COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, AND APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS	**)**	**CASE NO. 2025-00113**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, AND APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS	**)**	**CASE NO. 2025-00114**

DIRECT TESTIMONY

AND EXHIBITS OF

RICHARD A. BAUDINO

ON BEHALF OF THE
OFFICE OF THE ATTORNEY GENERAL OF THE COMMONWEALTH OF KENTUCKY
AND KENTUCKY INDUSTRIAL UTILITY CUSTOMERS

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

AUGUST 2025

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DIRECT TESTIMONY OF RICHARD A. BAUDINO

I. INTRODUCTION AND QUALIFICATIONS

Q. State your name, occupation, and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. (Kennedy and Associates), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant with Kennedy and Associates.

Q. Describe your educational and professional background.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor

of Arts Degree with majors in Economics and English from New Mexico State in 1979.

I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

Exhibit RAB-1 summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am submitting Direct Testimony on behalf of the Office of the Attorney General of the Commonwealth of Kentucky (OAG) and the Kentucky Industrial Utility Customers (KIUC).

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to address the investor required return on equity (ROE) for the regulated electric operations of Louisville Gas and Electric

Company (LGE) and Kentucky Utilities Company (KU) and the regulated gas distribution operations of LGE[1]. I will also address the Companies' requested capital structure and costs of long-term debt.

Q. Please summarize your conclusions and recommendations.

A. I recommend that the Kentucky Public Service Commission (KPSC or Commission) authorize a ROE for LGE/KU's electric and gas operations of 9.60%. My recommended ROE for electric operations is based on: (1) the results of a discounted cash flow (DCF) analysis applied to a proxy group of 12 regulated electric utilities and (2) Capital Asset Pricing Model (CAPM) analyses using historical and forecasted market risk premiums as well as publicly available estimates of market risk premiums from other sources. My recommended ROE for LGE's gas operations is based on DCF and CAPM analyses applied to a proxy group of 7 gas distribution utilities that was used by Companies' witness Mr. Dylan D'Ascendis. My recommendation fully reflects current economic and financial market conditions at the time I prepared my testimony, which I will describe in more detail in Section II. A 9.60% ROE provides a fair return on low-risk regulated electric and gas utility investments for LGE and KU. Section III presents my ROE analyses for both electric and gas operations.

Regarding the Companies' ratemaking capital structure, I recommend that the Commission accept the Companies' filed capital structures. I also recommend that the Companies' filed costs for short-term debt be accepted by the Commission.

[1] I will refer to LGE and KU together as "Companies".

I also recommend the Companies' cost of long-term debt be adjusted downward to reflect new issues of long-term debt that occurred in August of this year.

In Section IV, I will respond to the testimony and ROE recommendation of Companies' witness Mr. D'Ascendis. I will demonstrate that his recommended ROE of 10.95% for LGE/KU's electric and gas operations grossly overstates the investor required return for regulated utilities. Mr. D'Ascendis' recommendation is significantly biased upward and I will explain this in detail in Section IV of my Direct Testimony. Mr. D'Ascendis' recommended 10.95% ROE would significantly inflate the Companies' revenue requirement, thereby harming Kentucky's electric and gas ratepayers. The Commission should reject his ROE recommendation.

II. ROE GUIDELINES AND REVIEW OF ECONOMIC CONDITIONS

Q. What are the main guidelines to which you adhere in estimating the cost of equity?

A. Generally speaking, the estimated cost of equity should be comparable to the returns of other firms with similar risk structures and should be sufficient for the firm to attract capital. These are the basic standards set out by the United States Supreme Court in *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944), and *Bluefield W.W. & Improv. Co. v. Public Service Comm'n*, 262 U.S. 679 (1922).

From an economist's perspective, the notion of "opportunity cost" plays a vital role in estimating the ROE for LGE/KU. One measures the opportunity cost

of an investment equal to what one would have obtained in the next best alternative. For example, suppose that an investor decides to purchase the stock of a publicly traded regulated electric utility. That investor will make the decision based on the expectation of dividend payments and perhaps some appreciation in the stock's value over time; however, that investor's opportunity cost is measured by what she or he could have invested in as the next best alternative. That alternative could have been another utility stock, a utility bond, a mutual fund, a money market fund, or any number of alternative investment vehicles.

The key determinant in deciding whether to invest, however, is based on comparative levels of risk. Our hypothetical investor would not invest in a regulated electric or gas utility stock if it offered a return lower than other investments of similar risk. The opportunity cost simply would not justify such an investment. Thus, the task for the rate of return analyst is to estimate a return on equity that is equivalent to that being offered by other risk-comparable firms.

Q. Please provide the Commission an overview of important economic factors that affect your estimate of the allowed ROE for LGE/KU.

