Exhibit No.:	
Issue(s):	*Rate of Return*
Witness:	*Christopher C. Walters*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Direct Testimony*
Case No.:	*ER-2024-0261*
Date Testimony Prepared:	*July 2, 2025*

MISSOURI PUBLIC SERVICE COMMISSION

FINANCIAL AND BUSINESS ANALYSIS DIVISION

FINANCIAL ANALYSIS DEPARTMENT

DIRECT TESTIMONY

OF

CHRISTOPHER C. WALTERS

THE EMPIRE DISTRICT ELECTRIC COMPANY
d/b/a Liberty

CASE NO. ER-2024-0261

Jefferson City, Missouri
July 2025

TABLE OF CONTENTS OF

DIRECT TESTIMONY OF

CHRISTOPHER C. WALTERS

THE EMPIRE DISTRICT ELECTRIC COMPANY

d/b/a Liberty

CASE NO. ER-2024-0261

DIRECT TESTIMONY

OF

CHRISTOPHER C. WALTERS

THE EMPIRE DISTRICT ELECTRIC COMPANY

d/b/a Liberty

CASE NO. ER-2024-0261

I. INTRODUCTION

Q. Please state your name and business address.

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

Q. Please state your occupation.

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

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

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

Q. Please describe your educational background and experience.

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

valuation, derivatives, alternative investments, risk management, and professional and ethical conduct. I am a member of the CFA Institute and the CFA Society of St. Louis.

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

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

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

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

Q. What is the purpose of your direct testimony?

A. The purpose of my testimony is to provide a recommendation to the Commission on behalf of Staff regarding the appropriate overall Rate of Return ("ROR") including a reasonable capital structure, cost of debt, and Return on Common Equity ("ROE") the Commission should authorize for The Empire District Electric Company, d/b/a Liberty ("Empire"), wholly-owned subsidiary of Liberty Utilities Co. ("Liberty"), in this general rate case.

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

II. SUMMARY

Q. Please summarize the rest of your testimony.

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

In Section IV of my testimony, I address Empire's proposed capital structure and cost of debt, outline how a fair ROE should be established, provide an overview of the market's perception of Empire's investment risk, and present the analyses I relied on to estimate an appropriate ROE for Empire. Based on the results of several cost of equity estimation methods performed on publicly traded utility companies, I estimate the current fair market ROE to fall within the range of 9.00% to 10.00%. Based on my assessment of Empire's overall risk profile

and the results of the analytical methods, I recommend Empire be awarded an ROE of 9.50%, which is the mid-point of my overall estimated range. In acknowledgment of Empire's significantly higher equity ratio, a more reasonable range applicable to Empire would be the lower-half of my overall recommended range (i.e., 9.00% to 9.50%).

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

1. Reject Empire's proposed ROE of 10.00% and instead adopt my recommended ROE of 9.50%, which is based on my assessment of the current and expected capital market environment, Empire's overall risk profile, and the results of several analytical methods which I have analyzed, to determine a fair and reasonable ROE to be authorized for Empire.

2. Reject Empire's requested overall ratemaking ROR of 7.29% and instead authorize an overall ratemaking ROR of 7.02% based on my recommendations, and would reduce Empire's requested revenue requirement by approximately $8.94 million.

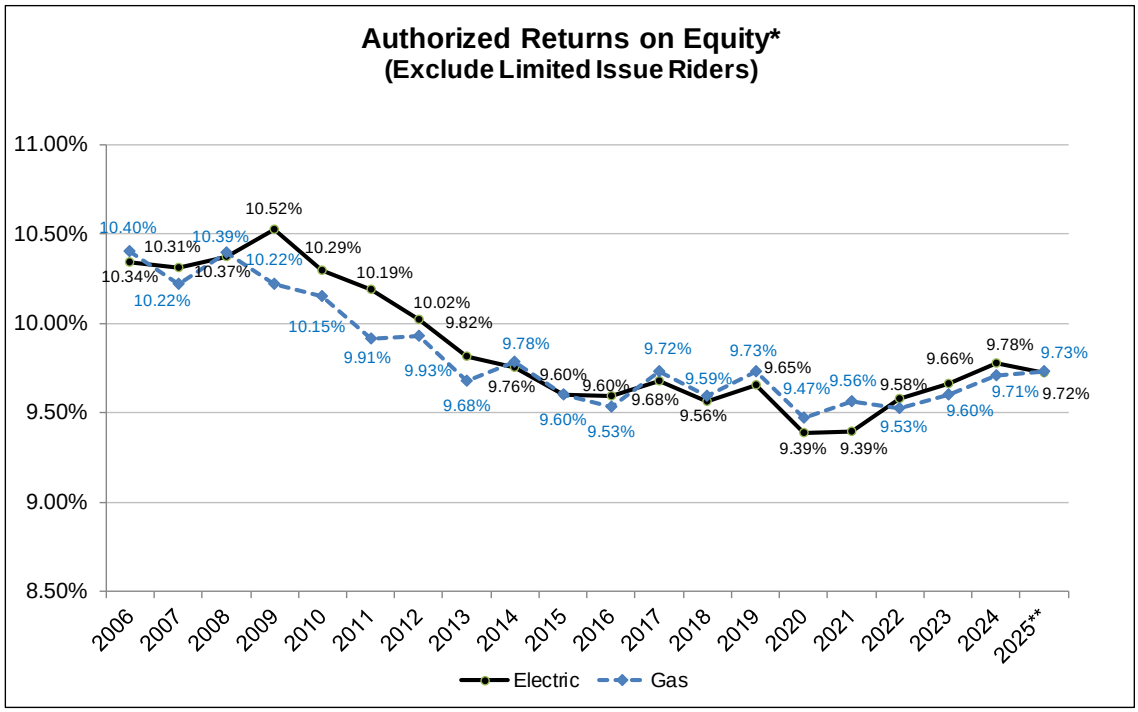
III. INDUSTRY TRENDS AND ECONOMIC ENVIRONMENT

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

Q. Please describe the observable evidence on trends in 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 Intelligenc*e, RRA Regulatory Focus, Major Rate Case Decisions -- January - March 2025, April 25, 2025 at page 3.

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

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

TABLE CCW-1

Distribution of Authorized ROEs
(All Electric Utilities)*

Year (1)	Average (2)	Median (3)	Share of Decisions ≤ 9.5% (4)	Share of Decisions ≤ 9.7% (5)	Share of Decisions ≤ 10.0% (6)
2016	9.60%	9.60%	41%	53%	94%
2017[1]	9.68%	9.60%	40%	67%	81%
2018[2]	9.56%	9.58%	45%	61%	100%
2019	9.65%	9.65%	36%	58%	88%
2020[3]	9.39%	9.48%	64%	79%	98%
2021	9.39%	9.50%	57%	80%	97%
2022	9.58%	9.53%	50%	59%	79%
2023	9.66%	9.60%	38%	65%	90%
2024	9.78%	9.78%	24%	37%	85%
2025	9.70%	9.75%	33%	40%	93%
Average	9.60%	9.61%	43%	60%	91%
Median	9.62%	9.60%	41%	60%	91%

Source and Notes:
S&P Global Market Intelligence, data through May 16, 2025.
[1]Includes authorized base ROE of 9.4% for Nevada Power Company, which excludes incentives associated with the Lenzie facility.
[2]Includes authorized base ROE of 9.6% for Interstate Power & Light Co., which excludes allowed ROE for generating facilities subject to special ratemaking principles.
[3]Includes 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.

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

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

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

continued on next page

TABLE CCW-2

Trend in Authorized Equity Ratios

Year (1)	Electric[1] Average (2)	Electric[1] Median (3)
2016	49.70%	49.99%
2017	50.02%	49.85%
2018	50.60%	50.23%
2019	51.55%	51.37%
2020	50.93%	51.17%
2021	51.01%	52.00%
2022	51.57%	51.92%
2023	51.59%	52.27%
2024	51.07%	52.10%
2025	50.30%	51.56%
Average	50.83%	51.25%
Median	50.97%	51.46%

Source and Notes:

[1] S&P Global Market Intelligence, data through May 16, 2025.

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

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

A. Yes. As shown in Table CCW-3, the credit ratings of the industry have improved since 2009. In 2009, approximately 53% of the industry was rated BBB+ or higher. Currently, 83% of the industry has a rating of BBB+ or higher.

TABLE CCW-3

S&P Ratings by Category
Electric Utility Subsidiaries

Description	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
A or higher	12%	12%	12%	11%	13%	13%	13%	10%	10%	8%	14%	14%	10%	10%	12%	9%	7%
A-	18%	20%	19%	22%	26%	26%	34%	43%	52%	54%	54%	53%	37%	37%	37%	33%	35%
BBB+	23%	24%	28%	28%	25%	28%	24%	32%	21%	22%	18%	19%	35%	36%	36%	45%	41%
BBB	36%	26%	24%	22%	26%	23%	18%	4%	7%	13%	12%	3%	16%	16%	15%	12%	13%
BBB-	9%	16%	15%	17%	11%	11%	11%	11%	11%	2%	1%	1%	0%	0%	0%	0%	1%
Below BBB-	2%	2%	2%	0%	0%	0%	0%	0%	0%	0%	0%	10%	1%	1%	1%	2%	3%
Total	**100%**	**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 5/19/2025.
Note: Subsidiary ratings used.

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

A. Yes. Regulatory Research Associates' ("RRA") October 22, 2024 Utility Capital Expenditures report, *RRA Financial Focus*, a division of *S&P Global Market Intelligence*, made several relevant comments about utility investments generally:[1]

- Energy utility capex estimates for 2025, 2026 and 2027 indicate successively higher spending levels, reaching $192 billion, $196.5 billion and $197 billion, respectively. Spending in these years is likely to increase further, as the companies' plans for future projects continue to solidify around federal and state legislation supporting infrastructure investment.

- Multiple drivers are expected to elevate utility capital expenditures over the next several years. Pent-up demand to replace aging equipment is already pushing utilities to make considerable investments in infrastructure. Meanwhile, the renewable energy portfolio standards for multiple states continue to ramp up, with the plans specifying large expansions of low-carbon energy generation capacity. Amplifying these factors are federal infrastructure investment plans, including the Inflation Reduction Act of 2022, which aim to convert the US power generation network to a majority of zero-carbon sources by 2035.

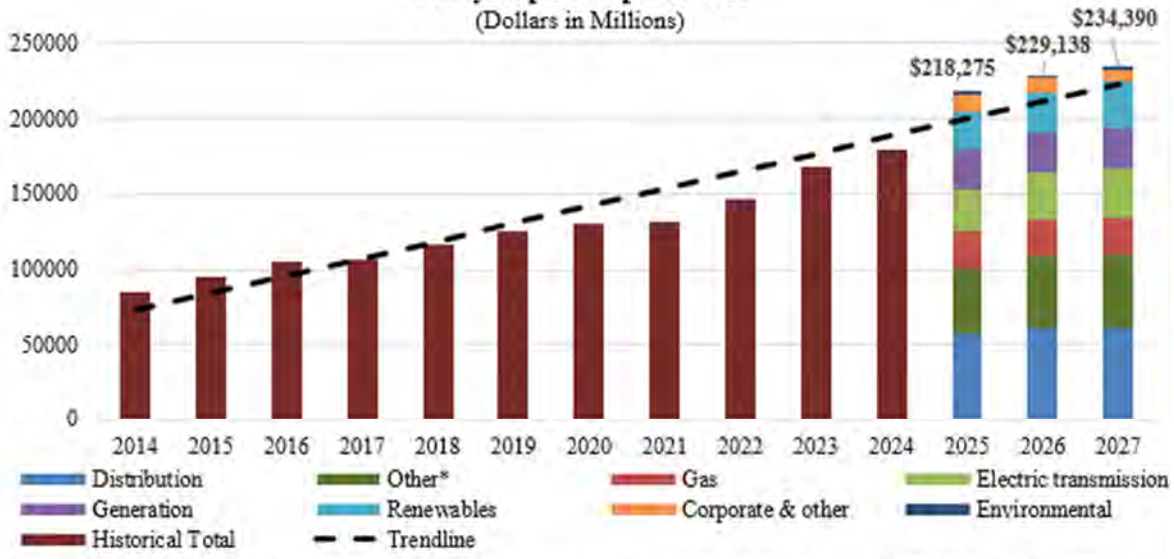
[1] *S&P Global Market Intelligence, RRA Financial Focus*: "Utility capital expenditures update," October 22, 2024.

- Forecast aggregate utility investments in 2025, 2026 and 2027 are expected to reach new records of $192 billion, $196.5 billion and $197 billion, respectively. The increases are being driven in large part by federal legislation enacted in 2021 and 2022, supporting infrastructure investment and state-level energy transition plans and incentives, as well as robust growth in demand from datacenters, as the explosion in implementation of AI and cloud computing continues.

- Utilities have multiple opportunities to finance and support energy investments through mechanisms available within the Inflation Reduction Act and the Infrastructure Investment and Jobs Act of 2021. These pieces of legislation provide billions of dollars for power infrastructure investments, financial incentives for nuclear power plants and funding for battery storage technology, among other provisions.

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

FIGURE CCW-2



*Other category consists of utilities that do not report capital expenditures by category: Avista, Dominion Energy, MDU, NorthWestern, and PG&E.
Source: *S&P Global Market Intelligence, RRA Financial Focus*, Utility Capital Expenditures Update, March 24, 2025, Tables 1 and 3.

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

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

A. Yes. Strong valuations demonstrate that utilities can issue securities at favorable prices and price multiples, signaling their ability to access equity capital on reasonable terms and at a relatively low cost. As shown on Schedule CCW-D1, the historical valuation of utilities followed by *The Value Line Investment Survey* ("*Value Line*"), based on a Price-to-Earnings ("P/E") ratio, Price-to-Cash Flow ratio, and Market Price-to-Book value ratio, indicates utility security valuations today are very strong and robust relative to the last several years. These strong valuations of utility stocks indicate that utilities have access to equity capital under reasonable terms and at lower costs.

Q. What conclusion do you draw from this observable market data in forming your recommended ROE and overall ROR?

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

B. Impact of Monetary Policy

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

A. Yes, to both questions. The FOMC communicates its monetary policy objectives with a high degree of transparency, including its dual mandate to achieve maximum employment and stable inflation near 2%. To achieve these objectives, the FOMC adjusts its policy stance in phases depending on economic conditions. For example, in response to the pandemic-induced downturn, the FOMC adopted an accommodative stance by lowering the federal funds rate to near zero and engaging in Quantitative Easing, purchasing Treasury securities and agency mortgage-backed securities to support market liquidity and economic growth.

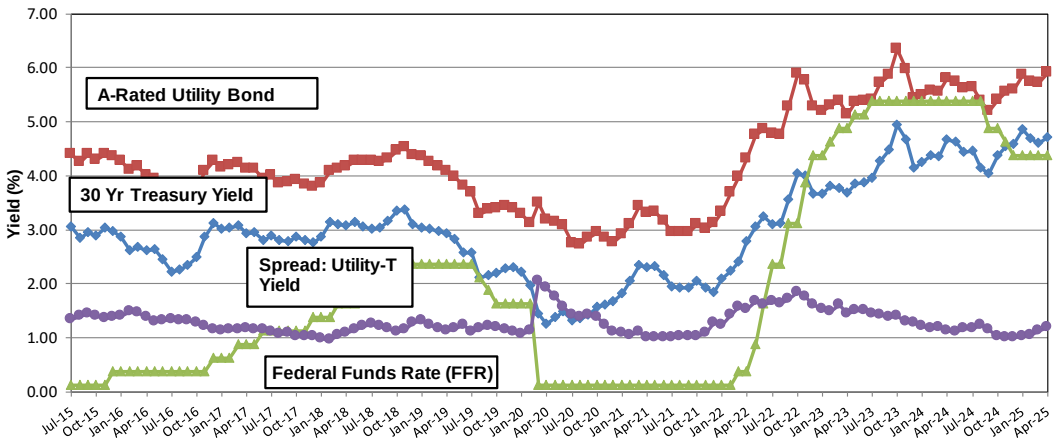
Beginning in March 2022, the FOMC transitioned to a tightening phase, raising the target federal funds rate. In June 2022, it began reducing its balance sheet (Quantitative Tightening) by allowing maturing Treasury and agency MBS securities to roll off its balance sheet without reinvestment. That phase of policy tightening persisted into 2024.

Since September 2024, the FOMC has lowered the federal funds rate three times, signaling a shift toward a more accommodative or neutral stance in response to evolving economic data. While balance sheet reduction continues, the pace has slowed considerably, especially for Treasury securities, reflecting a more measured policy approach.

Market reactions to these actions are reflected in the valuation of debt and equity securities. A visualization of the market's response to the federal funds rate changes is shown in Figure CCW-3 below.

FIGURE CCW-3

Timeline of Federal Funds Rate Changes Since 2015



Fed FFR Actions:

1	December 2015	0.25	→	0.50	15	March 2022	0.25	→	0.50
2	December 2016	0.50	→	0.75	16	May 2022	0.75	→	1.00
3	March 2017	0.75	→	1.00	17	June 2022	1.50	→	1.75
4	June 2017	1.00	→	1.25	18	July 2022	2.25	→	2.50
5	December 2017	1.25	→	1.50	19	September 2022	3.00	→	3.25
6	March 2018	1.50	→	1.75	20	November 2022	3.75	→	4.00
7	June 2018	1.75	→	2.00	21	December 2022	4.25	→	4.50
8	September 2018	2.00	→	2.25	22	February 2023	4.50	→	4.75
9	December 2018	2.25	→	2.50	23	March 2023	4.75	→	5.00
10	August 2019	2.00	→	2.25	24	May 2023	5.00	→	5.25
11	September 2019	1.75	→	2.00	25	July 2023	5.25	→	5.50
12	October 2019	1.50	→	1.75	26	September 2024	4.75	→	5.00
13	March 2020	1.00	→	1.25	27	November 2024	4.50	→	4.75
14	March 2020	0.00	→	0.25	28	December 2024	4.25	→	4.50

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.

As shown in Figure CCW-3, the federal funds rate has risen more rapidly than Utility and Treasury bond yields. Meanwhile, the yield spread between Utility bonds and Treasury bonds has narrowed and is currently below its long-term average. This narrower spread suggests that investors perceive lower relative risk in Utility bonds compared to Treasuries, requiring less additional yield to hold them. This trend typically reflects greater confidence in the financial stability and creditworthiness of utilities, driven by factors such as stable earnings, favorable regulatory environments, or improved credit fundamentals.

Q. Has the Fed made recent comments concerning monetary policy and the potential impact on interest rates?

A. Yes. On March 19, 2025, the FOMC released the following statement:

> Although swings in net exports have affected the data, recent indicators suggest that economic activity has continued to expand at a solid pace. The unemployment rate has stabilized at a low level in recent months, and labor market conditions remain solid. Inflation remains somewhat elevated.
>
> The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. Uncertainty about the economic outlook has increased further. The Committee is attentive to the risks to both sides of its dual mandate and judges that the risks of higher unemployment and higher inflation have risen.
>
> In support of its goals, the Committee decided to maintain the target range for the federal funds rate at 4-1/4 to 4-1/2 percent. In considering the extent and timing of additional adjustments to the target range for the federal funds rate, the Committee will carefully assess incoming data, the evolving outlook, and the balance of risks. The Committee will continue reducing its holdings of Treasury securities and agency debt and agency mortgage-backed securities. The Committee is strongly committed to supporting maximum employment and returning inflation to its 2 percent objective.
>
> In assessing the appropriate stance of monetary policy, the Committee will continue to monitor the implications of incoming information for the economic outlook. The Committee would be prepared to adjust the stance of monetary policy as appropriate if risks emerge that could impede the attainment of the Committee's goals. The Committee's assessments will take

> into account a wide range of information, including readings on labor market conditions, inflation pressures and inflation expectations, and financial and international developments.[2]

The Fed's May 7, 2025, FOMC statement indicates that economic activity continues to expand at a solid pace, with labor market conditions remaining strong and inflation somewhat elevated. However, the Committee noted increased uncertainty about the economic outlook, citing heightened risks of both higher unemployment and higher inflation. To support its dual mandate of maximum employment and 2% inflation, the Fed maintained the federal funds rate target range at 4.25% to 4.5%. The Committee also decided to continue reducing its holdings of Treasury securities and agency debt and mortgage-backed securities, with Treasury redemptions capped at $5 billion per month and agency securities at $35 billion per month. The Fed emphasized its commitment to monitoring incoming data and is prepared to adjust monetary policy as appropriate to achieve its goals.

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

A. Independent economists, surveyed by *Blue Chip Financial Forecasts*, expect long-term bond yields to remain relatively flat to marginally increase over the near term, while maintaining levels that are still relatively low by historical levels. For example, independent projections show that the consensus is the federal funds rate will decrease while long-term interest rates, as measured by the 30-year Treasury bond, are expected to remain relatively flat. Inflation, as measured through the Gross Domestic Product ("GDP") price index, is expected to be a mix of marginal increases and decreases over the near to intermediate term. This

[2] Federal Reserve Board - Federal Reserve issues FOMC statement, May 7, 2025.

indicates that levels of inflation are expected to be relatively flat over that period. The consensus projections for the next several 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

Publication Date	1Q 2024	2Q 2024	3Q 2024	4Q 2024	1Q 2025	2Q 2025	3Q 2025	4Q 2025	1Q 2026	2Q 2026	3Q 2026
T-Bond, 30 yr.											
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		
Dec-24			**4.2**	4.5	4.5	4.4	4.4	4.4	4.4		
Jan-25				4.5	4.6	4.5	4.5	4.5	4.5	4.4	
Feb-25				4.5	4.7	4.7	4.7	4.7	4.6	4.6	
Mar-25				**4.5**	4.7	4.7	4.7	4.6	4.6	4.6	
Apr-25					4.7	4.6	4.6	4.5	4.5	4.5	4.5
May-25					4.7	4.6	4.5	4.5	4.4	4.4	4.4
GDP Price Index											
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		
Dec-24			**1.8**	2.2	2.3	2.2	2.2	2.3	2.3		
Jan-25				2.2	2.3	2.4	2.4	2.5	2.6	2.1	
Feb-25				2.2	2.5	2.5	2.5	2.5	2.5	2.1	
Mar-25				**2.4**	2.7	2.5	2.5	2.5	2.5	2.2	
Apr-25					2.7	2.7	2.7	2.5	2.5	2.1	2.2
May-25					3.7	3.4	3.2	2.9	2.6	2.3	2.3

Source and Note:
Blue Chip Financial Forecasts, June 2024 through May 2025.
Actual Yields in Bold.

Q. What is the outlook for long-term interest rates, and why does it matter?

A. The outlook for long-term interest rates in the intermediate to long-term is also impacted by the current Fed actions and the expectation that eventually the Fed's monetary actions will return to more normal levels.

Long-term interest rate projections are illustrated in Table CCW-5 below:

TABLE CCW-5

30-Year Treasury Bond Yield: Actual vs Projected

Description	Actual	Near-Term Projected*	5- to 10-Year Projected
2020			
Q1	1.88%	2.57%	
Q2	1.38%	1.90%	3.0% - 3.8%
Q3	1.36%	1.87%	
Q4	1.62%	1.97%	2.8% - 3.6%
2021			
Q1	2.07%	2.23%	
Q2	2.26%	2.77%	3.5% - 3.9%
Q3	1.93%	2.63%	
Q4	1.95%	2.70%	3.4% - 3.8%
2022			
Q1	2.25%	2.87%	
Q2	3.04%	3.47%	3.8% - 3.9%
Q3	3.26%	3.63%	
Q4	3.90%	3.87%	3.9% - 4.0%
2023			
Q1	3.74%	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%
2024			
Q1	4.33%	4.03%	
Q2	4.57%	4.17%	4.3% - 4.4%
Q3	4.22%	4.20%	
Q4	4.50%	4.20%	4.3% - 4.2%

Source and Note:
Blue Chip Financial Forecasts, January 2019 through March 2025.
*Average of all 3 reports in Quarter.

As outlined in Table CCW-5, the outlook for interest rates has moderated more recently relative to 2020 and part of 2021. For example, when actual interest rates were in the range of 1.4% to 2.1%, the near-term projections for 30-year Treasury yields ranged from 1.9% to 2.8% in 2020-2021, while the projections five to ten years out were in the range of 2.8% to 3.9%. Most recently, actual interest rates were approximately 4.5%, with near and intermediate projections in the range of 4.2% to 4.3%. While interest rates were expected to increase drastically from their actual levels in the 2020-2021 period, those same projections are now flat to declining, which indicates the cost of long-term capital might be near its peak.

