3.10	3.06	2.96	2.86	2.76	2.68	2.60	2.52	2.46	2.42	2.40	2.38	2.36	2.34	2.32	
11	Dominion Resources	2.43	2.67	2.67	2.67	2.52	3.45	3.67	3.34	3.04	2.80	2.59	2.40	2.25	2.11	1.97	1.83	1.75	1.58	1.46	
12	DTE Energy	2.99	4.08	3.88	3.54	3.88	4.12	3.85	3.59	3.36	3.06	2.84	2.69	2.59	2.42	2.32	2.18	2.12	2.12	2.08	
13	Duke Energy	3.37	4.14	4.06	3.98	3.90	3.82	3.75	3.64	3.49	3.36	3.24	3.15	3.09	3.03	2.97	2.91	2.82	2.70	2.58	
14	Edison Int'l	1.92	3.14	2.99	2.84	2.69	2.58	2.48	2.43	2.23	1.98	1.73	1.48	1.37	1.31	1.29	1.27	1.25	1.23	1.18	
15	El Paso Electric	1.11	N/A	N/A	N/A	N/A	N/A	N/A	1.42	1.32	1.23	1.17	1.11	1.05	0.97	0.66	N/A	N/A	N/A	N/A	
16	Entergy Corp.	3.44	4.56	4.34	4.10	3.86	3.74	3.66	3.58	3.50	3.42	3.34	3.32	3.32	3.32	3.32	3.24	3.00	3.00	2.58	
17	Eversource Energy	1.69	2.86	2.70	2.55	2.41	2.27	2.14	2.02	1.90	1.78	1.67	1.57	1.47	1.32	1.10	1.03	0.95	0.83	0.78	
18	Energy, Inc.	2.40	2.61	2.48	2.33	2.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
19	Exelon Corp.	1.61	1.52	1.44	1.35	1.53	1.53	1.45	1.38	1.31	1.26	1.24	1.24	1.46	2.10	2.10	2.10	2.10	2.05	1.82	
20	FirstEnergy Corp.	1.77	1.70	1.60	1.56	1.56	1.56	1.53	1.82	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.	1.51	2.38	2.29	2.17	2.08	1.97	1.86	1.75	1.65	1.55	1.43	1.30	1.25	1.21	1.17	1.12	1.04	1.00	0.82	
22	Great Plains Energy	1.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.10	1.06	1.00	0.94	0.88	0.86	0.84	0.83	0.83	1.66	1.66	
23	Hawaiian Elec.	1.25	N/A	1.08	1.40	1.36	1.32	1.28	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	
24	IDACORP, Inc.	2.02	3.36	3.20	3.04	2.88	2.72	2.56	2.40	2.24	2.08	1.92	1.76	1.57	1.37	1.20	1.20	1.20	1.20	1.20	
25	MGE Energy	1.22	1.84	1.67	1.59	N/A	1.45	1.38	1.32	1.26	1.21	1.16	1.11	1.07	1.04	1.01	0.99	0.97	0.96	0.94	
26	NextEra Energy, Inc.	0.96	2.06	1.87	1.70	1.54	1.40	1.25	1.11	0.98	0.87	0.77	0.73	0.66	0.60	0.55	0.50	0.47	0.45	0.41	
27	NorthWestern Corp	1.88	2.60	2.56	2.52	2.48	2.40	2.30	2.20	2.10	2.00	1.92	1.60	1.52	1.48	1.44	1.36	1.34	1.32	1.28	
28	OGE Energy	1.13	1.69	1.66	1.64	1.63	1.58	1.51	1.40	1.27	1.16	1.05	0.95	0.85	0.80	0.76	0.73	0.71	0.70	0.68	
29	Otter Tail Corp.	1.34	1.87	1.75	1.65	1.56	1.48	1.40	1.34	1.28	1.25	1.23	1.21	1.19	1.19	1.19	1.19	1.19	1.19	1.17	
30	Pinnacle West Capital	2.65	3.55	3.49	3.42	3.36	3.23	3.04	2.87	2.70	2.56	2.44	2.33	2.23	2.67	2.10	2.10	2.10	2.10	2.03	
31	TXNM Energy	0.92	1.57	1.49	1.41	0.98	1.25	1.18	1.09	0.99	0.88	0.80	0.76	0.68	0.58	0.50	0.50	0.50	0.61	0.91	
32	Portland General	1.30	1.98	1.88	1.79	1.70	1.59	1.52	1.43	1.34	1.26	1.18	1.12	1.10	1.08	1.06	1.04	1.01	0.97	0.93	
33	PPL Corp.	1.38	1.03	0.95	0.88	1.66	1.66	1.65	1.64	1.58	1.52	1.50	1.49	1.47	1.44	1.40	1.40	1.38	1.34	1.22	
34	Public Serv. Enterprise	1.66	2.40	2.28	2.16	2.04	1.96	1.88	1.80	1.72	1.64	1.56	1.48	1.44	1.42	1.37	1.37	1.33	1.29	1.17	
35	SCANA Corp.	2.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.45	2.30	2.18	2.10	2.03	1.98	1.94	1.90	1.88	1.84	1.76	
36	Sempra Energy	2.68	2.48	2.38	4.58	4.40	4.18	3.87	3.58	3.29	3.02	2.80	2.64	2.52	2.40	1.92	1.56	1.56	1.37	1.24	
37	Southern Co.	2.17	2.86	2.78	2.70	2.62	2.54	2.46	2.38	2.30	2.22	2.15	2.08	2.01	1.94	1.87	1.80	1.73	1.66	1.60	
38	Vectren Corp.	1.42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.71	1.62	1.54	1.46	1.43	1.41	1.39	1.37	1.35	1.31	1.27	
39	WEC Energy Group	1.75	3.34	3.12	2.91	2.71	2.53	2.36	2.21	2.08	1.98	1.74	1.56	1.45	1.20	1.04	0.80	0.68	0.54	0.46	
40	Westar Energy	1.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.60	1.52	1.44	1.40	1.36	1.32	1.28	1.24	1.20	1.16	1.08	
41	Xcel Energy Inc.	1.37	2.19	2.08	1.95	1.83	1.72	1.62	1.52	1.44	1.36	1.28	1.20	1.11	1.07	1.03	1.00	0.97	0.94	0.91	
42	Average	1.80	2.52	2.37	2.33	2.28	2.23	2.14	2.03	1.90	1.79	1.70	1.61	1.56	1.54	1.46	1.42	1.38	1.39	1.32	
43	Industry Average Growth	4.02%	6.34%	1.48%	2.08%	2.47%	4.36%	5.29%	6.91%	5.99%	5.44%	5.35%	3.49%	1.01%	5.77%	2.46%	3.13%	-0.48%	4.89%	6.45%	

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Ameren Missouri

Electric Utilities (Valuation Metrics)

Line	Company	Earnings per Share ¹																			
		19-Year																			
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
1	ALLETE	3.04	3.70	4.30	3.38	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	1.88	2.95	2.78	2.73	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.	3.07	4.60	4.37	4.14	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	3.77	5.65	5.24	5.09	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.	1.92	2.25	2.09	2.32	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.	1.86	2.40	2.24	2.12	2.10	1.90	2.97	2.07	1.95	2.15	1.89	1.84	1.85	1.42	1.24	1.35	1.27	1.07	1.30	1.17
7	Black Hills	2.77	3.95	3.91	3.97	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	2.88	2.21
8	CenterPoint Energy	1.26	1.62	1.37	1.59	0.94	1.29	1.49	0.74	1.57	1.00	1.08	1.42	1.24	1.35	1.27	1.07	1.01	1.30	1.17	1.33
9	CMS Energy Corp.	1.91	3.30	3.01	2.84	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	3.98	5.30	5.04	4.55	4.74	3.94	4.08	4.55	4.10	3.94	4.05	3.62	3.93	3.86	3.57	3.47	3.14	3.36	3.48	2.95
11	Dominion Resources	2.86	2.80	1.99	4.11	3.19	1.82	2.19	3.25	3.53	3.44	3.20	3.05	3.09	2.75	2.76	2.89	2.64	3.04	2.13	2.40
12	DTE Energy	4.68	6.70	6.76	5.52	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	4.19	6.00	5.56	5.27	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	3.32	4.95	4.76	1.60	2.00	1.72	3.98	-1.26	4.51	3.94	4.15	4.33	3.78	4.55	3.23	3.35	3.24	3.68	3.32	3.28
15	El Paso Electric	2.02	N/A	N/A	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.	6.27	4.50	11.10	5.37	6.87	6.90	6.30	5.88	5.19	6.88	5.81	5.77	4.96	6.02	7.55	6.66	6.30	6.20	5.60	5.36
17	Eversource Energy	2.80	4.60	4.34	4.09	3.54	3.55	3.45	3.25	3.11	2.96	2.76	2.58	2.49	1.89	2.22	2.10	1.91	1.86	1.59	0.82
18	Evergy, Inc.	3.53	3.85	3.17	3.26	3.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.82	2.45	2.38	2.26	1.74	2.60	3.01	2.07	2.78	1.80	2.54	2.10	2.31	1.92	3.75	3.87	4.29	4.10	4.03	3.50
20	FirstEnergy Corp.	2.58	2.70	2.56	2.41	2.69	1.85	1.84	1.33	2.73	2.10	2.00	0.85	2.97	2.13	1.88	3.25	3.32	4.38	4.22	3.82
21	Fortis Inc.	2.10	3.25	3.10	2.78	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	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.	2.11	10.70	1.81	2.20	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.	3.82	5.45	5.14	5.11	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	MGE Energy	2.21	3.70	3.25	3.07	N/A	2.60	2.51	2.43	2.20	2.18	2.06	2.32	2.16	1.86	1.76	1.67	1.47	1.59	1.51	1.37
26	NextEra Energy, Inc.	1.65	3.45	3.17	2.90	1.81	2.10	1.94	1.67	1.63	1.45	1.52	1.40	1.21	1.14	1.21	1.19	0.99	1.02	0.82	0.81
27	NorthWestern Corp	2.74	3.50	3.22	3.29	3.60	3.06	3.53	3.40	3.34	3.39	2.90	2.99	2.46	2.26	2.53	2.14	2.02	1.77	1.44	1.31
28	OGE Energy	1.82	2.15	2.07	2.25	2.36	2.08	2.24	2.12	1.92	1.69	1.69	1.98	1.94	1.79	1.73	1.50	1.33	1.25	1.32	1.23
29	Otter Tail Corp.	2.46	7.00	7.00	6.78	4.23	2.34	2.17	2.06	1.86	1.60	1.56	1.55	1.37	1.05	0.45	0.38	0.71	1.09	1.78	1.69
30	Pinnacle West Capital	3.83	4.80	4.41	4.26	5.47	4.87	4.77	4.54	4.43	3.95	3.92	3.58	3.66	3.50	2.99	3.08	2.26	2.12	2.96	3.17
31	TXNM Energy	1.64	2.75	2.82	2.69	2.27	2.15	2.28	1.66	1.92	1.65	1.64	1.45	1.41	1.31	1.08	0.87	0.58	0.11	0.76	1.72
32	Portland General	2.08	3.10	2.38	2.74	2.72	1.72	2.39	2.37	2.29	2.16	2.04	2.18	1.77	1.87	1.95	1.66	1.31	1.39	2.33	1.14
33	PPL Corp.	2.12	1.70	1.60	1.41	0.53	2.04	2.37	2.58	2.11	2.79	2.37	2.38	2.38	2.61	2.61	2.29	1.19	2.45	2.63	2.29
34	Public Serv. Enterprise	2.99	3.65	3.48	3.47	2.55	3.61	3.90	2.76	2.82	2.83	3.30	2.99	2.45	2.44	3.11	3.07	3.08	2.90	2.59	1.85
35	SCANA Corp.	3.30	N/A	N/A	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
36	Sempra Energy	4.95	4.75	4.61	9.21	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
37	Southern Co.	2.89	4.00	3.64	3.61	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
38	Vectren Corp.	1.94	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.60	2.55	2.39	2.02	1.66	1.94	1.73	1.64	1.79	1.63	1.83	1.44
39	WECC Energy Group	2.88	4.90	4.63	4.46	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
40	Westar Energy	1.96	N/A	N/A	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
41	Xcel Energy Inc.	2.22	3.55	3.35	3.17	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
42	Average	2.82	4.07	3.80	3.61	3.24	3.16	3.28	2.87	2.90	2.81	2.68	2.65	2.52	2.44	2.43	2.35	2.17	2.19	2.25	2.09
43	Industry Average Growth	3.86%	7.33%	5.10%	11.50%	2.47%	-3.54%	14.00%	-0.78%	3.26%	4.58%	1.09%	5.23%	3.58%	0.03%	3.76%	8.23%	-0.89%	-2.75%	7.36%	

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

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Electric Utilities (Valuation Metrics)

Line	Company	Cash Flow / Capital Spending ¹						3 - 5 yr ²
		2020 (1)	2021 (2)	2022 (3)	2023 (4)	2024 (5)	2025 ² (6)	Projection (7)
1	ALLETE	0.74x	0.80x	2.26x	1.42x	2.21x	1.42x	1.33x
2	Alliant Energy	0.82x	0.97x	0.94x	0.95x	0.97x	1.04x	1.20x
3	Ameren Corp.	0.51x	0.59x	0.72x	0.74x	0.84x	0.87x	0.95x
4	American Electric Power	0.74x	0.69x	0.73x	0.72x	0.82x	0.88x	1.09x
5	Avangrid, Inc.	0.56x	0.62x	0.61x	0.57x	0.71x	0.74x	0.78x
6	Avista Corp.	0.85x	0.87x	0.83x	0.78x	0.84x	0.95x	0.90x
7	Black Hills	0.72x	0.76x	0.85x	0.82x	0.68x	0.76x	0.86x
8	CenterPoint Energy	0.88x	0.62x	0.62x	0.57x	0.55x	0.59x	0.58x
9	CMS Energy Corp.	0.82x	0.77x	0.78x	0.92x	0.80x	0.66x	0.93x
10	Consol. Edison	0.82x	0.89x	0.83x	0.72x	0.84x	0.88x	0.94x
11	Dominion Resources	1.00x	0.89x	0.74x	0.63x	0.51x	0.58x	0.89x
12	DTE Energy	0.67x	0.70x	0.75x	0.82x	0.87x	0.90x	0.96x
13	Duke Energy	0.86x	0.93x	0.81x	0.79x	0.77x	0.78x	0.90x
14	Edison Int'l	0.67x	0.74x	0.67x	0.75x	0.82x	0.84x	0.89x
15	El Paso Electric	1.00x	0.83x	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.81x	1.05x	0.98x	0.85x	0.81x	0.82x	1.08x
17	Eversource Energy	0.95x	0.74x	0.72x	0.86x	0.76x	0.78x	0.80x
18	Evergy, Inc.	1.06x	0.96x	0.94x	0.86x	0.86x	0.91x	0.97x
19	Exelon Corp.	1.30x	1.32x	0.96x	0.99x	0.80x	0.84x	0.94x
20	FirstEnergy Corp.	0.96x	0.91x	0.86x	0.80x	0.82x	0.84x	0.96x
21	Fortis Inc.	0.60x	0.74x	0.75x	0.82x	0.85x	0.88x	0.97x
22	Hawaiian Elec.	1.10x	1.42x	1.30x	1.51x	1.20x	1.08x	1.19x
23	IDACORP, Inc.	1.25x	1.16x	0.83x	0.63x	0.56x	0.61x	0.91x
24	MGE Energy	0.73x	0.87x	N/A	1.26x	1.10x	1.05x	1.10x
25	NextEra Energy, Inc.	0.58x	0.69x	0.54x	0.59x	0.59x	0.61x	0.65x
26	NorthWestern Corp	0.98x	0.82x	0.66x	0.75x	0.87x	0.91x	1.04x
27	OGE Energy	1.43x	1.13x	0.99x	0.97x	0.99x	1.06x	1.23x
28	Otter Tail Corp.	0.45x	1.42x	1.45x	1.08x	1.46x	1.18x	1.09x
29	Pinnacle West Capital	0.98x	0.85x	0.78x	0.95x	0.74x	0.79x	0.91x
30	TXNM Energy	0.59x	0.51x	0.63x	0.63x	0.53x	0.52x	0.64x
31	Portland General	0.75x	0.97x	1.01x	0.58x	0.62x	0.73x	0.82x
32	PPL Corp.	1.06x	1.12x	1.35x	0.98x	0.97x	0.99x	1.03x
33	Public Serv. Enterprise	1.00x	1.05x	0.82x	0.87x	0.90x	0.95x	0.90x
34	Sempra Energy	0.92x	0.78x	0.92x	0.96x	0.63x	0.64x	0.68x
35	Southern Co.	1.01x	0.93x	0.97x	0.97x	0.90x	0.96x	1.09x
36	WEC Energy Group	0.70x	0.75x	0.87x	0.92x	1.01x	1.09x	1.29x
37	Xcel Energy Inc.	0.99x	0.86x	0.80x	0.92x	0.65x	0.60x	0.78x
38	Average	0.86x	0.88x	0.89x	0.86x	0.86x	0.85x	0.95x
39	Median	0.85x	0.86x	0.83x	0.84x	0.82x	0.86x	0.94x