A. Certain key factors in the economy are important influences on the current investor required ROE. These factors include the current level of interest rates, current levels of inflation, the effects of unemployment and economic growth, and stock market volatility.

Q. Does the level of interest rates affect the allowed ROE for regulated utilities?

A. Generally, yes. The common stock of regulated utilities tends to be interest rate sensitive. This means that the cost of equity for regulated utilities tends to rise and

fall with changes in interest rates. For example, as interest rates rise, the cost of equity will also rise, and vice versa when interest rates fall. This relationship is due in large part to the capital-intensive nature of regulated industries, including electric and gas utility companies, that rely heavily on both debt and equity to finance their regulated investments.

Q. Before you continue, please provide a brief explanation of how the Federal Reserve Board (Fed) uses interest rates to affect conditions in the financial markets.

A. Generally, the Fed uses monetary policy to implement certain economic goals. The Fed explained its monetary policy as follows:

> Monetary policy in the United States comprises the Federal Reserve's actions and communications to promote maximum employment, stable prices, and moderate long-term interest rates--the economic goals the Congress has instructed the Federal Reserve to pursue.[2]

One of the Fed's primary tools for conducting monetary policy is setting the federal funds rate. The federal funds rate is the interest rate set by the Fed that banks and credit unions charge each other for overnight loans of reserve balances. Traditionally, the federal funds rate directly influences short-term interest rates, such as the Treasury bill rate and interest rates on savings and checking accounts. The federal funds rate has a more indirect effect on long-term interest rates, such

[2] Monetary Policy, FED. RESERVE BD., (Feb. 19, 2025), **https://www.federalreserve.gov/monetarypolicy.htm.**

as the 30-Year Treasury Bond and private and corporate long-term debt. Long-term interest rates are set more by market forces that influence the supply and demand of loanable funds.

Q. Describe the trend in interest rates over the last 10 years.

A. Until recently, the overall trend in interest rates in the U.S. and the world economy had been lower and this continued into 2020-2021 as governments and central banks, including the Fed, instituted programs in response to the economic shocks brought about by the COVID-19 pandemic. The trend of lower interest rates was precipitated by the 2007 financial crisis and severe recession that followed in December 2007. In response to this economic crisis, the Fed undertook a series of steps to stabilize the economy, ease credit conditions, and lower unemployment and interest rates. These steps are commonly known as Quantitative Easing (QE) and were implemented in three distinct stages: QE1, QE2, and QE3. The Fed's stated purpose of QE was "to support the liquidity of financial institutions and foster improved conditions in financial markets."[3]

In 2022, however, the Fed began an aggressive policy of raising short-term interest rates in response to concerns about persistently high inflation in the economy, which began to be a significant problem in 2021. After the Fed reduced the federal funds rate to nearly 0% through 2021, it was increased several times in 2022 and 2023, rising to a target range of 5.25% - 5.50%.

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[3] *Credit and Liquidity Programs and the Balance Sheet,* Monetary Policy, FED. RESERVE BD., (May 10, 2021), **https://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm.**

As inflation began to ease in 2023 and 2024, the Fed cut the federal funds rate by 50 basis points, or 0.50% on September 18, 2024, to a range of 4.75% to 5.00%, noting progress on reducing inflation toward its goal of 2.0%.[4] The Fed further lowered the federal funds rate on November 7, 2024 and again on December 18, 2024 to its current level of 4.25% - 4.50%. In its most recent press release issued on July 30, 2025, the Fed stated, in part, the following:

> Although swings in net exports continue to affect the data, recent indicators suggest that growth of economic activity moderated in the first half of the year. The unemployment rate remains low, 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 remains elevated. The Committee is attentive to the risks to both sides of its dual mandate.
>
> 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.[5]

Figure 1 below presents a graph that tracks the 30-Year Treasury Bond yield and the Mergent average utility bond yield. The graph covers the period from January 2015 through July 2025.

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[4] https://www.federalreserve.gov/monetarypolicy/files/monetary20240918a1.pdf.

[5] *Federal Reserve issues FOMC statement,* Press Release, FED. RESERVE BD., (July 30, 2025), https://www.federalreserve.gov/newsevents/pressreleases/monetary20250730a.htm.

Figure 1 graphically shows the steady increase in long-term bond yields since 2022. The 30-year Treasury Bond yield rose from 2.10% in January 2022 to 4.92% in July 2025. The Mergent average public utility bond yield also increased during that same period from 3.25% to 5.90%.

Q. What has been the recent experience with inflation?

A. Figure 2 presents monthly annualized inflation data from January 2021 through July 2025, the most recent monthly data that was available to me.