C. Market Sentiments and Utility Industry Outlook

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

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

In its 2025 Outlook,[3] S&P reports that North American regulated utilities face continued credit pressure due to elevated capital spending, persistent cash flow deficits (exceeding $100 billion), and increasing physical risks such as wildfires and extreme weather. In 2024, downgrades again outpaced upgrades, a five-year trend driven by high capex, rising wildfire risk, and uneven regulatory outcomes. Despite ongoing investment in the energy transition and data center growth (which may modestly lift electricity sales by ~1% annually), financial metrics are deteriorating due to underwhelming common equity issuance and high leverage. Hybrid security issuance hit a record $26 billion in 2024 and is expected to continue helping

[3] S&P Global Credit Ratings, "Industry Credit Outlook 2025 – North America Regulated Utilities," January 14, 2025.

credit support. Regulatory frameworks remain broadly credit supportive, though S&P downgraded its view of Connecticut due to inconsistent returns and rising lag. Customer bill affordability remains a key consideration, especially as capacity prices rise and new infrastructure costs must be equitably allocated. Wildfire risk—particularly litigation and insurance constraints—is becoming a systemic credit concern, now affecting nearly all regions. S&P made several specific observations about affordability in the context of regulated utilities' credit quality:

1. Electric bills as a share of household income: S&P noted that the average electric customer bill is about 2% of U.S. median household income, which it characterizes as "good value" relative to other typical household expenses. Preserving this affordability is critical to maintaining the industry's credit quality, as it underpins public and regulatory support.

2. Risk from cost shifts due to data centers: S&P cautioned that if utilities assign a significant portion of new infrastructure costs related to data center growth to existing residential customers, it could lead to higher customer bills. This would, in turn, pressure regulators to limit future rate case increases, potentially impairing utilities' ability to recover costs or earn authorized returns.

3. Capacity price increases: S&P warned that higher PJM capacity prices—which are directly passed on to customers—could result in greater customer dissatisfaction. This could prompt regulators to limit increases in other parts of the customer bill, indirectly constraining utilities' ability to maintain financial performance and manage regulatory risk.

In sum, S&P views affordability as a cornerstone issue for the sector: sustained rate increases or cost shifts that threaten affordability could erode regulatory support, triggering credit risk.

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

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

Also, in a report published in January of 2024, S&P specifically mentioned commodity price volatility, in combination with significant increases in capital investments, driving utility rate increases which may strain affordability concerns.[5]

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

Specifically, Fitch states:

> Fitch Ratings' deteriorating outlook for the North American Utilities, Power & Gas sector reflects continuing macroeconomic headwinds and elevated capex that are putting pressure on credit metrics in the high-cost funding environment. Bill affordability concerns for ratepayers continue to persist despite the pull back in natural gas prices and inflationary pressures. Fitch expects utility capex to grow by double digits in 2024, underpinned by investments needed to make the electric infrastructure more resilient against extreme weather events and to accommodate renewable generation, including distributed sources. Rate case outcomes are key to watch as regulators balance more rate requests with increases in customer bills. Authorized ROEs could prove to be sticky despite an increase in cost of capital. Higher weather-normalized retail electricity sales, driven by datacenter growth and onshoring of manufacturing activities, and tax transferability provisions of the Inflation Reduction Act could somewhat offset headwinds to utilities. Ongoing management actions to sell assets and issue equity, in some cases, is supportive of parent companies' ratings. Within Fitch's coverage, 90% of ratings hold Stable Rating Outlooks. We

[4] *Moody'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).

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

> expect limited rating movement in 2024. The number of upgrades in 2023 so far exceeds the number of downgrades, and is driven by positive rating actions on several parent holding companies and their regulated subsidiaries.[6]

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

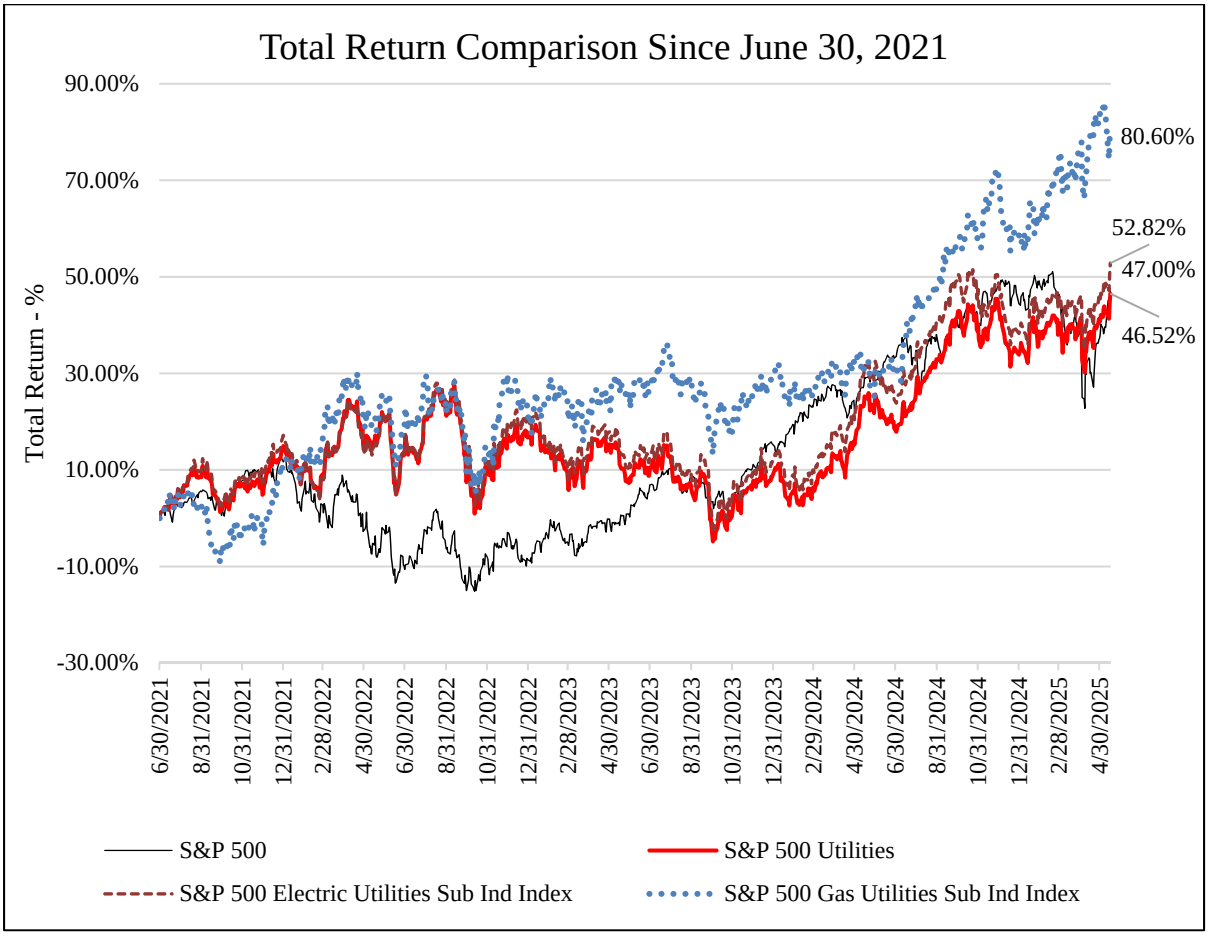
D. Additional Remarks

Q. In light of higher levels of inflation, expectations of higher interest rates, and geopolitical events around the world, how has the market perceived utilities as investment options?

A. Since the beginning of the second half of 2021, the natural gas utility sector has significantly outperformed the S&P 500, with a total return of 80.60% compared to the market's total return of 47.00%. Similarly, the electric utility sector has also outperformed the broader market with a total return of 52.82% over the same period, as shown in Figure CCW-4.

[6] *FitchRatings.* "North American Utilities, Power & Gas Outlook 2024," December 6, 2023 at 1. (Emphasis Added).

Figure CCW-4



It is important to note that the S&P 500's strong performance in 2023 and early 2024 was largely driven by a small group of "mega-cap" companies known as the Magnificent 7. The Magnificent 7's stocks were among the most valuable companies in the S&P 500 index and rallied significantly over this time. Those seven stocks accounted for a majority of the S&P 500's returns even though there were 493 other companies in the index. This is because the S&P 500 is a market capitalization-weighted index, meaning companies with larger market capitalizations have a greater impact on the index's overall performance. This is explained in the S&P Dow Jones Indices report "U.S. Equity Market Attributes April 2024," stating that:

> Year-to-date, the S&P 500 remained up 5.57% (with 10 of the 11 sectors up; Real Estate was down 9.86%), as breadth declined but remained positive

> (302 up and 199 down, compared to last March's 369 and 134 YTD, respectively). The Magnificent 7 as a group still dominated, accounting for 51% of the index return (which included Apple's 11.5% YTD decline and Tesla's 26.2% YTD decline), as NVIDIA (up 74.5% YTD) represented 41% of the S&P 500's YTD gain.[7]

While the S&P 500's strong performance in 2023 and early 2024 was largely driven by a small group of "mega-cap" technology companies known as the Magnificent 7, the utility sector demonstrated positive and relatively stable returns over this period. This reflects the defensive characteristics of regulated utilities, which are often viewed by investors as safer assets during times of macroeconomic and geopolitical uncertainty. Utilities' essential service nature, predictable cash flows, and supportive regulatory environments helped them remain attractive to investors even amid elevated inflation, rising interest rates, and global instability.

IV. RATE OF RETURN

Q. Please generally describe what is meant by the overall ROR as it relates to ratemaking for regulated utilities.

A. The overall ROR in utility ratemaking represents the weighted average cost of capital a utility is allowed to earn on its rate base. It combines the cost of debt and the authorized ROE, weighted by the utility's capital structure.

A. Capital Structure

Q. What is Empire's proposed capital structure?

A. Empire's proposed capital structure is summarized in Table CCW-6:

[7] https://www.spglobal.com/spdji/en/documents/commentary/market-attributes-us-equities-202404.pdf. (Emphasis Added).

Table CCW-6

Investor-Supplied Capital Structure

Description	Weight
Long-term Debt	46.90%
Common Equity	53.10%
Total	100.00%

*Total may not add due to rounding

Q. Do you have any comments on Empire's proposed capital structure?

A. Yes. As I will discuss, Empire's proposed equity ratio of 53.10% is relatively higher than the equity ratio for the proxy group used to estimate the cost of equity for Empire. As shown on Schedule CCW-D2, the proxy group has an average common equity ratio of 38.8% (including short-term debt) and 43.1% (excluding short-term debt). Either an adjustment to the capital structure or a reduction in the authorized ROE could be warranted given Empire's stronger financial position relative to the proxy group used to assess Empire's cost of equity.

Q. Are you aware of other regulatory commissions recognizing the need to align the cost of equity with the capital structure?

A. Yes. In a recent Order, the Arkansas Public Service Commission imputed the capital structure of Southwestern Electric Power Company ("SWEPCO") to be more in-line with the comparable companies used to estimate the cost of equity.[8] The adjustment was to recognize that there must be *congruence* between the cost of equity and the capital structure. Specifically, the Order states as follows:

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

> Consistent with our ruling in Order No. 10 of Docket No. 06-101-U, the Commission holds that there should be congruence between the estimated cost of equity and the debt-to-equity ratio, whereby a lower DTE ratio decreases financial risk and decreases the cost of equity. The evidence of record supports imputing the average capital structure of companies with comparable risk to SWEPCO for the purposes of determining SWEPCO's overall cost of capital.[9]

As I described above, Empire's proxy group here has an average common equity ratio of 38.8% (including short-term debt) and 43.1% (excluding short-term debt) as calculated by *S&P Global Market Intelligence* and *Value Line*, respectively. Empire's proposed equity ratio of 53.10% exceeds that of the proxy group's comparable average equity ratio of 38.8% (including short-term debt).

Q. Are you recommending an adjustment to Empire's capital structure?

A. Not at this time. I note that Empire's proposed equity ratio of 53.10% exceeds the proxy group's average equity ratio of 43.1% as well as the industry averages and medians reported above in Table CCW-2. While I am not making an explicit adjustment to Empire's proposed capital structure, I will take its relative position into consideration in my overall recommendation.

B. Cost of Debt

Q. What cost of debt is Empire proposing?

A. Empire is proposing an embedded cost of long-term debt of 4.22%.

Q. Are you taking issue with Empire's proposed cost of debt?

A. No, I am not.

[9] *Id*. at 25.

C. Cost of Equity

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

A. A utility's cost of common equity is the expected return that investors require on an investment in the utility. Investors expect to earn their required return from receiving dividends and through stock price appreciation. This rate is designed to ensure the utility can attract investment, maintain financial stability, and provide reliable service while balancing the interests of shareholders and ratepayers. Regulatory commissions set the ROE based on market conditions and the utility's specific risk profile.

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

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

[10] *Bluefield*, 262 U.S. at 692-693.

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

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

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

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

Q. Why must the cost of equity be estimated rather than directly observed?

A. The cost of equity cannot be directly observed because equity investors do not receive fixed, contractual payments like debt holders do. Instead, they are compensated through uncertain and variable returns in the form of dividends and capital appreciation. These returns

[11] *Id*. at 693 (Emphasis Added).

depend on a range of unpredictable factors, including company performance, market conditions, and investor sentiment. As such, the cost of equity represents an investor's required ROR, which must be estimated using financial models rather than measured directly from observable market transactions.

Q. Why is it necessary to apply multiple methods to estimate the cost of equity?

A. Because the cost of equity is an estimate based on forward-looking expectations and assumptions, no single model can definitively or universally capture the "true" cost. Each model, such as the DCF model, the CAPM, and the Risk Premium approach, has its own theoretical foundation, strengths, and limitations. These models rely on different assumptions and input variables such as projected growth rates or equity risk premiums which can vary in reliability. Using multiple models provides a more comprehensive and balanced view, helps identify outlier results, and increases confidence that the final estimate reasonably reflects investor expectations under current market conditions.

Q. Does the use of multiple methods improve the accuracy of the estimate?

A. Yes. Employing multiple methods helps to cross-check and validate the results, mitigate the impact of any one model's limitations or potentially flawed assumptions, and reduce reliance on any single uncertain input. By considering results from different perspectives, a more informed and credible estimate can be made. This approach is consistent with both sound financial practice and regulatory expectations for fair and reasonable return determinations.

D. Investment Risk Assessment of Empire

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

A. The market's assessment of a company's investment risk is generally described by credit rating analysts' reports. The current credit ratings for Empire is BBB from S&P and Baa1 from Moody's.[12] Empire's outlook from S&P and Moody's is considered "stable". In its September 2024 report covering Empire, S&P stated as follows:

> *Outlook*
>
> The stable outlook on EDE mirrors our stable outlook on its ultimate parent, Algonquin Power & Utilities Corp. (APUC). The stable outlook on APUC and its regulated utility subsidiaries reflects our expectation that the company will sell its higher-risk renewable businesses, reducing business risk, and that FFO to debt will be 11%-13% through 2026.
>
> *S&P Global Ratings expect that EDE's financial measures will be in the middle of our expected range for the significant financial risk profile category.*
>
> We estimate that the utility's capital expenditure will average about $350 million per year through 2026. In addition, we expect its funds from operations (FFO) to debt will be in the 16%-18% range through 2026, which reflects the company's issuance of securitization bonds in January 2024 to recover extraordinary costs related to the extreme winter weather events in 2021 and the retirement of its Asbury coal-fired plant. We assess EDE's financial risk profile using our medial volatility financial benchmarks, which reflects its lower-risk, regulated utility operations and effective management of regulatory risk. These benchmarks are more relaxed than those we use for typical corporate issuers.
>
> *Our strong assessment of EDE's business risk profile is underpinned by its lower risk regulated utility operations amid a generally constructive regulatory environment.*
>
> Our assessment of the utility's business risk profile reflects its historically effective management of its regulatory risk, as well as the supportive regulatory framework in Missouri. Missouri's regulatory construct offers constructive trackers and riders, including fuel-adjustment clauses and the ability to recover costs related to complying with the state's renewable energy standard. Legislation enacted in 2018 and reenacted in 2022 allows

[12] S&P Capital IQ, accessed on May 16, 2025.

> electric utilities to defer and recover a portion of their deprecation expenses on certain investments placed between rate cases through 2033. Missouri also has securitization laws that enable utilities to securitize their energy transition and qualified extraordinary costs.
>
> However, Missouri can be somewhat challenging due to its use of historical test years in the rate-making process. This contributes to regulatory lag, which negatively affects EDE's ability to earn its authorized return. Our assessment of the utility's business risk profile is constrained by the small scale of its operations, given that it serves only about 226,000 customers (about 183,000 electric and 43,000 gas) in rural areas, which makes it susceptible to the conditions in its local economy. We also believe EDE has limited growth opportunities, though this is partially offset by its largely residential customer base.[13]

Empire's financial outlook is strong, with expected funds from operations to debt in the 16%-18% range through 2026, bolstered by effective regulatory risk management and securitization bonds issued in 2024. Missouri's constructive regulatory framework, including fuel-adjustment clauses and cost-recovery mechanisms, supports Empire's ability to navigate challenges like regulatory lag. The stable outlook from S&P Global Ratings, aligned with its parent Algonquin Power & Utilities Corp., underscores confidence in Empire's financial and operational resilience.

E. Development of Proxy Group

Q. Please briefly describe why a proxy group is needed in estimating the cost of equity.

A. There are a few reasons why a proxy group is needed to estimate the cost of equity. As an initial matter, to be consistent with the *Hope* and *Bluefield* standards, as described above, the allowed return should be commensurate with returns on investments in other forms

[13] S&P Capital IQ RatingsDirect, "Full Analysis: Empire District Electric Co.," November 13, 2024.

of comparable risk. A proxy group of similarly situated companies of comparable risk is needed to assess Empire's proposal under this standard.

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

Q. Please describe how you identified a proxy utility group that could be used to estimate Empire's current market cost of equity.

A. I started with the same utility company proxy group relied on by Empire witness Mr. Dane. I then reviewed each company to see if there were any significant factors that would potentially impact the overall risk level. Such factors would include significant merger and/or acquisition activity, credit ratings upgrades/downgrades, or dividend cuts. I also reviewed to make sure they were covered by an analyst in the *Value Line Investment Survey*. Based on my review, I found that Mr. Dane's initial proxy group was sufficient.

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

A. As shown on my Schedule CCW-D2, the proxy group has average credit ratings of BBB+ and Baa2 from S&P and Moody's, respectively. The proxy group's average rating of BBB+ from S&P is one notch higher than Empire's rating of BBB from S&P. The proxy group's average rating of Baa2 from Moody's is one notch lower than Empire's rating of Baa1 from Moody's.

As shown on the same schedule, the proxy group has an average common equity ratio of 38.8% (including short-term debt) and 43.1% (excluding short-term debt) as calculated by

S&P Global Market Intelligence and *Value Line*, respectively. Empire's requested common equity ratio of 53.10% significantly exceeds the proxy group's equity ratio as described above.

Empire's credit ratings are comparable to the proxy group, while its requested equity ratio of 53.10% exceeds the proxy group's equity ratio.

F. DCF Model

Q. Please describe the DCF model.

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

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

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

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

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

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

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

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

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

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

A. I relied on the average of the weekly high and low stock prices of the utilities in the proxy group over a 13-week period ending on May 16, 2025. An average stock price is less susceptible to market price variations than a price at a single point in time. Therefore, an average stock price is less susceptible to aberrant market price movements, which may not reflect the stock's long-term value.

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

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

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

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

As predictors of future returns, securities analysts' growth estimates have been shown to be more accurate than growth rates derived from historical data.[15] That is, assuming the market generally makes rational investment decisions, analysts' growth projections are more

[14] The *Value Line Investment Survey*, March 7, April 18, and May 9, 2025.
[15] *See*, e.g., David Gordon, Myron Gordon, and Lawrence Gould, Choice Among Methods of Estimating Share Yield, The Journal of Portfolio Management, Spring 1989.

likely to influence investors' decisions, which are captured in observable stock prices, than growth rates derived only from historical data.

For my constant growth DCF analysis, I have relied on a consensus, or mean, of professional securities analysts' earnings growth estimates as a proxy for investors' dividend growth rate expectations. I used the average of analysts' growth rate estimates from three sources: Zacks, S&P Capital IQ Market Intelligence ("MI"), and Institutional Brokers' Estimate System ("I/B/E/S") from LSEG Workspace. All such projections were available on May 16, 2025, and all were reported online.[16]

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

The growth rates I used in my DCF analysis are shown in Schedule CCW-D3. The average growth rate for my proxy group is 6.74% and a median growth rate of 6.79%.

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

A. As shown in Schedule CCW-D4, page 1, the average and median constant growth DCF returns for my proxy group for the 13-week analysis are 10.63% and 10.32%, respectively.

[16] www.zacks.com; LSEG Workspace; https://www.capitaliq.spglobal.com/.

Q. Are there limitations of the constant growth DCF analysis?

A. Yes. The constant growth DCF analysis for my proxy group is based on a group average long-term growth rate of 6.74%. The three- to five-year growth rates are approximately 63% higher than the long-term projected GDP growth rate of 4.14%, described below. As I explain in detail below, a utility's growth rate cannot exceed the growth rate of the economy in which it provides services in perpetuity, which is the time period assumed by the DCF model.

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

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

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

G. Sustainable Growth DCF

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

A. The sustainable growth rate, also referred to as the internal growth rate, is determined by the proportion of the utility's earnings that is retained and reinvested in its plant

and equipment. These reinvested earnings enhance the earnings base, also known as the rate base. The earnings grow as the plant, funded by the reinvested earnings, is put into operation, allowing the utility to receive its authorized return on the additional rate base investment.

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

The payout ratios of the proxy group are shown in my Schedule CCW-D5. These dividend-payout ratios and earnings-retention ratios then can be used to develop a long-term growth rate driven by earnings retention.

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

As shown in Schedule CCW-D6, the average and median sustainable growth rates for the proxy group using this internal growth rate model are 5.46% and 5.71%, respectively.

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

A. A DCF estimate based on these sustainable growth rates is developed in Schedule CCW-D7. As shown there, and using the same formula in Equation 2 above, a sustainable growth DCF analysis produces proxy group average and median DCF results for the 13-week period of 9.30% and 9.13%, respectively.

H. Multi-Stage Growth DCF Model

Q. Have you conducted any other DCF studies?

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

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

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

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

trends, and determining whether the three-to-five-year growth outlook is feasible and sustainable.

Q. Please describe your multi-stage DCF model.

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

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

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

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

the U.S. GDP nominal growth rate is a conservative proxy for the highest sustainable long-term growth rate of a utility.

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

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

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

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

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

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

expected real growth. By analyzing these components separately, it is easier to see the factors that drive growth.[18]

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

A. I relied on the consensus of long-term GDP growth projections by independent economists. Blue Chip Economic Indicators publishes the consensus for GDP growth projections twice a year. These projections reflect current outlooks for GDP and are likely to be influential on investors' expectations of future growth outlooks. The consensus of projected GDP growth is about 4.14% over the next 10 years.[19]

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

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

continued on next page

[18] Morningstar, Inc., Ibbotson SBBI 2013 Valuation Yearbook at 51 and 52.
[19] Blue Chip Economic Indicators, March 10, 2025, at page 14.

TABLE CCW-7

GDP Forecasts

Source	Projected Period	Real GDP	Inflation	Nominal GDP
Blue Chip Economic Indicators [1]	5-10 Yrs	1.9%	2.2%	4.1%
EIA - Annual Energy Outlook[2]	26 Yrs	1.8%	2.1%	3.9%
Congressional Budget Office[3]	30 Yrs	1.6%	2.0%	3.7%
Moody's Analytics[4]	31 Yrs	2.0%	2.1%	4.1%
Social Security Administration[5]	76 Yrs	1.6%	2.4%	4.0%
Economist Intelligence Unit[6]	31 Yrs	1.6%	2.3%	3.9%

Sources:

[1]Blue Chip Economic Indicators, March 10, 2025 at 14.

[2]U.S. EnergyInformation Administration (EIA), Annual Energy Outlook 2025, April 15, 2025.

[3]Congressional Budget Office, Long-Term Budget Outlook, March 27, 2025.

[4]Moody's Analytics Forecast, last updated January 13, 2025.

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

[6]S&P MI, Economist Intelligence Unit, downloaded on March 4, 2025.

As shown in the table above, the real GDP and the inflation fall in the range of 1.6% to 2.0% and 2.0% to 2.4%, respectively. This results in a nominal GDP in the range of 3.9% to 4.1%. Therefore, the nominal GDP growth projections made by these independent sources support my use of 4.14% as a reasonable estimate of market participants' expectations for long-term GDP growth. The real GDP and nominal GDP growth projections made by these independent sources support my use of 4.14% as a reasonable estimate of market participants' expectations for long-term GDP growth.

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

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

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

A. As shown in Schedule CCW-D8, the average and median DCF ROEs for my proxy group using the 13-week average stock price are 8.59% and 8.38%, respectively.