Source:

¹ Data for the years 2020 - 2024 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Notes:

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

Ameren Missouri

Electric Utilities
(Valuation Metrics)

Line	Company	Percent Dividends to Book Value ¹																			
		18-Year																			
		Average	2024 ^{2a}	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)		
1	ALLETE	5.88%	5.50%	5.56%	5.52%	5.56%	5.61%	5.44%	5.35%	5.29%	5.45%	5.45%	5.59%	5.86%	6.04%	6.18%	6.46%	6.67%	6.78%	6.80%	6.62%
2	Alliant Energy	6.42%	6.94%	6.84%	6.84%	6.73%	6.68%	6.68%	6.90%	7.32%	6.96%	6.70%	6.56%	6.36%	6.37%	6.26%	6.06%	5.98%	5.48%	5.23%	5.04%
3	Ameren Corp.	6.04%	6.25%	6.26%	5.88%	5.84%	5.67%	5.67%	5.92%	6.01%	5.86%	5.78%	5.82%	5.93%	5.87%	4.76%	4.73%	4.66%	7.74%	7.84%	7.97%
4	American Electric Power	6.36%	6.54%	6.95%	6.80%	6.74%	6.86%	6.82%	6.56%	6.43%	6.42%	5.90%	5.91%	5.91%	5.99%	6.10%	6.04%	5.97%	6.23%	6.28%	6.32%
5	Avangrid, Inc.	3.18%	3.43%	3.46%	3.51%	3.57%	3.58%	3.57%	3.57%	3.54%	3.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	5.12%	5.93%	5.78%	5.65%	5.61%	5.53%	5.37%	5.52%	5.41%	5.33%	5.38%	5.33%	5.65%	5.51%	5.42%	5.07%	4.23%	3.77%	3.44%	3.26%
7	Black Hills	5.33%	5.33%	5.30%	5.32%	5.32%	5.32%	5.34%	5.31%	5.67%	5.55%	5.66%	5.06%	5.17%	5.31%	5.30%	5.14%	5.10%	5.15%	5.34%	5.58%
8	CenterPoint Energy	9.09%	5.09%	5.03%	4.90%	4.82%	8.35%	6.59%	8.94%	12.39%	12.82%	12.30%	8.96%	8.23%	8.05%	7.97%	10.36%	11.28%	12.40%	12.12%	12.09%
9	CMS Energy Corp.	6.76%	7.70%	7.84%	7.89%	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	5.94%	5.23%	5.29%	5.42%	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	10.07%	8.61%	8.69%	8.54%	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	6.32%	7.29%	7.25%	7.64%	8.64%	6.43%	6.34%	6.38%	6.34%	6.09%	5.81%	5.72%	5.78%	5.66%	5.60%	5.49%	5.59%	5.76%	5.91%	6.28%
13	Duke Energy	5.52%	6.25%	6.37%	6.47%	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 Intl	5.79%	8.26%	8.30%	9.24%	7.36%	6.96%	6.73%	7.56%	6.23%	5.39%	4.41%	4.48%	4.48%	4.54%	4.16%	3.90%	4.12%	4.19%	4.53%	4.65%
15	El Paso Electric	2.94%	N/A	N/A	N/A	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.	6.68%	6.45%	6.32%	6.68%	6.72%	6.85%	7.13%	7.65%	7.90%	7.58%	6.44%	5.95%	6.15%	6.42%	6.53%	6.82%	6.59%	7.13%	6.34%	5.34%
17	Eversource Energy	5.17%	6.75%	6.66%	5.74%	5.69%	5.54%	5.59%	5.57%	5.43%	5.27%	5.12%	4.99%	4.82%	4.49%	4.86%	4.75%	4.66%	4.26%	4.16%	4.00%
18	Evergy, Inc.	5.62%	5.92%	5.90%	5.57%	5.41%	5.32%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	6.96%	5.77%	5.59%	5.42%	4.36%	4.62%	4.38%	4.34%	4.23%	4.51%	4.42%	4.72%	5.49%	8.38%	9.68%	10.25%	10.96%	12.21%	11.87%	11.02%
20	FirstEnergy Corp.	8.80%	8.97%	8.81%	8.78%	10.26%	11.70%	11.86%	13.82%	16.34%	10.21%	4.91%	4.88%	5.44%	7.03%	6.93%	7.85%	7.84%	8.10%	6.96%	6.54%
21	Fortis Inc.	5.44%	5.75%	5.84%	5.95%	5.59%	5.39%	5.08%	5.03%	5.19%	4.80%	5.00%	5.22%	5.58%	5.81%	5.70%	5.91%	5.60%	5.55%	4.90%	5.47%
22	Great Plains Energy	5.31%	N/A	N/A	N/A	N/A	N/A	N/A	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.	7.09%	N/A	5.07%	6.96%	6.22%	6.17%	6.12%	6.24%	6.43%	6.51%	6.91%	7.10%	7.27%	7.62%	7.77%	7.91%	7.96%	8.08%	8.11%	9.22%
24	IDACORP, Inc.	4.73%	5.29%	5.57%	5.48%	5.45%	5.36%	5.24%	5.11%	5.02%	4.87%	4.70%	4.53%	4.26%	3.91%	3.62%	3.87%	4.11%	4.32%	4.48%	4.66%
25	MGE Energy	6.08%	5.54%	5.30%	5.32%	N/A	5.22%	5.59%	5.60%	5.61%	5.79%	5.82%	5.84%	6.01%	6.22%	6.36%	6.56%	6.72%	6.87%	7.24%	7.77%
26	NextEra Energy, Inc.	6.79%	8.37%	8.06%	8.61%	8.13%	7.51%	6.61%	6.22%	6.55%	6.69%	6.29%	6.49%	6.36%	6.34%	6.12%	5.82%	5.99%	6.30%	6.22%	6.21%
27	NorthWestern Corp	5.81%	5.60%	5.63%	5.65%	5.73%	5.84%	5.69%	5.70%	5.76%	5.77%	5.78%	5.08%	5.71%	5.90%	6.08%	6.01%	6.13%	6.21%	6.06%	6.00%
28	OGE Energy	6.88%	7.32%	7.49%	7.47%	8.04%	8.71%	7.28%	6.96%	6.59%	6.70%	6.30%	5.84%	5.56%	5.70%	5.81%	6.24%	6.79%	6.89%	7.47%	7.61%
29	Otter Tail Corp.	6.98%	6.00%	5.95%	5.61%	6.54%	7.05%	7.19%	7.29%	7.27%	7.34%	7.70%	7.86%	8.07%	8.25%	7.52%	6.77%	6.33%	6.22%	6.67%	6.90%
30	Pinnacle West Capital	6.19%	5.93%	6.41%	6.40%	6.43%	6.47%	6.29%	6.16%	6.03%	5.93%	5.91%	5.89%	5.84%	7.38%	6.00%	6.20%	6.42%	6.15%	5.98%	5.87%
31	TXNM Energy	4.12%	5.73%	5.72%	5.52%	3.88%	5.23%	5.59%	5.12%	4.67%	4.18%	3.85%	3.37%	3.26%	2.89%	2.55%	2.84%	2.65%	3.20%	4.13%	3.89%
32	Portland General	4.94%	5.79%	5.73%	5.75%	5.61%	5.45%	5.24%	5.09%	4.94%	4.78%	4.64%	4.56%	4.70%	4.70%	4.78%	4.90%	4.93%	4.48%	4.42%	3.45%
33	PPL Corp.	8.33%	5.19%	5.03%	4.66%	8.89%	9.55%	9.74%	10.13%	10.18%	10.44%	10.19%	7.28%	7.43%	8.00%	7.48%	8.24%	9.47%	9.89%	8.20%	8.27%
34	Public Serv. Enterprise	6.99%	7.41%	7.34%	7.82%	7.12%	6.18%	6.28%	6.31%	6.27%	6.31%	6.03%	6.14%	6.28%	6.66%	6.75%	7.20%	7.66%	8.40%	8.15%	8.54%
35	SCANA Corp.	6.44%	N/A	N/A	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%
36	Sempra Energy	5.33%	5.30%	5.41%	5.49%	5.56%	5.96%	6.39%	6.59%	6.53%	5.83%	5.89%	5.74%	5.60%	5.66%	4.68%	4.16%	4.27%	4.18%	3.89%	4.19%
37	Southern Co.	9.56%	9.57%	9.65%	9.67%	9.96%	9.59%	9.42%	9.95%	9.59%	9.89%	9.53%	9.48%	9.39%	9.22%	9.22%	9.38%	9.55%	9.74%	9.83%	10.07%
38	Vectren Corp.	7.71%	N/A	N/A	N/A	N/A	N/A	N/A	7.67%	7.60%	7.57%	7.51%	7.55%	7.57%	7.74%	7.78%	7.84%	7.85%	7.86%	7.97%	
39	WEC Energy Group	6.54%	8.81%	8.38%	7.92%	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%
40	Westar Energy	5.71%	N/A	N/A	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%
41	XcelEnergy Inc.	6.21%	6.58%	6.55%	6.43%	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%
42	Average	6.35%	6.47%	6.43%	6.46%	6.50%	6.65%	6.57%	6.69%	6.73%	6.46%	6.13%	6.09%	6.11%	6.29%	6.11%	6.07%	6.13%	6.37%	6.29%	6.10%
43	Median	6.08%	6.00%	6.10%	5.92%	6.34%	6.18%	6.29%	6.23%	6.25%	5.85%	5.82%	5.84%	5.84%	5.99%	6.08%	6.01%	5.99%	6.22%	6.22%	6.21%

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

³ Based on the projected 2023 Dividend Declared per share and Book Value per share, published in The Value Line Investment Survey, April 19, May 10, and June 7, 2024.

Ameren Missouri

Electric Utilities
(Valuation Metrics)