Figure 2 shows that inflation greatly accelerated in 2021, peaked in June 2022 at 9.1%, then declined substantially through the rest of the study period. The inflation rate for July 2025 was 2.7%.

Q. What are the expectations for inflation, interest rates, and other economic indicators going forward?

A. The Federal Reserve Bank of Philadelphia publishes the *Livingston Survey* ("Survey"), in which a panel of 21 forecasters provide projections for a number of economic variables, including growth in Gross Domestic Product (GDP), inflation, and unemployment, as well as short-term and long-term interest rates. The most recent edition of the Survey dated June 24, 2025, provided the following forecasts:

- Consumer Price Index (CPI) inflation is expected to average 3.0% for 2025 and 2026 and 2.26% over the next 10 years.

- 10-Year Treasury Bond yield is forecasted to be 4.1% for December 2025 and 2026.
- An unemployment rate of 4.3% is forecasted for 2025 and 4.6% for 2026.
- Real growth in GDP of 1.3% is forecasted in 2025, 1.6% for 2026 and 2.0% over the next ten years.[6]

The Fed's economic projections as of June 18, 2025, showed the following median forecasts:

- Personal Consumption Expenditures (PCE) inflation rate of 3.0% for 2025, 2.4% for 2026, and longer run inflation at 2.0%;
- Unemployment rate of 4.5% for 2025 and 2026, with a longer run unemployment rate of 4.2%; and
- Growth in real GDP of 1.4% for 2025, 1.6% for 2026, with a longer run growth rate of 1.8%.[7]

Q. Please explain the market volatility index and its performance since the beginning of 2024.

A. A widely used measure of market volatility is the Chicago Board Options Exchange (CBOE) Volatility Index (VIX), also called the "fear index" or "fear gauge." Basically, the VIX measures the market's expectations for volatility over the next 30-day period. The higher the VIX, the greater the expectation of volatility and

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[6] *Livingston Survey*, June 24, 2025; https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/livingston-2025-06

[7] Summary of Economic Projections, FED. RESERVE BD., (June 18, 2025), https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20250618.pdf

market risk. Figure 3 presents the VIX from January 1, 2024 through July 31, 2025.[8]

Figure 3 shows a sharp increase in the VIX on August 5, 2024. Then in March 2025, the VIX turned higher with very high expected volatility in April after President Trump announced a wide-ranging tariff plan. The VIX reached a high of 52.33 on April 8 but fell to 24.7 on April 30, 2025. The VIX has generally trended lower since then, with a value of 16.72 on July 31, 2025. The average VIX value so far for 2025 is 20.34 compared to the 2024 average of 15.55. This indicates increased expected market volatility so far in 2025.

Q. Did you review recent commission-allowed ROEs as part of your review of current financial and economic conditions?

[8] Historical Data for CBOE VIX Index and Other Volatility Indices, CBOE, https://www.cboe.com/tradable_products/vix/vix_historical_data/.

A. Yes. Regulatory Research Associates (RRA) is a group within S&P Global Commodity Insights that compiles and publishes commission-allowed ROEs from across the country. For 2024 and the first six months of 2025 RRA reported the following average allowed ROEs:[9]

- For 2024, the average allowed ROE for vertically integrated electric utilities was 9.84%.
- For the first six months of 2025, the average allowed ROE for vertically integrated utilities was 9.74%.
- The average allowed ROE for gas distribution utilities in fully litigated rate cases in 2024 was 9.78%.
- The average allowed ROE for gas distribution utilities in fully litigated rate cases for the first six months of 2025 was 9.83%.

III. DETERMINATION OF FAIR RATE OF RETURN

Q. Please describe the methods you employed in estimating a fair rate of return for the regulated electric operations of LGE and KU and the regulated gas operations of LGE.

A. I employed two methods of estimating the ROE for the Companies: the Discounted Cash Flow (DCF) model and the Capital Asset Pricing Model (CAPM). For electric operations, I applied these ROE estimation techniques to a group of twelve electric utility companies that was developed by Mr. D'Ascendis and then modified as I

[9] *Major energy rate case decisions in the US, January – June 2025,* Regulatory Research Associates, a group within S&P Global Commodity Insights.

will explain later. For gas operations, I employed the same proxy group of seven gas utilities used by Mr. D'Ascendis. My DCF analyses are based on the standard constant growth form of the model that employs four different growth rate forecasts from the Value Line Investment Survey, S&P Capital IQ, and Zacks. I also employed Capital Asset Pricing Model (CAPM) analyses using both historical and forward-looking data as well as sources that provide additional recommendations for the market risk premium portion of the CAPM. I estimated the CAPM ROE separately for electric and gas operations. The results from the DCF and CAPM support the reasonableness of my ROE recommendation to the Commission.