Q. Please summarize the results from your DCF analyses.

A. The DCF results are summarized in Table CCW-8. As described above, the results of the constant growth DCF using analysts' growth rates assume an average long-term growth rate of 6.74%, which is approximately 63% higher than the long-term projected GDP growth rate of 4.14%. This is an unsustainable assumption, and likely leads to an overstatement in the cost of equity for a low risk regulated utility. As such, it is my opinion that primary weight should be given to the sustainable growth and multi-stage models of the DCF while minimal weight should be given to the constant growth DCF model based on three-to-five year analyst growth rates.

Table CCW-8

Summary of DCF Results

Description	Proxy Group Mean	Proxy Group Median
Constant Growth DCF Model (Analysts' Growth)	10.63%	10.32%
Constant Growth DCF Model (Sustainable Growth)	9.30%	9.13%
Multi-Stage DCF Model	8.59%	8.38%

I. Risk Premium Model

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

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

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

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

The second equity risk premium estimate is based on the difference between regulatory commission-authorized ROEs and contemporary "A" rated utility bond yields by Moody's. I selected the period beginning in 1986 because public utility stocks consistently traded at a premium to book value during that period. This is illustrated in Schedule CCW-D9, which shows the market-to-book ratio since 1986 for the utility industry was consistently above a multiple of 1.0x. Over this period, an analyst can infer that authorized ROEs were sufficient to support market prices that at least exceeded book value. This is an indication that commission-authorized ROEs supported a utility's ability to issue additional common stock without diluting existing shares. It further demonstrates that utilities were able to access equity markets without a detrimental impact on current shareholders.

Based on this analysis, as shown in Schedule CCW-D10, the average indicated equity risk premium over U.S. Treasury bond yields has been 5.69%. Since the risk premium can vary depending upon market conditions and changing investor risk perceptions, I believe using an estimated range of risk premiums provides the best method to measure the current ROE for a risk premium methodology.

In addition, I assessed the five-year and ten-year rolling average risk premiums over the study period to gauge the variability over time. These rolling average risk premiums mitigate the impact of anomalous market conditions and skewed risk premiums over an entire business cycle. As shown on my Schedule CCW-D10, the five-year rolling average risk premium over Treasury bonds ranged from 4.25% to 7.09%, while the ten-year rolling average risk premium ranged from 4.38% to 6.91%.

As shown on my Schedule CCW-D11, the average indicated equity risk premium over contemporary "A" rated Moody's utility bond yields was 4.34%. The five-year and ten-year rolling average risk premiums ranged from 2.88% to 5.91% and 3.20% to 5.74%, respectively.

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

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

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

A. The equity risk premium should reflect the market's perception of risk in the utility industry today. I have gauged investor perceptions in utility risk today in Schedule CCW-D12, where I show the yield-spread between utility bonds and Treasury bonds since 1980. As shown in this schedule, the average utility bond yield-spreads over Treasury bonds for "A" and "Baa" rated utility bonds for this historical period are 1.47% and 1.88%, respectively.

A current three-month average "A" rated utility bond yield of 5.79% when compared to the current Treasury bond yield of 4.66%, as shown in Schedule CCW-D13, page 1, implies a

yield-spread of 1.13%. This current utility bond yield-spread is lower than the long-term average-spread for "A" rated utility bonds of 1.47%. The three-month average yield on "Baa" rated utility bonds is 5.97%. This indicates a current spread for the "Baa" rated utility bond yield of 1.31%, which is lower than the long-term average of 1.88%.

Q. What does the current trend in utility bond spreads relative to treasury bonds indicate about the market's perception of utility risk?

A. The decline in the yield spread of utility bonds over Treasury bonds, to levels below historical averages, indicates that the market currently views utilities as relatively low-risk investments. Investors are demanding less additional yield to hold utility bonds, reflecting strong confidence in utilities' financial stability and creditworthiness under current market conditions.

Q. How is the decline in utility bond spreads relevant to establishing a fair ROE for utilities?

A. The narrowing of utility bond spreads demonstrates that investors require less compensation for utility credit risk today than they have historically. Because the cost of equity must reflect prevailing market conditions, lower perceived risk implies a lower investor-required ROE. A high ROE would overcompensate utilities and burden customers unnecessarily, given that the market clearly prices utilities as safer investments than in the past. This information supports a below-average equity risk premium.

Q. Why should regulators consider utility bond spreads when setting an authorized ROE?

A. Bond spreads provide an objective, real-time market measure of risk that regulators should consider when setting the allowed ROE. If the bond market, which represents

large, sophisticated investors, views utilities as low-risk, it follows that equity investors also perceive lower risk and require a correspondingly lower return. Ignoring this evidence could result in rates that are not just and reasonable for customers.

Q. What are the results based on your risk premium analyses?

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

Considering the current and projected economic environment, current yield-spreads and equity risk premiums, as well as current levels of interest rates and interest rate projections, I believe an equity risk premium between the average and most recent two-year average equity risk premiums are warranted. As such, I believe an equity risk premium over Treasury yields in the range of 5.47% and 5.69% is appropriate. The midpoint of this risk premium range is 5.58%. Adding this risk premium to the most recent consensus projected Treasury yield of 4.40% produces a ROE of 9.98%.

Applying a similar methodology as described above, the most recent two-year average equity risk premium over A-rated utility bonds is 4.18%, while the long-term average risk premium is 4.34%. The midpoint of this risk premium range is 4.26%. The A-rated utility bond yield has averaged 5.79% over the three-month period through April 2025 while the Baa-rated utility bond yield has averaged 5.97% over the same period. Adding the indicated equity risk premium of 4.26% to the three-month average A-rated utility bond yield of 5.79% produces an estimated cost of equity of 10.05%. Adding the same equity risk premium to the three-month average Baa-rated utility bond yield of 5.97% produces an estimated cost of equity of 10.23%.

The A-rated utility bond yield has averaged 5.73% over the six-month period ending April 2025 while the Baa-rated utility bond yield has averaged 5.92% over the same period. Adding the indicated equity risk premium of 4.34% to the six-month average A-rated utility bond yield of 5.73% produces an estimated cost of equity of 9.99%. Adding the same equity risk premium to the six-month average Baa-rated utility bond yield of 5.92% produces an estimated cost of equity of 10.17%.

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

Table CCW-9

Summary of Risk Premium Results

Description	Results
Projected Treasury Yield	9.98%
3-Month Average Yields	
A-Rated Utility Bond	10.05%
Baa-Rated Utility Bond	10.23%
6-Month Average Yields	
A-Rated Utility Bond	9.99%
Baa-Rated Utility Bond	10.17%

J. Capital Asset Pricing Model

Q. Please describe the CAPM.

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

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

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

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

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

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

Q. Please describe the inputs to your CAPM.

A. The CAPM requires an estimate of the market risk-free rate, the stock's beta, and the Market Risk Premium ("MRP"). The MRP is the difference between the expected market return and the risk-free rate.

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

A. As previously noted, *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield is 4.40%.[20] The current 30-year Treasury bond yield is 4.66%, as shown in Schedule

[20] *Blue Chip Financial Forecast* May 1, 2025.

CCW-D13 at page 1. I used *Blue Chip Financial Forecasts*' projected 30-year Treasury bond yield of 4.40% for my CAPM analysis.

Q. What beta did you use in your analysis?

A. As shown in Schedule CCW-D14, the current proxy group average and median *Value Line* beta estimates are 0.85 and 0.85, respectively. In my experience, these beta estimates are abnormally high and are unlikely to be sustained over the long-term. As such, I have also reviewed the historical average of the proxy group's *Value Line* betas. The historical average *Value Line* beta since 2014 is 0.79 and has ranged from 0.55 to 0.96. Prior to the recent pandemic, the high end of this range was 0.73.

In addition to *Value Line*, I have also included adjusted beta estimates as provided by Market Intelligence's Beta Generator Model. This model relied on a five-year period on a weekly basis ending May 16, 2025. The average and median Market Intelligence betas are 0.46 and 0.46, respectively. Market Intelligence betas, as calculated using its Beta Generator Model, are adjusted using the Vasicek method and calculated using the S&P 500 as the proxy for the investable market. This is in stark contrast with the *Value Line* beta estimates that are adjusted using a constant weighting of 67%/35% to the raw beta/market beta and use the New York Stock Exchange ("NYSE") as the proxy for the investable market. Because I rely on the S&P 500 to estimate the expected return on the investable market, it makes sense to rely on beta estimates that are calculated using the S&P 500 as the benchmark for the market. Further, as S&P explains:

> The Vasicek Method is a superior alternative to the Bloomberg Beta adjustment. The Bloomberg adjustment is not appropriate for a vast number of situations, as it assigns constant weighting regardless of the standard error in the raw beta estimation (Bloomberg Beta = 1/3*market beta + 2/3*Raw Beta). Given the statistical fact that a larger sample size yields a smaller error, the Vasicek method more appropriately adjusts the raw beta via

> weights determined by the variance of the individual security versus the variance of a larger sample of comparable companies. The weights are designed to bring the raw beta closer to whichever beta estimation has the smallest error. This is a feature the Bloomberg beta cannot replicate.[21]

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

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

Q. Is there an explanation for why the Vasicek-adjusted betas from S&P are significantly lower than the *Value Line* betas in your analysis?

A. The Vasicek-adjusted betas, which average 0.46 for the proxy group, are significantly lower than the *Value Line* betas, which average 0.85, due to differences in how each method corrects for estimation error. The Vasicek method adjusts each company's raw beta toward a lower industry-specific mean when the underlying data is less reliable. This is

[21] S&P Market Intelligence, Beta Generator Model.

[22] The 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).

especially relevant for utilities, which typically have stable earnings, limited volatility, and weaker correlations with overall market returns. As a result, the Vasicek method often pulls utility betas closer to a range of 0.4 to 0.6. In contrast, *Value Line's* method adjusts toward the broader market average of 1.0, which inflates the final estimate relative to Vasicek. In the current environment, utility stocks have exhibited particularly low volatility and reduced market sensitivity, making the Vasicek adjustment more pronounced. Both approaches use five years of weekly returns, but they differ in how they respond to the statistical quality of the input data. The lower Vasicek betas reflect utilities' defensive and low-risk investment profile more conservatively.

Q. You mention that the current 5-year *Value Line* beta estimates might not be reflective of investor expectations, and potentially overstate the cost of equity. Do you have evidence to support that hypothesis?

A. Yes. As mentioned above, *Value Line's* beta estimates calculated over a 5-year historical price period will include the unprecedented volatility and market prices caused by the onset of the COVID-19 pandemic in early 2020. It is unreasonable to assume that those prices and resulting volatility resemble investor expectations going forward. Prior to the market fallout from the pandemic, utility beta estimates were at several year lows. Subsequent to the period of peak volatility from the pandemic, utility betas have actually declined back toward their normalized levels. This is demonstrated in Table CCW-10. In this table, I present the raw unadjusted beta estimates for *Value Line's* reported 5-year period as well as a 3-year period ending May 16, 2025. I then apply the Blume adjustment using the same weighting applied by *Value Line*.[23]

[23] The *Value Line* method to calculate adjusted betas is as follows: $B_{adjusted} = 0.35 + 0.67 \times B_{unadjusted}$.

Table CCW-10

Beta Comparison

Proxy Group	5-Year Value Line Beta[1]		3-Year Beta[3]	
	Unadjusted[2]	Reported	Unadjusted	Adjusted[4]
Alliant Energy Corporation	0.90	0.95	0.63	0.77
Ameren Corporation	0.82	0.90	0.54	0.71
American Electric Power Company, Inc.	0.75	0.85	0.43	0.64
Duke Energy Corporation	0.52	0.70	0.40	0.62
Edison International	0.82	0.90	0.76	0.86
Entergy Corporation	0.97	1.00	0.62	0.76
Evergy, Inc.	0.90	0.95	0.54	0.71
IDACORP, Inc.	0.60	0.75	0.45	0.65
NextEra Energy, Inc.	0.82	0.90	0.69	0.81
NorthWestern Corporation	0.67	0.80	0.50	0.68
OGE Energy Corp.	1.04	1.05	0.67	0.80
Pinnacle West Capital Corporation	0.67	0.80	0.55	0.72
Portland General Electric Company	0.67	0.80	0.54	0.71
PPL Corporation	0.82	0.90	0.60	0.75
Southern Company	0.60	0.75	0.40	0.61
TXNM Energy	0.52	0.70	0.42	0.63
Xcel Energy Inc.	0.60	0.75	0.48	0.67
Average	0.75	0.85	0.54	0.71
Median	0.75	0.85	0.54	0.71

Source:
[1]*The Value Line Investment Survey*, March 7, April 18, and May 9, 2025.
[2]Estimated the unadjusted beta by removing Value Line's Blume adjustment methodology: (Unadjusted Beta - 0.35) / 0.67.
[3]S&P Global Market Intelligence, betas for the period 5/16/2022 - 5/16/2025.
[4]Adjusted using Value Line's Blume adjustment methodology: 0.35+(0.67 x Unadjusted Beta).

This data clearly demonstrates that systematic market risk has subsided for regulated utilities after controlling for the impacts of the global pandemic with average and median beta estimates of 0.71 and 0.71, respectively.

Q. How did you derive your MRP estimates?

A. My MRP estimates are derived using two general approaches: a risk premium approach and a DCF approach. I also consider the normalized MRP of 5.50% with the

normalized risk-free rate of 4.72% as recommended by Kroll, formerly known as Duff & Phelps.[24] Based on this methodology and utilizing a "normalized" risk-free rate of 4.72%, Kroll concludes that the current expected, or forward-looking, MRP is 5.50%, implying an expected return on the market of 10.22%.[25]

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

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

Morningstar Direct calculates the historical arithmetic-average real-market return over the period 1926 to 2023 to be 9.02%.[26] A current consensus for projected inflation is 2.40%.[27] Using these estimates, the expected market return is 11.64%.[28] The MRP then is the difference between the 11.64% expected market return and the projected risk-free rate of 4.40%, or 7.20%.

Q. Please describe your MRP estimates derived using the DCF methodology.

A. I employed two versions of the constant growth DCF model to develop estimates of the MRP. I first employed the Federal Energy Regulatory Commission's ("FERC") method

[24] Kroll, and its predecessor Duff & Phelps, is a provider of economic, financial, and valuation data that is often relied on by finance professionals and cited in ROR testimony.
[25] Kroll, *Kroll Recommended U.S. Equity Risk Premium and Corresponding Risk-Free Rates to be Used in Computing Cost of Capital: January 2008 - Present* (Apr. 15, 2025). The current 20-year yield of 4.72% 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., 4.72%.
[26] Morningstar Direct, data through 2023.
[27] Blue Chip Financial Forecast May 1, 2025.
[28] [(1 + 9.02%) ∗ (1 + 2.40%) - 1] ∗ 100.

of estimating the expected return on the market that was established in its Opinion No. 569-A. FERC's method for estimating the expected return on the market is to perform a constant growth DCF analysis on each of the dividend-paying companies of the S&P 500 index. The growth rate component is based on the average of the growth projections excluding companies with growth rates that were negative or greater than 20%.[29] The weighted average growth rate for the remaining companies is 10.30%. After reflecting the FERC prescribed method of adjusting the dividend yield by (1 + 0.5g), the weighted average expected dividend yield is 1.79%. Thus, the DCF-derived expected return on the market is the sum of those two components, or 12.09%. The MRP then is the expected market return of 12.09%, less the projected risk-free rate of 4.40%, or approximately 7.70%.

My second DCF-based MRP estimate was derived by performing the same DCF analysis described above, except I used all companies in the S&P 500 index rather than just the dividend-paying companies. The weighted average growth rate for these companies is 11.00%. After reflecting the FERC-prescribed method of adjusting the dividend yield by (1 + 0.5g), the weighted average expected dividend yield is 1.58%. Thus, the DCF-derived expected return on the market is the sum of those two components, or 12.58%. The MRP then is the expected market return of 12.58% less the projected risk-free rate of 4.40%, or approximately 8.20%.

The average expected market return based on the DCF model is 12.34% and the average MRP based on the two DCF estimates is 7.95%.

[29] Opinion No. 569-A, at 210.

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

A. As shown in Table CCW-11, my average expected market return of 11.40%[30] exceeds long-term market expectations of several financial institutions.

TABLE CCW-11

Long-Term Expected Return on the Market

Source	Term	Expected Return Large Cap Equities
BlackRock Capital Management[1]	10 Years	6.70%
JP Morgan Chase[2]	10 - 15 Years	6.70%
Vanguard[3]	10 Years	2.8% - 4.8%
Research Affiliates[4]	10 Years	3.92%
Invesco[5]	10 Years	5.0% - 6.3%
Goldman Sachs[6]	10 Years	3.00%
Fidelity[7]	20 Years	5.70%
Schwab[8]	10 Years	6.00%

Sources:
[1]BlackRock Investment Institute, Capital market assumptions, May 22, 2025.
[2]JP Morgan Chase, Long-Term Capital Market Assumptions, 2025 Report.
[3]Vanguard economic and market outlook for 2025: Beyond the Landing.
[4]Research Affiliates, Asset Allocation Interactive. Retrieved 4/30/2025.
[5]2025 Invesco Capital Market Update.
[6]Goldman Sachs, Updating our long-term return forecast for US equities to incorporate the current high level of market concentration, October 18, 2024.
[7]Fidelity, Capital market assumptions
[8]Schwab's 2025 Long-Term Capital Market Expectations, January 3, 2025

When compared to the expected market returns of financial institutions above, my average expected market return of 11.40% is greater than all of them. For these reasons, my expected market returns, and the associated MRPs, should be considered reasonable, if not high-end estimates.

[30] 11.40% = (10.22% + 12.34% + 11.64%) / 3.

Q. How do your estimated MRPs compare to that estimated by Kroll?

A. On its Cost of Capital portal, Kroll's MRP falls somewhere in the range of 5.50% to 7.17%. My MRP estimates are in the range of 5.50% to 7.95%.

Q. How does Kroll measure a MRP?

A. Kroll's range is based on several methodologies. First, Kroll estimated a MRP of 7.17% based on the difference between the total market return on common stocks (S&P 500) less the income return on 20-year Treasury bond investments over the 1926-2023 period.[31]

Second, Kroll used the Ibbotson & Chen supply-side model which produced a MRP estimate of 6.22%.[32] Kroll explains that the historical MRP based on the S&P 500 was influenced by an abnormal expansion of P/E ratios relative to earnings and dividend growth. To control for the volatility of extraordinary events and their impacts on P/E ratios, Kroll takes into consideration the three-year average P/E ratio as the current P/E ratio. Therefore, Kroll adjusted this MRP estimate to normalize the growth in the P/E ratio to be more in line with the growth in dividends and earnings.

Finally, Kroll developed its own recommended equity risk premium, or MRP, by employing an analysis that takes into consideration a wide range of economic information, multiple risk premium estimation methodologies, and the current state of the economy by observing measures such as the level of stock indices and corporate spreads as indicators of perceived risk. Based on this methodology, and utilizing a "normalized" risk-free rate of

[31] Kroll Cost of Capital Navigator.
[32] *Id.*

4.72%, Kroll concludes that the current expected, or forward-looking, MRP is 5.50%, implying an expected return on the market of 10.22%.[33]

Q. What are the results of your CAPM analysis?

A. As shown in Schedule CCW-D15, I have provided the results of twelve different applications of the CAPM. The first three results presented are based on the proxy group's current average *Value Line* beta of 0.85. The results of the CAPM based on these inputs range from 9.39% to 11.16%.

The next set of three results presented are based on the proxy group's historical *Value Line* beta of 0.79. The results of the CAPM based on these inputs range from 9.05% to 10.67%.

The third set of results presented are based on the proxy group's current *S&P Global Market Intelligence* beta of 0.46. The results of the CAPM based on these inputs range from 7.27% to 8.10%.

The final set of results presented are based on the proxy group's three-year beta estimate of 0.71. The results of the CAPM based on these inputs range from 8.64% to 10.07%.

My CAPM results are summarized in Table CCW-12.

continued on next page

[33] Kroll, *Kroll Increases U.S. Normalized Risk-Free Rate from 3.0% to 3.5%, but Spot 20-Year U.S. Treasury Yield Preferred When Higher* (Jun. 16, 2022).

Table CCW-12

CAPM Results Summary

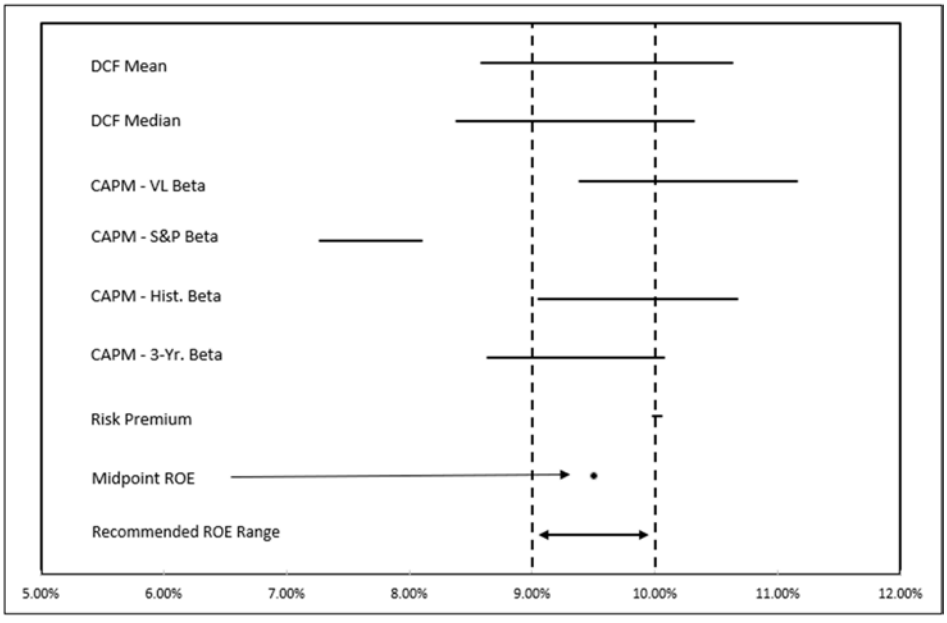
Description	Current VL Beta	Historical VL Beta	Current S&P Beta	3-Year Beta
Kroll Method	9.39%	9.05%	7.27%	8.64%
RP Method	10.52%	10.08%	7.75%	9.54%
FERC DCF Method	11.16%	10.67%	8.10%	10.07%
Average	**10.36%**	**9.93%**	**7.71%**	**9.42%**

K. Return on Equity Summary

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

A. The results of my analyses are summarized in Figure CCW-5. In this figure, I present the various measures of central tendency (i.e., the mean and median results) for each of my analytical models.

Figure CCW-5



Based on my analyses of the various methodologies described above, I estimate Empire's current market ROE to be in the reasonable range of 9.00% to 10.00%. My recommended range accounts for the unsustainable growth rates assumed in the constant growth DCF model and the irrational assumption that *Value Line*'s current beta estimates are reflective of current investor expectations. As described above, the results of the constant growth DCF using analysts' growth rates assume an average long-term growth rate of 6.74%, which is approximately 63% higher than the long-term projected GDP growth rate of 4.14%. This is an unsustainable assumption, and likely leads to an overstatement in the cost of equity for a low risk regulated utility. As such, it is my opinion that more weight should be given to the sustainable growth and multi-stage models of the DCF. Based on my assessment of Empire's overall risk profile and the results of these analytical methods, I would recommend that this Commission authorize Empire a ROE of 9.50%, which is the midpoint of the range produced by these models. In acknowledgment of Empire's significantly higher equity ratio relative to the proxy group, a more reasonable range applicable to Empire would be the lower-half of my overall recommended range. As such, should the Commission authorize Empire its requested equity ratio of 53.10%, an ROE in the lower half of my range (i.e., 9.00% to 9.50%) would be warranted.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Request of The Empire District Electric Company d/b/a Liberty for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in its Missouri Service Area	)))))	Case No. ER-2024-0261

AFFIDAVIT OF CHRISTOPHER C. WALTERS

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

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

Further the Affiant sayeth not.

CHRISTOPHER C. WALTERS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for St. Louis County, State of Missouri, at my office in Chesterfield, on this 2nd day of July, 2025.