Line	Company	Dividends to Earnings Ratio ¹																			
		18-Year																			
		Average	2024 ^{2a}	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)		
1	ALLETE	0.69	0.76	0.63	0.77	0.78	0.74	0.71	0.66	0.68	0.66	0.60	0.68	0.72	0.71	0.67	0.80	0.93	0.61	0.53	0.52
2	Alliant Energy	0.62	0.65	0.65	0.63	0.61	0.62	0.61	0.61	0.63	0.72	0.65	0.59	0.57	0.59	0.62	0.57	0.79	0.55	0.47	0.56
3	Ameren Corp.	0.66	0.58	0.58	0.57	0.57	0.57	0.57	0.56	0.64	0.64	0.70	0.67	0.76	0.66	0.63	0.56	0.55	0.88	0.85	0.95
4	American Electric Power	0.61	0.64	0.64	0.62	0.60	0.64	0.66	0.65	0.66	0.54	0.60	0.61	0.61	0.63	0.59	0.66	0.55	0.55	0.55	0.52
5	Avangrid, Inc.	0.87	0.78	0.84	0.76	0.89	0.94	0.78	0.91	1.03	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.69	0.81	0.82	0.83	0.80	0.85	0.52	0.72	0.73	0.64	0.70	0.69	0.66	0.88	0.64	0.61	0.51	0.51	0.83	0.39
7	Black Hills	1.04	0.66	0.64	0.61	0.61	0.58	0.58	0.56	0.54	0.64	0.57	0.54	0.58	0.75	1.45	0.87	0.61	7.78	0.51	0.60
8	CenterPoint Energy	0.71	0.51	0.56	0.45	0.70	0.70	0.58	1.51	0.86	1.03	0.92	0.67	0.67	0.60	0.62	0.73	0.75	0.56	0.58	0.45
9	CMS Energy Corp.	0.58	0.63	0.65	0.65	0.67	0.62	0.64	0.62	0.61	0.63	0.61	0.62	0.61	0.63	0.58	0.50	0.54	0.29	0.31	N/A
10	Consol. Edison	0.68	0.63	0.64	0.69	0.65	0.78	0.73	0.63	0.67	0.68	0.64	0.70	0.63	0.63	0.67	0.69	0.75	0.70	0.67	0.78
11	Dominion Resources	0.89	0.95	1.34	0.65	0.79	1.90	1.68	1.03	0.86	0.81	0.81	0.79	0.73	0.77	0.71	0.63	0.66	0.52	0.69	0.58
12	DTE Energy	0.66	0.61	0.57	0.64	0.95	0.58	0.61	0.58	0.59	0.63	0.64	0.53	0.69	0.62	0.63	0.58	0.65	0.78	0.80	0.85
13	Duke Energy	0.80	0.69	0.73	0.76	0.79	0.97	0.74	0.88	0.83	0.91	0.79	0.76	0.78	0.82	0.72	0.72	0.83	0.89	0.72	N/A
14	Edison Intl	0.48	0.63	0.63	1.78	1.35	1.50	0.62	-1.93	0.50	0.50	0.42	0.34	0.36	0.29	0.40	0.38	0.38	0.33	0.35	0.34
15	El Paso Electric	0.50	N/A	N/A	N/A	N/A	N/A	N/A	0.68	0.54	0.51	0.57	0.49	0.48	0.43	0.27	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.57	1.01	0.39	0.76	0.56	0.54	0.58	0.61	0.67	0.50	0.57	0.58	0.67	0.55	0.44	0.49	0.48	0.48	0.46	0.40
17	Eversource Energy	0.60	0.62	0.62	0.62	0.68	0.64	0.62	0.62	0.61	0.60	0.61	0.61	0.59	0.70	0.50	0.49	0.50	0.44	0.49	0.88
18	Evergy, Inc.	0.69	0.68	0.78	0.71	0.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	0.60	0.62	0.61	0.60	0.88	0.59	0.48	0.67	0.47	0.70	0.49	0.59	0.63	1.09	0.56	0.54	0.49	0.50	0.45	0.47
20	FirstEnergy Corp.	0.77	0.63	0.63	0.65	0.58	0.84	0.83	1.37	0.53	0.69	0.72	1.69	0.56	1.03	1.17	0.68	0.66	0.50	0.49	0.48
21	Fortis Inc.	0.72	0.73	0.74	0.78	0.80	0.76	0.69	0.69	0.62	0.82	0.68	0.94	0.77	0.73	0.67	0.69	0.69	0.66	0.64	0.49
22	Great Plains Energy	0.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-18.33	0.66	0.73	0.60	0.54	0.63	0.67	0.54	0.81	1.43	0.90	1.02
23	Hawaiian Elec.	0.82	N/A	0.60	0.64	0.60	0.73	0.64	0.67	0.76	0.54	0.83	0.76	0.77	0.74	0.86	1.02	1.36	1.16	1.12	0.93
24	IDACORP, Inc.	0.52	0.62	0.62	0.59	0.59	0.58	0.56	0.53	0.53	0.53	0.50	0.46	0.43	0.41	0.36	0.41	0.45	0.55	0.65	0.51
25	MGE Energy	0.56	0.50	0.51	0.52	N/A	0.56	0.55	0.54	0.57	0.56	0.56	0.48	0.50	0.56	0.57	0.60	0.66	0.60	0.62	0.68
26	NextEra Energy, Inc.	0.56	0.60	0.59	0.59	0.85	0.67	0.64	0.66	0.60	0.60	0.51	0.52	0.55	0.53	0.45	0.42	0.47	0.44	0.50	0.47
27	NorthWestern Corp	0.70	0.74	0.80	0.77	0.69	0.78	0.65	0.65	0.63	0.59	0.66	0.54	0.62	0.65	0.57	0.64	0.66	0.75	0.89	0.95
28	OGE Energy	0.61	0.79	0.80	0.73	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
29	Otter Tail Corp.	0.95	0.27	0.25	0.24	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
30	Pinnacle West Capital	0.71	0.74	0.79	0.80	0.61	0.66	0.64	0.63	0.61	0.65	0.62	0.65	0.61	0.76	0.70	0.68	0.93	0.99	0.71	0.64
31	TXNM Energy	0.84	0.57	0.53	0.52	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
32	Portland General	0.63	0.64	0.79	0.65	0.63	0.92	0.64	0.60	0.59	0.58	0.58	0.51	0.62	0.57	0.54	0.62	0.77	0.70	0.40	0.59
33	PPL Corp.	0.77	0.61	0.58	0.62	3.13	0.81	0.70	0.64	0.75	0.54	0.63	0.63	0.62	0.55	0.54	0.61	1.16	0.55	0.46	0.48
34	Public Serv. Enterprise	0.56	0.66	0.66	0.62	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
35	SCANA Corp.	0.61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.58	0.55	0.57	0.55	0.60	0.63	0.65	0.64	0.66	0.62	0.64	0.65
36	Sempra Energy	0.54	0.52	0.52	0.50	1.10	0.64	0.65	0.65	0.71	0.71	0.54	0.57	0.60	0.55	0.43	0.39	0.33	0.31	0.29	0.28
37	Southern Co.	0.75	0.72	0.76	0.75	0.77	0.78	0.78	0.79	0.72	0.79	0.76	0.75	0.75	0.73	0.73	0.76	0.75	0.74	0.70	0.73
38	Vectren Corp.	0.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.66	0.64	0.64	0.72	0.86	0.72	0.80	0.84	0.75	0.80	0.69	0.85
39	WEC Energy Group	0.57	0.68	0.67	0.65	0.66	0.67	0.66	0.66	0.66	0.67	0.74	0.60	0.58	0.51	0.48	0.42	0.42	0.36	0.35	0.35
40	Westar Energy	0.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.70	0.63	0.69	0.60	0.60	0.61	0.72	0.69	0.94	0.89	0.59	0.52
41	Xcel Energy Inc.	0.62	0.62	0.62	0.62	0.62	0.62	0.61	0.62	0.63	0.62	0.61	0.59	0.58	0.58	0.60	0.64	0.65	0.64	0.67	0.65
42	Average	0.66	0.66	0.66	0.68	0.78	0.75	0.66	0.64	0.18	0.65	0.64	0.64	0.62	0.65	0.67	0.68	0.70	0.96	0.62	0.61
43	Median	0.63	0.64	0.63	0.64	0.68	0.67	0.64	0.65	0.63	0.64	0.62	0.60	0.61	0.63	0.62	0.62	0.66	0.61	0.60	0.57

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Note:

^a Based on the projected 2023 Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey, April 19, May 10, and June 7, 2024.

Ameren Missouri

Electric Utilities
(Valuation Metrics)

Line	Company	Cash Flow to Capital Spending Ratio ¹																			
		18-Year																			
		Average	2024 ^{2a}	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)		
1	ALLETE	0.95	1.39	1.76	2.12	0.55	0.55	0.63	1.22	1.61	1.32	1.16	0.45	0.67	0.49	0.77	0.63	0.39	0.46	0.65	1.23
2	Alliant Energy	0.81	0.96	0.74	0.91	0.95	N/A	N/A	N/A	0.49	N/A	0.91	0.91	1.01	0.57	0.91	0.57	0.39	0.57	1.04	1.27
3	Ameren Corp.	0.86	0.84	0.78	0.71	0.62	0.62	0.79	0.80	0.75	0.75	0.75	0.75	0.89	1.07	1.31	1.36	0.81	0.66	0.97	1.21
4	American Electric Power	0.86	0.82	0.79	0.81	0.81	0.81	0.75	0.68	0.67	0.85	0.85	0.87	0.91	1.07	1.19	1.24	1.02	0.70	0.77	0.75
5	Avangrid, Inc.	0.71	0.71	0.66	0.79	0.56	0.56	0.62	0.85	0.57	0.86	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.89	0.92	0.88	0.73	0.88	0.88	0.92	0.78	0.77	0.84	0.76	0.80	0.86	0.80	0.90	0.99	1.15	0.97	0.73	1.36
7	Black Hills	0.68	0.73	0.95	0.86	0.61	0.61	0.53	0.87	1.17	0.71	0.64	0.70	0.74	0.71	0.40	0.41	0.61	0.35	0.76	0.55
8	CenterPoint Energy	0.96	0.59	0.53	0.52	0.73	0.73	0.83	0.98	1.22	1.12	0.92	1.20	1.18	1.37	1.12	0.88	0.99	1.16	0.98	1.08
9	CMS Energy Corp.	0.85	0.63	0.85	0.82	0.78	0.78	0.79	0.77	0.89	0.81	0.81	0.74	0.82	0.82	1.05	1.13	0.97	1.11	0.55	1.07
10	Consol. Edison	0.83	0.84	0.84	0.88	0.83	0.83	0.87	0.82	0.76	0.65	0.76	0.88	0.86	1.01	0.98	0.90	0.75	0.70	0.81	0.74
11	Dominion Resources	0.76	0.51	0.46	0.86	0.73	0.73	0.96	1.04	0.81	0.65	0.64	0.63	0.77	0.73	0.79	0.87	0.75	0.83	0.74	0.85
12	DTE Energy	0.97	0.87	0.85	0.86	0.74	0.74	0.63	0.84	0.94	0.93	0.84	1.02	0.96	0.93	1.09	1.51	1.50	0.98	1.07	1.03
13	Duke Energy	0.88	0.77	0.81	0.87	0.85	0.85	0.80	0.81	0.87	0.82	0.96	1.20	1.09	0.87	0.89	0.78	0.77	0.71	1.09	0.97
14	Edison Intl	0.75	0.82	0.83	0.62	0.55	0.55	0.68	0.34	0.94	0.91	0.80	0.83	0.80	0.76	0.61	0.60	0.79	0.93	0.88	0.93
15	El Paso Electric	0.87	N/A	N/A	N/A	0.83	N/A	N/A	0.86	1.04	0.85	0.67	0.69	0.79	0.85	1.03	0.98	0.68	0.78	0.84	1.26
16	Entergy Corp.	0.95	0.77	1.03	0.62	0.74	0.74	0.79	0.73	0.76	1.08	1.05	1.19	1.03	0.88	1.15	1.24	1.02	0.93	1.14	1.13
17	Eversource Energy	0.83	0.76	0.54	0.89	0.80	0.80	0.75	0.83	0.79	0.87	0.91	0.90	1.13	0.86	0.80	1.05	0.96	0.77	0.68	0.67
18	Evergy, Inc.	0.89	0.86	0.90	0.78	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.18	0.80	0.82	0.84	1.09	1.09	1.20	1.05	1.06	0.76	0.82	0.93	1.07	0.98	1.19	1.66	1.66	1.61	1.84	1.86
20	FirstEnergy Corp.	0.99	0.82	0.82	0.98	0.83	0.83	0.80	0.76	1.03	0.94	0.93	0.54	0.91	0.85	1.05	1.32	1.22	0.95	1.56	1.75
21	Fortis Inc.	0.71	0.85	0.93	0.89	0.65	0.65	0.68	0.72	0.76	0.76	0.65	0.60	0.77	0.72	0.66	0.68	0.63	0.66	0.57	0.63
22	Great Plains Energy	0.79	N/A	N/A	N/A	N/A	N/A	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.	1.20	2.62	1.14	1.56	1.27	1.27	1.08	0.85	0.81	1.37	0.98	1.03	0.92	0.99	1.30	1.50	0.79	0.87	1.15	1.23
24	IDACORP, Inc.	1.06	0.54	0.75	1.00	1.33	1.33	1.46	1.42	1.33	1.16	1.15	1.21	1.34	1.24	0.86	0.78	0.96	0.82	0.64	0.89
25	MGE Energy	1.08	1.05	0.98	1.12	0.82	0.82	0.97	0.66	1.19	1.44	1.60	1.31	0.96	1.05	1.56	1.57	1.13	0.87	0.59	0.80
26	NextEra Energy, Inc.	0.61	0.59	0.50	0.55	0.58	0.58	0.67	0.56	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
27	NorthWestern Corp	1.00	0.87	0.72	0.75	0.84	0.84	1.13	1.23	1.21	1.13	1.01	0.93	0.92	0.88	1.04	0.76	0.88	1.27	1.23	1.29
28	OGE Energy	0.92	0.99	1.03	0.87	1.24	1.24	1.27	1.30	0.81	1.00	1.18	1.19	0.69	0.63	0.51	0.69	0.61	0.60	0.79	0.84
29	Otter Tail Corp.	1.00	1.46	1.98	2.13	0.48	0.48	0.80	1.49	1.10	0.84	0.74	0.70	0.67	0.85	1.16	1.09	0.56	0.37	0.65	1.44
30	Pinnacle West Capital	0.93	0.76	0.73	0.89	0.91	0.91	1.03	1.06	0.76	0.81	0.92	0.97	0.87	0.96	0.91	0.97	1.06	0.86	0.99	1.28
31	TXNM Energy	0.69	0.53	0.55	0.63	0.72	0.72	0.78	0.82	0.84	0.57	0.57	0.63	0.80	0.87	0.77	0.82	0.70	0.44	0.43	0.89
32	Portland General	0.81	0.63	0.51	0.86	0.78	0.78	1.03	1.00	1.07	0.88	0.90	0.47	0.59	1.28	1.25	0.81	0.44	0.77	0.72	0.78
33	PPL Corp.	0.97	0.97	1.06	1.05	0.90	0.90	0.98	0.93	0.82	1.00	0.72	0.75	0.69	0.91	1.07	1.11	1.07	1.25	1.13	1.18
34	Public Serv. Enterprise	1.09	0.90	0.92	1.05	1.13	1.13	1.08	0.70	0.64	0.61	0.80	1.04	0.93	0.96	1.30	1.23	1.41	1.34	1.64	1.94
35	SCANA Corp.	0.86	N/A	N/A	N/A	N/A	N/A	N/A	0.86	0.66	0.63	0.83	0.90	0.83	0.77	0.88	0.86	0.76	0.76	0.92	1.26
36	Sempra Energy	0.79	0.63	0.61	0.92	0.77	0.77	0.88	0.80	0.67	0.56	0.81	0.74	0.84	0.73	0.72	0.90	1.02	0.87	0.90	0.93
37	Southern Co.	0.90	0.92	0.88	0.97	0.99	0.99	0.88	0.83	0.90	0.77	0.88	0.80	0.86	0.93	0.94	0.93	0.78	0.87	0.91	1.00
38	Vectren Corp.	1.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.82	0.87	0.95	0.98	1.05	1.13	1.20	1.31	0.83	0.82	0.98	1.00
39	WEC Energy Group	0.98	1.01	0.95	1.09	0.97	0.97	0.91	0.90	0.92	1.20	0.97	1.37	1.42	1.30	1.02	0.97	0.89	0.61	0.56	0.69
40	Westar Energy	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.91	0.63	0.86	0.70	0.72	0.67	0.71	0.88	0.68	0.36	0.48	1.00
41	Xcel Energy Inc.	0.75	0.65	0.75	0.93	0.66	0.66	0.78	0.77	0.84	0.79	0.63	0.68	0.60	0.76	0.83	0.76	0.89	0.75	0.71	0.90
42	Average	0.89	0.87	0.86	0.94	0.83	0.82	0.88	0.89	0.89	0.89	0.87	0.87	0.89	0.88	0.96	0.98	0.86	0.80	0.88	1.05
43	Median	0.83	0.82	0.83	0.87	0.81	0.79	0.83	0.83	0.84	0.85	0.83	0.83	0.86	0.87	0.98	0.90	0.81	0.78	0.81	1.00

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

Notes:

^a Based on the projected Cash Flow per share and Capital Spending per share published in The Value Line Investment Survey, April 19, May 10, and June 7, 2024.