DCF Model

Q. Please describe the basic DCF approach.

A. The basic DCF approach is rooted in valuation theory. It is based on the premise that the value of a financial asset is determined by its ability to generate future net cash flows. In the case of a common stock, those future cash flows generally take the form of dividends and appreciation in stock price. The value of the stock to investors is the discounted present value of future cash flows. The general equation is:

$$\boldsymbol{V = \frac{R}{(1+r)} + \frac{R}{(1+r)^2} + \frac{R}{(1+r)^3} + \cdots \frac{R}{(1+r)^n}}$$

Where: *V = asset value*
R = yearly cash flows
r = discount rate

This is no different from determining the value of any asset from an economic point of view; however, the commonly employed DCF model makes certain simplifying

assumptions. One is that the stream of income from the equity share is assumed to be perpetual; that is, there is no salvage or residual value at the end of some maturity date (as is the case with a bond). Another important assumption is that financial markets are reasonably efficient; that is, they correctly evaluate the cash flows relative to the appropriate discount rate, thus rendering the stock price efficient relative to other alternatives. Finally, the model I typically employ also assumes a constant growth rate in dividends. The fundamental relationship employed in the DCF method is described by the formula**:**

$$\boldsymbol{k = {}^{D_1}/_{P_0} + g}$$

Where: D_1 *= the next period dividend*
P_0 *= current stock price*
g *= expected growth rate*
k *= investor-required return*

Using this formula, it is apparent that "k" must reflect the investors' expected return. Use of the DCF method to determine an investor-required return is complicated by the need to express investors' expectations relative to dividends, earnings, and book value over an infinite time horizon. Financial theory suggests that stockholders purchase common stock on the assumption that there will be some change in the rate of dividend payments over time. We assume that the rate of growth in dividends is constant over the assumed time horizon, but the model could easily handle varying growth rates if we knew what they were. Finally, the relevant time frame is prospective rather than retrospective.

Q. Please describe your approach for selecting proxy groups of companies.

A. With respect to LGE/KU's electric operations, I began with the proxy group of vertically integrated electric utilities that Companies' witness Mr. D'Ascendis used for his analysis. Mr. D'Ascendis described the criteria he used to select companies for his Electric Utility Proxy Group on pages 13 through 14 of his Direct Testimony. These screening criteria resulted in a 15-member proxy group, shown on page 15, that is generally reasonable to use for estimating the ROE for LGE/KU.

In this case I chose to exclude Edison International from the Electric Utility Proxy Group. Edison International's stock price was adversely affected by the risk associated with the wildfires that occurred in its service territory in January. As of January 2, 2025, Edison's stock price was $80.01 per share. The price dropped precipitously in January to $54 on January 31. At this point, the market is still substantially discounting Edison's stock price because of the uncertainty of the company's role in the wildfires. This significant event and its ongoing impact on Edison's stock price provide a sound basis for excluding it from the proxy group at this time. I also excluded TXNM Energy, Inc. from the Electric Utility Proxy Group as this company announced on May 19, 2025 that it agreed to be acquired by Blackstone Infrastructure. Finally, I excluded NorthWestern Energy Group from the Electric Utility Proxy Group due to a recently announced merger with Black Hills Corporation.

The 12-member Electric Utility Proxy Group for purposes of my ROE analyses is:

1. Alliant Energy Corporation
2. Ameren Corporation

3. American Electric Power Company, Inc.
4. Duke Energy Corp.
5. Entergy Corporation
6. Evergy, Inc.
7. IDACORP, Inc.
8. OGE Energy Corporation
9. Pinnacle West Capital Corp.
10. Portland General Electric Company
11. Southern Company
12. Xcel Energy Inc.

The 7-member Gas Utility Proxy Group is as follows:

1. Atmos Energy Corp.
2. New Jersey Resources Corp.
3. NiSource Inc.
4. Northwest Natural Holding Co.
5. ONE Gas, Inc.
6. Southwest Gas Holdings, Inc.
7. Spire Inc.

Q. What was your first step in determining the DCF return on equity for the proxy groups?

A. I first determined the current dividend yield, D_0/P_0, from the basic equation. My general practice is to use six months as the most reasonable period over which to estimate the dividend yield. The six-month period I used covered the months from February through July, 2025. I averaged daily stock prices from S&P Capital IQ for 1-month, 2-month, 3-month, and 6-month periods. The current dividend for each company was taken from each company's Value Line report.

The resulting average 6-month dividend yield for the Electric Utility Proxy Group is 3.52%. These calculations are presented in Exhibit RAB-2.

The resulting average 6-month dividend yield for the Gas Utility Proxy Group is 3.55%. These calculations are presented in Exhibit RAB-3.