ADRIENNE J. FOLLETT
Notary Public - Notary Seal
STATE OF MISSOURI
Jefferson County
My Commission Expires: Mar. 22, 2029
Commission # 21989987

Notary Public

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Line	Company	Price to Earnings (P/E) Ratio [1] 23-Year Average	2024 [2]	2023	2022	2021	2020	3-Year Averages 2017-2019	2014-2016	2011-2013	2008-2010	2005-2007	2002-2004
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	ALLETE	18.24	18.80	16.80	18.10	20.60	18.30	23.30	16.97	16.40	15.33	16.42	25.21
2	Alliant Energy	17.11	20.10	16.40	21.40	21.20	21.20	20.30	19.00	14.77	13.27	14.84	15.54
3	Ameren Corp.	16.89	20.30	15.50	21.50	21.40	22.20	20.33	17.50	13.93	11.07	17.83	15.19
4	American Electric Power	15.35	18.40	15.90	21.10	17.10	19.60	19.57	15.63	13.40	12.17	14.30	11.92
5	Avangrid, Inc.	23.69	N/A	16.30	19.60	23.20	23.60	25.50	27.00	N/A	N/A	N/A	N/A
6	Avista Corp.	18.23	16.20	14.60	20.00	20.20	21.20	20.97	17.90	16.00	13.03	21.91	19.18
7	Black Hills	17.45	13.90	14.20	18.10	17.70	17.00	19.17	19.13	22.13	14.00	16.01	15.20
8	CenterPoint Energy	17.00	19.80	20.40	18.70	26.10	15.90	24.80	19.00	16.03	12.30	14.77	9.83
9	CMS Energy Corp.	18.44	20.50	18.60	22.90	23.60	23.30	21.97	18.83	15.00	12.33	20.53	12.39
10	Consol. Edison	16.27	19.70	17.70	20.30	17.20	19.00	18.87	16.77	15.07	12.70	14.80	15.26
11	Dominion Resources	18.23	15.80	18.30	18.70	19.50	22.60	19.30	22.13	18.47	13.60	20.49	14.12
12	DTE Energy	16.81	18.90	16.90	22.40	30.00	16.30	18.63	17.33	15.43	12.50	16.51	13.67
13	Duke Energy	17.29	19.00	16.50	19.60	18.90	17.10	18.20	19.13	16.23	14.43	16.10	N/A
14	Edison Int'l	16.75	9.70	14.30	40.60	29.70	34.90	16.95	15.23	11.40	10.80	13.58	17.45
15	El Paso Electric	17.68	N/A	N/A	N/A	N/A	N/A	24.32	17.79	14.32	11.14	19.63	21.10
16	Entergy Corp.	14.93	25.80	20.60	21.10	15.00	15.30	15.10	12.10	11.17	13.40	16.62	13.46
17	Eversource Energy	18.01	12.40	13.10	20.90	22.20	23.70	20.10	18.23	17.40	13.03	21.84	16.73
18	Evergy, Inc.	19.20	17.30	14.80	19.90	16.20	21.70	22.25	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	14.52	17.50	15.40	19.90	16.60	12.40	13.80	13.70	14.60	13.50	16.70	11.74
20	FirstEnergy Corp.	15.26	16.80	14.40	17.00	14.10	15.70	14.03	12.83	18.87	13.43	15.30	16.52
21	Fortis Inc.	19.24	18.80	17.00	21.10	21.20	20.60	17.70	21.30	19.63	17.37	19.39	N/A
22	Great Plains Energy	15.52	N/A	N/A	N/A	N/A	N/A	N/A	17.94	15.28	16.23	16.20	11.97
23	Hawaiian Elec.	17.36	11.20	6.00	18.50	18.20	21.50	20.30	16.63	16.37	20.53	19.30	15.47
24	Hydro One Limited[3]	18.66	25.20	20.50	19.60	18.70	9.20	19.25	18.10	N/A	N/A	N/A	N/A
25	IDACORP, Inc.	17.25	19.60	18.10	21.00	20.80	19.90	21.13	16.67	12.43	11.97	16.66	20.29
26	MGE Energy	20.35	26.00	21.10	24.70	25.50	26.40	27.63	20.80	16.67	14.77	17.76	17.16
27	NextEra Energy, Inc.	18.72	17.90	19.80	27.80	31.30	28.90	24.40	18.30	14.17	12.90	16.81	15.05
28	NorthWestern Corp	16.88	16.00	13.70	17.30	17.40	18.60	18.17	17.27	15.07	12.77	21.58	N/A
29	OGE Energy	15.49	17.70	17.00	17.20	14.30	16.20	17.93	17.90	15.77	12.17	14.14	13.36
30	Otter Tail Corp.	20.31	12.90	14.30	9.50	12.30	18.30	22.60	19.07	30.10	30.65	17.25	17.04
31	Pinnacle West Capital	16.01	18.70	15.80	17.10	14.10	16.70	18.83	16.87	14.73	14.13	15.94	14.73
32	TXNM Energy	18.26	17.80	14.20	17.40	19.90	19.60	20.67	19.93	15.20	16.05	22.85	14.94
33	Portland General	16.56	13.70	14.30	18.20	17.70	16.60	20.23	17.37	14.43	14.23	17.63	N/A
34	PPL Corp.	16.39	19.70	16.20	20.00	54.10	13.90	14.07	13.60	11.40	18.40	15.51	11.39
35	Public Serv. Enterprise	14.76	20.20	18.80	18.50	16.80	15.70	16.97	14.00	12.23	11.33	17.02	11.61
36	SCANA Corp.	13.96	N/A	N/A	N/A	N/A	N/A	14.46	15.05	14.30	12.41	14.94	12.93
37	Sempra Energy	15.43	13.00	15.00	16.80	15.40	17.50	22.40	22.00	15.47	11.50	12.43	8.60
38	Southern Co.	16.48	21.10	18.60	19.60	18.40	17.90	16.07	16.53	16.33	14.83	16.04	14.72
39	Vectren Corp.	17.05	N/A	N/A	N/A	N/A	N/A	23.54	19.03	17.17	14.93	16.45	15.51
40	WEC Energy Group	17.50	19.00	16.50	21.90	22.30	24.90	21.03	19.63	15.50	14.03	15.64	13.47
41	Westar Energy	15.58	N/A	N/A	N/A	N/A	N/A	23.40	18.47	14.08	14.96	13.69	14.08
42	Xcel Energy Inc.	17.88	18.10	15.30	22.20	22.50	23.90	20.47	16.80	14.67	13.50	15.62	22.02
43	Average	17.06	17.99	16.29	20.28	20.85	19.66	19.97	17.79	15.68	14.15	16.95	15.11
44	Median	16.30	18.55	16.30	19.90	19.50	19.00	20.23	17.90	15.20	13.43	16.45	14.94

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

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

Line	Company	23-Year Average	2024 [2]	2023	2022	2021	2020	3-Year Averages 2017-2019	2014-2016	2011-2013	2008-2010	2005-2007	2002-2004
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	ALLETE	9.12	8.03	6.69	7.56	8.61	8.14	10.83	8.19	8.41	8.61	10.97	11.46
2	Alliant Energy	8.31	9.74	9.43	10.43	10.31	10.66	11.22	9.31	7.41	6.77	7.01	5.16
3	Ameren Corp.	7.42	7.76	8.05	9.54	9.03	9.63	8.59	7.09	5.70	4.94	8.28	7.65
4	American Electric Power	6.77	7.70	7.68	8.67	7.57	8.41	8.72	7.22	5.99	5.32	6.15	5.13
5	Avangrid, Inc.	9.53	N/A	7.12	8.69	11.19	9.39	9.83	9.93	N/A	N/A	N/A	N/A
6	Avista Corp.	6.94	6.34	6.73	9.39	8.03	7.80	8.94	7.23	6.50	4.99	6.49	6.28
7	Black Hills	7.90	7.58	7.76	8.92	8.84	8.56	9.56	8.73	7.30	7.22	7.37	6.50
8	CenterPoint Energy	5.67	7.79	7.75	8.01	7.95	5.94	7.48	5.99	5.70	4.35	4.60	2.83
9	CMS Energy Corp.	6.60	8.53	8.28	9.43	9.27	9.87	9.00	7.72	6.04	3.85	4.67	3.04
10	Consol. Edison	8.24	8.34	8.26	8.70	7.26	8.35	9.28	8.42	8.08	7.00	8.52	8.28
11	Dominion Resources	9.86	9.08	9.24	9.35	11.15	14.59	11.92	11.90	10.08	7.79	8.85	7.24
12	DTE Energy	6.80	7.72	7.27	7.96	10.62	7.85	9.09	7.86	5.92	4.39	5.49	5.61
13	Duke Energy	7.60	7.47	7.17	7.75	7.89	8.06	7.82	8.21	8.07	6.37	7.16	N/A
14	Edison Int'l	6.02	6.04	5.67	6.83	7.14	7.57	9.25	6.12	4.76	4.56	6.16	4.21
15	El Paso Electric	5.93	N/A	N/A	N/A	N/A	N/A	8.99	6.75	5.71	4.41	6.45	4.31
16	Entergy Corp.	5.83	7.85	4.62	7.15	5.61	5.78	5.21	4.11	4.06	6.10	8.38	6.51
17	Eversource Energy	7.60	6.51	10.39	9.39	11.41	12.53	10.33	10.13	8.12	4.57	5.25	3.13
18	Evergy, Inc.	7.45	6.96	6.74	8.66	7.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	6.05	6.06	6.41	7.69	5.08	4.44	4.93	4.86	5.34	6.91	8.82	5.66
20	FirstEnergy Corp.	6.92	7.47	7.90	8.93	6.60	9.23	8.23	5.98	6.97	5.66	7.15	5.72
21	Fortis Inc.	8.45	8.09	8.34	9.10	9.57	9.50	8.56	9.00	8.13	7.25	8.54	N/A
22	Great Plains Energy	6.89	N/A	N/A	N/A	N/A	N/A	14.62	7.25	5.85	5.75	7.17	5.86
23	Hawaiian Elec.	7.70	2.16	5.70	7.95	8.23	8.69	8.95	8.11	7.98	7.95	8.24	6.92
24	Hydro One Limited3	11.65	15.81	14.82	14.51	13.75	7.31	11.10	8.51	N/A	N/A	N/A	N/A
25	IDACORP, Inc.	9.05	10.78	11.04	12.42	11.84	11.38	12.01	9.64	7.16	6.31	7.83	7.31
26	MGE Energy	11.75	13.26	12.31	13.63	N/A	14.90	15.98	13.20	10.48	8.62	10.08	9.78
27	NextEra Energy, Inc.	9.29	11.24	10.89	15.17	20.40	15.48	11.57	8.38	7.05	6.26	7.42	6.15
28	NorthWestern Corp	7.87	7.33	8.01	8.65	8.83	8.88	8.98	8.88	6.78	5.47	8.39	8.13
29	OGE Energy	7.94	8.14	7.78	8.36	7.64	8.38	10.16	9.64	8.25	6.14	7.37	5.91
30	Otter Tail Corp.	9.25	8.91	8.02	7.70	8.61	9.99	11.70	9.29	9.02	9.24	8.79	8.49
31	Pinnacle West Capital	6.20	6.11	6.47	5.19	6.19	7.49	8.04	7.28	6.33	4.56	5.57	5.30
32	TXNM Energy	6.86	6.06	6.87	6.95	7.81	7.87	7.63	7.36	5.74	5.40	8.60	6.03
33	Portland General	6.00	5.90	6.56	6.65	6.48	6.72	7.22	6.45	5.33	4.52	5.54	N/A
34	PPL Corp.	7.93	9.95	7.83	8.82	13.74	7.46	8.37	8.14	6.14	8.48	8.02	5.73
35	Public Serv. Enterprise	8.12	11.78	9.68	10.53	11.32	8.22	8.96	7.24	6.28	6.90	8.95	6.73
36	SCANA Corp.	7.09	N/A	N/A	N/A	N/A	N/A	8.26	8.48	7.21	6.26	6.53	6.60
37	Sempra Energy	8.51	9.76	8.93	9.75	13.23	10.40	10.93	10.55	7.59	6.56	7.60	4.67
38	Southern Co.	8.35	9.59	8.64	9.63	8.72	8.34	7.78	8.49	8.42	7.68	8.50	8.13
39	Vectren Corp.	7.08	N/A	N/A	N/A	N/A	N/A	10.32	8.00	6.14	5.91	6.99	7.28
40	WEC Energy Group	9.25	9.53	10.12	11.81	11.99	13.67	11.58	11.37	9.08	7.53	7.17	5.15
41	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	10.87	9.28	6.87	5.97	6.56	4.57
42	Xcel Energy Inc.	7.06	7.13	7.96	8.62	9.19	10.07	8.61	7.68	6.78	5.80	5.89	5.01
43	Average	7.70	8.29	8.19	9.15	9.40	9.21	9.55	8.24	6.99	6.22	7.37	6.18
44	Median	7.57	7.82	7.90	8.70	8.78	8.48	9.00	8.19	6.87	6.14	7.37	5.97

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

Note:
[a] Based on the average of the high and low price and the projected Cash Flow per share.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

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

Line	Company	20-Year Average	2024 [2]	2023	2022	2021	2020	3-Year Averages 2017-2019	2014-2016	2011-2013	2008-2010	2005-2007
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	ALLETE	1.53	1.19	1.19	1.24	1.43	1.39	1.83	1.44	1.40	1.33	2.07
2	Alliant Energy	1.82	2.03	1.92	2.25	2.26	2.30	2.29	1.96	1.58	1.23	1.51
3	Ameren Corp.	1.61	1.90	2.00	2.15	2.13	2.21	2.04	1.53	1.12	0.95	1.64
4	American Electric Power	1.65	1.78	1.73	1.99	1.87	2.09	1.97	1.64	1.31	1.27	1.66
5	Avangrid, Inc.	0.90	N/A	0.71	0.89	1.01	0.97	0.99	0.78	N/A	N/A	N/A
6	Avista Corp.	1.32	1.11	1.19	1.33	1.42	1.37	1.72	1.42	1.22	1.04	1.24
7	Black Hills	1.49	1.15	1.28	1.54	1.52	1.55	1.87	1.77	1.32	1.04	1.56
8	CenterPoint Energy	2.25	1.78	1.86	1.99	1.74	1.90	2.33	2.48	2.05	2.07	2.98
9	CMS Energy Corp.	2.19	2.38	2.33	2.71	2.69	3.24	3.01	2.47	1.88	1.27	1.52
10	Consol. Edison	1.43	1.53	1.48	1.55	1.34	1.44	1.57	1.45	1.41	1.15	1.49
11	Dominion Resources	2.50	1.71	1.68	2.34	2.37	2.72	2.51	3.35	2.73	2.08	2.42
12	DTE Energy	1.67	2.10	1.97	2.41	2.82	1.80	1.99	1.70	1.35	1.05	1.35
13	Duke Energy	1.30	1.67	1.49	1.63	1.58	1.47	1.40	1.31	1.14	0.99	1.15
14	Edison Int'l	1.72	2.10	1.86	2.08	1.67	1.62	1.98	1.78	1.45	1.22	1.93
15	El Paso Electric	1.56	N/A	N/A	N/A	N/A	N/A	1.91	1.56	1.57	1.16	1.72
16	Entergy Corp.	1.74	1.81	1.45	1.81	1.75	1.93	1.84	1.47	1.29	1.91	2.18
17	Eversource Energy	1.55	1.48	1.71	1.86	2.00	2.11	1.80	1.55	1.39	1.25	1.29
18	Evergy, Inc.	1.41	1.29	1.33	1.52	1.50	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.04	1.39	1.52	1.88	1.37	1.20	1.31	1.21	1.53	3.01	4.09
20	FirstEnergy Corp.	2.05	1.86	2.08	2.37	2.33	2.81	3.20	1.56	1.35	1.81	1.93
21	Fortis Inc.	1.47	1.37	1.43	1.56	1.48	1.47	1.35	1.31	1.55	1.45	1.79
22	Great Plains Energy	1.21	N/A	N/A	N/A	N/A	N/A	1.33	1.13	0.97	0.93	1.77
23	Hawaiian Elec.	1.65	1.50	1.24	1.94	1.81	1.82	1.85	1.61	1.57	1.40	1.78
24	Hydro One Limited3	1.58	2.12	1.89	1.83	1.64	1.44	1.41	1.34	N/A	N/A	N/A
25	IDACORP, Inc.	1.52	1.68	1.75	1.91	1.88	1.84	2.00	1.58	1.23	1.05	1.28
26	MGE Energy	2.17	2.59	2.35	2.47	N/A	2.54	2.78	2.26	1.91	1.60	1.89
27	NextEra Energy, Inc.	2.41	2.87	2.89	4.07	4.27	3.58	2.47	2.18	1.74	1.75	2.02
28	NorthWestern Corp	1.42	1.11	1.18	1.25	1.43	1.45	1.62	1.61	1.44	1.15	1.52
29	OGE Energy	1.81	1.67	1.62	1.74	1.67	1.86	1.88	1.92	2.03	1.53	1.90
30	Otter Tail Corp.	1.94	2.18	2.55	2.30	2.33	2.04	2.48	1.86	1.63	1.36	1.81
31	Pinnacle West Capital	1.42	1.42	1.42	1.31	1.45	1.63	1.85	1.56	1.37	1.03	1.25
32	TXNM Energy	1.37	1.49	1.75	1.81	1.86	1.87	1.98	1.36	0.96	0.64	1.30
33	Portland General	1.36	1.28	1.37	1.58	1.55	1.57	1.70	1.45	1.17	0.97	1.34
34	PPL Corp.	1.97	1.59	1.43	1.44	1.52	1.63	2.02	2.11	1.53	2.30	2.66
35	Public Serv. Enterprise	1.95	2.35	1.92	2.32	2.11	1.70	1.82	1.61	1.50	2.01	2.63
36	SCANA Corp.	1.51	N/A	N/A	N/A	N/A	N/A	1.65	1.56	1.44	1.32	1.66
37	Sempra Energy	1.79	1.74	1.65	1.84	1.64	1.84	2.17	2.12	1.55	1.42	1.77
38	Southern Co.	2.15	2.68	2.34	2.53	2.39	2.20	2.03	2.01	2.06	1.89	2.27
39	Vectren Corp.	1.83	N/A	N/A	N/A	N/A	N/A	2.75	2.16	1.64	1.46	1.77
40	WEC Energy Group	2.07	2.27	2.35	2.57	2.61	2.84	2.27	2.08	2.02	1.54	1.70
41	Westar Energy	1.37	N/A	N/A	N/A	N/A	N/A	1.94	1.63	1.27	1.04	1.35
42	Xcel Energy Inc.	1.73	1.77	2.00	2.22	2.27	2.46	2.12	1.70	1.47	1.27	1.44
43	Average	1.73	1.78	1.73	1.95	1.91	1.94	1.98	1.72	1.52	1.41	1.81
44	Median	1.71	1.73	1.71	1.88	1.74	1.84	1.94	1.61	1.45	1.27	1.72

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

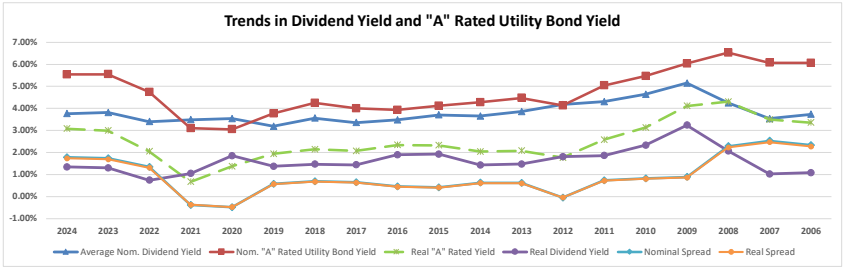
Notes:

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

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Line	Company	Dividend Yield[1] 19-Year Average (1)	2024 [2/a] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)
1	ALLETE	4.05%	4.63%	4.67%	4.47%	3.88%	3.29%	3.50%	4.10%	5.13%	3.71%
2	Alliant Energy	3.60%	3.46%	3.57%	3.04%	2.97%	2.99%	3.29%	3.78%	4.87%	3.52%
3	Ameren Corp.	4.07%	3.29%	3.13%	2.74%	2.74%	2.74%	3.53%	4.53%	5.67%	5.34%
4	American Electric Power	3.97%	3.96%	4.02%	3.41%	3.61%	3.33%	3.58%	4.21%	5.12%	3.89%
5	Avangrid, Inc.	3.89%	N/A	4.87%	3.94%	3.53%	3.57%	4.03%	N/A	N/A	N/A
6	Avista Corp.	3.93%	5.29%	4.85%	4.26%	3.94%	3.48%	3.50%	4.35%	4.60%	2.86%
7	Black Hills	3.77%	4.53%	4.15%	3.44%	3.50%	3.16%	3.05%	3.47%	5.20%	3.80%
8	CenterPoint Energy	4.08%	2.77%	2.71%	2.46%	2.77%	3.82%	4.85%	3.85%	5.31%	4.42%
9	CMS Energy Corp.	3.20%	3.23%	3.37%	2.92%	2.92%	2.77%	3.07%	3.84%	4.07%	1.93%
10	Consol. Edison	4.24%	3.43%	3.57%	3.51%	4.10%	3.66%	3.71%	4.23%	5.20%	5.18%
11	Dominion Resources	4.11%	5.06%	5.18%	3.66%	3.38%	4.60%	3.78%	3.76%	4.58%	3.56%
12	DTE Energy	3.96%	3.55%	3.67%	3.17%	3.06%	3.33%	3.34%	3.86%	5.24%	4.82%
13	Duke Energy	4.56%	3.92%	4.28%	3.98%	4.02%	4.35%	4.25%	4.46%	5.72%	4.80%
14	Edison Int'l	3.41%	4.17%	4.47%	4.45%	4.39%	3.95%	2.84%	2.82%	3.66%	2.49%
15	El Paso Electric	2.74%	N/A	N/A	N/A	N/A	2.55%	2.79%	2.98%	2.11%	N/A
16	Entergy Corp.	4.01%	3.62%	4.36%	3.70%	3.84%	3.83%	4.54%	4.81%	4.34%	2.71%
17	Eversource Energy	3.34%	4.72%	3.89%	3.09%	2.85%	2.92%	3.23%	3.47%	3.67%	3.04%
18	Evergy, Inc.	4.06%	4.58%	4.42%	3.66%	3.59%	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	3.76%	4.08%	3.67%	2.89%	3.17%	3.40%	3.71%	4.70%	4.72%	2.70%
20	FirstEnergy Corp.	4.30%	4.23%	4.24%	3.71%	4.39%	4.28%	4.39%	4.47%	5.36%	3.24%
21	Fortis Inc.	3.73%	4.16%	4.09%	3.82%	3.77%	3.78%	3.75%	3.79%	3.86%	3.19%
22	Great Plains Energy	4.52%	N/A	N/A	N/A	N/A	N/A	3.66%	3.84%	4.55%	6.02%
23	Hawaiian Elec.	4.40%	N/A	4.09%	3.59%	3.44%	3.32%	3.90%	4.73%	5.81%	4.92%
24	Hydro One Limited	2.81%	2.11%	2.34%	2.50%	2.53%	3.22%	2.99%	N/A	N/A	N/A
25	IDACORP, Inc.	3.16%	3.24%	3.18%	2.86%	2.89%	2.67%	2.80%	3.20%	3.66%	3.63%
26	MGE Energy	2.95%	2.06%	2.25%	2.15%	N/A	2.07%	2.32%	2.98%	3.99%	4.21%
27	NextEra Energy, Inc.	2.90%	2.94%	2.80%	2.11%	1.90%	2.40%	2.90%	3.32%	3.93%	N/A
28	NorthWestern Corp	4.18%	5.01%	4.78%	4.51%	4.00%	3.72%	3.52%	3.71%	5.06%	4.37%
29	OGE Energy	3.86%	4.39%	4.63%	4.30%	4.81%	4.06%	3.66%	2.68%	3.90%	4.10%
30	Otter Tail Corp.	3.75%	2.15%	2.33%	2.44%	2.81%	3.04%	3.77%	4.49%	5.54%	3.67%
31	Pinnacle West Capital	4.50%	4.42%	4.51%	4.90%	4.44%	3.60%	3.50%	4.46%	5.67%	5.19%
32	TXNM Energy	3.18%	3.70%	3.27%	3.04%	2.09%	2.68%	2.71%	2.91%	4.01%	3.81%
33	Portland General	3.73%	4.45%	4.20%	3.63%	3.62%	3.19%	3.08%	3.71%	4.98%	3.39%
34	PPL Corp.	4.42%	3.40%	3.53%	3.23%	5.83%	5.56%	4.35%	4.78%	4.91%	3.06%
35	Public Serv. Enterprise	3.71%	3.16%	3.83%	3.37%	3.37%	3.44%	3.78%	4.28%	4.28%	3.15%
36	SCANA Corp.	4.37%	N/A	N/A	N/A	N/A	N/A	3.74%	4.15%	5.13%	4.48%
37	Sempra Energy	3.00%	3.06%	3.27%	2.99%	3.39%	3.11%	2.85%	3.12%	3.32%	2.39%
38	Southern Co.	4.52%	3.57%	4.13%	3.82%	4.17%	4.68%	4.61%	4.53%	5.10%	4.49%
39	Vectren Corp.	4.38%	N/A	N/A	N/A	N/A	N/A	3.23%	4.20%	5.48%	4.61%
40	WEC Energy Group	3.09%	3.75%	3.57%	3.08%	3.00%	2.96%	3.38%	3.38%	3.16%	2.24%
41	Westar Energy	4.37%	N/A	N/A	N/A	N/A	N/A	3.21%	4.24%	5.48%	4.55%
42	Xcel Energy Inc.	3.68%	3.64%	3.28%	2.90%	2.81%	2.86%	3.37%	3.86%	4.63%	4.39%
43	**Average**	**3.82%**	**3.76%**	**3.82%**	**3.40%**	**3.49%**	**3.41%**	**3.51%**	**3.90%**	**4.65%**	**3.83%**
44	Median	3.69%	3.70%	3.89%	3.41%	3.47%	3.33%	3.50%	3.86%	4.87%	3.80%
45	20-Yr Treasury Yields[3]	3.32%	4.50%	4.25%	3.30%	1.98%	2.26%	2.47%	2.91%	3.92%	4.75%
46	20-Yr TIPS[3]	1.12%	2.06%	1.73%	0.64%	-0.43%	0.41%	0.73%	0.61%	1.71%	2.28%
47	Implied Inflation[b]	2.17%	2.39%	2.48%	2.64%	2.42%	1.84%	1.73%	2.29%	2.17%	2.42%
48	**Real Dividend Yield[c]**	**1.61%**	**1.34%**	**1.30%**	**0.74%**	**1.04%**	**1.55%**	**1.75%**	**1.57%**	**2.42%**	**1.38%**
	A-Rated Utility										
49	**Nominal "A" Rated Yield[4]**	**4.74%**	**5.54%**	**5.55%**	**4.74%**	**3.10%**	**3.69%**	**4.01%**	**4.29%**	**5.51%**	**6.22%**
50	**Real "A" Rated Yield**	**2.52%**	**3.08%**	**2.99%**	**2.05%**	**0.67%**	**1.82%**	**2.24%**	**1.96%**	**3.27%**	**3.72%**
	Baa-Rated Utility										
51	**Nominal "Baa" Rated Yield**	**5.24%**	**5.76%**	**5.85%**	**5.05%**	**3.36%**	**4.10%**	**4.69%**	**4.87%**	**6.20%**	**6.63%**
52	**Real "Baa" Rated Yield**	**3.00%**	**3.29%**	**3.29%**	**2.35%**	**0.91%**	**2.22%**	**2.91%**	**2.52%**	**3.94%**	**4.11%**
	Spreads (A-Rated Utility Bond - Stock)										
53	**Nominal Spread[d]**	**0.92%**	**1.78%**	**1.73%**	**1.34%**	**-0.38%**	**0.28%**	**0.50%**	**0.40%**	**0.87%**	**2.39%**
54	**Real Spread[e]**	**0.90%**	**1.73%**	**1.69%**	**1.31%**	**-0.38%**	**0.27%**	**0.49%**	**0.39%**	**0.85%**	**2.33%**
	Spreads (Baa-Rated Utility Bond - Stock)										
55	**Nominal Spread[d]**	**1.41%**	**2.00%**	**2.03%**	**1.65%**	**-0.13%**	**0.69%**	**1.18%**	**0.97%**	**1.55%**	**2.80%**
56	**Real Spread[e]**	**1.38%**	**1.95%**	**1.98%**	**1.61%**	**-0.13%**	**0.67%**	**1.16%**	**0.95%**	**1.51%**	**2.73%**
	Spreads (Treasury Bond - Stock)										
57	**Nominal[f]**	**-0.51%**	**0.74%**	**0.44%**	**-0.10%**	**-1.51%**	**-1.15%**	**-1.04%**	**-0.98%**	**-0.73%**	**0.92%**
58	**Real[g]**	**-0.50%**	**0.72%**	**0.43%**	**-0.10%**	**-1.47%**	**-1.13%**	**-1.02%**	**-0.96%**	**-0.71%**	**0.90%**