Ameren Missouri

Natural Gas Utilities
(Valuation Metrics)

		Price to Earnings (P/E) Ratio ¹																			
Line	Company	19-Year																			
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
1	Atmos Energy	17.46	18.30	16.80	19.30	18.80	22.30	23.20	21.70	22.00	20.80	17.50	16.10	15.90	15.90	14.40	13.20	12.50	13.60	15.90	13.52
2	Chesapeake Utilities	19.57	23.00	21.60	25.80	25.60	21.60	24.70	22.90	27.80	22.30	19.10	17.70	15.60	14.80	14.20	12.20	14.20	14.20	16.70	17.85
3	New Jersey Resources	17.04	15.20	14.90	17.00	17.50	17.70	24.30	15.60	22.40	21.30	16.60	11.70	16.00	16.80	15.80	15.00	14.90	12.30	21.60	16.13
4	NiSource Inc.	21.86	18.00	16.90	19.60	18.00	18.70	21.30	19.30	64.40	23.20	37.30	22.70	18.90	19.40	15.30	14.30	12.10	18.80	19.16	
5	Northwest Nat. Gas	20.25	13.90	15.40	19.60	19.50	25.00	30.90	26.60	NMF	26.90	23.70	20.70	19.40	21.10	19.00	17.00	15.20	18.10	16.70	15.85
6	ONE Gas Inc.	20.49	16.70	16.00	19.90	18.90	21.70	25.30	23.10	23.50	22.70	19.80	17.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Southwest Gas	17.90	18.80	23.00	NMF	14.30	16.80	21.30	20.60	22.20	21.60	19.40	17.90	15.80	15.00	15.70	14.00	12.20	20.30	17.30	15.94
8	Spire Inc.	18.17	15.30	14.50	17.50	13.60	51.10	22.80	16.70	19.80	19.60	16.50	19.80	21.30	14.50	13.00	13.70	13.40	14.30	14.20	13.60
9	UGI Corp.	14.95	8.60	8.40	14.10	13.90	13.80	23.40	17.80	20.80	19.30	17.70	15.80	15.40	16.40	15.00	10.90	10.30	13.30	15.10	13.97
10	Average	18.45	16.42	16.39	19.10	17.79	23.19	24.13	20.48	27.86	21.97	20.84	17.80	17.29	16.55	15.94	13.91	13.38	14.78	17.04	15.75
11	Median	16.70	16.70	16.00	19.45	18.00	21.60	23.40	20.60	22.30	21.60	19.10	17.80	15.95	16.15	15.35	13.85	13.80	13.90	16.70	15.89

		Market Price to Cash Flow (MP/CF) Ratio ¹																			
Line	Company	19-Year																			
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
12	Atmos Energy	9.42	11.08	11.27	11.87	10.99	13.11	13.35	12.02	11.99	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
13	Chesapeake Utilities	10.87	13.69	15.77	14.21	14.20	12.31	14.17	12.24	13.78	12.06	10.16	9.25	8.12	7.46	7.35	6.36	9.48	7.88	8.58	9.40
14	New Jersey Resources	11.81	9.64	11.22	11.55	11.56	11.10	15.98	11.44	14.45	13.94	11.71	8.95	11.29	12.71	11.32	11.34	9.15	13.76	11.01	
15	NiSource Inc.	7.83	7.53	7.13	8.13	7.89	7.83	8.81	8.91	12.11	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
16	Northwest Nat. Gas	11.88	6.83	7.56	8.76	8.57	10.10	13.13	11.75	59.72	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
17	ONE Gas Inc.	9.99	7.12	7.73	9.91	9.32	10.85	12.75	11.85	11.89	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	Southwest Gas	7.23	7.24	7.35	19.83	6.87	7.05	8.92	9.32	9.10	7.41	6.56	6.35	5.94	5.55	5.60	4.91	3.84	4.89	5.42	5.28
19	Spire Inc.	9.46	6.99	7.53	8.34	7.55	14.01	11.27	9.60	10.39	10.32	8.47	12.03	13.76	8.80	8.08	8.12	8.58	8.95	8.46	8.46
20	UGI Corp.	7.68	4.35	5.84	7.20	9.56	7.39	12.95	9.01	10.09	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
21	Average	9.47	8.27	9.04	11.09	9.61	10.42	12.37	10.68	17.06	10.59	9.30	8.94	8.84	8.09	8.00	7.11	7.13	7.26	8.35	7.84
22	Median	8.37	7.24	7.56	9.91	9.32	10.85	12.95	11.44	11.99	11.10	9.30	8.84	8.37	7.64	7.43	6.26	7.01	7.50	8.19	7.65

		Market Price to Book Value (MP/BV) Ratio ¹																			
Line	Company	19-Year																			
		Average (1)	2024 ² (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
23	Atmos Energy	1.58	1.50	1.55	1.65	1.59	1.95	2.10	2.03	2.16	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
24	Chesapeake Utilities	2.05	1.84	1.93	2.69	2.77	2.27	2.69	2.50	2.51	2.28	2.19	2.12	1.83	1.66	1.61	1.40	1.37	1.64	1.84	1.85
25	New Jersey Resources	2.25	1.95	2.32	2.35	2.26	1.90	2.75	2.63	2.70	2.52	2.28	2.13	2.05	2.33	2.31	2.09	2.16	1.92	2.17	2.01
26	NiSource Inc.	1.53	1.24	1.14	2.15	1.86	1.95	2.09	1.92	1.96	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
27	Northwest Nat. Gas	1.77	1.01	1.29	1.51	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
28	ONE Gas Inc.	1.63	1.29	1.43	1.73	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
29	Southwest Gas	1.52	1.28	1.28	1.62	1.32	1.49	1.84	1.79	2.13	1.96	1.68	1.68	1.61	1.51	1.43	1.24	0.97	1.20	1.46	1.46
30	Spire Inc.	1.52	1.18	1.29	1.43	1.47	1.67	1.78	1.63	1.65	1.64	1.44	1.33	1.34	1.51	1.46	1.39	1.68	1.71	1.66	1.71
31	UGI Corp.	1.92	1.06	1.59	1.39	1.64	1.87	2.92	2.30	2.62	2.41	2.29	1.97	1.69	1.45	1.75	1.55	1.66	2.01	2.16	2.21
32	Average	1.75	1.37	1.53	1.83	1.77	1.89	2.30	2.12	2.23	2.04	1.83	1.71	1.63	1.60	1.59	1.44	1.41	1.57	1.74	1.68
33	Median	1.67	1.28	1.43	1.65	1.59	1.90	2.20	2.03	2.16	1.96	1.72	1.68	1.59	1.51	1.54	1.40	1.51	1.67	1.75	1.70

Sources:

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

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 23, 2024.

Notes:

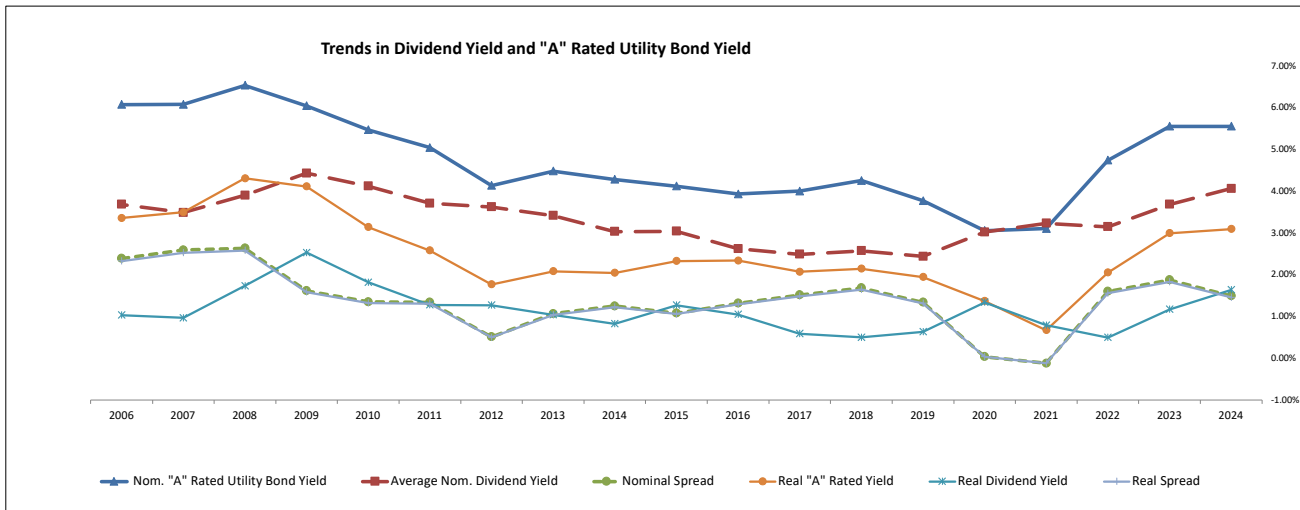
^a Based on the average of the high and low price for year and the projected Cash Flow per share, published in The Value Line Investment Survey.

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

Ameren Missouri

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Dividend Yield ¹																			
		18-Year Average (1)	2024 ^{2a} (2)	2023 (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
1	Atmos Energy	3.32%	2.65%	2.62%	2.46%	2.63%	2.19%	2.08%	2.23%	2.27%	2.39%	2.88%	3.11%	3.53%	4.13%	4.19%	4.70%	5.34%	4.78%	4.16%	4.66%
2	Chesapeake Utilities	2.63%	2.25%	2.08%	1.61%	1.50%	1.86%	1.68%	1.76%	1.69%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.25%	3.87%	3.29%	3.25%	3.50%	3.47%	2.50%	2.61%	2.69%	2.86%	3.14%	3.50%	3.71%	3.38%	3.33%	3.69%	3.46%	3.35%	3.02%	3.19%
4	NiSource Inc.	3.94%	3.71%	3.85%	3.33%	3.60%	3.41%	2.86%	3.10%	2.79%	2.76%	3.53%	2.69%	3.00%	3.84%	4.53%	5.66%	7.64%	5.69%	4.29%	4.21%
5	Northwest Nat. Gas	3.70%	5.15%	4.40%	3.86%	3.90%	3.33%	2.81%	3.05%	3.02%	3.28%	4.01%	4.14%	4.22%	3.83%	3.85%	3.63%	3.73%	3.27%	3.12%	3.73%
6	ONE Gas Inc.	2.83%	4.08%	3.72%	3.08%	3.21%	2.70%	2.25%	2.46%	2.37%	2.32%	2.71%	2.28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Southwest Gas	3.03%	3.64%	4.07%	3.20%	3.65%	3.28%	2.60%	2.74%	2.46%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
8	Spire Inc.	3.88%	4.86%	4.44%	3.89%	3.79%	3.38%	2.95%	3.10%	3.09%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.94%	3.94%	4.43%	4.34%
9	UGI Corp.	3.17%	6.35%	4.64%	3.61%	3.25%	3.56%	2.16%	2.09%	2.01%	2.35%	2.50%	2.61%	3.01%	3.68%	3.30%	3.48%	3.23%	2.85%	2.69%	2.96%
10	Average	3.35%	4.06%	3.68%	3.14%	3.23%	3.02%	2.43%	2.57%	2.49%	3.04%	3.03%	3.41%	3.62%	3.71%	4.12%	4.43%	3.90%	3.48%	3.68%	
11	Median	3.42%	3.87%	3.85%	3.25%	3.50%	3.33%	2.50%	2.61%	2.46%	2.62%	2.88%	2.72%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
12	20-Yr Treasury Yields ³	3.31%	4.47%	4.25%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
13	20-Yr TIPS ³	1.12%	2.04%	1.73%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.86%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
14	Implied Inflation ³	2.17%	2.39%	2.48%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
15	Real Dividend Yield⁴	1.15%	1.63%	1.17%	0.49%	0.79%	1.33%	0.63%	0.50%	0.58%	1.05%	1.27%	0.82%	1.04%	1.27%	1.82%	2.53%	1.73%	0.97%	1.03%	
Utility																					
16	Nominal "A" Rated Yield⁵	4.75%	5.55%	5.55%	4.74%	3.10%	3.05%	3.77%	4.25%	4.00%	3.93%	4.12%	4.28%	4.48%	4.13%	5.04%	5.46%	6.04%	6.53%	6.07%	6.07%
17	Real "A" Rated Yield	2.52%	3.09%	2.99%	2.05%	0.67%	1.37%	1.94%	2.14%	2.07%	2.34%	2.33%	2.04%	2.08%	1.76%	2.58%	3.13%	4.11%	4.31%	3.49%	3.36%
Spreads (Utility Bond - Stock)																					
18	Nominal⁶	1.39%	1.49%	1.87%	1.60%	-0.12%	0.03%	1.33%	1.68%	1.51%	1.31%	1.08%	1.25%	1.06%	0.51%	1.33%	1.35%	1.61%	2.63%	2.59%	2.39%
19	Real⁶	1.36%	1.45%	1.82%	1.56%	-0.12%	0.03%	1.31%	1.64%	1.48%	1.29%	1.06%	1.22%	1.04%	0.50%	1.30%	1.32%	1.58%	2.58%	2.53%	2.33%
Spreads (Treasury Bond - Stock)																					
20	Nominal	-0.04%	0.41%	0.57%	0.16%	-1.25%	-1.67%	-0.03%	0.45%	0.17%	-0.39%	-0.49%	0.05%	-0.29%	-1.08%	-0.09%	-0.09%	-0.32%	0.46%	1.42%	1.31%
21	Real⁷	-0.04%	0.40%	0.56%	0.15%	-1.22%	-1.64%	-0.03%	0.44%	0.16%	-0.39%	-0.48%	0.04%	-0.29%	-1.05%	-0.08%	-0.08%	-0.31%	0.46%	1.39%	1.28%



Sources:

- ¹ Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
- ² Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.
- ³ The Value Line Investment Survey, August 23, 2024.
- ⁴ St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org>.
- ⁵ Mergent Bond Record, through September 30, 2024.

Notes:

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

Ameren Missouri

Natural Gas Utilities (Valuation Metrics)

Line	Company	Dividend per Share ¹																				2018 CAGR (21)	2017 CAGR (22)
		19-Year		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006		
		Average (1)	2024 ² (2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)		
1	Atmos Energy	1.84	3.22	2.96	2.72	2.50	2.30	2.10	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	2.08%	2.15%
2	Chesapeake Utilities	1.30	2.46	2.25	2.03	1.84	1.69	1.55	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	2.89%	3.02%
3	New Jersey Resources	0.98	1.68	1.56	1.45	1.36	1.27	1.19	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	3.97%	4.59%
4	NiSource Inc.	0.89	1.06	1.00	0.94	0.88	0.84	0.80	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	-0.82%	-1.69%
5	Northwest Nat. Gas	1.78	1.95	1.94	1.93	1.92	1.91	1.90	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	1.36%	1.68%
6	ONE Gas Inc.	1.92	2.64	2.60	2.48	2.32	2.16	2.00	1.84	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.58%	4.30%
7	Southwest Gas	1.65	2.48	2.48	2.48	2.38	2.28	2.18	2.08	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82	4.48%	5.35%
8	Spire Inc.	2.02	3.02	2.88	2.74	2.60	2.49	2.37	2.25	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40	2.20%	2.34%
9	UGI Corp.	0.92	1.52	1.47	1.41	1.35	1.31	1.15	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	3.80%	4.41%
10	Average	1.44	2.23	2.13	2.02	1.91	1.81	1.69	1.59	1.49	1.38	1.32	1.24	1.22	1.17	1.13	1.08	1.04	1.00	0.97	0.94	2.62%	2.91%
11	Industry Average Growth	4.94%	4.65%	5.28%	6.01%	5.54%	6.63%	6.56%	6.73%	7.63%	5.06%	6.54%	0.96%	4.33%	4.18%	4.04%	4.39%	3.76%	3.55%	3.02%			

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 23, 2024.