Q. Having established the average dividend yield for your proxy groups, how did you determine the investors' expected growth rate?

A. The investors' expected growth rate, in theory, correctly forecasts the constant rate of growth in dividends. The dividend growth rate is a function of earnings growth and the payout ratio, neither of which is known precisely for the future. We refer to a perpetual growth rate since the DCF model has no arbitrary cut-off point. We must estimate the investors' expected growth rate because there is no way to know with absolute certainty what investors expect the growth rate to be in the short term, much less in perpetuity.

For my analysis in this proceeding, I used three major sources of analysts' forecasts for growth: Value Line, S&P Capital IQ, and Zacks.

Q. Please briefly describe Value Line, S&P Capital IQ, and Zacks.

A. Value Line is a widely used and respected source of investor information that covers approximately 1,700 companies in its Standard Edition and several thousand in its Plus Edition. It is updated quarterly and represents a comprehensive source of information for investors. It provides both historical and forecasted information on a number of important data elements. Value Line neither participates in financial markets as a broker nor works for the utility industry in any capacity of which I am aware.

Zacks gathers opinions from a variety of analysts on earnings growth forecasts for numerous firms including regulated electric utilities. The estimates of the analysts responding are combined to produce consensus average estimates of earnings growth. I obtained Zacks' earnings growth forecasts from its web site.

Like Zacks, S&P Capital IQ also compiles and reports consensus analysts' forecasts of earnings growth.

Q. Why did you rely on analysts' forecasts in your analysis?

A. ROE analysis is a forward-looking process. Five-year or ten-year historical growth rates may not accurately represent investor expectations for future dividend and earnings growth. Analysts' forecasts for earnings and dividend growth provide better proxies for the expected growth component in the DCF model than historical growth rates. Analysts' forecasts are also widely available to investors and one can reasonably assume that they influence investor expectations.

In this case, however, I am concerned that the consensus analysts' forecasts from S&P Capital IQ and Zacks will overstate the long-run constant growth rate for the two proxy groups, especially the Gas Utility Proxy Group. I will discuss this in greater detail in the Conclusions and Recommendations portion of this section of my testimony.

Q. Please explain how you used analysts' dividend and earnings growth forecasts in your constant growth DCF analysis.

A. Columns (1) through (4) of Exhibits RAB-4 and RAB-5 show the forecasted dividend and earnings growth rates from Value Line and the earnings growth forecasts from S&P Capital IQ and Zacks for the companies in the two proxy groups. It is important to include dividend growth forecasts in the DCF model since the model calls for forecasted cash flows and Value Line is the only source of which I am aware that forecasts dividend growth.

Q. Using this information, how did you determine the DCF ROE for the proxy groups?

A. To estimate the expected dividend yield (D_1), the current dividend yield must be moved forward in time to account for dividend increases over the next twelve months. I estimated the expected dividend yield by multiplying the current dividend yield by one plus one-half the expected growth rate.

Exhibits RAB-4 and RAB-5 present my standard method of calculating dividend yields, growth rates, and ROE for the proxy groups. The DCF ROE section of each of these exhibits shows the application of each of four growth rates to the current dividend yield to calculate the expected dividend yield. I then added the expected growth rates to the expected dividend yield. My DCF ROE was calculated using two different methods. Method 1 uses the average growth rates for the proxy group and Method 2 utilizes the median growth rates.

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

A. For the Electric Utility Proxy Group (average growth rates), the Method 1 results range from 8.56% to 10.51%, with the average of these results being 9.70%. For Method 2 (median growth rates), the ROE results range from 9.11% to 10.35%, with the average of these results being 9.94%.[10]

For the Gas Utility Proxy Group (average growth rates), the Method 1 results range from 7.69% to 11.52%, with the average of these results being

[10] Refer to Exhibit RAB-4 for the detailed calculations.

10.17%. The midpoint of the range is 9.61%. For Method 2 (median growth rates), the ROE results range from 8.13% to 11.59%, with the average of these results being 10.21%.[11] The midpoint of the range is 9.86%.

Capital Asset Pricing Model

Q. Briefly summarize the CAPM approach.

A. The theory underlying the CAPM approach is that investors, through diversified portfolios, may combine assets to minimize the total risk of the portfolio. Diversification allows investors to diversify away all risks specific to a particular company and be left only with market risk that affects all companies. Thus, the CAPM theory identifies two types of risks for a security: company-specific risk and market risk. Company-specific risk includes such events as strikes, management errors, marketing failures, lawsuits, and other events that are unique to a particular firm. Market risk includes inflation, business cycles, war, variations in interest rates, and changes in consumer confidence. Market risk tends to affect all stocks and cannot be diversified away. The idea behind the CAPM is that diversified investors are rewarded with returns based on market risk.