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 - 2024 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.
[3] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[4] Mergent Bond Record, through December 31, 2024.
Notes:
[a] Based on the average of the high and low price and the projected Dividends Declared per share, published in the Value Line Investment Survey.
[b] Line 47 = (1 + Line 45) / (1 + Line 46) - 1.
[c] Line 48 = (1 + Line 43) / (1 +Line 47) - 1.
[d] The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 - Line 43).
[e] The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 50 - Line 48)
[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 45 - Line 43).
[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 48 - Line 46)

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Line	Company	Dividend per Share[1] 19-Year Average	2024[2]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	ALLETE	2.09	2.82	2.71	2.60	2.52	2.35	2.08	1.90	1.77	1.60
2	Alliant Energy	1.16	1.92	1.81	1.71	1.61	1.43	1.18	0.95	0.80	0.64
3	Ameren Corp.	1.99	2.68	2.52	2.36	2.20	1.92	1.72	1.60	1.55	2.54
4	American Electric Power	2.30	3.57	3.37	3.17	3.00	2.69	2.27	1.95	1.73	1.57
5	Avangrid, Inc.	1.75	N/A	1.76	1.76	1.76	1.75	1.73	N/A	N/A	N/A
6	Avista Corp.	1.28	1.90	1.84	1.76	1.69	1.55	1.37	1.22	0.97	0.62
7	Black Hills	1.79	2.60	2.50	2.41	2.29	2.05	1.70	1.52	1.44	1.36
8	CenterPoint Energy	0.85	0.81	0.77	0.72	0.66	0.96	1.12	0.86	0.78	0.67
9	CMS Energy Corp.	1.20	2.06	1.95	1.84	1.74	1.53	1.24	1.02	0.67	0.28
10	Consol. Edison	2.70	3.32	3.24	3.16	3.10	2.96	2.68	2.47	2.38	2.32
11	Dominion Resources	2.43	2.67	2.67	2.67	2.52	3.49	2.81	2.25	1.85	1.47
12	DTE Energy	3.00	4.15	3.88	3.54	3.88	3.85	3.09	2.57	2.21	2.11
13	Duke Energy	3.37	4.14	4.06	3.98	3.90	3.74	3.36	3.09	2.90	2.64
14	Edison Int'l	1.93	3.17	2.99	2.84	2.69	2.49	1.98	1.39	1.27	1.17
15	El Paso Electric	1.11	N/A	N/A	N/A	N/A	1.42	1.24	1.04	0.66	N/A
16	Entergy Corp.	1.72	2.30	2.17	2.05	1.93	1.83	1.71	1.66	1.59	1.29
17	Eversource Energy	1.69	2.86	2.70	2.55	2.41	2.14	1.78	1.45	1.03	0.78
18	Evergy, Inc.	2.40	2.60	2.48	2.33	2.18	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.61	1.52	1.44	1.35	1.53	1.45	1.27	1.60	2.10	1.84
20	FirstEnergy Corp.	1.77	1.70	1.60	1.56	1.56	1.64	1.44	1.76	2.20	2.03
21	Fortis Inc.	1.51	2.39	2.29	2.17	2.08	1.86	1.54	1.25	1.11	0.83
22	Great Plains Energy	1.11	N/A	N/A	N/A	N/A	N/A	1.05	0.89	0.83	1.66
23	Hawaiian Elec.	1.25	N/A	1.08	1.40	1.36	1.28	1.24	1.24	1.24	1.24
24	Hydro One Limited	0.77	0.90	0.86	0.86	0.75	0.74	0.69	N/A	N/A	N/A
25	IDACORP, Inc.	2.02	3.35	3.20	3.04	2.88	2.56	2.08	1.57	1.20	1.20
26	MGE Energy	1.21	1.76	1.67	1.59	N/A	1.38	1.21	1.07	0.99	0.94
27	NextEra Energy, Inc.	0.96	2.06	1.87	1.70	1.54	1.25	0.87	0.66	0.51	0.41
28	NorthWestern Corp	1.88	2.60	2.56	2.52	2.48	2.30	2.01	1.53	1.38	1.28
29	OGE Energy	1.13	1.68	1.66	1.64	1.63	1.49	1.16	0.87	0.74	0.68
30	Otter Tail Corp.	1.34	1.87	1.75	1.65	1.56	1.41	1.25	1.20	1.19	1.17
31	Pinnacle West Capital	2.65	3.55	3.49	3.42	3.36	3.05	2.57	2.41	2.10	2.08
32	TXNM Energy	0.92	1.57	1.49	1.41	0.98	1.17	0.89	0.67	0.50	0.79
33	Portland General	1.30	1.98	1.88	1.79	1.70	1.51	1.26	1.10	1.03	0.86
34	PPL Corp.	1.38	1.03	0.95	0.88	1.66	1.65	1.53	1.47	1.39	1.22
35	Public Serv. Enterprise	1.66	2.40	2.28	2.16	2.04	1.88	1.64	1.45	1.36	1.20
36	SCANA Corp.	2.00	N/A	N/A	N/A	N/A	N/A	2.31	2.04	1.91	1.76
37	Sempra Energy	2.68	2.48	2.38	4.58	4.40	3.88	3.04	2.52	1.68	1.27
38	Southern Co.	2.17	2.86	2.78	2.70	2.62	2.46	2.23	2.01	1.80	1.60
39	Vectren Corp.	1.42	N/A	N/A	N/A	N/A	N/A	1.62	1.43	1.37	1.27
40	WEC Energy Group	1.75	3.34	3.12	2.91	2.71	2.37	1.93	1.40	0.84	0.50
41	Westar Energy	1.30	N/A	N/A	N/A	N/A	N/A	1.52	1.36	1.24	1.07
42	Xcel Energy Inc.	1.37	2.19	2.08	1.95	1.83	1.62	1.36	1.13	1.00	0.91
43	**Average**	**1.74**	**2.42**	**2.27**	**2.24**	**2.19**	**2.03**	**1.73**	**1.53**	**1.37**	**1.29**
44	**Industry Average Growth**	**3.95%**	**6.91%**	**1.35%**	**2.21%**	**2.43%**	**5.38%**	**5.18%**	**3.52%**	**1.68%**	**5.43%**

Sources:

[1] Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021. Data for the years 2020 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 19-Year Average (1)	2024[2] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)
1	ALLETE	3.01	3.10	4.30	3.38	3.23	3.35	3.22	2.70	2.24	2.89
2	Alliant Energy	1.86	2.69	2.78	2.73	2.63	2.33	1.78	1.64	1.23	1.22
3	Ameren Corp.	3.07	4.59	4.37	4.14	3.84	3.39	2.61	2.30	2.67	2.84
4	American Electric Power	3.77	5.61	5.24	5.09	4.96	4.13	3.81	3.17	2.90	2.90
5	Avangrid, Inc.	1.88	N/A	2.09	2.32	1.97	2.02	1.50	N/A	N/A	N/A
6	Avista Corp.	1.85	2.29	2.24	2.12	2.10	2.31	2.00	1.67	1.65	1.18
7	Black Hills	2.77	3.91	3.91	3.97	3.74	3.58	2.95	2.49	1.66	1.69
8	CenterPoint Energy	1.25	1.58	1.37	1.59	0.94	1.17	1.22	1.34	1.12	1.27
9	CMS Energy Corp.	1.91	3.33	3.01	2.84	2.58	2.45	2.01	1.64	1.24	0.84
10	Consol. Edison	3.99	5.38	5.04	4.55	4.74	4.19	4.03	3.80	3.39	3.26
11	Dominion Resources	2.85	2.77	1.99	4.11	3.19	2.42	3.39	2.96	2.76	2.52
12	DTE Energy	4.68	6.77	6.76	5.52	4.10	6.52	5.00	4.25	3.55	2.61
13	Duke Energy	4.19	5.90	5.56	5.27	4.93	4.37	4.01	3.94	3.85	3.12
14	Edison Int'l	3.32	4.91	4.76	1.60	2.00	1.48	4.20	4.22	3.27	3.43
15	El Paso Electric	2.02	N/A	N/A	N/A	N/A	2.07	2.28	2.24	2.02	1.54
16	Entergy Corp.	3.15	2.45	5.55	2.69	3.44	3.18	2.98	2.79	3.42	2.86
17	Eversource Energy	2.79	4.57	4.34	4.09	3.54	3.42	2.94	2.32	2.08	1.42
18	Evergy, Inc.	3.52	3.80	3.17	3.26	3.83	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.82	2.45	2.38	2.26	1.74	2.56	2.37	2.11	3.97	3.88
20	FirstEnergy Corp.	2.58	2.63	2.56	2.41	2.69	1.67	2.28	1.98	2.82	4.14
21	Fortis Inc.	2.10	3.28	3.10	2.78	2.61	2.60	2.22	1.55	1.62	1.39
22	Great Plains Energy	1.33	N/A	N/A	N/A	N/A	N/A	0.97	1.51	1.27	1.54
23	Hawaiian Elec.	2.09	10.42	1.81	2.20	2.25	1.88	1.81	1.64	1.19	1.17
24	Hydro One Limited	1.52	1.92	1.81	1.75	1.61	1.47	1.23	N/A	N/A	N/A
25	IDACORP, Inc.	3.82	5.50	5.14	5.11	4.85	4.60	4.01	3.62	2.98	2.13
26	MGE Energy	2.19	3.45	3.25	3.07	N/A	2.51	2.15	2.11	1.63	1.49
27	NextEra Energy, Inc.	1.65	3.43	3.17	2.90	1.81	1.90	1.53	1.25	1.13	0.88
28	NorthWestern Corp	2.73	3.27	3.22	3.29	3.60	3.33	3.21	2.57	2.23	1.51
29	OGE Energy	1.82	2.19	2.07	2.25	2.36	2.15	1.77	1.90	1.52	1.26
30	Otter Tail Corp.	2.47	7.17	7.00	6.78	4.23	2.19	1.67	1.32	0.51	1.52
31	Pinnacle West Capital	3.85	5.24	4.41	4.26	5.47	4.73	4.10	3.58	2.78	2.75
32	TXNM Energy	1.64	2.74	2.82	2.69	2.27	2.03	1.74	1.39	0.84	0.86
33	Portland General	2.08	3.14	2.38	2.74	2.72	2.16	2.16	1.94	1.64	1.62
34	PPL Corp.	2.12	1.68	1.60	1.41	0.53	2.33	2.42	2.46	2.03	2.46
35	Public Serv. Enterprise	2.99	3.68	3.48	3.47	2.55	3.42	2.98	2.63	3.09	2.45
36	SCANA Corp.	3.30	N/A	N/A	N/A	N/A	N/A	4.06	3.44	2.93	2.76
37	Sempra Energy	4.95	4.65	4.61	9.21	4.01	6.01	4.70	4.40	4.42	4.31
38	Southern Co.	2.90	4.06	3.64	3.61	3.42	3.14	2.96	2.71	2.41	2.21
39	Vectren Corp.	1.94	N/A	N/A	N/A	N/A	N/A	2.51	1.87	1.72	1.63
40	WEC Energy Group	2.88	4.89	4.63	4.46	4.11	3.57	2.81	2.48	1.90	1.42
41	Westar Energy	1.96	N/A	N/A	N/A	N/A	N/A	2.26	2.26	1.62	1.68
42	Xcel Energy Inc.	2.22	3.50	3.35	3.17	2.96	2.63	2.20	1.93	1.59	1.39
43	**Average**	**2.71**	**3.97**	**3.59**	**3.49**	**3.10**	**2.95**	**2.68**	**2.47**	**2.23**	**2.10**
44	**Industry Average Growth**	**3.93%**	**10.53%**	**2.96%**	**12.60%**	**1.28%**	**3.44%**	**2.66%**	**3.36%**	**3.58%**	**2.13%**

Sources:
[1] Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2024 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

		Cash Flow / Capital Spending[1]						
Line	Company	2020 (1)	2021 (2)	2022 (3)	2023 (4)	2024 (5)	2025[2] (6)	3 - 5 yr[2] Projection (7)
1	ALLETE	0.74x	0.80x	2.26x	1.42x	2.21x	1.36x	1.39x
2	Alliant Energy	0.82x	0.97x	0.94x	0.95x	0.97x	1.04x	1.27x
3	Ameren Corp.	0.51x	0.59x	0.72x	0.74x	0.84x	0.88x	0.98x
4	American Electric Power	0.74x	0.69x	0.73x	0.72x	0.82x	0.87x	1.11x
5	Avista Corp.	0.85x	0.87x	0.83x	0.78x	0.84x	0.95x	0.77x
6	Black Hills	0.72x	0.76x	0.85x	0.82x	0.68x	0.67x	0.73x
7	CenterPoint Energy	0.88x	0.62x	0.62x	0.57x	0.55x	0.52x	0.53x
8	CMS Energy Corp.	0.82x	0.77x	0.78x	0.92x	0.80x	0.61x	0.95x
9	Consol. Edison	0.82x	0.89x	0.83x	0.72x	0.84x	0.88x	0.99x
10	Dominion Resources	1.00x	0.89x	0.74x	0.63x	0.51x	0.53x	0.70x
11	DTE Energy	0.67x	0.70x	0.75x	0.82x	0.87x	0.90x	1.01x
12	Duke Energy	0.86x	0.93x	0.81x	0.79x	0.77x	0.92x	1.01x
13	Edison Int'l	0.67x	0.74x	0.67x	0.75x	0.82x	0.85x	0.90x
14	El Paso Electric	1.00x	0.83x	N/A	N/A	N/A	N/A	N/A
15	Entergy Corp.	0.81x	1.05x	0.98x	0.85x	0.81x	0.73x	0.75x
16	Eversource Energy	0.95x	0.74x	0.72x	0.86x	0.76x	0.74x	0.80x
17	Evergy, Inc.	1.06x	0.96x	0.94x	0.86x	0.86x	0.92x	1.01x
18	Exelon Corp.	1.30x	1.32x	0.96x	0.99x	0.80x	0.83x	0.93x
19	FirstEnergy Corp.	0.96x	0.91x	0.86x	0.80x	0.82x	0.64x	0.71x
20	Fortis Inc.	0.60x	0.74x	0.75x	0.82x	0.85x	0.89x	0.98x
21	Hawaiian Elec.	1.10x	1.42x	1.30x	1.51x	1.20x	1.29x	1.40x
22	Hydro One Electric	1.21x	0.67x	0.72x	0.63x	0.60x	0.63x	0.63x
23	IDACORP, Inc.	1.25x	1.16x	0.83x	0.63x	0.56x	0.56x	0.55x
24	MGE Energy	0.73x	0.87x	N/A	1.26x	1.10x	0.95x	1.10x
25	NextEra Energy, Inc.	0.58x	0.69x	0.54x	0.59x	0.59x	0.60x	0.69x
26	NorthWestern Corp	0.98x	0.82x	0.66x	0.75x	0.87x	0.86x	0.98x
27	OGE Energy	1.43x	1.13x	0.99x	0.97x	0.99x	1.06x	1.28x
28	Otter Tail Corp.	0.45x	1.42x	1.45x	1.08x	1.46x	1.47x	1.09x
29	Pinnacle West Capital	0.98x	0.85x	0.78x	0.95x	0.74x	0.77x	0.93x
30	TXNM Energy	0.59x	0.51x	0.63x	0.63x	0.53x	0.52x	0.56x
31	Portland General	0.75x	0.97x	1.01x	0.58x	0.62x	0.71x	0.87x
32	PPL Corp.	1.06x	1.12x	1.35x	0.98x	0.97x	1.00x	1.06x
33	Public Serv. Enterprise	1.00x	1.05x	0.82x	0.87x	0.90x	0.90x	0.97x
34	Sempra Energy	0.92x	0.78x	0.92x	0.96x	0.63x	0.59x	0.69x
35	Southern Co.	1.01x	0.93x	0.97x	0.97x	0.90x	0.97x	1.15x
36	WEC Energy Group	0.70x	0.75x	0.87x	0.92x	1.01x	1.09x	1.35x
37	Xcel Energy Inc.	0.99x	0.86x	0.80x	0.92x	0.65x	0.61x	0.90x
38	Average	0.88x	0.89x	0.90x	0.86x	0.85x	0.84x	0.94x
39	Median	0.86x	0.86x	0.83x	0.84x	0.82x	0.86x	0.96x

Source:
[1] Data for the years 2020 - 2024 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Line	Company	Percent Dividends to Book Value [1]									
		18-Year Average	2024 [2/a]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	ALLETE	5.88%	5.51%	5.56%	5.52%	5.56%	5.47%	5.40%	5.83%	6.44%	6.73%
2	Alliant Energy	6.42%	7.04%	6.84%	6.84%	6.73%	6.75%	6.99%	6.43%	6.10%	5.25%
3	Ameren Corp.	6.04%	6.26%	6.26%	5.88%	5.84%	5.82%	5.88%	5.87%	4.74%	7.85%
4	American Electric Power	6.38%	7.05%	6.95%	6.80%	6.74%	6.75%	6.25%	5.94%	6.03%	6.28%
5	Avangrid, Inc.	3.15%	N/A	3.46%	3.51%	3.57%	3.57%	2.36%	N/A	N/A	N/A
6	Avista Corp.	5.11%	5.87%	5.78%	5.65%	5.61%	5.47%	5.38%	5.49%	4.91%	3.49%
7	Black Hills	5.32%	5.19%	5.30%	5.32%	5.32%	5.32%	5.63%	5.18%	5.18%	5.35%
8	CenterPoint Energy	9.08%	4.95%	5.03%	4.90%	4.82%	7.96%	12.50%	8.41%	9.87%	12.21%
9	CMS Energy Corp.	6.76%	7.69%	7.84%	7.89%	7.87%	8.58%	8.25%	7.96%	5.78%	1.81%
10	Consol. Edison	5.94%	5.24%	5.29%	5.42%	5.48%	5.50%	5.70%	5.91%	6.30%	7.04%
11	Dominion Resources	10.08%	8.66%	8.69%	8.54%	8.00%	11.14%	11.88%	11.63%	9.35%	8.52%
12	DTE Energy	6.32%	7.43%	7.25%	7.64%	8.64%	6.38%	6.08%	5.72%	5.56%	5.99%
13	Duke Energy	5.53%	6.54%	6.37%	6.47%	6.34%	6.18%	5.73%	5.32%	5.73%	3.52%
14	Edison Int'l	5.82%	8.76%	8.30%	9.24%	7.36%	7.09%	5.53%	4.48%	4.06%	4.46%
15	El Paso Electric	2.94%	N/A	N/A	N/A	N/A	5.04%	4.64%	4.57%	1.16%	0.00%
16	Entergy Corp.	6.69%	6.55%	6.32%	6.68%	6.72%	7.21%	7.31%	6.17%	6.65%	6.27%
17	Eversource Energy	5.19%	6.97%	6.66%	5.74%	5.69%	5.57%	5.27%	4.77%	4.76%	4.14%
18	Evergy, Inc.	5.62%	5.90%	5.90%	5.57%	5.41%	5.32%	N/A	N/A	N/A	N/A
19	Exelon Corp.	6.95%	5.67%	5.59%	5.42%	4.36%	4.45%	4.39%	6.19%	10.30%	11.70%
20	FirstEnergy Corp.	8.74%	7.87%	8.81%	8.78%	10.26%	12.46%	10.48%	5.79%	7.54%	7.20%
21	Fortis Inc.	5.44%	5.72%	5.84%	5.95%	5.59%	5.17%	4.99%	5.54%	5.74%	5.31%
22	Great Plains Energy	5.31%	N/A	N/A	N/A	N/A	N/A	4.42%	3.95%	3.92%	8.94%
23	Hawaiian Elec.	7.09%	N/A	5.07%	6.96%	6.22%	6.18%	6.62%	7.33%	7.88%	8.47%
24	Hydro One Limited	2.29%	4.47%	4.42%	4.57%	4.13%	4.57%	4.07%	0.00%	0.00%	0.00%
25	IDACORP, Inc.	4.74%	5.43%	5.57%	5.48%	5.45%	5.23%	4.86%	4.23%	3.87%	4.49%
26	MGE Energy	6.07%	5.33%	5.30%	5.32%	N/A	5.47%	5.74%	6.02%	6.55%	7.29%
27	NextEra Energy, Inc.	6.79%	8.46%	8.08%	8.61%	8.13%	6.78%	6.51%	6.40%	5.98%	6.24%
28	NorthWestern Corp	5.81%	5.58%	5.63%	5.65%	5.73%	5.74%	5.77%	5.56%	6.07%	6.09%
29	OGE Energy	6.88%	7.35%	7.49%	7.47%	8.04%	7.65%	6.53%	5.70%	6.28%	7.32%
30	Otter Tail Corp.	6.91%	4.69%	5.95%	5.61%	6.54%	7.18%	7.43%	8.06%	6.88%	6.59%
31	Pinnacle West Capital	6.21%	6.26%	6.41%	6.40%	6.43%	6.31%	5.96%	6.37%	6.21%	6.00%
32	TXNM Energy	4.11%	5.50%	5.72%	5.52%	3.88%	5.31%	4.23%	3.17%	2.68%	3.74%
33	Portland General	4.94%	5.71%	5.73%	5.75%	5.61%	5.26%	4.79%	4.66%	4.87%	4.12%
34	PPL Corp.	8.34%	5.40%	5.03%	4.66%	8.89%	9.81%	10.27%	7.57%	8.40%	8.78%
35	Public Serv. Enterprise	6.99%	7.42%	7.34%	7.82%	7.12%	6.26%	6.20%	6.36%	7.20%	8.36%
36	SCANA Corp.	6.44%	N/A	N/A	N/A		N/A	6.04%	6.15%	6.61%	6.98%
37	Sempra Energy	5.33%	5.32%	5.41%	5.49%	5.56%	6.31%	6.08%	5.67%	4.37%	4.09%
38	Southern Co.	9.56%	9.58%	9.65%	9.67%	9.96%	9.65%	9.34%	9.36%	9.38%	9.88%
39	Vectren Corp.	7.71%	N/A	N/A	N/A	N/A	N/A	7.61%	7.54%	7.78%	7.90%
40	WEC Energy Group	6.53%	8.54%	8.38%	7.92%	7.83%	7.37%	6.76%	7.44%	5.13%	3.76%
41	Westar Energy	5.71%	N/A	N/A	N/A	N/A	N/A	5.68%	5.69%	5.82%	5.65%
42	Xcel Energy Inc.	6.20%	6.44%	6.55%	6.43%	6.38%	6.38%	6.26%	5.87%	5.99%	6.16%
43	Average	6.25%	6.47%	6.37%	6.41%	6.44%	6.54%	6.39%	6.01%	5.95%	6.10%
44	Median	6.06%	6.26%	5.95%	5.88%	6.28%	6.22%	5.96%	5.87%	6.01%	6.20%