Ameren Missouri

Natural Gas Utilities (Valuation Metrics)

Line	Company	Earnings per Share ¹																			
		19-Year																			
		Average (1)	2024 ² (2)	2023 ² (3)	2022 (4)	2021 (5)	2020 (6)	2019 (7)	2018 (8)	2017 (9)	2016 (10)	2015 (11)	2014 (12)	2013 (13)	2012 (14)	2011 (15)	2010 (16)	2009 (17)	2008 (18)	2007 (19)	2006 (20)
1	Almos Energy	3.51	6.75	6.10	5.60	5.12	4.72	4.35	4.00	3.60	3.38	3.09	2.96	2.50	2.10	2.26	2.16	1.97	2.00	1.94	2.00
2	Chesapeake Utilities	2.87	4.85	4.73	4.97	4.70	4.21	3.72	3.45	2.68	2.86	2.68	2.47	2.26	1.99	1.91	1.82	1.43	1.39	1.29	1.15
3	New Jersey Resources	1.77	2.90	2.70	2.50	2.16	2.07	1.96	2.72	1.73	1.61	1.78	2.08	1.37	1.36	1.29	1.23	1.20	1.35	0.78	0.93
4	NiSource Inc.	1.23	1.75	1.60	1.47	1.35	1.32	1.31	1.30	0.39	1.00	0.63	1.67	1.57	1.37	1.05	1.06	0.84	1.34	1.14	1.14
5	Northwest Nat. Gas	2.17	2.30	2.59	2.54	2.50	2.30	2.19	2.33	-1.94	2.12	1.96	2.16	2.24	2.22	2.39	2.73	2.83	2.57	2.76	2.35
6	ONE Gas Inc.	3.31	3.90	4.14	4.08	3.85	3.68	3.51	3.25	3.02	2.65	2.24	2.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Southwest Gas	2.88	3.25	2.13	3.10	3.60	4.14	3.94	3.68	3.62	3.18	2.92	3.01	3.11	2.86	2.43	2.27	1.94	1.39	1.95	1.98
8	Spire Inc.	3.10	4.30	3.85	3.95	4.96	1.44	3.52	4.33	3.43	3.24	3.16	2.35	2.02	2.79	2.86	2.43	2.92	2.64	2.31	2.37
9	UGI Corp.	2.02	2.90	2.84	2.90	2.96	2.67	2.28	2.74	2.29	2.05	2.01	1.92	1.59	1.17	1.37	1.59	1.57	1.33	1.18	1.10
10	Average	2.47	3.66	3.41	3.46	3.49	2.95	2.98	3.09	2.09	2.45	2.27	2.30	2.08	1.98	1.95	1.91	1.84	1.75	1.67	1.63
11	Industry Average Growth	5.22%	7.24%	-1.38%	-0.92%	18.27%	-0.86%	-3.67%	47.72%	-14.80%	7.91%	-1.06%	10.40%	5.02%	1.90%	1.83%	3.95%	4.98%	4.94%	2.53%	

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 23, 2024.

Ameren Missouri

Natural Gas Utilities (Valuation Metrics)

Line	Company	Cash Flow / Capital Spending ¹							3 - 5 yr ²
		2019 (1)	2020 (2)	2021 (3)	2022 (4)	2023 (5)	2024 (6)	2025 ² (7)	Projection (8)
1	Atmos Energy	0.53x	0.53x	0.53x	0.54x	0.54x	0.55x	0.58x	0.68x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	1.23x	0.84x	0.61x	0.60x	0.68x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.59x	0.68x	1.03x	0.82x	0.84x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.55x	0.43x	0.54x	0.60x	0.61x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.60x	0.68x	0.63x	0.69x	0.72x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.74x	0.83x	0.81x	0.77x	1.11x
7	Southwest Gas	0.62x	0.53x	0.61x	0.31x	0.84x	0.76x	0.81x	0.88x
8	Spire Inc.	0.65x	0.65x	0.70x	0.80x	0.71x	0.64x	0.82x	0.76x
9	UGI Corp.	1.33x	1.54x	1.66x	1.42x	1.33x	1.24x	1.55x	1.33x
10	Average	0.82x	0.76x	0.80x	0.75x	0.76x	0.76x	0.80x	0.84x
11	Median	0.66x	0.65x	0.70x	0.60x	0.71x	0.64x	0.77x	0.76x

Sources:

¹ The Value Line Investment Survey, various report dates.

² The Value Line Investment Survey, August 23, 2024.

Notes:

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

Ameren Missouri

Natural Gas Utilities
(Valuation Metrics)

		Percent Dividends to Book Value ¹																			
Line	Company	19-Year																			
		Average	2024 ^{2a}	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	Atmos Energy	4.93%	3.99%	4.04%	4.07%	4.19%	4.26%	4.36%	4.53%	4.90%	5.04%	4.96%	4.81%	4.92%	5.28%	5.44%	5.55%	5.61%	5.75%	5.82%	6.25%
2	Chesapeake Utilities	5.04%	4.13%	4.01%	4.32%	4.15%	4.23%	4.53%	4.39%	4.23%	4.35%	4.78%	5.18%	5.25%	5.39%	5.42%	5.49%	5.60%	6.71%	6.66%	6.95%
3	New Jersey Resources	7.25%	7.53%	7.65%	7.63%	7.92%	6.60%	6.85%	6.87%	7.26%	7.21%	7.16%	7.45%	7.60%	7.66%	7.69%	7.72%	7.48%	6.42%	6.54%	6.40%
4	NISource Inc.	5.56%	4.61%	4.40%	7.15%	6.69%	6.84%	5.99%	5.96%	5.48%	5.08%	6.89%	5.22%	5.22%	5.25%	5.19%	5.22%	5.25%	5.34%	4.97%	5.02%
5	Northwest Nat. Gas	6.38%	5.21%	5.69%	5.83%	5.66%	6.57%	6.69%	7.16%	7.27%	6.30%	6.53%	6.58%	6.59%	6.57%	6.55%	6.44%	6.43%	6.41%	6.39%	6.32%
6	ONE Gas Inc.	4.54%	5.26%	5.32%	5.31%	5.04%	5.14%	4.96%	4.73%	4.48%	3.88%	3.41%	2.44%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Southwest Gas	4.52%	4.66%	5.20%	5.17%	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%
8	Spire Inc.	5.85%	5.73%	5.73%	5.58%	5.56%	5.63%	5.25%	5.06%	5.09%	5.06%	5.07%	5.04%	5.31%	6.22%	6.30%	6.53%	6.56%	6.74%	7.33%	7.43%
9	UGI Corp.	5.74%	6.70%	7.35%	5.02%	5.34%	6.65%	6.30%	4.82%	5.28%	5.65%	5.72%	5.14%	5.07%	5.35%	5.77%	5.41%	5.35%	5.72%	5.82%	6.54%
10	Average	5.59%	5.31%	5.49%	5.57%	5.48%	5.62%	5.52%	5.38%	5.47%	5.30%	5.48%	5.16%	5.54%	5.76%	5.79%	5.78%	5.77%	5.86%	5.91%	6.09%
11	Median	5.32%	5.21%	5.32%	5.31%	5.34%	5.63%	5.25%	4.90%	5.25%	5.08%	5.07%	5.14%	5.24%	5.37%	5.61%	5.52%	5.60%	6.08%	6.11%	6.36%

		Dividends to Earnings Ratio ¹																			
Line	Company	19-Year																			
		Average	2024 ^{2a}	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
12	Atmos Energy	0.55	0.48	0.49	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
13	Chesapeake Utilities	0.48	0.51	0.48	0.41	0.39	0.40	0.42	0.40	0.47	0.42	0.42	0.43	0.45	0.48	0.48	0.48	0.58	0.58	0.61	0.67
14	New Jersey Resources	0.55	0.58	0.58	0.58	0.63	0.61	0.61	0.41	0.60	0.61	0.52	0.41	0.59	0.57	0.56	0.55	0.52	0.41	0.65	0.51
15	NISource Inc.	0.80	0.61	0.63	0.64	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.61	0.62	0.69	0.88	0.87	1.10	0.69	0.81	0.81
16	Northwest Nat. Gas	0.66	0.85	0.75	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
17	ONE Gas Inc.	0.57	0.68	0.63	0.61	0.60	0.59	0.57	0.57	0.56	0.53	0.54	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	Southwest Gas	0.57	0.76	1.16	0.80	0.63	0.55	0.55	0.57	0.55	0.57	0.55	0.49	0.42	0.41	0.44	0.44	0.49	0.65	0.44	0.41
19	Spire Inc.	0.69	0.70	0.75	0.69	0.52	1.73	0.67	0.52	0.61	0.60	0.58	0.75	0.84	0.59	0.56	0.65	0.52	0.56	0.63	0.59
20	UGI Corp.	0.45	0.52	0.52	0.49	0.46	0.49	0.50	0.37	0.42	0.45	0.44	0.41	0.46	0.60	0.50	0.38	0.33	0.38	0.41	0.41
21	Average	0.59	0.63	0.66	0.61	0.57	0.70	0.59	0.53	0.50	0.58	0.65	0.54	0.60	0.60	0.59	0.57	0.60	0.56	0.59	0.58
22	Median	0.58	0.61	0.63	0.61	0.60	0.59	0.57	0.52	0.55	0.57	0.54	0.49	0.58	0.60	0.56	0.58	0.54	0.59	0.62	0.59

		Cash Flow to Capital Spending Ratio ¹																			
Line	Company	19-Year																			
		Average	2024 ^{2a}	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
23	Atmos Energy	0.64	0.55	0.53	0.54	0.58	0.52	0.53	0.55	0.62	0.59	0.60	0.65	0.55	0.59	0.68	0.77	0.78	0.81	0.94	0.82
24	Chesapeake Utilities	0.76	0.60	0.81	1.23	0.81	0.78	0.62	0.39	0.50	0.50	0.53	0.71	0.65	0.79	1.12	1.10	1.14	0.83	0.82	0.45
25	New Jersey Resources	1.18	0.90	0.82	0.59	0.62	0.71	0.51	0.85	0.70	0.59	0.67	1.79	1.46	1.48	1.51	1.55	1.75	2.11	1.67	2.14
26	NISource Inc.	0.73	0.56	0.61	0.55	0.68	0.66	0.61	0.58	0.41	0.59	0.53	0.56	0.57	0.65	0.75	1.11	1.06	0.94	1.11	1.37
27	Northwest Nat. Gas	0.88	0.56	0.67	0.60	0.68	0.66	0.69	0.71	0.14	1.01	1.12	1.15	0.98	1.01	1.33	0.55	1.02	1.35	1.21	1.34
28	ONE Gas Inc.	0.83	0.75	0.77	0.74	0.86	0.83	0.89	0.84	0.87	0.92	0.86	0.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29	Southwest Gas	0.82	0.83	0.68	0.31	0.86	0.69	0.53	0.56	0.68	0.83	0.84	0.99	1.05	0.90	0.82	1.37	1.28	0.85	0.78	0.72
30	Spire Inc.	1.01	0.62	0.69	0.80	0.75	0.42	0.44	0.77	0.72	0.96	0.92	0.98	0.78	0.95	1.53	1.61	1.93	1.64	1.42	1.28
31	UGI Corp.	1.47	1.83	1.18	1.42	1.32	1.59	1.22	1.64	1.29	1.35	1.48	1.53	1.32	1.52	1.28	1.36	1.52	1.72	1.62	1.69
32	Average	0.94	0.80	0.75	0.75	0.80	0.76	0.67	0.77	0.66	0.82	0.84	1.02	0.92	0.98	1.13	1.18	1.31	1.28	1.20	1.23
33	Median	0.84	0.62	0.69	0.60	0.75	0.69	0.61	0.71	0.68	0.83	0.84	0.98	0.88	0.93	1.20	1.23	1.21	1.15	1.16	1.31

Sources:

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

Data for the years 2020 - 2023 was retrieved from Value Line Investment Surveys.

² The Value Line Investment Survey, August 23, 2024.

Notes:

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

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

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

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Proxy Group

<u>Line</u>	<u>Company</u>	<u>Credit Ratings¹</u>		<u>Common Equity Ratios</u>	
		<u>S&P</u> (1)	<u>Moody's</u> (2)	<u>MI¹</u> (3)	<u>Value Line²</u> (4)
1	Alliant Energy Corporation	A-	Baa2	41.1%	45.2%
2	American Electric Power Company, Inc.	BBB+	Baa2	36.5%	42.0%
3	Avista Corporation	BBB	Baa2	45.0%	48.8%
4	CMS Energy Corporation	BBB+	Baa2	30.8%	33.1%
5	DTE Energy Company	BBB+	Baa2	34.5%	38.0%
6	Duke Energy Corporation	BBB+	Baa2	36.0%	40.4%
7	Entergy Corporation	BBB+	Baa2	35.2%	38.6%
8	Evergy, Inc.	BBB+	Baa2	42.1%	48.0%
9	IDACORP, Inc.	BBB	Baa2	50.7%	51.2%
10	NextEra Energy, Inc.	A-	Baa1	35.7%	43.6%
11	NorthWestern Corporation	BBB	Baa2	49.9%	50.9%
12	OGE Energy Corp.	BBB+	Baa1	48.1%	49.6%
13	Pinnacle West Capital Corporation	BBB+	Baa2	37.2%	45.0%
14	Portland General Electric Company	BBB+	A3	42.7%	44.2%
15	PPL Corporation	A-	Baa1	47.0%	48.8%
16	Southern Company	A-	Baa1	31.9%	37.6%
17	Xcel Energy Inc.	BBB+	Baa1	39.0%	41.4%
18	Average	BBB+	Baa2	40.2%	43.9%
19	Median			39.0%	44.2%
20	Ameren Missouri^{3,4}	BBB+	Baa1		51.81% - 52.51%

Sources:

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

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

² *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

³ Bulkley Direct Testimony, page 29.

⁴ Sagel Direct Testimony, page 13.

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Consensus Analysts' Growth Rates

<u>Line</u>	<u>Company</u>	<u>Zacks</u> ¹ (1)	<u>S&P</u> ² (2)	<u>I/B/E/S</u> ³ (3)	<u>Average of Growth Rates</u> (4)
1	Alliant Energy Corporation	6.84%	6.61%	7.70%	7.05%
2	American Electric Power Company, Inc.	6.24%	6.36%	6.62%	6.41%
3	Avista Corporation	4.82%	4.66%	6.20%	5.23%
4	CMS Energy Corporation	7.56%	7.33%	7.60%	7.50%
5	DTE Energy Company	8.20%	7.84%	5.10%	7.05%
6	Duke Energy Corporation	6.13%	6.26%	6.71%	6.37%
7	Entergy Corporation	7.33%	7.56%	7.08%	7.32%
8	Evergy, Inc.	5.85%	5.62%	6.20%	5.89%
9	IDACORP, Inc.	5.53%	5.55%	5.50%	5.53%
10	NextEra Energy, Inc.	8.12%	8.21%	8.17%	8.17%
11	NorthWestern Corporation	6.14%	5.61%	6.10%	5.95%
12	OGE Energy Corp.	5.24%	5.96%	-12.34%	5.60%
13	Pinnacle West Capital Corporation	8.22%	6.73%	7.20%	7.38%
14	Portland General Electric Company	12.62%	8.80%	12.60%	11.34%
15	PPL Corporation	6.82%	6.90%	6.80%	6.84%
16	Southern Company	6.95%	6.47%	7.30%	6.91%
17	Xcel Energy Inc.	6.39%	7.15%	6.73%	6.76%
18	Average	7.00%	6.68%	7.10%	6.90%
19	Median				6.84%

Sources:

¹ Zacks, <http://www.zacks.com/>, downloaded on November 1, 2024.