Within the CAPM framework, the expected return on a security is equal to the risk-free rate of return plus a risk premium that is proportional to the security's market, or non-diversifiable risk. Beta is the factor that reflects the inherent market risk of a security and measures the volatility of a particular security relative to the

[11] Refer to Exhibit RAB-5 for the detailed calculations.

overall market for securities. For example, a stock with a beta of 1.0 indicates that if the market rises by 15%, that stock will also rise by 15%. This stock moves in tandem with movements in the overall market. Stocks with a beta of 0.5 will only rise or fall 50% as much as the overall market. With an increase in the market of 15%, this stock will only rise 7.5%. Stocks with betas greater than 1.0 will rise and fall more than the overall market. Thus, beta is the measure of the relative risk of individual securities vis-à-vis the market.

Based on the foregoing discussion, the equation for determining the return for a security in the CAPM framework is:

$$K = Rf + \beta(MRP)$$

Where: K = *Required Return on equity*
Rf = *Risk-free rate*
MRP = *Market risk premium*
β = *Beta*

This equation tells us about the risk/return relationship posited by the CAPM. Investors are risk averse and will only accept higher risk if they expect to receive higher returns. These returns can be determined in relation to a stock's beta and the market risk premium (MRP). The general level of risk aversion in the economy determines the MRP. If the risk-free rate of return is 3.0% and the required return on the total market is 10%, then the market risk premium is 7%. Any stock's risk premium can be determined by multiplying its beta by the MRP. Its total return may then be estimated by adding the risk-free rate to that risk premium. Stocks with betas greater than 1.0 are considered riskier than the overall

market and will have higher required returns. Conversely, stocks with betas less than 1.0 will have required returns lower than the market as a whole.

Q. In general, are there concerns regarding the use of the CAPM in estimating the ROE?

A. Yes. There is some controversy surrounding the use of the CAPM and its accuracy regarding expected returns. There is substantial evidence that beta is not the primary factor for determining the risk of a security. For example, Value Line's "Safety Rank" is a measure of total risk, not its calculated beta coefficient. Dr. Burton Malkiel, author of *A Random Walk Down Wall Street*, noted the following in his best-selling book on investing:

> Second, as Professor Richard Roll of UCLA has argued, we must keep in mind that it is very difficult (indeed probably impossible) to measure beta with any degree of precision. The S&P 500 Index is not "the market." The total stock market contains many thousands of additional stocks in the United States and thousands more in foreign countries. Moreover, the total market includes bonds, real estate, commodities, and assets of all sorts, including one of the most important assets any of us has - the human capital built up by education, work, and life experience. Depending on exactly how you measure "the market" you can obtain very different beta values.[12]

Shannon Pratt and Roger Grabowski, authors of *Cost of Capital*, also stated the following with respect to the CAPM:

> Even though the capital asset pricing model (CAPM) is the most widely used method of estimating the cost of equity capital, the accuracy and predictive power of beta as the sole measure of risk have increasingly come under attack. As a result, alternative measures of risk have been proposed and tested. That is, despite its wide adoption, academics and practitioners alike have questioned the usefulness of CAPM in accurately estimating the cost of equity

[12] Burton G. Malkiel, A Random Walk Down Wall Street, 219 (2023 ed.)

capital and the use of beta as a reliable measure of risk.[13]

As a practical matter, there is substantial judgment involved in estimating the required market return and MRP. In theory, the CAPM requires an estimate of the return on the total market for investments, including stocks, bonds, real estate, etc. It is nearly impossible for the analyst to estimate such a broad-based return. Often in utility cases, a market return is estimated using the S&P 500. However, as Dr. Malkiel pointed out, this is a limited source of information with respect to estimating the investor's required return for all investments. In practice, the total market return and MRP estimates face limitations to estimation and, ultimately, their usefulness in quantifying the investor required CAPM ROE.

In the final analysis, a considerable amount of judgment must be employed in determining the market return and expected risk premium elements of the CAPM equation. The analyst's application of judgment can significantly influence the results obtained from the CAPM. My experience with the CAPM indicates that it is prudent to use a wide variety of data in estimating investor-required returns. Of course, the range of results may also be wide, indicating the challenge in obtaining a reliable estimate from the CAPM.

Q. How did you estimate the market return and MRP of the CAPM?

A. I used three approaches to estimate the MRP portion of the CAPM equation. First, I will present an approach that uses the expected return on the market and is forward-looking. Second, I will present an approach that employs three historical

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[13] Shannon Pratt & Roger Grabowski, Cost of Capital 269 (5th ed 2014).

MRPs based on actual stock and bond returns. Third, I will present four published sources that estimate the current investor required MRP.