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

[a] Based on the projected 2024 Dividend Declared per share and Book Value per share, published in The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Line	Company	Dividends to Earnings Ratio [1] 18-Year Average	2024 [2/a]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	ALLETE	0.70	0.91	0.63	0.77	0.78	0.70	0.65	0.70	0.80	0.56
2	Alliant Energy	0.62	0.71	0.65	0.63	0.61	0.61	0.67	0.58	0.66	0.53
3	Ameren Corp.	0.66	0.58	0.58	0.57	0.57	0.57	0.66	0.70	0.58	0.90
4	American Electric Power	0.61	0.64	0.64	0.62	0.60	0.65	0.60	0.62	0.60	0.54
5	Avangrid, Inc.	0.88	N/A	0.84	0.76	0.89	0.87	0.95	N/A	N/A	N/A
6	Avista Corp.	0.69	0.83	0.82	0.83	0.80	0.70	0.69	0.74	0.59	0.57
7	Black Hills	1.04	0.66	0.64	0.61	0.61	0.57	0.58	0.62	0.98	2.96
8	CenterPoint Energy	0.71	0.51	0.56	0.45	0.70	0.93	0.94	0.65	0.70	0.53
9	CMS Energy Corp.	0.58	0.62	0.65	0.65	0.67	0.62	0.62	0.62	0.54	0.30
10	Consol. Edison	0.68	0.62	0.64	0.69	0.65	0.71	0.67	0.65	0.70	0.71
11	Dominion Resources	0.89	0.96	1.34	0.65	0.79	1.53	0.83	0.76	0.67	0.59
12	DTE Energy	0.66	0.61	0.57	0.64	0.95	0.59	0.62	0.61	0.62	0.81
13	Duke Energy	0.80	0.70	0.73	0.76	0.79	0.86	0.84	0.79	0.76	0.80
14	Edison Int'l	0.48	0.65	0.63	1.78	1.35	0.06	0.47	0.33	0.39	0.34
15	El Paso Electric	0.50	N/A	N/A	N/A	N/A	0.68	0.54	0.46	0.27	N/A
16	Entergy Corp.	0.56	0.94	0.39	0.76	0.56	0.58	0.58	0.60	0.47	0.45
17	Eversource Energy	0.60	0.63	0.62	0.62	0.68	0.63	0.61	0.63	0.49	0.61
18	Evergy, Inc.	0.69	0.68	0.78	0.71	0.57	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	0.60	0.62	0.61	0.60	0.88	0.58	0.55	0.77	0.53	0.47
20	FirstEnergy Corp.	0.78	0.65	0.63	0.65	0.58	1.01	0.64	1.09	0.84	0.49
21	Fortis Inc.	0.72	0.73	0.74	0.78	0.80	0.71	0.71	0.81	0.68	0.60
22	Great Plains Energy	- 0.82	N/A	N/A	N/A	N/A	N/A	- 5.65	0.59	0.67	1.12
23	Hawaiian Elec.	0.82	N/A	0.60	0.64	0.60	0.68	0.71	0.75	1.08	1.07
24	Hydro One Limited	0.92	0.47	0.48	0.49	0.47	1.87	0.57	N/A	N/A	N/A
25	IDACORP, Inc.	0.52	0.61	0.62	0.59	0.59	0.56	0.52	0.43	0.41	0.57
26	MGE Energy	0.56	0.51	0.51	0.52	N/A	0.55	0.56	0.51	0.61	0.63
27	NextEra Energy, Inc.	0.56	0.60	0.59	0.59	0.85	0.66	0.57	0.53	0.45	0.47
28	NorthWestern Corp	0.70	0.80	0.80	0.77	0.69	0.69	0.63	0.60	0.62	0.86
29	OGE Energy	0.61	0.77	0.80	0.73	0.69	0.70	0.66	0.45	0.49	0.54
30	Otter Tail Corp.	0.95	0.26	0.25	0.24	0.37	0.64	0.75	0.93	2.48	0.81
31	Pinnacle West Capital	0.70	0.68	0.79	0.80	0.61	0.64	0.63	0.67	0.77	0.78
32	TXNM Energy	0.84	0.57	0.53	0.52	0.43	0.58	0.51	0.48	0.63	2.40
33	Portland General	0.63	0.63	0.79	0.65	0.63	0.72	0.58	0.57	0.65	0.56
34	PPL Corp.	0.77	0.61	0.59	0.62	3.13	0.72	0.64	0.60	0.77	0.50
35	Public Serv. Enterprise	0.56	0.65	0.66	0.62	0.80	0.56	0.55	0.55	0.44	0.50
36	SCANA Corp.	0.61	N/A	N/A	N/A		N/A	0.57	0.59	0.65	0.64
37	Sempra Energy	0.54	0.53	0.52	0.50	1.10	0.65	0.65	0.57	0.38	0.29
38	Southern Co.	0.75	0.70	0.76	0.75	0.77	0.78	0.75	0.74	0.75	0.72
39	Vectren Corp.	0.75	N/A	N/A	N/A	N/A	N/A	0.65	0.77	0.80	0.78
40	WEC Energy Group	0.57	0.68	0.67	0.65	0.66	0.66	0.69	0.56	0.44	0.35
41	Westar Energy	0.68	N/A	N/A	N/A	N/A	N/A	0.67	0.60	0.78	0.66
42	Xcel Energy Inc.	0.62	0.63	0.62	0.62	0.62	0.62	0.62	0.58	0.63	0.66
43	Average	0.66	0.66	0.66	0.67	0.77	0.72	0.49	0.64	0.68	0.73
44	Median	0.63	0.64	0.63	0.64	0.68	0.66	0.63	0.61	0.63	0.59

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

Note:

[b] Based on the projected 2024 Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Electric Utilities
(Valuation Metrics)

Cash Flow to Capital Spending Ratio [1]

Line	Company	18-Year Average	2024 [2/a]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	ALLETE	0.94	1.30	1.76	2.12	0.55	0.80	1.37	0.54	0.60	0.78
2	Alliant Energy	0.79	0.65	0.74	0.91	0.95	N/A	0.65	0.83	0.65	0.96
3	Ameren Corp.	0.86	0.83	0.78	0.71	0.62	0.74	0.75	0.91	1.16	0.95
4	American Electric Power	0.86	0.84	0.79	0.81	0.81	0.75	0.79	0.95	1.15	0.74
5	Avangrid, Inc.	0.71	N/A	0.66	0.79	0.56	0.68	0.77	N/A	N/A	N/A
6	Avista Corp.	0.89	0.85	0.88	0.73	0.88	0.86	0.79	0.82	1.02	1.02
7	Black Hills	0.68	0.68	0.95	0.86	0.61	0.67	0.84	0.72	0.47	0.55
8	CenterPoint Energy	0.96	0.66	0.53	0.52	0.73	0.85	1.09	1.25	1.00	1.07
9	CMS Energy Corp.	0.86	0.74	0.85	0.82	0.78	0.78	0.84	0.79	1.05	0.91
10	Consol. Edison	0.83	0.84	0.84	0.88	0.83	0.84	0.72	0.92	0.88	0.75
11	Dominion Resources	0.75	0.41	0.46	0.86	0.73	0.91	0.70	0.71	0.80	0.81
12	DTE Energy	0.97	0.87	0.85	0.86	0.74	0.80	0.90	0.97	1.37	1.03
13	Duke Energy	0.89	0.89	0.81	0.87	0.85	0.82	0.88	1.05	0.81	0.93
14	Edison Int'l	0.75	0.85	0.83	0.62	0.55	0.52	0.88	0.79	0.67	0.91
15	El Paso Electric	0.87	N/A	N/A	N/A	0.83	0.86	0.86	0.77	0.90	0.96
16	Entergy Corp.	0.95	0.72	1.03	0.62	0.74	0.76	0.97	1.03	1.14	1.07
17	Eversource Energy	0.83	0.76	0.54	0.89	0.80	0.80	0.86	0.96	0.94	0.70
18	Evergy, Inc.	0.90	0.88	0.90	0.78	1.03	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.18	0.81	0.82	0.84	1.09	1.12	0.88	0.99	1.50	1.77
20	FirstEnergy Corp.	0.99	0.77	0.82	0.98	0.83	0.80	0.96	0.77	1.20	1.42
21	Fortis Inc.	0.71	0.88	0.93	0.89	0.65	0.68	0.72	0.70	0.66	0.62
22	Great Plains Energy	0.79	N/A	N/A	N/A		N/A	0.95	0.85	0.80	0.56
23	Hawaiian Elec.	1.22	2.99	1.14	1.56	1.27	1.07	1.05	0.98	1.19	1.09
24	Hydro One Limited	0.89	0.60	0.63	0.72	1.21	0.96	0.97	N/A	N/A	N/A
25	IDACORP, Inc.	1.06	0.51	0.75	1.00	1.33	1.40	1.21	1.26	0.87	0.79
26	MGE Energy	1.08	1.02	0.98	1.12	0.82	0.82	1.41	1.10	1.42	0.75
27	NextEra Energy, Inc.	0.60	0.52	0.50	0.55	0.58	0.60	0.62	0.61	0.63	0.64
28	NorthWestern Corp	0.99	0.79	0.72	0.75	0.84	1.07	1.11	0.91	0.89	1.26
29	OGE Energy	0.92	1.02	1.03	0.87	1.24	1.27	1.00	0.84	0.61	0.74
30	Otter Tail Corp.	1.02	1.83	1.98	2.13	0.48	0.92	0.89	0.74	0.94	0.82
31	Pinnacle West Capital	0.93	0.70	0.73	0.89	0.91	1.00	0.83	0.93	0.98	1.04
32	TXNM Energy	0.69	0.51	0.55	0.63	0.72	0.77	0.66	0.77	0.76	0.58
33	Portland General	0.81	0.65	0.51	0.86	0.78	0.93	0.92	0.78	0.83	0.76
34	PPL Corp.	0.97	0.90	1.06	1.05	0.90	0.94	0.84	0.78	1.08	1.18
35	Public Serv. Enterprise	1.09	0.95	0.92	1.05	1.13	0.97	0.68	0.98	1.31	1.64
36	SCANA Corp.	0.86	N/A	N/A	N/A		N/A	0.78	0.84	0.83	0.98
37	Sempra Energy	0.79	0.59	0.61	0.92	0.77	0.81	0.68	0.77	0.88	0.90
38	Southern Co.	0.90	0.94	0.88	0.97	0.99	0.90	0.85	0.86	0.88	0.93
39	Vectren Corp.	1.00	N/A	N/A	N/A		N/A	0.88	1.06	1.11	0.93
40	WEC Energy Group	0.98	1.01	0.95	1.09	0.97	0.93	1.03	1.36	0.96	0.62
41	Westar Energy	0.72	N/A	N/A	N/A		N/A	0.80	0.70	0.76	0.61
42	Xcel Energy Inc.	0.75	0.66	0.75	0.93	0.66	0.74	0.75	0.68	0.83	0.79
43	Average	0.89	0.87	0.85	0.93	0.84	0.86	0.88	0.88	0.94	0.91
44	Median	0.83	0.82	0.82	0.87	0.81	0.83	0.86	0.84	0.89	0.91

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

Notes:

[c] Based on the projected Cash Flow per share and Capital Spending per share published in The Value Line Investment Survey, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Natural Gas Utilities
(Valuation Metrics)

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

Line	Company	19-Year Average	2024 [2]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Atmos Energy	17.54	19.80	16.80	19.30	18.80	22.40	20.10	15.97	13.37	14.34
2	Chesapeake Utilities	19.59	23.30	21.60	25.80	25.60	23.07	23.07	16.03	13.53	16.25
3	New Jersey Resources	17.02	14.80	14.90	17.00	17.50	19.20	20.10	14.83	15.57	16.68
4	NiSource Inc.	22.03	21.30	16.90	19.60	18.00	19.77	41.63	19.83	16.33	16.69
5	Northwest Nat. Gas	20.26	14.10	15.40	19.60	19.50	27.50	25.30	20.40	17.07	16.88
6	ONE Gas Inc.	20.51	16.90	16.00	19.90	18.90	23.37	22.00	17.80	N/A	N/A
7	Southwest Gas	17.95	19.70	23.00	NMF	14.30	19.57	21.07	16.23	13.97	17.85
8	Spire Inc.	18.32	18.20	14.50	17.50	13.60	30.20	18.63	18.53	13.37	14.03
9	UGI Corp.	15.05	10.50	8.40	14.10	13.90	18.33	19.27	15.87	12.07	14.12
10	Average	18.52	17.62	16.39	19.10	17.79	22.60	23.46	17.28	14.41	15.85
11	Median	17.80	18.20	16.00	19.45	18.00	22.40	21.07	16.23	13.75	16.46

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

Line	Company	19-Year Average	2024 [2]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(21)	(22)	(23)	(24)	(25)
12	Atmos Energy	9.46	11.93	11.27	11.87	10.99	12.83	10.88	7.85	6.26	6.76
13	Chesapeake Utilities	10.91	14.53	15.77	14.21	14.20	12.91	12.00	8.28	7.73	8.62
14	New Jersey Resources	11.83	9.95	11.22	11.55	11.56	12.84	13.37	10.84	11.79	11.31
15	NiSource Inc.	7.86	8.13	7.13	8.13	7.89	8.52	10.35	9.03	5.32	6.14
16	Northwest Nat. Gas	11.91	7.26	7.56	8.76	8.57	11.66	26.92	8.98	8.76	8.37
17	ONE Gas Inc.	9.98	7.01	7.73	9.91	9.32	11.82	10.73	8.16	N/A	N/A
18	Southwest Gas	7.27	7.88	7.35	19.83	6.87	8.43	7.69	5.95	4.78	5.20
19	Spire Inc.	9.47	7.29	7.53	8.34	7.55	11.63	9.73	11.53	8.26	8.62
20	UGI Corp.	7.70	4.67	5.84	7.20	9.56	9.78	9.19	6.78	6.42	7.50
21	Average	9.50	8.74	9.04	11.09	9.61	11.16	12.32	8.60	7.42	7.82
22	Median	8.37	7.88	7.56	9.91	9.32	11.66	10.73	8.28	7.07	7.94

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

Line	Company	19-Year Average	2024 [2]	2023	2022	2021	3-Year Averages 2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(21)	(22)	(23)	(24)	(25)
23	Atmos Energy	1.59	1.68	1.55	1.65	1.59	2.03	2.00	1.41	1.18	1.31
24	Chesapeake Utilities	2.06	1.94	1.93	2.69	2.77	2.49	2.32	1.87	1.46	1.78
25	New Jersey Resources	2.26	2.06	2.32	2.35	2.26	2.43	2.50	2.17	2.19	2.03
26	NiSource Inc.	1.54	1.42	1.14	2.15	1.86	1.99	1.92	1.63	0.92	1.10
27	Northwest Nat. Gas	1.78	1.08	1.29	1.51	1.45	2.23	1.99	1.62	1.73	1.90
28	ONE Gas Inc.	1.63	1.32	1.43	1.73	1.57	2.01	1.61	1.07	N/A	N/A
29	Southwest Gas	1.53	1.33	1.28	1.62	1.32	1.70	1.93	1.60	1.21	1.38
30	Spire Inc.	1.53	1.25	1.29	1.43	1.47	1.69	1.57	1.40	1.51	1.69
31	UGI Corp.	1.94	1.30	1.59	1.39	1.64	2.36	2.44	1.70	1.65	2.13
32	Average	1.76	1.49	1.53	1.83	1.77	2.10	2.03	1.61	1.48	1.66
33	Median	1.67	1.33	1.43	1.65	1.59	2.03	1.99	1.62	1.49	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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, February 21, 2025.

Notes:

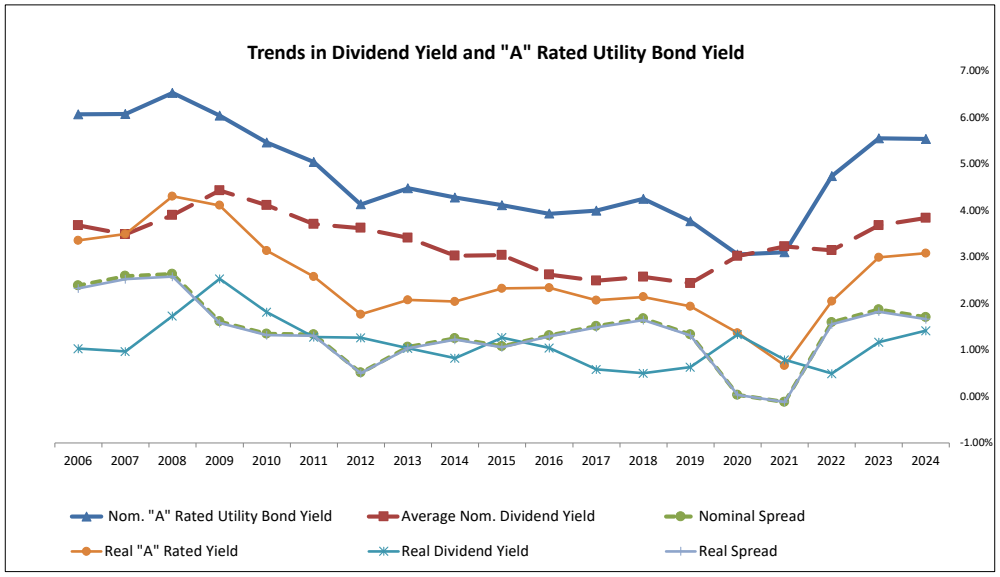
[a] Based on the average of the high and low price for year and the projected Cash Flow per share, published in The Value Line Investment Survey.

[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.

The Empire District Electric Company

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Dividend Yield[1] 18-Year Average (1)	2024 [2/a] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)
1	Atmos Energy	3.30%	2.45%	2.62%	2.46%	2.63%	2.17%	2.51%	3.59%	4.74%	4.53%
2	Chesapeake Utilities	2.62%	2.12%	2.08%	1.61%	1.50%	1.77%	1.93%	2.85%	3.79%	3.83%
3	New Jersey Resources	3.25%	3.75%	3.29%	3.25%	3.50%	2.86%	2.90%	3.53%	3.49%	3.19%
4	NiSource Inc.	3.92%	3.34%	3.85%	3.33%	3.60%	3.12%	3.03%	3.28%	5.94%	4.73%
5	Northwest Nat. Gas	3.69%	4.93%	4.40%	3.86%	3.90%	3.06%	3.43%	4.06%	3.73%	3.37%
6	ONE Gas Inc.	2.82%	3.87%	3.72%	3.08%	3.21%	2.47%	2.47%	2.28%	N/A	N/A
7	Southwest Gas	3.03%	3.60%	4.07%	3.20%	3.65%	2.87%	2.65%	2.72%	3.32%	2.78%
8	Spire Inc.	3.86%	4.65%	4.44%	3.89%	3.79%	3.15%	3.24%	3.95%	4.31%	4.24%
9	UGI Corp.	3.15%	5.82%	4.64%	3.61%	3.25%	2.60%	2.29%	3.10%	3.34%	2.83%
10	**Average**	**3.34%**	**3.84%**	**3.68%**	**3.14%**	**3.23%**	**2.67%**	**2.72%**	**3.26%**	**4.08%**	**3.69%**
11	Median	3.42%	3.75%	3.85%	3.25%	3.50%	2.86%	2.65%	3.28%	3.76%	3.60%
12	20-Yr Treasury Yields[3]	3.32%	4.50%	4.25%	3.30%	1.98%	2.26%	2.47%	2.91%	3.92%	4.75%
13	20-Yr TIPS[3]	1.12%	2.06%	1.73%	0.64%	-0.43%	0.41%	0.73%	0.61%	1.71%	2.28%
14	Implied Inflation[b]	2.17%	2.39%	2.48%	2.64%	2.42%	1.84%	1.73%	2.29%	2.17%	2.42%
15	**Real Dividend Yield[c]**	**1.14%**	**1.41%**	**1.17%**	**0.49%**	**0.79%**	**0.82%**	**0.97%**	**0.95%**	**1.87%**	**1.24%**
	Utility										
16	**Nominal "A" Rated Yield[4]**	**4.74%**	**5.54%**	**5.55%**	**4.74%**	**3.10%**	**3.69%**	**4.01%**	**4.29%**	**5.51%**	**6.22%**
17	**Real "A" Rated Yield**	**2.52%**	**3.08%**	**2.99%**	**2.05%**	**0.67%**	**1.82%**	**2.24%**	**1.96%**	**3.27%**	**3.72%**
	Spreads (Utility Bond - Stock)										
18	**Nominal[d]**	**1.41%**	**1.70%**	**1.87%**	**1.60%**	**-0.12%**	**1.02%**	**1.30%**	**1.03%**	**1.43%**	**2.54%**
19	**Real[e]**	**1.38%**	**1.67%**	**1.82%**	**1.56%**	**-0.12%**	**1.00%**	**1.28%**	**1.01%**	**1.40%**	**2.48%**
	Spreads (Treasury Bond - Stock)										
20	**Nominal[f]**	**-0.02%**	**0.66%**	**0.57%**	**0.16%**	**-1.25%**	**-0.42%**	**-0.24%**	**-0.35%**	**-0.16%**	**1.07%**
21	**Real[g]**	**-0.02%**	**0.65%**	**0.56%**	**0.15%**	**-1.22%**	**-0.41%**	**-0.24%**	**-0.34%**	**-0.16%**	**1.04%**



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 - 2024 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, February 21, 2025.
[3] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[4] Mergent Bond Record, through December 31, 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)

The Empire District Electric Company

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Dividend per Share[1] 19-Year Average (1)	2024 [2] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)	2018 CAGR (11)	2017 CAGR (12)
1	Atmos Energy	1.84	3.22	2.96	2.72	2.50	2.11	1.68	1.42	1.34	1.28	2.08%	2.15%
2	Chesapeake Utilities	1.30	2.46	2.25	2.03	1.84	1.54	1.19	1.01	0.87	0.79	2.89%	3.02%
3	New Jersey Resources	0.98	1.71	1.56	1.45	1.36	1.19	0.98	0.81	0.67	0.51	3.97%	4.59%
4	NiSource Inc.	0.89	1.06	1.00	0.94	0.88	0.81	0.72	0.98	0.92	0.92	-0.82%	-1.69%
5	Northwest Nat. Gas	1.78	1.95	1.94	1.93	1.92	1.90	1.87	1.82	1.68	1.45	1.36%	1.68%
6	ONE Gas Inc.	1.92	2.64	2.60	2.48	2.32	2.00	1.43	0.84	N/A	N/A	3.58%	4.30%
7	Southwest Gas	1.65	2.48	2.48	2.48	2.38	2.18	1.80	1.32	1.00	0.86	4.48%	5.35%
8	Spire Inc.	2.02	3.02	2.88	2.74	2.60	2.37	1.97	1.71	1.57	1.45	2.20%	2.34%
9	UGI Corp.	0.92	1.52	1.47	1.41	1.35	1.16	0.93	0.75	0.60	0.48	3.80%	4.41%
10	**Average**	**1.44**	**2.23**	**2.13**	**2.02**	**1.91**	**1.70**	**1.40**	**1.18**	**1.08**	**0.97**	**2.62%**	**2.91%**
11	**Industry Average Growth**	**4.94%**	**4.81%**	**5.28%**	**6.01%**	**5.54%**	**6.64%**	**6.41%**	**3.16%**	**4.06%**	**3.28%**		

Sources:

[1] Data for years 2019 and prior were retrieved from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, February 21, 2025.