² S&P Global Market Intelligence, <https://platform.mi.spglobal.com>, downloaded on November 1, 2024.

³ Yahoo! Finance, <http://www.finance.yahoo.com/>, downloaded on November 1, 2024.

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Constant Growth DCF Model (Consensus Analysts' Growth Rates)

<u>Line</u>	<u>Company</u>	<u>13-Week AVG Stock Price</u> ¹ (1)	<u>Analysts' Growth</u> ² (2)	<u>Annualized Dividend</u> ³ (3)	<u>Adjusted Yield</u> (4)	<u>Constant Growth DCF</u> (5)
1	Alliant Energy Corporation	\$59.16	7.05%	\$1.92	3.47%	10.53%
2	American Electric Power Company, Inc.	\$100.16	6.41%	\$3.52	3.74%	10.14%
3	Avista Corporation	\$38.25	5.23%	\$1.90	5.23%	10.45%
4	CMS Energy Corporation	\$68.92	7.50%	\$2.06	3.21%	10.71%
5	DTE Energy Company	\$124.87	7.05%	\$4.08	3.50%	10.55%
6	Duke Energy Corporation	\$115.10	6.37%	\$4.18	3.86%	10.23%
7	Entergy Corporation	\$127.29	7.32%	\$4.52	3.81%	11.13%
8	Eergy, Inc.	\$60.15	5.89%	\$2.57	4.52%	10.42%
9	IDACORP, Inc.	\$102.71	5.53%	\$3.32	3.41%	8.94%
10	NextEra Energy, Inc.	\$81.43	8.17%	\$2.06	2.74%	10.90%
11	NorthWestern Corporation	\$54.77	5.95%	\$2.60	5.03%	10.98%
12	OGE Energy Corp.	\$40.09	5.60%	\$1.67	4.41%	10.01%
13	Pinnacle West Capital Corporation	\$87.81	7.38%	\$3.52	4.30%	11.69%
14	Portland General Electric Company	\$47.55	11.34%	\$2.00	4.68%	16.02%
15	PPL Corporation	\$31.98	6.84%	\$1.03	3.45%	10.29%
16	Southern Company	\$89.10	6.91%	\$2.88	3.46%	10.36%
17	Xcel Energy Inc.	\$62.64	6.76%	\$2.19	3.73%	10.49%
18	Average	\$76.00	6.90%	\$2.71	3.92%	10.81%
19	Median					10.49%

Sources:

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

² Schedule CCW-3

³ *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

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Payout Ratios

<u>Line</u>	<u>Company</u>	<u>Dividends Per Share</u>		<u>Earnings Per Share</u>		<u>Payout Ratio</u>	
		<u>2023</u> (1)	<u>Projected</u> (2)	<u>2023</u> (3)	<u>Projected</u> (4)	<u>2023</u> (5)	<u>Projected</u> (6)
1	Alliant Energy Corporation	\$1.81	\$2.43	\$2.78	\$3.90	65.11%	62.31%
2	American Electric Power Company, Inc.	\$3.37	\$4.16	\$5.24	\$7.10	64.31%	58.59%
3	Avista Corporation	\$1.84	\$2.20	\$2.24	\$3.00	82.14%	73.33%
4	CMS Energy Corporation	\$1.95	\$2.50	\$3.01	\$4.00	64.78%	62.50%
5	DTE Energy Company	\$3.88	\$4.83	\$6.76	\$8.85	57.40%	54.58%
6	Duke Energy Corporation	\$4.06	\$4.30	\$5.43	\$7.65	74.77%	56.21%
7	Entergy Corporation	\$4.34	\$5.00	\$11.10	\$8.05	39.10%	62.11%
8	Evergy, Inc.	\$2.48	\$3.05	\$3.17	\$4.70	78.23%	64.89%
9	IDACORP, Inc.	\$3.20	\$4.20	\$5.14	\$7.10	62.26%	59.15%
10	NextEra Energy, Inc.	\$1.87	\$2.85	\$3.17	\$4.60	58.99%	61.96%
11	NorthWestern Corporation	\$2.56	\$2.76	\$3.22	\$4.25	79.50%	64.94%
12	OGE Energy Corp.	\$1.66	\$1.85	\$2.07	\$2.70	80.19%	68.52%
13	Pinnacle West Capital Corporation	\$3.49	\$3.80	\$4.41	\$6.10	79.14%	62.30%
14	Portland General Electric Company	\$1.88	\$2.46	\$2.38	\$3.85	78.99%	63.90%
15	PPL Corporation	\$0.95	\$1.35	\$1.60	\$2.25	59.38%	60.00%
16	Southern Company	\$2.78	\$3.10	\$3.64	\$5.10	76.37%	60.78%
17	Xcel Energy Inc.	\$2.08	\$2.72	\$3.35	\$4.55	62.09%	59.78%
18	Average	\$2.60	\$3.15	\$4.04	\$5.16	68.40%	62.11%

Source:

The Value Line Investment Survey, August 9, September 6, and October 18, 2024.

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Sustainable Growth Rate

Line	Company	3 to 5 Year Projections										Sustainable
		Dividends	Earnings	Book Value	Book Value	ROE	Adjustment	Adjusted	Payout	Retention	Internal	Growth
		Per Share	Per Share	Per Share	Growth		Factor	ROE	Ratio	Rate	Growth Rate	Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
1	Alliant Energy Corporation	\$2.43	\$3.90	\$31.90	3.81%	12.23%	1.02	12.45%	62.31%	37.69%	4.69%	4.78%
2	American Electric Power Company, Inc.	\$4.16	\$7.10	\$62.55	5.24%	11.35%	1.03	11.64%	58.59%	41.41%	4.82%	5.77%
3	Avista Corporation	\$2.20	\$3.00	\$35.50	2.21%	8.45%	1.01	8.54%	73.33%	26.67%	2.28%	2.62%
4	CMS Energy Corporation	\$2.50	\$4.00	\$31.75	5.01%	12.60%	1.02	12.91%	62.50%	37.50%	4.84%	5.63%
5	DTE Energy Company	\$4.83	\$8.85	\$63.10	3.34%	14.03%	1.02	14.26%	54.58%	45.42%	6.48%	6.48%
6	Duke Energy Corporation	\$4.30	\$7.65	\$70.00	1.90%	10.93%	1.01	11.03%	56.21%	43.79%	4.83%	4.91%
7	Entergy Corporation	\$5.00	\$8.05	\$84.65	4.26%	9.51%	1.02	9.71%	62.11%	37.89%	3.68%	5.01%
8	Evergy, Inc.	\$3.05	\$4.70	\$47.50	2.46%	9.89%	1.01	10.02%	64.89%	35.11%	3.52%	3.53%
9	IDACORP, Inc.	\$4.20	\$7.10	\$71.50	4.48%	9.93%	1.02	10.15%	59.15%	40.85%	4.14%	5.75%
10	NextEra Energy, Inc.	\$2.85	\$4.60	\$35.00	8.64%	13.14%	1.04	13.69%	61.96%	38.04%	5.21%	7.57%
11	NorthWestern Corporation	\$2.76	\$4.25	\$51.85	2.66%	8.20%	1.01	8.30%	64.94%	35.06%	2.91%	3.09%
12	OGE Energy Corp.	\$1.85	\$2.70	\$26.25	3.44%	10.29%	1.02	10.46%	68.52%	31.48%	3.29%	3.29%
13	Pinnacle West Capital Corporation	\$3.80	\$6.10	\$71.00	5.44%	8.59%	1.03	8.82%	62.30%	37.70%	3.33%	4.22%
14	Portland General Electric Company	\$2.46	\$3.85	\$39.95	4.02%	9.64%	1.02	9.83%	63.90%	36.10%	3.55%	4.31%
15	PPL Corporation	\$1.35	\$2.25	\$23.45	4.41%	9.59%	1.02	9.80%	60.00%	40.00%	3.92%	3.94%
16	Southern Company	\$3.10	\$5.10	\$32.25	2.27%	15.81%	1.01	15.99%	60.78%	39.22%	6.27%	6.42%
17	Xcel Energy Inc.	\$2.72	\$4.55	\$41.00	5.25%	11.10%	1.03	11.38%	59.78%	40.22%	4.58%	5.44%
18	Average	\$3.15	\$5.16	\$48.19	4.05%	10.90%	1.02	11.12%	62.11%	37.89%	4.25%	4.87%
19	Median											4.91%

Sources and Notes:

Cols. (1), (2) and (3): *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/number of years projected) - 1.

Col. (5): Col. (2) / Col. (3).

Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)).

Col. (7): Col. (6) * Col. (5).

Col. (8): Col. (1) / Col. (2).

Col. (9): 1 - Col. (8).

Col. (10): Col. (9) * Col. (7).

Col. (11): Col. (10) + Page 2 Col. (9).

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Sustainable Growth Rate

Line	Company	13-Week	2023	Market	Common Shares		Growth	S Factor ³	V Factor ⁴	S * V
		Average	Book Value	to Book	Outstanding (in Millions) ²					
		Stock Price ¹	Per Share ²	Ratio	2023	3-5 Years	(6)	(7)	(8)	(9)
		(1)	(2)	(3)	(4)	(5)				
1	Alliant Energy Corporation	\$59.16	\$26.46	2.24	256.10	257.00	0.07%	0.16%	55.27%	0.09%
2	American Electric Power Company, Inc.	\$100.16	\$48.46	2.07	526.18	550.00	0.89%	1.84%	51.62%	0.95%
3	Avista Corporation	\$38.25	\$31.83	1.20	78.08	85.00	1.71%	2.06%	16.78%	0.35%
4	CMS Energy Corporation	\$68.92	\$24.86	2.77	294.40	301.00	0.44%	1.23%	63.93%	0.79%
5	DTE Energy Company	\$124.87	\$53.55	2.33	206.36	206.00	- 0.03%	- 0.08%	57.11%	- 0.05%
6	Duke Energy Corporation	\$115.10	\$63.70	1.81	771.00	775.00	0.10%	0.19%	44.66%	0.08%
7	Entergy Corporation	\$127.29	\$68.70	1.85	212.85	230.00	1.56%	2.89%	46.03%	1.33%
8	Evergy, Inc.	\$60.15	\$42.06	1.43	229.73	230.00	0.02%	0.03%	30.07%	0.01%
9	IDACORP, Inc.	\$102.71	\$57.44	1.79	50.62	56.00	2.04%	3.65%	44.07%	1.61%
10	NextEra Energy, Inc.	\$81.43	\$23.13	3.52	2,052.00	2,150.00	0.94%	3.30%	71.60%	2.36%
11	NorthWestern Corporation	\$54.77	\$45.48	1.20	61.25	64.00	0.88%	1.06%	16.97%	0.18%
12	OGE Energy Corp.	\$40.09	\$22.17	1.81	200.30	200.20	- 0.01%	- 0.02%	44.70%	- 0.01%
13	Pinnacle West Capital Corporation	\$87.81	\$54.47	1.61	113.42	122.00	1.47%	2.37%	37.97%	0.90%
14	Portland General Electric Company	\$47.55	\$32.81	1.45	101.16	110.00	1.69%	2.45%	31.00%	0.76%
15	PPL Corporation	\$31.98	\$18.90	1.69	737.13	738.00	0.02%	0.04%	40.90%	0.02%
16	Southern Company	\$89.10	\$28.82	3.09	1,091.00	1,095.00	0.07%	0.23%	67.65%	0.15%
17	Xcel Energy Inc.	\$62.64	\$31.74	1.97	554.94	580.00	0.89%	1.75%	49.33%	0.86%
	Average	\$76.00	\$39.68	1.99	443.32	455.84	0.75%	1.36%	45.27%	0.61%

Sources and Notes:

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

² *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

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

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

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Constant Growth DCF Model (Sustainable Growth Rate)

<u>Line</u>	<u>Company</u>	<u>13-Week AVG Stock Price¹</u> (1)	<u>Sustainable Growth²</u> (2)	<u>Annualized Dividend³</u> (3)	<u>Adjusted Yield</u> (4)	<u>Constant Growth DCF</u> (5)
1	Alliant Energy Corporation	\$59.16	4.78%	\$1.92	3.40%	8.18%
2	American Electric Power Company, Inc.	\$100.16	5.77%	\$3.52	3.72%	9.49%
3	Avista Corporation	\$38.25	2.62%	\$1.90	5.10%	7.72%
4	CMS Energy Corporation	\$68.92	5.63%	\$2.06	3.16%	8.78%
5	DTE Energy Company	\$124.87	6.48%	\$4.08	3.48%	9.95%
6	Duke Energy Corporation	\$115.10	4.91%	\$4.18	3.81%	8.72%
7	Entergy Corporation	\$127.29	5.01%	\$4.52	3.73%	8.74%
8	Evergy, Inc.	\$60.15	3.53%	\$2.57	4.42%	7.95%
9	IDACORP, Inc.	\$102.71	5.75%	\$3.32	3.42%	9.17%
10	NextEra Energy, Inc.	\$81.43	7.57%	\$2.06	2.72%	10.29%
11	NorthWestern Corporation	\$54.77	3.09%	\$2.60	4.89%	7.99%
12	OGE Energy Corp.	\$40.09	3.29%	\$1.67	4.31%	7.60%
13	Pinnacle West Capital Corporation	\$87.81	4.22%	\$3.52	4.18%	8.40%
14	Portland General Electric Company	\$47.55	4.31%	\$2.00	4.39%	8.69%
15	PPL Corporation	\$31.98	3.94%	\$1.03	3.35%	7.29%
16	Southern Company	\$89.10	6.42%	\$2.88	3.44%	9.86%
17	Xcel Energy Inc.	\$62.64	5.44%	\$2.19	3.69%	9.13%
18	Average	\$76.00	4.87%	\$2.71	3.84%	8.70%
19	Median					8.72%

Sources:

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

² Schedule CCW-6, page 1.