Q. Please describe your forward-looking approach to estimating the MRP.

A. The first source I used was the Value Line *Summary and Index* dated August 1, 2025. The Value Line *Summary and Index* provides data with which one may calculate a DCF estimate on the companies that Value Line follows. Value Line presents a median estimated dividend yield for all dividend paying stocks (2.10%) and the median estimated 3–5-year price appreciation potential of all stocks in the Value Line universe (40%). The estimated 3-5-year appreciation estimate translates into an annualized appreciation number, or growth rate, of 8.78%. I present Value Line's projected annual returns on page 1 of Exhibits RAB-6 and RAB-7. The DCF ROE result for the market is 10.88%.

Q. Do you have any concerns related to this forward-looking MRP estimate?

A. Yes. The expected growth rate of 8.78% is overstated as a long-term constant growth rate for the market. This is because it is far higher than the expected nominal growth rate for the Gross Domestic Product of the U.S., which is around 4.0%. I will discuss this concern in greater detail in Section IV where I respond to Mr. D'Ascendis' forward-looking market risk premium. A long-term earnings growth rate of 8.78% cannot be sustained over the long run and, therefore, it may overstate the investor-required return on the market and the CAPM ROE result.

Q. Please continue with your MRP analysis.

A. The second source I considered came from Kroll, which compiled a study of historical returns on the stock market in its *Cost of Capital Navigator: U.S. Cost of*

Capital Module and is part of its Cost of Capital Navigator subscription service. Kroll provides services to clients in 140 countries covering valuation, compliance and regulation, corporate finance and restructuring, and other areas. Kroll now provides the Cost of Capital Navigator service that was formerly provided by Duff and Phelps.

Some analysts employ historical data to estimate the MRP of stocks over the risk-free rate. The assumption is that a risk premium calculated over a long period of time is reflective of investor expectations going forward. Exhibits RAB-6 and RAB-7, page 2, presents the calculation of the market returns and MRPs using the historical data from Kroll.

Q. Please explain how these historical MRPs are calculated.

A. Exhibit RAB-6, page 2, shows the historical arithmetic average MRP over the historical period from 1926 – 2024. The historical MRP is calculated by subtracting the average annual return for the 20-year Treasury Bond from historical average stock returns, resulting in an historical MRP of 7.31%.

Q. Did you include additional measures of historical risk premiums in this case?

A. Yes. Kroll reported the results of a study by Dr. Roger Ibbotson and Dr. Peng Chen indicating that the historical risk premium of stock returns over long-term government bond returns has been significantly influenced upward by substantial growth in the price/earnings (P/E) ratio.[14] Kroll noted that this growth in the P/E ratio for stocks was subtracted from the historical risk premium to arrive at an

[14] *Kroll Cost of Capital Navigator: U.S. Cost of Capital Module,* Basic Building Blocks of the Cost of Equity Capital – Risk-free Rate and Equity Risk Premium (Abridged), pp. 4 – 6.

adjusted "supply side" historical MRP. The most recent "supply side" historical MRP is 6.26%, which I have also included in Exhibit RAB-6, page 2.

Q. Is there additional evidence that the growth in the P/E ratio should be removed from the historical risk premium?

A. Yes. William Goetzman and Roger Ibbotson wrote the following regarding the supply-side approach to estimating the equity risk premium:

> There are several ways in which one might estimate an expected risk premium used for forecasting. One way is to extrapolate historical risk premiums, as did Ibbotson and Sinquefield. Another is to use investor demand models based upon investor risk aversion, as did Mehra and Precott. A third way is to look at the type of returns that the corporate sector supplies. Diermeir, Ibbotson, and Siegel (1984) and later Ibbotson and Chen (2003) used this supply approach. They extrapolated the cash flows and earnings growth generated by companies themselves. These forecasts tend to give somewhat lower historical risk premiums, primarily because part of the total return of the stock market has come from price-to-earnings ratio expansion. This expansion is not predicated to continue on indefinitely and is removed from the expected risk premium.[15]

Q. Are there other concerns regarding the use of historical MRPs for estimating the investor required ROE?

A. Yes. A historical MRP calculated over a long period of time may not reflect current investor expectations and requirements. For example, Pratt and Grabowski presented a detailed discussion of the sources of potential upward bias and overstatement of the long-term historical risk premium.[16] One potential source of bias they analyzed was the historical period of 1942 – 1951, which included

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[15] William N. Goetzmann & Roger G. Ibbotson, Handbook of the Equity Risk Premium 522-523 (Rajnish Mehra ed., Elsevier B.V., 2008).