The Empire District Electric Company

Natural Gas Utilities
(Valuation Metrics)

			Earnings per Share[1]								
		19-Year					3-Year Averages				
Line	Company	Average	2024 [2]	2023	2022	2021	2018-2020	2015-2017	2012-2014	2009-2011	2006-2008
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Atmos Energy	3.51	6.83	6.10	5.60	5.12	4.36	3.36	2.52	2.13	1.98
2	Chesapeake Utilities	2.88	5.05	4.73	4.97	4.70	3.79	2.74	2.24	1.72	1.28
3	New Jersey Resources	1.78	2.95	2.70	2.50	2.16	2.25	1.71	1.60	1.24	1.02
4	NiSource Inc.	1.23	1.75	1.60	1.47	1.35	1.31	0.67	1.54	0.98	1.21
5	Northwest Nat. Gas	2.17	2.30	2.59	2.54	2.50	2.27	0.71	2.21	2.65	2.56
6	ONE Gas Inc.	3.30	3.85	4.14	4.08	3.85	3.48	2.64	2.07	N/A	N/A
7	Southwest Gas	2.86	2.80	2.13	3.10	3.80	3.92	3.24	2.99	2.21	1.77
8	Spire Inc.	3.09	4.19	3.85	3.95	4.96	3.10	3.28	2.39	2.74	2.44
9	UGI Corp.	2.03	3.06	2.84	2.90	2.96	2.56	2.12	1.56	1.51	1.20
10	**Average**	**2.47**	**3.64**	**3.41**	**3.46**	**3.49**	**3.00**	**2.27**	**2.12**	**1.90**	**1.68**
11	**Industry Average Growth**	**5.20%**	**6.84%**	**-1.38%**	**-0.92%**	**18.27%**	**14.40%**	**-2.65%**	**5.77%**	**3.58%**	**3.74%**

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 - 2024 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, February 21, 2025.

The Empire District Electric Company

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending[1] 2019 (1)	2020 (2)	2021 (3)	2022 (4)	2023 (5)	2024 (6)	2025[2] (7)	3 - 5 yr[2] Projection (8)
1	Atmos Energy	0.53x	0.53x	0.53x	0.54x	0.54x	0.55x	0.51x	0.64x
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	0.89x	0.93x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.55x	0.43x	0.54x	0.73x	0.76x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.60x	0.68x	0.63x	0.68x	0.65x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.74x	0.83x	0.81x	0.89x	1.22x
7	Southwest Gas	0.62x	0.53x	0.61x	0.31x	0.84x	0.76x	0.79x	0.82x
8	Spire Inc.	0.65x	0.65x	0.70x	0.80x	0.71x	0.64x	0.68x	0.85x
9	UGI Corp.	1.33x	1.54x	1.66x	1.42x	1.33x	1.24x	1.47x	1.49x
10	Average	0.82x	0.76x	0.80x	0.75x	0.76x	0.76x	0.81x	0.89x
11	Median	0.66x	0.65x	0.70x	0.60x	0.71x	0.64x	0.73x	0.82x

Sources:
[1] The Value Line Investment Survey, various report dates.
[2] The Value Line Investment Survey, February 21, 2025.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

The Empire District Electric Company

Natural Gas Utilities
(Valuation Metrics)

Percent Dividends to Book Value [1]

Line	Company	19-Year Average (1)	2024 [2b] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)
1	Atmos Energy	4.94%	4.11%	4.04%	4.07%	4.19%	4.38%	4.97%	5.00%	5.53%	5.94%
2	Chesapeake Utilities	5.04%	4.11%	4.01%	4.32%	4.15%	4.38%	4.45%	5.27%	5.50%	6.77%
3	New Jersey Resources	7.27%	7.73%	7.65%	7.63%	7.92%	6.77%	7.21%	7.64%	7.63%	6.45%
4	NiSource Inc.	5.56%	4.74%	4.40%	7.15%	6.69%	6.20%	5.81%	5.23%	5.22%	5.11%
5	Northwest Nat. Gas	6.39%	5.34%	5.69%	5.83%	5.66%	6.81%	6.70%	6.58%	6.48%	6.37%
6	ONE Gas Inc.	4.53%	5.10%	5.32%	5.31%	5.04%	4.94%	3.92%	2.44%	N/A	N/A
7	Southwest Gas	4.52%	4.80%	5.20%	5.17%	4.80%	4.85%	5.07%	4.35%	3.92%	3.79%
8	Spire Inc.	5.86%	5.83%	5.73%	5.58%	5.56%	5.31%	5.07%	5.52%	6.46%	7.16%
9	UGI Corp.	5.78%	7.56%	7.35%	5.02%	5.34%	5.92%	5.55%	5.19%	5.51%	6.03%
10	Average	5.60%	5.48%	5.49%	5.57%	5.48%	5.51%	5.42%	5.25%	5.78%	5.95%
11	Median	5.32%	5.10%	5.32%	5.31%	5.34%	5.31%	5.07%	5.23%	5.52%	6.20%

Dividends to Earnings Ratio [1]

Line	Company	19-Year Average (1)	2024 [2b] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)
12	Atmos Energy	0.55	0.47	0.49	0.49	0.49	0.49	0.50	0.57	0.63	0.65
13	Chesapeake Utilities	0.48	0.49	0.48	0.41	0.39	0.41	0.43	0.45	0.51	0.62
14	New Jersey Resources	0.55	0.58	0.58	0.58	0.63	0.54	0.58	0.52	0.54	0.53
15	NiSource Inc.	0.80	0.61	0.63	0.64	0.65	0.62	1.25	0.64	0.95	0.77
16	Northwest Nat. Gas	0.66	0.85	0.75	0.76	0.77	0.84	0.29	0.83	0.64	0.57
17	ONE Gas Inc.	0.57	0.69	0.63	0.61	0.60	0.57	0.54	0.41	N/A	N/A
18	Southwest Gas	0.58	0.89	1.16	0.80	0.63	0.56	0.56	0.44	0.46	0.50
19	Spire Inc.	0.69	0.72	0.75	0.69	0.52	0.97	0.60	0.73	0.58	0.59
20	UGI Corp.	0.45	0.50	0.52	0.49	0.46	0.46	0.44	0.49	0.40	0.40
21	Average	0.59	0.64	0.66	0.61	0.57	0.61	0.58	0.57	0.59	0.58
22	Median	0.58	0.61	0.63	0.61	0.60	0.56	0.54	0.52	0.56	0.58

Cash Flow to Capital Spending Ratio [1]

Line	Company	19-Year Average (1)	2024 [2b] (2)	2023 (3)	2022 (4)	2021 (5)	3-Year Averages 2018-2020 (6)	2015-2017 (7)	2012-2014 (8)	2009-2011 (9)	2006-2008 (10)
23	Atmos Energy	0.64	0.58	0.53	0.54	0.58	0.53	0.60	0.60	0.74	0.86
24	Chesapeake Utilities	0.76	0.61	0.81	1.23	0.81	0.60	0.51	0.72	1.12	0.70
25	New Jersey Resources	1.18	0.87	0.82	0.59	0.62	0.69	0.66	1.58	1.60	1.97
26	NiSource Inc.	0.74	0.74	0.61	0.55	0.68	0.62	0.51	0.59	0.97	1.14
27	Northwest Nat. Gas	0.88	0.56	0.67	0.60	0.68	0.69	0.76	1.05	0.97	1.30
28	ONE Gas Inc.	0.83	0.81	0.77	0.74	0.86	0.85	0.88	0.79	N/A	N/A
29	Southwest Gas	0.81	0.74	0.68	0.31	0.86	0.59	0.78	0.98	1.16	0.78
30	Spire Inc.	1.01	0.60	0.69	0.80	0.75	0.54	0.87	0.90	1.69	1.45
31	UGI Corp.	1.45	1.52	1.18	1.42	1.32	1.48	1.37	1.46	1.39	1.68
32	Average	0.94	0.78	0.75	0.75	0.80	0.73	0.77	0.96	1.20	1.23
33	Median	0.84	0.74	0.69	0.60	0.75	0.62	0.76	0.90	1.14	1.22

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 - 2024 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, February 21, 2025.
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.

The Empire District Electric Company

Proxy Group

Line	Company	Credit Ratings[1] S&P (1)	Credit Ratings[1] Moody's (2)	Common Equity Ratios MI[1] (3)	Common Equity Ratios Value Line[2] (4)
1	Alliant Energy Corporation	BBB+	Baa2	39.7%	45.2%
2	Ameren Corporation	BBB+	Baa1	39.0%	43.8%
3	American Electric Power Company, Inc.	BBB+	Baa2	36.9%	42.0%
4	Duke Energy Corporation	BBB+	Baa2	35.9%	38.8%
5	Edison International	BBB	Baa2	25.1%	28.7%
6	Entergy Corporation	BBB+	Baa2	33.7%	38.6%
7	Evergy, Inc.	BBB+	Baa2	41.1%	48.0%
8	IDACORP, Inc.	BBB	Baa2	52.0%	51.2%
9	NextEra Energy, Inc.	A-	Baa1	34.7%	43.6%
10	NorthWestern Corporation	BBB	Baa2	48.0%	50.9%
11	OGE Energy Corp.	BBB+	Baa1	45.5%	49.6%
12	Pinnacle West Capital Corporation	BBB+	Baa2	37.7%	45.0%
13	Portland General Electric Company	BBB+	A3	42.5%	44.2%
14	PPL Corporation	A-	Baa1	45.6%	48.8%
15	Southern Company	A-	Baa1	32.3%	37.6%
16	TXNM Energy	BBB	Baa3	30.1%	35.6%
17	Xcel Energy Inc.	BBB+	Baa1	39.2%	41.4%
18	**Average**	**BBB+**	**Baa2**	**38.8%**	**43.1%**
19	**Median**			**39.0%**	**43.8%**
20	**Empire District Electric[3,4]**	**BBB**	**Baa1**		**53.10%**

Sources:

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

[1] S&P Global Market Intelligence, Downloaded on May 16, 2025.

[2] *The Value Line Investment Survey* , March 7, April 18, and May 9, 2025.

[3] S&P Capital IQ.

[4] Direct Testimony of Daniel S. Dane, page 49.

The Empire District Electric Company

Consensus Analysts' Growth Rates

Line	Company	Zacks[1] (1)	S&P[2] (2)	I/B/E/S[3] (3)	Average of Growth Rates (4)
1	Alliant Energy Corporation	6.73%	6.54%	6.45%	6.57%
2	Ameren Corporation	6.95%	6.95%	6.80%	6.90%
3	American Electric Power Company, Inc.	6.43%	6.80%	6.37%	6.53%
4	Duke Energy Corporation	6.33%	6.38%	6.55%	6.42%
5	Edison International	7.01%	8.57%	9.97%	8.52%
6	Entergy Corporation	9.46%	9.12%	9.63%	9.40%
7	Evergy, Inc.	5.70%	5.70%	6.00%	5.80%
8	IDACORP, Inc.	8.12%	8.09%	7.35%	7.85%
9	NextEra Energy, Inc.	7.72%	7.70%	8.00%	7.81%
10	NorthWestern Corporation	6.87%	5.80%	6.45%	6.37%
11	OGE Energy Corp.	6.32%	6.53%	5.60%	6.15%
12	Pinnacle West Capital Corporation	2.12%	4.76%	2.20%	3.03%
13	Portland General Electric Company	3.44%	4.76%	3.57%	3.92%
14	PPL Corporation	7.46%	7.40%	7.60%	7.49%
15	Southern Company	6.55%	6.23%	7.60%	6.79%
16	TXNM Energy	7.56%	7.69%	6.10%	7.12%
17	Xcel Energy Inc.	7.52%	7.98%	8.40%	7.97%
18	**Average**	**6.61%**	**6.88%**	**6.74%**	**6.74%**
19	**Median**	**6.87%**	**6.80%**	**6.55%**	**6.79%**

Sources:

[1] Zacks, http://www.zacks.com/, downloaded on May 16, 2025.

[2] S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on May 16, 2025.

[3] LSEG Workspace, https://www.lseg.com/en/data-analytics/products/workspace, downloaded on May 16, 2025.

The Empire District Electric Company

Constant Growth DCF Model
(Consensus Analysts' Growth Rates)

Line	Company	13-Week AVG Stock Price[1] (1)	Analysts' Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	Alliant Energy Corporation	$62.06	6.57%	$1.92	3.30%	9.87%
2	Ameren Corporation	$98.22	6.90%	$2.84	3.09%	9.99%
3	American Electric Power Company, Inc.	$105.16	6.53%	$3.72	3.77%	10.30%
4	Duke Energy Corporation	$118.43	6.42%	$4.18	3.76%	10.18%
5	Edison International	$55.85	8.52%	$3.31	6.43%	14.95%
6	Entergy Corporation	$83.18	9.40%	$2.40	3.16%	12.56%
7	Evergy, Inc.	$67.23	5.80%	$2.67	4.20%	10.00%
8	IDACORP, Inc.	$115.35	7.85%	$3.44	3.22%	11.07%
9	NextEra Energy, Inc.	$69.35	7.81%	$2.27	3.52%	11.33%
10	NorthWestern Corporation	$56.20	6.37%	$2.64	5.00%	11.37%
11	OGE Energy Corp.	$44.63	6.15%	$1.69	4.01%	10.16%
12	Pinnacle West Capital Corporation	$92.37	3.03%	$3.58	3.99%	7.02%
13	Portland General Electric Company	$43.12	3.92%	$2.00	4.82%	8.74%
14	PPL Corporation	$34.99	7.49%	$1.09	3.35%	10.84%
15	Southern Company	$89.64	6.79%	$2.96	3.53%	10.32%
16	TXNM Energy	$52.36	7.12%	$1.63	3.33%	10.45%
17	Xcel Energy Inc.	$69.72	7.97%	$2.28	3.53%	11.50%
18	**Average**	**$73.99**	**6.74%**	**$2.62**	**3.88%**	**10.63%**
19	**Median**	**$69.35**	**6.79%**	**$2.64**	**3.53%**	**10.32%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on May 16, 2025.
[2] Exhibit CCW-3
[3] *The Value Line Investment Survey* , March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Payout Ratios

Line	Company	Dividends Per Share		Earnings Per Share		Payout Ratio	
		2023	Projected	2023	Projected	2023	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
1	Alliant Energy Corporation	$1.81	$2.43	$2.78	$4.25	65.11%	57.18%
2	Ameren Corporation	$2.52	$3.57	$4.37	$6.50	57.67%	54.92%
3	American Electric Power Company, Inc.	$3.37	$4.31	$5.24	$7.50	64.31%	57.47%
4	Duke Energy Corporation	$4.06	$5.00	$5.56	$8.00	73.02%	62.50%
5	Edison International	$2.99	$4.25	$4.76	$7.00	62.82%	60.71%
6	Entergy Corporation	$2.17	$3.00	$5.55	$4.20	39.10%	71.43%
7	Evergy, Inc.	$2.48	$3.25	$3.17	$5.00	78.23%	65.00%
8	IDACORP, Inc.	$3.20	$4.20	$5.14	$7.10	62.26%	59.15%
9	NextEra Energy, Inc.	$1.87	$3.22	$3.17	$5.10	58.99%	63.14%
10	NorthWestern Corporation	$2.56	$2.80	$3.22	$4.30	79.50%	65.12%
11	OGE Energy Corp.	$1.66	$1.79	$2.07	$2.95	80.19%	60.68%
12	Pinnacle West Capital Corporation	$3.49	$3.85	$4.41	$6.25	79.14%	61.60%
13	Portland General Electric Company	$1.88	$2.60	$2.38	$4.00	78.99%	65.00%
14	PPL Corporation	$0.95	$1.40	$1.60	$2.40	59.38%	58.33%
15	Southern Company	$2.78	$3.10	$3.64	$5.60	76.37%	55.36%
16	TXNM Energy	$1.49	$2.00	$2.82	$3.65	52.84%	54.79%
17	Xcel Energy Inc.	$2.08	$3.00	$3.35	$5.00	62.09%	60.00%
18	**Average**	**$2.43**	**$3.16**	**$3.72**	**$5.22**	**66.47%**	**60.73%**

Source:
The Value Line Investment Survey , March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Sustainable Growth Rate

Line	Company	3 to 5 Year Projections: Dividends Per Share (1)	Earnings Per Share (2)	Book Value Per Share (3)	Book Value Growth (4)	ROE (5)	Adjustment Factor (6)	Adjusted ROE (7)	Payout Ratio (8)	Retention Rate (9)	Internal Growth Rate (10)	Sustainable Growth Rate (11)
1	Alliant Energy Corporation	$2.43	$4.25	$31.90	3.17%	13.32%	1.02	13.53%	57.18%	42.82%	5.79%	5.87%
2	Ameren Corporation	$3.57	$6.50	$52.65	4.57%	12.35%	1.02	12.62%	54.92%	45.08%	5.69%	7.26%
3	American Electric Power Company, Inc.	$4.31	$7.50	$60.90	3.88%	12.32%	1.02	12.55%	57.47%	42.53%	5.34%	6.20%
4	Duke Energy Corporation	$5.00	$8.00	$76.50	3.80%	10.46%	1.02	10.65%	62.50%	37.50%	3.99%	4.18%
5	Edison International	$4.25	$7.00	$50.00	5.62%	14.00%	1.03	14.38%	60.71%	39.29%	5.65%	5.91%
6	Entergy Corporation	$3.00	$4.20	$43.45	3.99%	9.67%	1.02	9.86%	71.43%	28.57%	2.82%	4.66%
7	Evergy, Inc.	$3.25	$5.00	$47.50	2.05%	10.53%	1.01	10.63%	65.00%	35.00%	3.72%	3.73%
8	IDACORP, Inc.	$4.20	$7.10	$74.00	4.31%	9.59%	1.02	9.80%	59.15%	40.85%	4.00%	5.71%
9	NextEra Energy, Inc.	$3.22	$5.10	$36.00	7.65%	14.17%	1.04	14.69%	63.14%	36.86%	5.41%	7.75%
10	NorthWestern Corporation	$2.80	$4.30	$53.55	2.76%	8.03%	1.01	8.14%	65.12%	34.88%	2.84%	3.01%
11	OGE Energy Corp.	$1.79	$2.95	$26.25	2.86%	11.24%	1.01	11.40%	60.68%	39.32%	4.48%	4.48%
12	Pinnacle West Capital Corporation	$3.85	$6.25	$70.00	4.27%	8.93%	1.02	9.12%	61.60%	38.40%	3.50%	4.64%
13	Portland General Electric Company	$2.60	$4.00	$42.25	4.30%	9.47%	1.02	9.67%	65.00%	35.00%	3.38%	4.29%
14	PPL Corporation	$1.40	$2.40	$23.45	3.66%	10.23%	1.02	10.42%	58.33%	41.67%	4.34%	4.36%
15	Southern Company	$3.10	$5.60	$32.25	1.89%	17.36%	1.01	17.53%	55.36%	44.64%	7.82%	8.75%
16	TXNM Energy	$2.00	$3.65	$33.00	4.03%	11.06%	1.02	11.28%	54.79%	45.21%	5.10%	5.98%
17	Xcel Energy Inc.	$3.00	$5.00	$43.70	5.47%	11.44%	1.03	11.75%	60.00%	40.00%	4.70%	6.10%
18	**Average**	**$3.16**	**$5.22**	**$46.90**	**4.02%**	**11.42%**	**1.02**	**11.65%**	**60.73%**	**39.27%**	**4.62%**	**5.46%**
19	**Median**											**5.71%**

Sources and Notes:
Cols. (1), (2) and (3): *The Value Line Investment Survey* , March 7, April 18, and May 9, 2025.
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).

The Empire District Electric Company

Sustainable Growth Rate

Line	Company	13-Week Average Stock Price[1] (1)	2023 Book Value Per Share[2] (2)	Market to Book Ratio (3)	Common Shares Outstanding (in Millions)[2] 2023 (4)	Common Shares Outstanding (in Millions)[2] 3-5 Years (5)	Growth (6)	S Factor[3] (7)	V Factor[4] (8)	S * V (9)
1	Alliant Energy Corporation	$62.06	$26.46	2.35	256.10	257.00	0.06%	0.14%	57.36%	0.08%
2	Ameren Corporation	$98.22	$40.26	2.44	267.00	285.00	1.09%	2.67%	59.01%	1.57%
3	American Electric Power Company, Inc.	$105.16	$48.46	2.17	526.18	550.00	0.74%	1.61%	53.92%	0.87%
4	Duke Energy Corporation	$118.43	$61.15	1.94	771.00	780.00	0.19%	0.37%	48.37%	0.18%
5	Edison International	$55.85	$36.02	1.55	383.93	395.00	0.47%	0.74%	35.51%	0.26%
6	Entergy Corporation	$83.18	$34.35	2.42	425.70	460.00	1.30%	3.15%	58.70%	1.85%
7	Evergy, Inc.	$67.23	$42.06	1.60	229.73	230.00	0.02%	0.03%	37.44%	0.01%
8	IDACORP, Inc.	$115.35	$57.44	2.01	50.62	56.00	1.70%	3.41%	50.20%	1.71%
9	NextEra Energy, Inc.	$69.35	$23.13	3.00	2,052.00	2,200.00	1.17%	3.50%	66.65%	2.33%
10	NorthWestern Corporation	$56.20	$45.48	1.24	61.25	64.00	0.73%	0.91%	19.07%	0.17%
11	OGE Energy Corp.	$44.63	$22.17	2.01	200.30	200.20	- 0.01%	- 0.02%	50.32%	- 0.01%
12	Pinnacle West Capital Corporation	$92.37	$54.47	1.70	113.42	125.00	1.63%	2.77%	41.03%	1.14%
13	Portland General Electric Company	$43.12	$32.81	1.31	101.16	120.00	2.89%	3.79%	23.91%	0.91%
14	PPL Corporation	$34.99	$18.90	1.85	737.13	738.00	0.02%	0.04%	45.98%	0.02%
15	Southern Company	$89.64	$28.82	3.11	1,091.00	1,120.00	0.44%	1.36%	67.85%	0.92%
16	TXNM Energy	$52.36	$26.04	2.01	90.20	95.00	0.87%	1.75%	50.27%	0.88%
17	Xcel Energy Inc.	$69.72	$31.74	2.20	554.94	595.00	1.17%	2.57%	54.48%	1.40%
	Average	**$73.99**	**$37.04**	**2.05**	**465.39**	**486.48**	**0.85%**	**1.69%**	**48.24%**	**0.84%**

Sources and Notes:
[1] S&P Global Market Intelligence, Downloaded on May 16, 2025.
[2] *The Value Line Investment Survey* , March 7, April 18, and May 9, 2025.
[3] Expected Growth in the Number of Shares, Column (3) * Column (6).
[4] Expected Profit of Stock Investment, [1 - 1 / Column (3)].