³ *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

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Multi-Stage Growth DCF Model

Line	Company	13-Week AVG	Annualized	First Stage	Second Stage Growth					Third Stage	Multi-Stage
		Stock Price ¹	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	Alliant Energy Corporation	\$59.16	\$1.92	7.05%	6.57%	6.08%	5.60%	5.11%	4.63%	4.14%	8.20%
2	American Electric Power Company, Inc.	\$100.16	\$3.52	6.41%	6.03%	5.65%	5.27%	4.90%	4.52%	4.14%	8.36%
3	Avista Corporation	\$38.25	\$1.90	5.23%	5.05%	4.86%	4.68%	4.50%	4.32%	4.14%	9.67%
4	CMS Energy Corporation	\$68.92	\$2.06	7.50%	6.94%	6.38%	5.82%	5.26%	4.70%	4.14%	7.99%
5	DTE Energy Company	\$124.87	\$4.08	7.05%	6.56%	6.08%	5.59%	5.11%	4.62%	4.14%	8.23%
6	Duke Energy Corporation	\$115.10	\$4.18	6.37%	6.00%	5.63%	5.25%	4.88%	4.51%	4.14%	8.49%
7	Entergy Corporation	\$127.29	\$4.52	7.32%	6.79%	6.26%	5.73%	5.20%	4.67%	4.14%	8.65%
8	Eversource Energy	\$60.15	\$2.57	5.89%	5.60%	5.31%	5.02%	4.72%	4.43%	4.14%	9.10%
9	IDACORP, Inc.	\$102.71	\$3.32	5.53%	5.29%	5.06%	4.83%	4.60%	4.37%	4.14%	7.81%
10	NextEra Energy, Inc.	\$81.43	\$2.06	8.17%	7.50%	6.83%	6.15%	5.48%	4.81%	4.14%	7.54%
11	NorthWestern Corporation	\$54.77	\$2.60	5.95%	5.65%	5.35%	5.04%	4.74%	4.44%	4.14%	9.66%
12	OGE Energy Corp.	\$40.09	\$1.67	5.60%	5.36%	5.11%	4.87%	4.63%	4.38%	4.14%	8.90%
13	Pinnacle West Capital Corporation	\$87.81	\$3.52	7.38%	6.84%	6.30%	5.76%	5.22%	4.68%	4.14%	9.23%
14	Portland General Electric Company	\$47.55	\$2.00	11.34%	10.14%	8.94%	7.74%	6.54%	5.34%	4.14%	10.81%
15	PPL Corporation	\$31.98	\$1.03	6.84%	6.39%	5.94%	5.49%	5.04%	4.59%	4.14%	8.12%
16	Southern Company	\$89.10	\$2.88	6.91%	6.45%	5.99%	5.52%	5.06%	4.60%	4.14%	8.15%
17	Xcel Energy Inc.	\$62.64	\$2.19	6.76%	6.32%	5.88%	5.45%	5.01%	4.58%	4.14%	8.43%
18	Average	\$76.00	\$2.71	6.90%	6.44%	5.98%	5.52%	5.06%	4.60%	4.14%	8.67%
19	Median										8.43%

Sources:

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

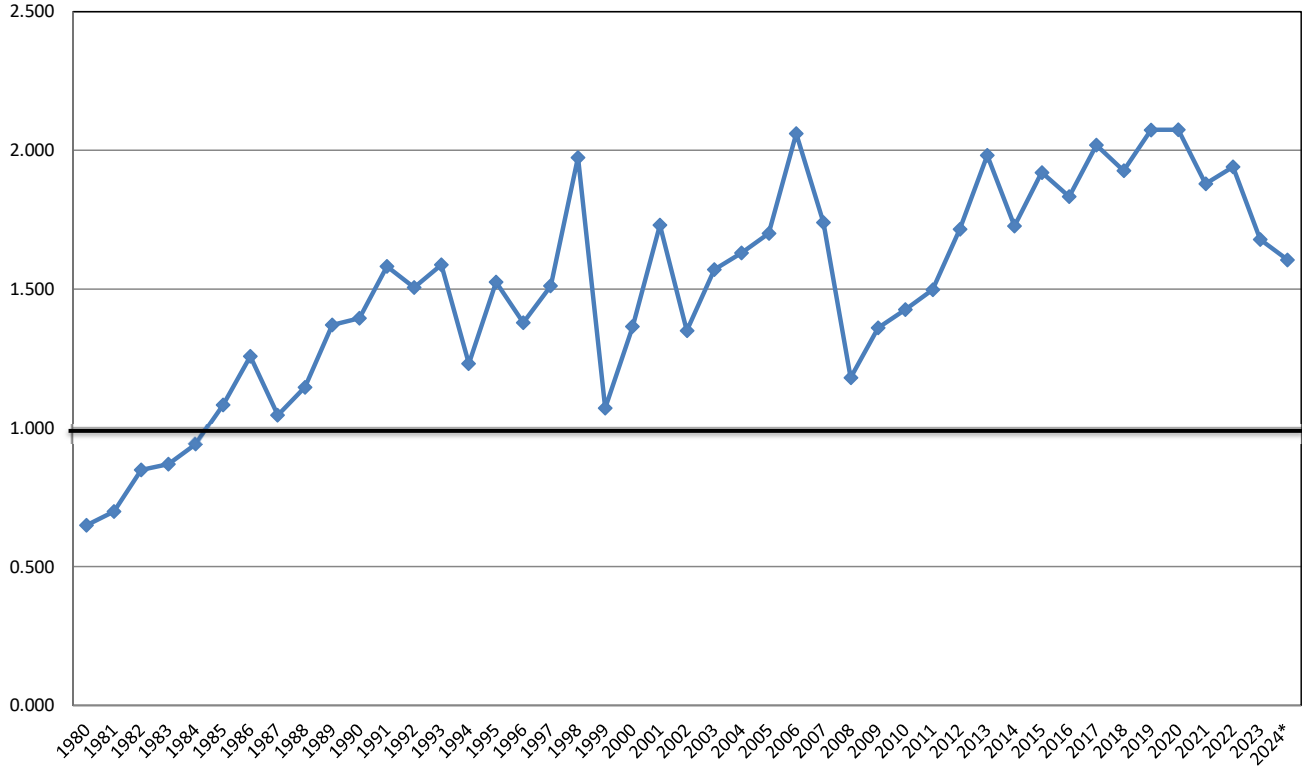
² *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

³ Schedule CCW-3

⁴ *Blue Chip Economic Indicators*, October 10, 2024 at page 14.

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Common Stock Market/Book Ratio



Source:
1980 - 2000: Mergent Public Utility Manual.
2001 - 2015: AUS Utility Reports, multiple dates.
2016 - 2023: Value Line Investment Survey, multiple dates.
* Value Line Investment Survey Reports August 9, August 23, September 6, and October 18, 2024.

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Equity Risk Premium - Treasury Bond

<u>Line</u>	<u>Year</u>	<u>Authorized Electric Returns¹</u> (1)	<u>30 yr. Treasury Bond Yield²</u> (2)	<u>Indicated Risk Premium</u> (3)	<u>Rolling 5 - Year Average</u> (4)	<u>Rolling 10 - Year Average</u> (5)
1	1986	13.93%	7.80%	6.13%		
2	1987	12.99%	8.58%	4.41%		
3	1988	12.79%	8.96%	3.83%		
4	1989	12.97%	8.45%	4.52%		
5	1990	12.70%	8.61%	4.09%	4.60%	
6	1991	12.55%	8.14%	4.41%	4.25%	
7	1992	12.09%	7.67%	4.42%	4.26%	
8	1993	11.41%	6.60%	4.81%	4.45%	
9	1994	11.34%	7.37%	3.97%	4.34%	
10	1995	11.55%	6.88%	4.67%	4.46%	4.53%
11	1996	11.39%	6.70%	4.69%	4.51%	4.38%
12	1997	11.40%	6.61%	4.79%	4.59%	4.42%
13	1998	11.66%	5.58%	6.08%	4.84%	4.65%
14	1999	10.77%	5.87%	4.90%	5.03%	4.68%
15	2000	11.43%	5.94%	5.49%	5.19%	4.82%
16	2001	11.09%	5.49%	5.60%	5.37%	4.94%
17	2002	11.16%	5.43%	5.73%	5.56%	5.07%
18	2003	10.97%	4.96%	6.01%	5.55%	5.19%
19	2004	10.75%	5.05%	5.70%	5.71%	5.37%
20	2005	10.54%	4.65%	5.89%	5.79%	5.49%
21	2006	10.34%	4.87%	5.47%	5.76%	5.57%
22	2007	10.31%	4.83%	5.48%	5.71%	5.64%
23	2008	10.37%	4.28%	6.09%	5.73%	5.64%
24	2009	10.52%	4.07%	6.45%	5.88%	5.79%
25	2010	10.29%	4.25%	6.04%	5.90%	5.85%
26	2011	10.19%	3.91%	6.28%	6.07%	5.91%
27	2012	10.01%	2.92%	7.09%	6.39%	6.05%
28	2013	9.81%	3.45%	6.36%	6.44%	6.09%
29	2014	9.75%	3.34%	6.41%	6.44%	6.16%
30	2015	9.60%	2.84%	6.76%	6.58%	6.24%
31	2016	9.60%	2.60%	7.00%	6.72%	6.40%
32	2017	9.68%	2.90%	6.79%	6.66%	6.53%
33	2018	9.55%	3.11%	6.44%	6.68%	6.56%
34	2019	9.64%	2.58%	7.06%	6.81%	6.62%
35	2020	9.39%	1.56%	7.83%	7.02%	6.80%
36	2021	9.39%	2.05%	7.34%	7.09%	6.91%
37	2022	9.52%	3.12%	6.41%	7.01%	6.84%
38	2023	9.66%	4.09%	5.57%	6.84%	6.76%
39	2024 ³	9.72%	4.37%	5.35%	6.50%	6.65%
40	Average	10.84%	5.14%	5.70%	5.73%	5.75%
41	Minimum				4.25%	4.38%
42	Maximum				7.09%	6.91%

Sources:

¹ Regulatory Research Associates, Inc., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - September 2024,
October 30, 2024 at page 3.

² 2006 - 2024 Authorized Returns exclude limited issue rider cases.

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

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

³ Data represents January - September, 2024.

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Equity Risk Premium - Utility Bond

<u>Line</u>	<u>Year</u>	<u>Authorized Electric Returns¹</u> (1)	<u>Average "A" Rated Utility Bond Yield²</u> (2)	<u>Indicated Risk Premium</u> (3)	<u>Rolling 5 - Year Average</u> (4)	<u>Rolling 10 - Year Average</u> (5)
1	1986	13.93%	9.58%	4.35%		
2	1987	12.99%	10.10%	2.89%		
3	1988	12.79%	10.49%	2.30%		
4	1989	12.97%	9.77%	3.20%		
5	1990	12.70%	9.86%	2.84%	3.12%	
6	1991	12.55%	9.36%	3.19%	2.88%	
7	1992	12.09%	8.69%	3.40%	2.99%	
8	1993	11.41%	7.59%	3.82%	3.29%	
9	1994	11.34%	8.31%	3.03%	3.26%	
10	1995	11.55%	7.89%	3.66%	3.42%	3.27%
11	1996	11.39%	7.75%	3.64%	3.51%	3.20%
12	1997	11.40%	7.60%	3.80%	3.59%	3.29%
13	1998	11.66%	7.04%	4.62%	3.75%	3.52%
14	1999	10.77%	7.62%	3.15%	3.77%	3.52%
15	2000	11.43%	8.24%	3.19%	3.68%	3.55%
16	2001	11.09%	7.76%	3.33%	3.62%	3.56%
17	2002	11.16%	7.37%	3.79%	3.61%	3.60%
18	2003	10.97%	6.58%	4.39%	3.57%	3.66%
19	2004	10.75%	6.16%	4.59%	3.86%	3.82%
20	2005	10.54%	5.65%	4.89%	4.20%	3.94%
21	2006	10.34%	6.07%	4.27%	4.39%	4.00%
22	2007	10.31%	6.07%	4.24%	4.48%	4.04%
23	2008	10.37%	6.53%	3.84%	4.37%	3.97%
24	2009	10.52%	6.04%	4.48%	4.34%	4.10%
25	2010	10.29%	5.46%	4.83%	4.33%	4.26%
26	2011	10.19%	5.04%	5.15%	4.51%	4.45%
27	2012	10.01%	4.13%	5.88%	4.84%	4.66%
28	2013	9.81%	4.48%	5.33%	5.13%	4.75%
29	2014	9.75%	4.28%	5.47%	5.33%	4.84%
30	2015	9.60%	4.12%	5.49%	5.46%	4.90%
31	2016	9.60%	3.93%	5.67%	5.57%	5.04%
32	2017	9.68%	4.00%	5.68%	5.53%	5.18%
33	2018	9.55%	4.25%	5.30%	5.52%	5.33%
34	2019	9.64%	3.77%	5.87%	5.60%	5.47%
35	2020	9.39%	3.02%	6.38%	5.78%	5.62%
36	2021	9.39%	3.11%	6.28%	5.90%	5.73%
37	2022	9.52%	4.72%	4.80%	5.73%	5.63%
38	2023	9.66%	5.54%	4.12%	5.49%	5.51%
39	2024 ³	9.72%	5.55%	4.17%	5.15%	5.38%
37	Average	10.84%	6.50%	4.34%	4.39%	4.39%
40	Minimum				2.88%	3.20%
41	Maximum				5.90%	5.73%

Sources:

¹ Regulatory Research Associates, Inc., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.

S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - September 2024, October 30, 2024 at page 3.

2006 - 2024 Authorized Returns exclude limited issue rider cases.

² The utility bond yields for the period 1980-2005 were obtained from the St. Louis Federal Reserve: Economic Research, <http://>

The utility bond yields from 2006-2024 were obtained from the Mergent Bond Record.

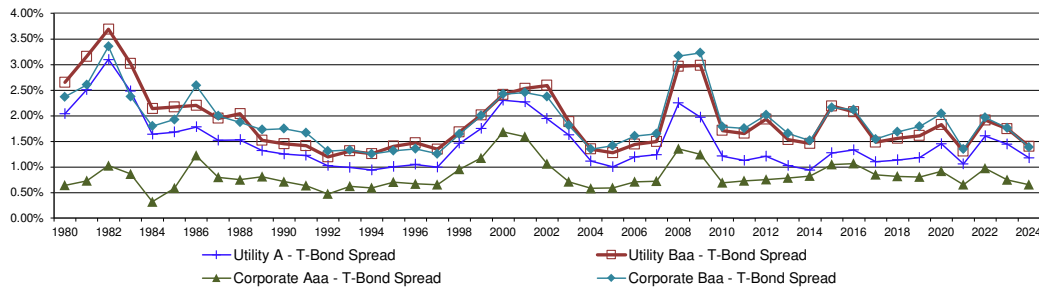
³ Data represents January - September, 2024.

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Bond Yield Spreads

Line	Year	T-Bond Yield ¹ (1)	Public Utility Bond				Corporate Bond				Utility to Corporate	
			A ² (2)	Baa ² (3)	A-T-Bond Spread (4)	Baa-T-Bond Spread (5)	Aaa ³ (6)	Baa ³ (7)	Aaa-T-Bond Spread (8)	Baa-T-Bond Spread (9)	Baa Spread (10)	A-Aaa Spread (11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.87%	6.07%	6.32%	1.20%	1.44%	5.58%	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%	5.46%	5.96%	1.21%	1.71%	4.94%	6.04%	0.69%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.66%	0.73%	1.75%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.86%	1.21%	1.93%	3.67%	4.94%	0.75%	2.01%	-0.08%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.54%	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%	4.85%	0.82%	1.51%	-0.05%	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%	4.68%	1.34%	2.08%	3.67%	4.72%	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%	1.19%	1.61%	3.39%	4.38%	0.81%	1.79%	-0.18%	0.38%
41	2020	1.56%	3.02%	3.39%	1.45%	1.83%	2.48%	3.60%	0.91%	2.04%	-0.21%	0.54%
42	2021	2.05%	3.11%	3.36%	1.06%	1.31%	2.71%	3.40%	0.66%	1.35%	-0.04%	0.40%
43	2022	3.12%	4.72%	5.03%	1.61%	1.91%	4.09%	5.08%	0.97%	1.97%	-0.05%	0.64%
44	2023	4.09%	5.54%	5.84%	1.45%	1.75%	4.84%	5.85%	0.75%	1.76%	-0.01%	0.70%
45	2024 ⁴	4.37%	5.55%	5.78%	1.18%	1.40%	5.03%	5.76%	0.65%	1.38%	0.02%	0.52%
46	Average	6.05%	7.53%	7.95%	1.48%	1.90%	6.88%	7.95%	0.83%	1.90%	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 2001-2024 were obtained from the Mergent Bond Record.