The Empire District Electric Company

Constant Growth DCF Model
(Sustainable Growth Rate)

Line	Company	13-Week AVG Stock Price[1] (1)	Sustainable Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	Alliant Energy Corporation	$62.06	5.87%	$1.92	3.28%	9.15%
2	Ameren Corporation	$98.22	7.26%	$2.84	3.10%	10.36%
3	American Electric Power Company, Inc.	$105.16	6.20%	$3.72	3.76%	9.96%
4	Duke Energy Corporation	$118.43	4.18%	$4.18	3.68%	7.85%
5	Edison International	$55.85	5.91%	$3.31	6.28%	12.19%
6	Entergy Corporation	$83.18	4.66%	$2.40	3.02%	7.68%
7	Evergy, Inc.	$67.23	3.73%	$2.67	4.12%	7.85%
8	IDACORP, Inc.	$115.35	5.71%	$3.44	3.15%	8.87%
9	NextEra Energy, Inc.	$69.35	7.75%	$2.27	3.52%	11.27%
10	NorthWestern Corporation	$56.20	3.01%	$2.64	4.84%	7.85%
11	OGE Energy Corp.	$44.63	4.48%	$1.69	3.95%	8.43%
12	Pinnacle West Capital Corporation	$92.37	4.64%	$3.58	4.06%	8.69%
13	Portland General Electric Company	$43.12	4.29%	$2.00	4.84%	9.13%
14	PPL Corporation	$34.99	4.36%	$1.09	3.26%	7.61%
15	Southern Company	$89.64	8.75%	$2.96	3.59%	12.34%
16	TXNM Energy	$52.36	5.98%	$1.63	3.30%	9.27%
17	Xcel Energy Inc.	$69.72	6.10%	$2.28	3.47%	9.57%
18	**Average**	**$73.99**	**5.46%**	**$2.62**	**3.83%**	**9.30%**
19	**Median**					**9.13%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on May 16, 2025.
[2] Exhibit CCW-6, page 1.
[3] *The Value Line Investment Survey*, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

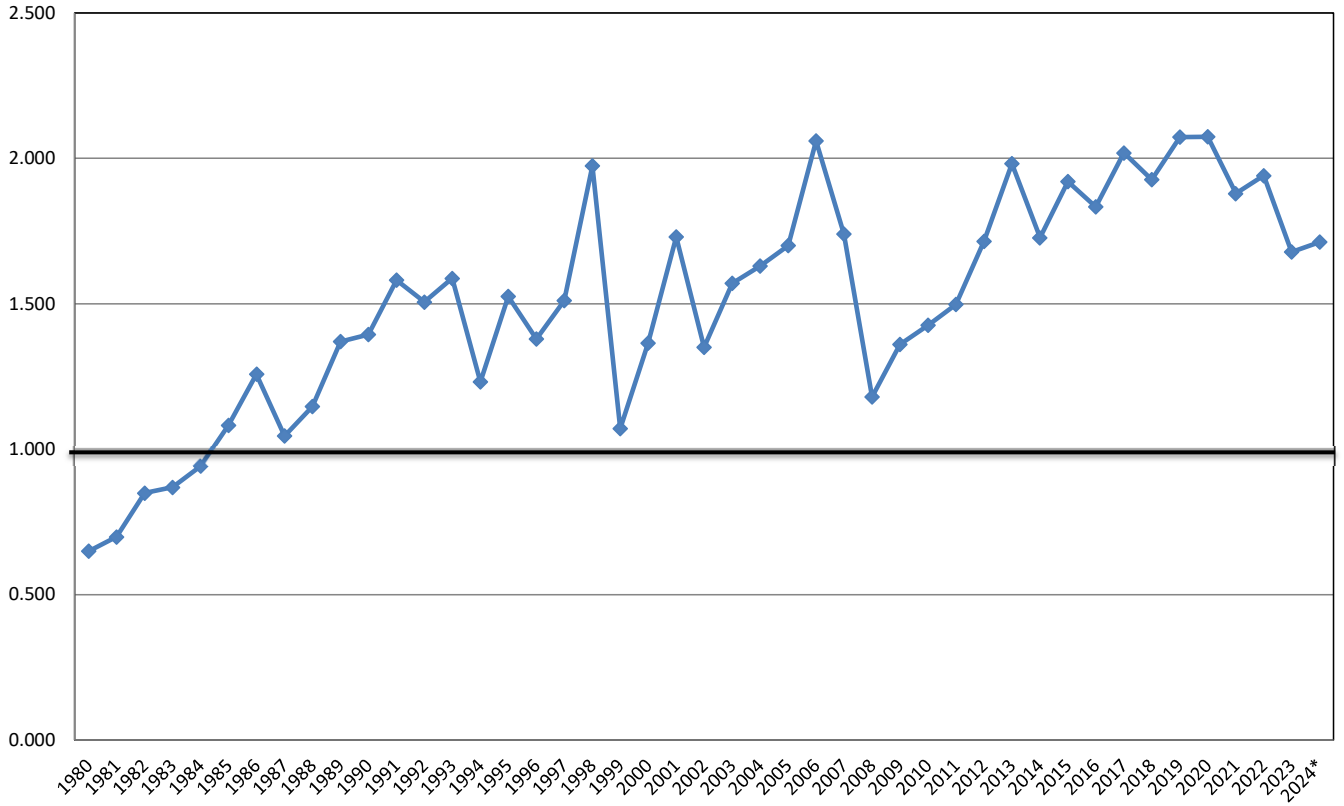
Multi-Stage Growth DCF Model

Line	Company	13-Week AVG Stock Price[1] (1)	Annualized Dividend[2] (2)	First Stage Growth[3] (3)	Second Stage Growth Year 6 (4)	Year 7 (5)	Year 8 (6)	Year 9 (7)	Year 10 (8)	Third Stage Growth[4] (9)	Multi-Stage Growth DCF (10)
1	Alliant Energy Corporation	$62.06	$1.92	6.57%	6.17%	5.76%	5.36%	4.95%	4.55%	4.14%	7.90%
2	Ameren Corporation	$98.22	$2.84	6.90%	6.44%	5.98%	5.52%	5.06%	4.60%	4.14%	7.73%
3	American Electric Power Company, Inc.	$105.16	$3.72	6.53%	6.13%	5.73%	5.34%	4.94%	4.54%	4.14%	8.42%
4	Duke Energy Corporation	$118.43	$4.18	6.42%	6.04%	5.66%	5.28%	4.90%	4.52%	4.14%	8.38%
5	Edison International	$55.85	$3.31	8.52%	7.79%	7.06%	6.33%	5.60%	4.87%	4.14%	12.05%
6	Entergy Corporation	$83.18	$2.40	9.40%	8.53%	7.65%	6.77%	5.89%	5.02%	4.14%	8.31%
7	Evergy, Inc.	$67.23	$2.67	5.80%	5.52%	5.25%	4.97%	4.69%	4.42%	4.14%	8.73%
8	IDACORP, Inc.	$115.35	$3.44	7.85%	7.23%	6.62%	6.00%	5.38%	4.76%	4.14%	8.06%
9	NextEra Energy, Inc.	$69.35	$2.27	7.81%	7.19%	6.58%	5.97%	5.36%	4.75%	4.14%	8.42%
10	NorthWestern Corporation	$56.20	$2.64	6.37%	6.00%	5.63%	5.26%	4.88%	4.51%	4.14%	9.74%
11	OGE Energy Corp.	$44.63	$1.69	6.15%	5.82%	5.48%	5.15%	4.81%	4.48%	4.14%	8.60%
12	Pinnacle West Capital Corporation	$92.37	$3.58	3.03%	3.21%	3.40%	3.58%	3.77%	3.95%	4.14%	7.90%
13	Portland General Electric Company	$43.12	$2.00	3.92%	3.96%	3.99%	4.03%	4.07%	4.10%	4.14%	8.90%
14	PPL Corporation	$34.99	$1.09	7.49%	6.93%	6.37%	5.81%	5.26%	4.70%	4.14%	8.15%
15	Southern Company	$89.64	$2.96	6.79%	6.35%	5.91%	5.47%	5.02%	4.58%	4.14%	8.20%
16	TXNM Energy	$52.36	$1.63	7.12%	6.62%	6.12%	5.63%	5.13%	4.64%	4.14%	8.05%
17	Xcel Energy Inc.	$69.72	$2.28	7.97%	7.33%	6.69%	6.05%	5.42%	4.78%	4.14%	8.46%
18	**Average**	**$73.99**	**$2.62**	**6.74%**	**6.31%**	**5.88%**	**5.44%**	**5.01%**	**4.57%**	**4.14%**	**8.59%**
19	**Median**										**8.38%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on May 16, 2025.
[2] *The Value Line Investment Survey*, March 7, April 18, and May 9, 2025.
[3] Exhibit CCW-3
[4] *Blue Chip Economic Indicators,* March 10, 2025, at page 14.

The Empire District Electric Company

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 February 21, March 7, April 18, and May 9, 2025.

The Empire District Electric Company

Equity Risk Premium - Treasury Bond

Line	Year	Authorized Electric Returns[1] (1)	30 yr. Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.93%	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%	5.91%	5.85%
26	2011	10.19%	3.91%	6.28%	6.07%	5.91%
27	2012	10.02%	2.92%	7.10%	6.39%	6.05%
28	2013	9.82%	3.45%	6.37%	6.45%	6.09%
29	2014	9.76%	3.34%	6.42%	6.44%	6.16%
30	2015	9.60%	2.84%	6.76%	6.58%	6.24%
31	2016	9.60%	2.60%	7.00%	6.73%	6.40%
32	2017	9.68%	2.90%	6.78%	6.66%	6.53%
33	2018	9.56%	3.11%	6.45%	6.68%	6.56%
34	2019	9.65%	2.58%	7.07%	6.81%	6.63%
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	9.58%	3.12%	6.46%	7.03%	6.85%
38	2023	9.66%	4.09%	5.57%	6.85%	6.77%
39	2024	9.78%	4.41%	5.37%	6.51%	6.66%
40	2025 [3]	9.72%	4.71%	5.01%	5.95%	6.49%
41	**Average**	**10.82%**	**5.13%**	**5.69%**	**5.74%**	**5.78%**
42	**Minimum**				**4.25%**	**4.38%**
43	**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 - March, 2025, April 25, 2025 at page 3.
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 - March, 2025.

The Empire District Electric Company

Equity Risk Premium - Utility Bond

Line	Year	Authorized Electric Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.93%	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	10.02%	4.13%	5.89%	4.84%	4.66%
28	2013	9.82%	4.48%	5.34%	5.14%	4.75%
29	2014	9.76%	4.28%	5.48%	5.34%	4.84%
30	2015	9.60%	4.12%	5.48%	5.47%	4.90%
31	2016	9.60%	3.93%	5.66%	5.57%	5.04%
32	2017	9.68%	4.00%	5.68%	5.53%	5.18%
33	2018	9.56%	4.25%	5.31%	5.52%	5.33%
34	2019	9.65%	3.77%	5.88%	5.60%	5.47%
35	2020	9.39%	3.02%	6.37%	5.78%	5.62%
36	2021	9.39%	3.11%	6.28%	5.91%	5.74%
37	2022	9.58%	4.72%	4.86%	5.74%	5.64%
38	2023	9.66%	5.54%	4.12%	5.50%	5.51%
39	2024	9.78%	5.54%	4.24%	5.17%	5.39%
40	2025 [3]	9.72%	5.77%	3.95%	4.69%	5.24%
41	**Average**	**10.82%**	**6.48%**	**4.34%**	**4.40%**	**4.42%**
42	**Minimum**				**2.88%**	**3.20%**
43	**Maximum**				**5.91%**	**5.74%**

Sources:

[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3. S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - March, 2025, April 25, 2025 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 2006-2025 were obtained from the Mergent Bond Record.

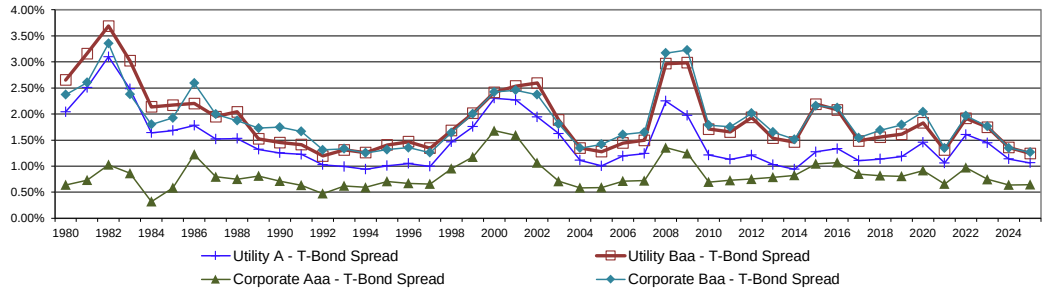
[3] Data represents January - March, 2025.

The Empire District Electric Company

Bond Yield Spreads

			Public Utility Bond				Corporate Bond				Utility to Corporate	
Line	Year	T-Bond Yield[1] (1)	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	4.41%	5.54%	5.76%	1.14%	1.36%	5.04%	5.75%	0.64%	1.35%	0.01%	0.50%
46	2025[4]	4.71%	5.77%	5.95%	1.06%	1.24%	5.36%	5.98%	0.65%	1.27%	-0.02%	0.42%
47	**Average**	**6.02%**	**7.49%**	**7.91%**	**1.47%**	**1.88%**	**6.85%**	**7.91%**	**0.83%**	**1.89%**	**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 2006-2025 were obtained from the Mergent Bond Record.
[4] Data represents January - March, 2025.

The Empire District Electric Company

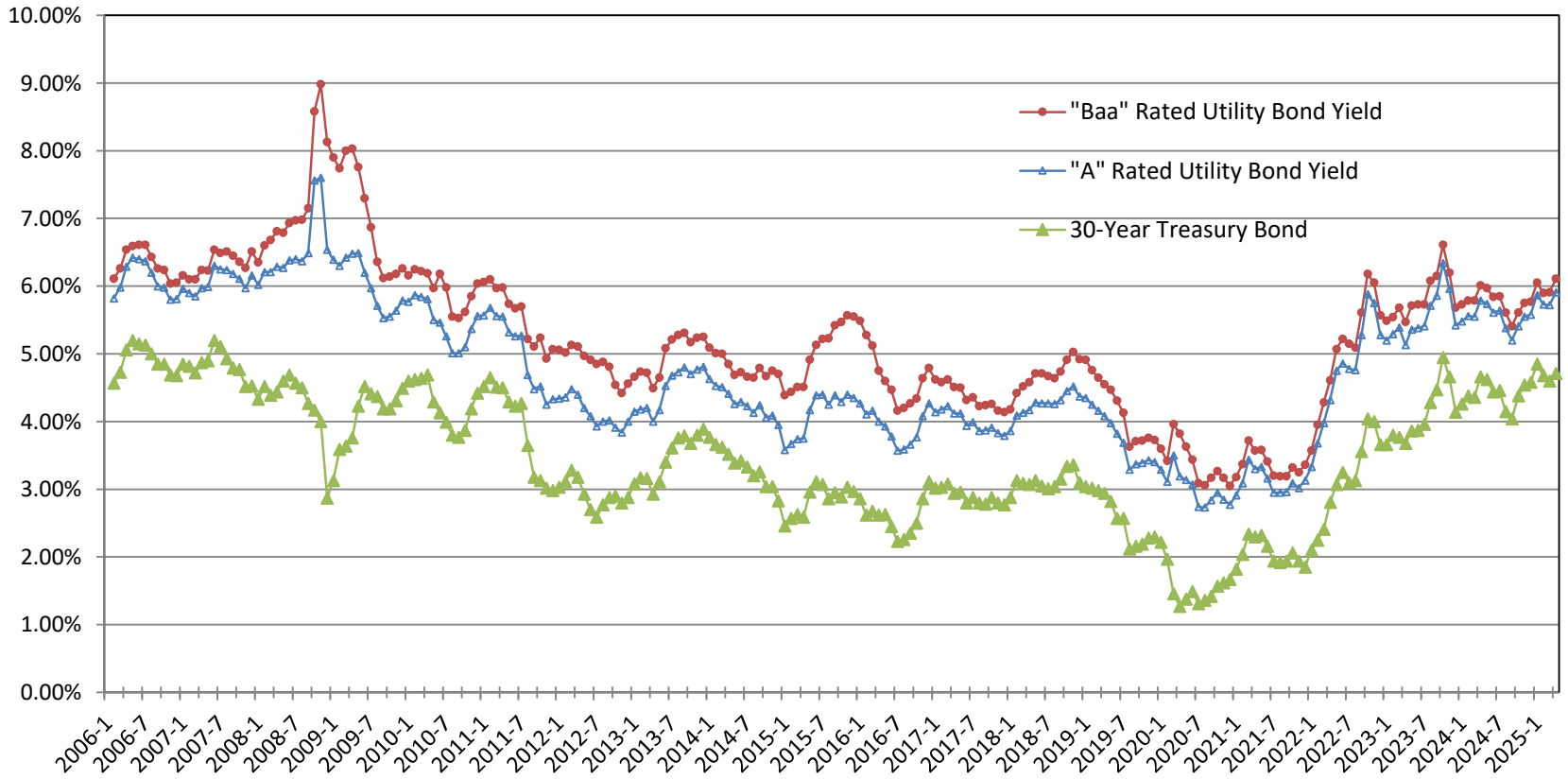
3 and 6 Month Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	April-25	4.71%	5.91%	6.11%
2	March-25	4.60%	5.72%	5.91%
3	February-25	4.68%	5.73%	5.90%
4	January-25	4.85%	5.87%	6.05%
5	December-24	4.58%	5.58%	5.77%
6	November-24	4.54%	5.55%	5.75%
7	**3-Month Average**	**4.66%**	**5.79%**	**5.97%**
8	**Spread To Treasury**		**1.13%**	**1.31%**
9	**6-Month Average**	**4.66%**	**5.73%**	**5.92%**
10	**Spread To Treasury**		**1.07%**	**1.26%**

Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[2] Mergent Bond Record.

The Empire District Electric Company

Trends in Bond Yields

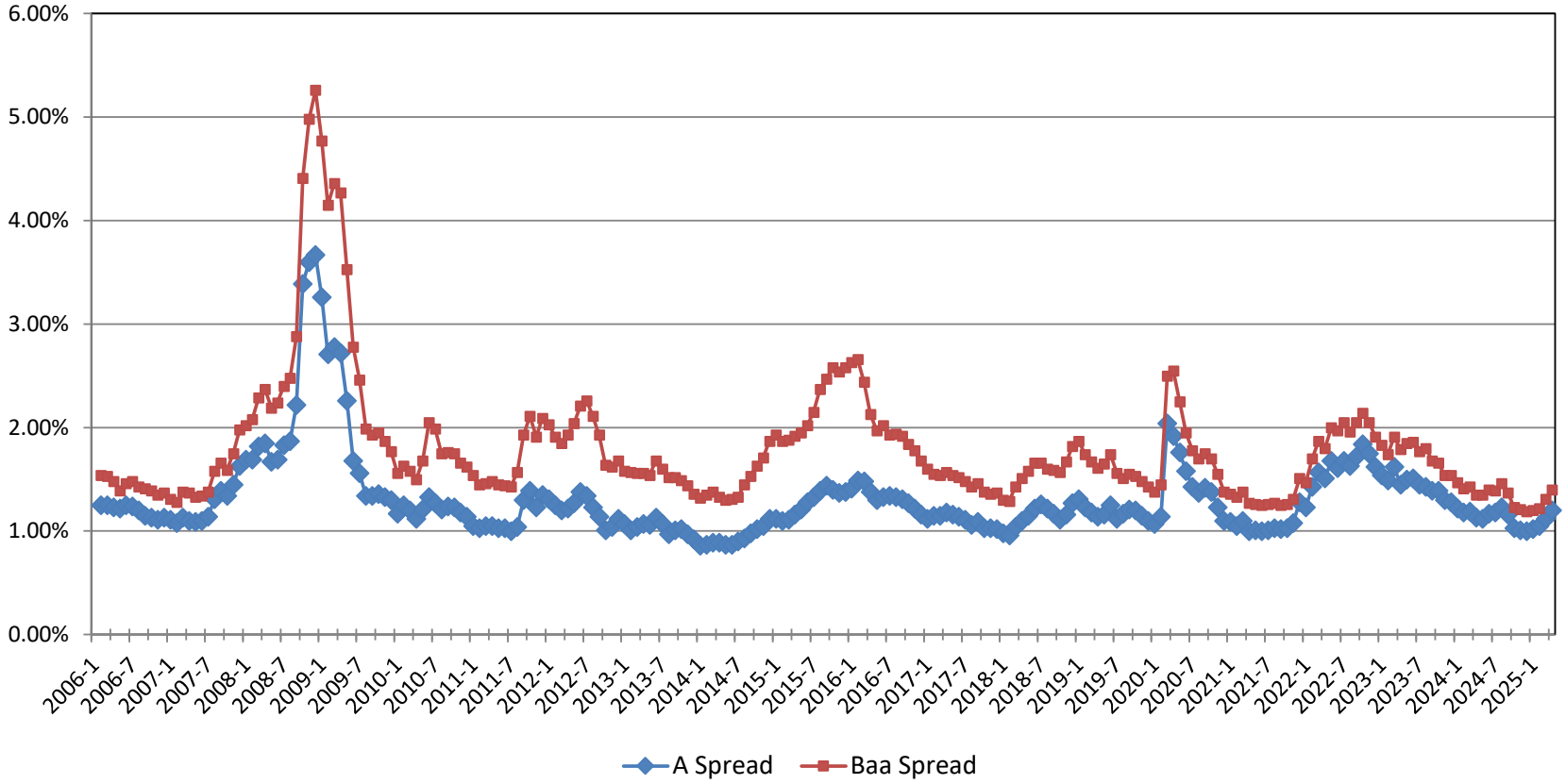


_____

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

The Empire District Electric Company

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/

The Empire District Electric Company

Beta

Line	Company	Beta[1]	Historical Beta[2]	S&P Global Market Intelligence Beta[3]	3-Year VL Methodolgy Beta[4]
1	Alliant Energy Corporation	0.95	0.78	0.46	0.77
2	Ameren Corporation	0.90	0.75	0.48	0.71
3	American Electric Power Company, Inc.	0.85	0.70	0.42	0.64
4	Duke Energy Corporation	0.70	0.71	0.38	0.62
5	Edison International	0.90	0.79	0.53	0.86
6	Entergy Corporation	1.00	0.79	0.51	0.76
7	Evergy, Inc.	0.95	0.95	0.45	0.71
8	IDACORP, Inc.	0.75	0.75	0.44	0.65
9	NextEra Energy, Inc.	0.90	0.79	0.54	0.81
10	NorthWestern Corporation	0.80	0.78	0.47	0.68
11	OGE Energy Corp.	1.05	0.96	0.54	0.80
12	Pinnacle West Capital Corporation	0.80	0.77	0.49	0.72
13	Portland General Electric Company	0.80	0.78	0.46	0.71
14	PPL Corporation	0.90	0.88	0.52	0.75
15	Southern Company	0.75	0.72	0.45	0.61
16	TXNM Energy	0.70	0.82	0.35	0.63
17	Xcel Energy Inc.	0.75	0.69	0.40	0.67
18	**Average**	**0.85**	**0.79**	**0.46**	**0.71**
19	**Median**	**0.85**	**0.78**	**0.46**	**0.71**

Source:

[1] *The Value Line Investment Survey* , March 7, April 18, and May 9, 2025.

[2] Value Line Software Analyzer.

[3] S&P Global Market Intelligence, betas for the period 5/16/2020 - 5/16/2025.

[4] S&P Global Market Intelligence, betas for the period 5/16/2022 - 5/16/2025.

The Empire District Electric Company

CAPM Return

Line	Description	Kroll Normalized MRP (1)	Risk Premium Derived MRP (2)	Average FERC S&P 500 DCF Derived MRP (3)
	Current Beta			
1	Risk-Free Rate[1,2]	4.72%	4.40%	4.40%
2	Market Risk Premium	5.50%	7.20%	7.95%
3	Beta[7]	0.85	0.85	0.85
4	**CAPM**	**9.39%**	**10.52%**	**11.16%**
	Historical Beta			
5	Risk-Free Rate[1,2]	4.72%	4.40%	4.40%
6	Market Risk Premium[1,3]	5.50%	7.20%	7.95%
7	Beta[7]	0.79	0.79	0.79
8	**CAPM**	**9.05%**	**10.08%**	**10.67%**
	Current S&P Global Market Intelligence Beta			
9	Risk-Free Rate[1,2]	4.72%	4.40%	4.40%
10	Market Risk Premium[1,3]	5.50%	7.20%	7.95%
11	Beta[7]	0.46	0.46	0.46
12	**CAPM**	**7.27%**	**7.75%**	**8.10%**
	3-Year S&P Global Market Intelligence Beta Adjusted Using VL Methodology			
13	Risk-Free Rate[1,2]	4.72%	4.40%	4.40%
14	Market Risk Premium[1,3]	5.50%	7.20%	7.95%
15	Beta[4]	0.71	0.71	0.71
16	**CAPM**	**8.64%**	**9.54%**	**10.07%**

Sources:

[1] *Kroll Cost of Capital Navigator.*

[2] *Blue Chip Financial Forecast May 1, 2025.*

[3] Exhibit CCW-15, page 2

[4] Exhibit CCW-14.

The Empire District Electric Company

Development of the Market Risk Premium

Line	Description	MRP	
Risk Premium Based Method:			
1	Lg. Co. Stock Real Market Return	9.02%	[1]
2	Projected Consumer Price Index	2.40%	[2]
3	Expected Market Return	11.64%	
4	Risk-Free Rate	4.40%	[2]
5	Market Risk Premium	**7.20%**	
FERC S&P 500 (Dividend Companies) 1-Step DCF Based Method:			
6	S&P 500 Growth	10.30%	[3]
7	Index Dividend Yield	1.70%	[3]
8	Adjusted Yield	1.79%	
9	Expected Market Return	12.09%	
10	Risk-Free Rate	4.40%	[2]
11	Market Risk Premium	**7.70%**	
FERC S&P 500 (All Companies) 1-Step DCF Based Method:			
12	Short-Term S&P 500 Growth	11.00%	[4]
13	Index Dividend Yield	1.50%	[4]
14	Adjusted Yield	1.58%	
15	Expected Market Return	12.58%	
16	Risk-Free Rate	4.40%	[2]
17	Market Risk Premium	**8.20%**	
18	Average DCF Based MRP	**7.95%**	

Sources & Note:

[1] Morningstar Direct.

[2] *Blue Chip Financial Forecast May 1, 2025.*

[3] S&P 500 1-Step DCF through May 16, 2025 for Dividend Paying Companies.

[4] S&P 500 1-Step DCF through May 16, 2025 for all Companies.