³ The corporate yields for the period 1980-2005 were obtained from the St. Louis Federal Reserve: Economic Research, <http://research.stlouisfed.org/>. The corporate yields from 2006-2024 were obtained from <http://credittrends.moodys.com/>.

⁴ Data represents January - September, 2024.

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3 and 6 Month Treasury and Utility Bond Yields

<u>Line</u>	<u>Date</u>	<u>Treasury Bond Yield¹</u> (1)	<u>"A" Rated Utility Bond Yield²</u> (2)	<u>"Baa" Rated Utility Bond Yield²</u> (3)
1	September-24	4.04%	5.20%	5.41%
2	August-24	4.15%	5.38%	5.61%
3	July-24	4.46%	5.64%	5.85%
4	June-24	4.44%	5.61%	5.84%
5	May-24	4.62%	5.74%	5.97%
6	April-24	4.66%	5.79%	6.01%
7	3-Month Average	4.22%	5.41%	5.62%
8	Spread To Treasury		1.19%	1.40%
9	6-Month Average	4.40%	5.56%	5.78%
10	Spread To Treasury		1.16%	1.38%

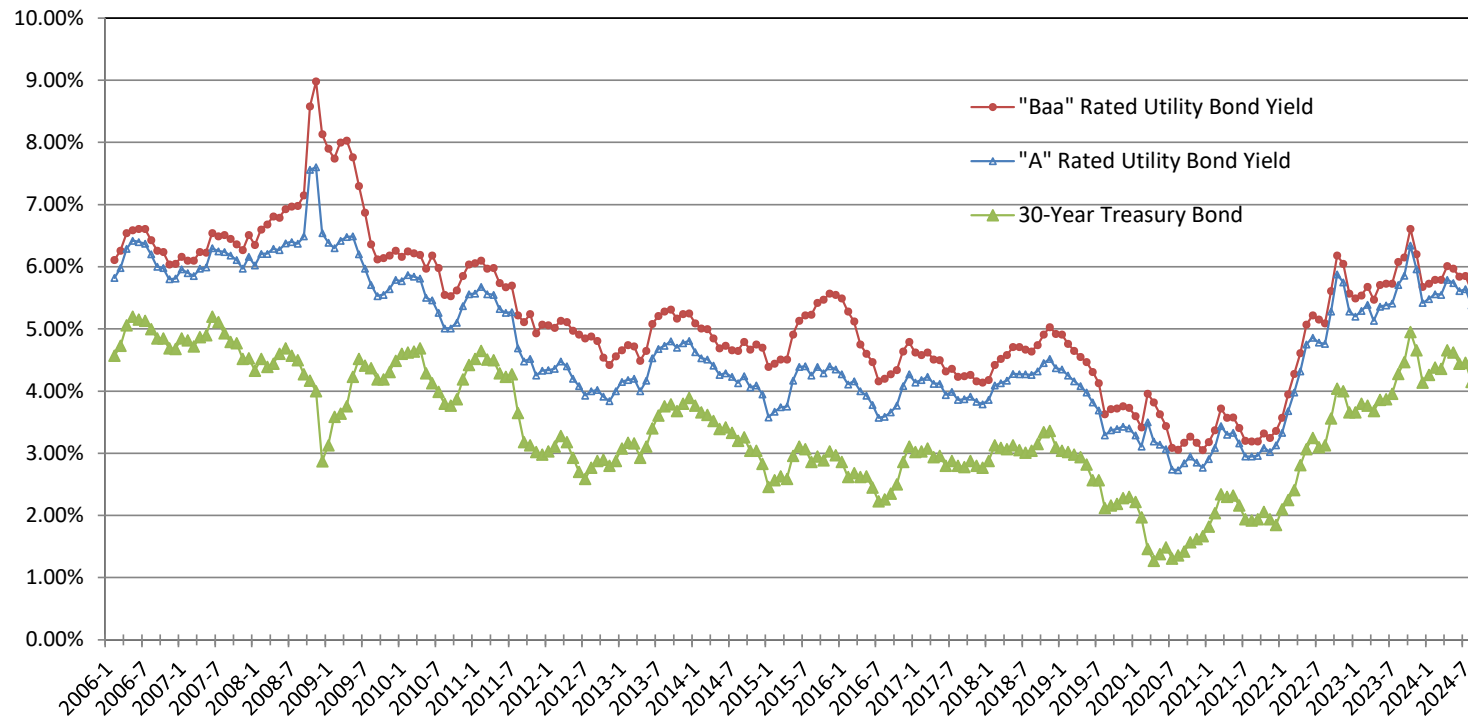
Sources:

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

² Mergent Bond Record.

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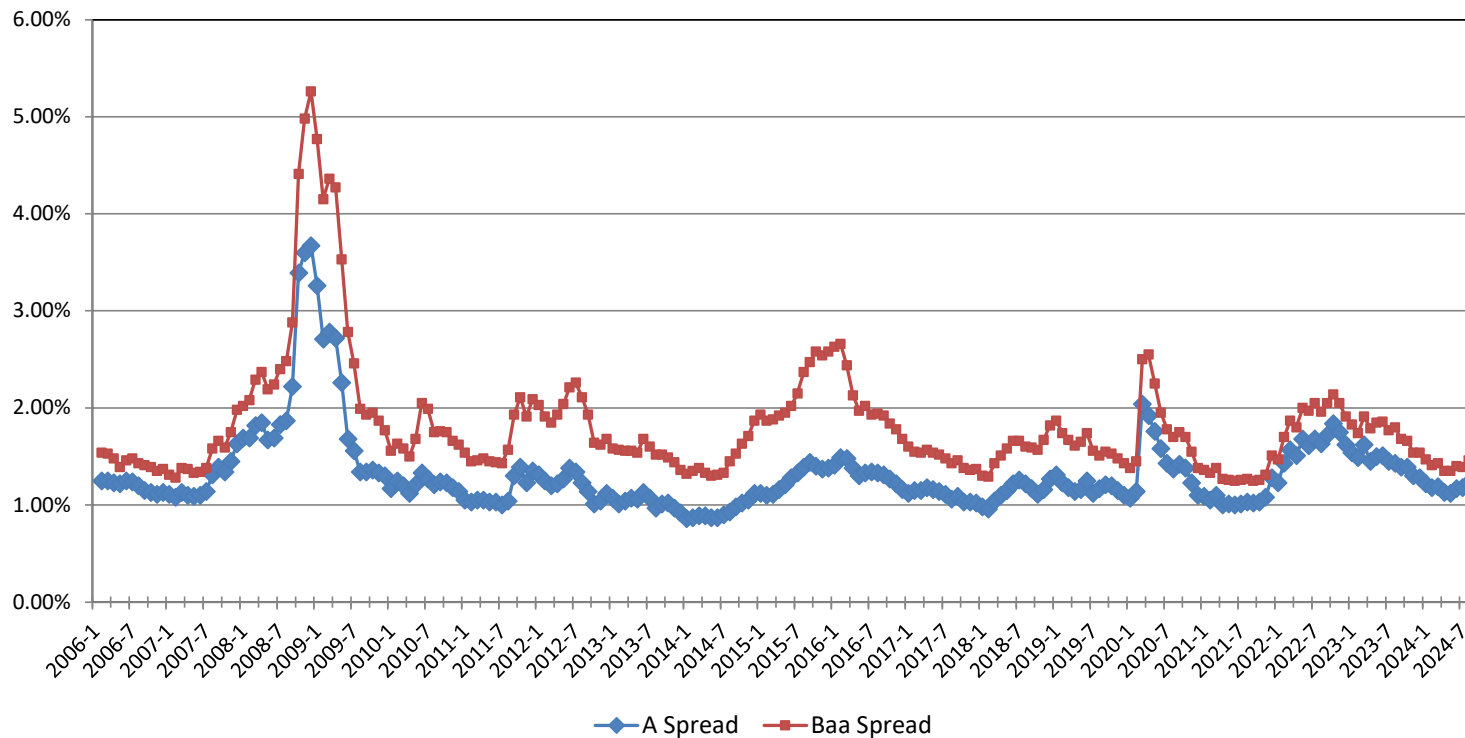
Trends in Bond Yields



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

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Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



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

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Beta

<u>Line</u>	<u>Company</u>	<u>Beta</u> ¹	S&P Global Market Intelligence <u>Beta</u> ²	3-Year VL Methodolgy <u>Beta</u> ³
1	Alliant Energy Corporation	0.90	0.82	0.73
2	American Electric Power Company, Inc.	0.85	0.79	0.64
3	Avista Corporation	0.95	0.79	0.66
4	CMS Energy Corporation	0.85	0.79	0.66
5	DTE Energy Company	1.00	0.86	0.69
6	Duke Energy Corporation	0.90	0.78	0.62
7	Entergy Corporation	1.00	0.89	0.70
8	Evergy, Inc.	0.95	0.83	0.67
9	IDACORP, Inc.	0.85	0.81	0.63
10	NextEra Energy, Inc.	1.05	0.86	0.83
11	NorthWestern Corporation	1.00	0.91	0.67
12	OGE Energy Corp.	1.05	0.93	0.72
13	Pinnacle West Capital Corporation	0.95	0.87	0.68
14	Portland General Electric Company	0.95	0.82	0.70
15	PPL Corporation	1.15	0.95	0.73
16	Southern Company	0.95	0.83	0.61
17	Xcel Energy Inc.	0.85	0.72	0.62
18	Average	0.95	0.84	0.68
19	Median	0.95	0.83	0.67
20	Historical Beta ⁴	0.78		

Source:

¹ *The Value Line Investment Survey*, August 9, September 6, and October 18, 2024.

² S&P Global Market Intelligence, betas for the period 11/1/2019 - 11/1/2024.

³ S&P Global Market Intelligence, betas for the period 11/1/2021 - 11/1/2024.

⁴ Schedule CCW-14, page 2.

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		Historical Betas (Electric Utilities)																																														
Line	Company	Average	2024	2024	2024	2023	2023	2023	2023	2022	2022	2022	2021	2021	2021	2021	2020	2020	2020	2019	2019	2019	2019	2018	2018	2018	2017	2017	2017	2016	2016	2016	2015	2015	2015	2014	2014											
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)					
1	Alliant Energy Corporation	0.77	0.90	0.90	0.90	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85					
2	American Electric Power Company, Inc.	0.70	0.85	0.85	0.80	0.80	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75			
3	Avista Corporation	0.80	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
4	CMS Energy Corporation	0.71	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	
5	DTE Energy Company	0.79	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
6	Duke Energy Corporation	0.70	0.90	0.90	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
7	Entergy Corporation	0.78	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
8	Energy, Inc.	0.94	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
9	IDACORP, Inc.	0.75	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
10	NextEra Energy, Inc.	0.77	1.05	1.05	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
11	NorthWestern Corporation	0.77	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
12	OCIE Energy Corp.	0.65	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
13	Pinnacle West Capital Corporation	0.76	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
14	Portland General Electric Company	0.77	0.95	0.90	0.90	0.90	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
15	PPL Corporation	0.87	1.15	1.15	1.10	1.05	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
16	Southern Company	0.71	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
17	Xcel Energy Inc.	0.68	0.85	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
18	Average	0.78	0.95	0.95	0.94	0.92	0.91	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89

Source: Value Line Software Analyzer

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CAPM Return

<u>Line</u>	<u>Description</u>	<u>Kroll Normalized MRP (1)</u>	<u>Risk Premium Derived MRP (2)</u>	<u>Average FERC S&P 500 DCF Derived MRP (3)</u>
<u>Current Beta</u>				
1	Risk-Free Rate ^{1,2}	4.30%	4.20%	4.20%
2	Market Risk Premium	5.00%	7.40%	8.10%
3	Beta ⁷	0.95	0.95	0.95
4	CAPM	9.07%	11.25%	11.92%
<u>Historical Beta</u>				
5	Risk-Free Rate ^{1,2}	4.30%	4.20%	4.20%
6	Market Risk Premium ^{1,3}	5.00%	7.40%	8.10%
7	Beta ⁷	0.78	0.78	0.78
8	CAPM	8.20%	9.96%	10.51%
<u>Current S&P Global Market Intelligence Beta</u>				
9	Risk-Free Rate ^{1,2}	4.30%	4.20%	4.20%
10	Market Risk Premium ^{1,3}	5.00%	7.40%	8.10%
11	Beta ⁷	0.84	0.84	0.84
12	CAPM	8.49%	10.40%	10.99%
<u>3-Year S&P Global Market Intelligence Beta Adjusted Using VL Methodology</u>				
13	Risk-Free Rate ^{1,2}	4.30%	4.20%	4.20%
14	Market Risk Premium ^{1,3}	5.00%	7.40%	8.10%
15	Beta ⁴	0.68	0.68	0.68
16	CAPM	7.70%	9.24%	9.71%

Sources:

¹ Kroll Cost of Capital Navigator.

² Blue Chip Financial Forecast November 1, 2024.

³ Schedule CCW-15, page 2

⁴ Schedule CCW-14, page 1.

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Development of the Market Risk Premium

<u>Line</u>	<u>Description</u>	<u>MRP</u>
<u>Risk Premium Based Method:</u>		
1	Lg. Co. Stock Real Market Return	9.02% ¹
2	Projected Consumer Price Index	<u>2.40%</u> ²
3	Expected Market Return	11.64%
4	Risk-Free Rate	<u>4.20%</u> ²
5	Market Risk Premium	7.40%
<u>FERC S&P 500 (Dividend Companies) 1-Step DCF Based Method:</u>		
6	S&P 500 Growth	10.60% ³
7	Index Dividend Yield	1.70% ³
8	Adjusted Yield	<u>1.79%</u>
9	Expected Market Return	12.39%
10	Risk-Free Rate	<u>4.20%</u> ²
11	Market Risk Premium	8.20%
<u>FERC S&P 500 (All Companies) 1-Step DCF Based Method:</u>		
12	Short-Term S&P 500 Growth	10.60% ⁴
13	Index Dividend Yield	1.50% ⁴
14	Adjusted Yield	<u>1.58%</u>
15	Expected Market Return	12.18%
16	Risk-Free Rate	<u>4.20%</u> ²
17	Market Risk Premium	8.00%
18	Average DCF Based MRP	8.10%

Sources & Note:

¹ Morningstar Direct.

² *Blue Chip Financial Forecast November 1, 2024.*

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

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