[16] Pratt and Grabowski, Cost of Capital, 119 (Wiley, 5th ed.)

government-imposed stability in interest rates for government bonds during the Second World War. Pratt and Grabowski named this period "WWII Interest Rate Bias" and estimated that it resulted in an overstatement of the long-run historical risk premium of 117 basis points, or 1.17%. Pratt and Grabowski also considered the supply-side MRP, which I considered and presented earlier.

Kroll analyzed and calculated the so-called World War II Interest Rate Bias and subtracted it from the supply-side ERP of 6.26%, resulting in an adjusted historical ERP of 5.31%. I also present this historical ERP on page 2 of Exhibits RAB-6 and RAB-7.

In addition to the foregoing discussions, Dr. Aswath Damodaran of the Stern Business School observed the following regarding the use of historical MRPs:

> Given how widely the historical risk premium approach is used, it is surprising that the flaws in the approach have not drawn more attention. Consider first the underlying assumption that investors' risk premiums have not changed over time and that the average risk investment (in the market portfolio) has remained stable over the period examined. We would be hard pressed to find anyone who would be willing to sustain this argument with fervor. The obvious fix for this problem, which is to use a more recent time period, runs directly into a second problem, which is the large noise associated with historical risk premium estimates. While these standard errors may be tolerable for very long time periods, they clearly are unacceptably high when shorter periods are used.[17]

Although the simple, unadjusted long-run historical risk premium is widely used and available to investors, it is flawed and likely to overstate the investor

[17] *Equity Risk Premiums (ERP): Determinants, Estimation, and Implications – The 2022 Edition, Updated: March 23, 2022*, Aswath Damodaran, Stern School of Business.

expected risk premium for forecasting purposes. It should be viewed with caution and supplemented with other sources as I have done here.

Q. Did you consider any other sources for estimating the MRP?

A. Yes, I also considered four other sources for estimating the MRP.

First, Kroll provides a recommendation for the MRP for the United States. Its recommended MRP as of April 15, 2025 is 5.50%.[18]

Second, KMPG Corporate Finance and Evaluations produces an estimate of the MRP based on its market valuation analyses. The markets included in KMPG's analyses are the S&P 500, Financial Times Stock Exchange (FTSE), and STOXX 600. As of June 30, 2025 KMPG recommended an MRP of 5.25%.[19]

Third, Dr. Aswath Damodaran provides monthly estimates of the MRP using what he calls an implied risk premium approach. Dr. Damodaran is a professor of finance at the Stern School of Business at New York University and is a researcher on the topic of MRPs, among other things. On July 1, 2025, Dr. Damodaran estimated an MRP in the range of 3.56% - 5.74%, with an average of 4.28%.[20]

Fourth, Pablo Fernandez, Diego Garcia, and Lucia Acin prepared and published a study entitled *Survey: Market Risk Premium and Risk-Free Rate used*

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[18] https://www.kroll.com/en/insights/publications/cost-of-capital/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates.

[19] https://indialogue.io/clients/reports/public/5d9da61986db2894649a7ef2/5d9da63386db2894649a7ef5

[20] Aswath Damodaran, Damodaran Online (last visited July 12, 2025), https://pages.stern.nyu.edu/~adamodar/New_Home_Page/home.htm

for 54 countries in 2025.[21] This is a comprehensive survey of finance and economics professors, analysts, and managers of companies regarding their expectations for the market risk premium and risk-free rate for purposes of calculating the required return on equity in various countries. This survey has been published yearly since 2008. The authors received 1,079 survey responses for the MRP and risk-free rate for the United States. The average and median MRP for 2025 was 5.50%.

These MRPs are presented on page 3 of Exhibits RAB-6 and RAB-7.

Q. How did you determine the risk-free rate?

A. I considered a six-month average of the 30-year Treasury Bond yield from February through July 2025. These yields are shown in Exhibits RAB-6 and RAB-7, page 1. The six-month average 30-Year Treasury Bond yield is 4.77%. This six-month period tracks the six-month period I used for stock prices in my DCF analyses. The most recent three-month average is the same 4.90%. Given the rise in the 30-Year Treasury yield over the last three months, I chose to use 4.90% as the risk-free rate in my CAPM analyses.

Q. Please summarize your calculated MRP estimates with the forward-looking data from Value Line, the historical MRPs, and the four other sources you described.

A. The MRPs from Exhibits RAB-6 and RAB-7, pages 1 through 3 are as follows:

- Value Line forward-looking risk premium 5.97%

[21] Fernandez, Garcia, and Acin, *Survey: Market Risk Premium and Risk-Free Rate used for 54 countries in 2025*, IESE Business School, May 20, 2025. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5260463

- Historical risk premium 5.31% - 7.31%
- Kroll 5.50%
- KMPG 5.25%
- IESE Survey 5.50%
- Average Damodaran MRP 4.28%

Q. How did you determine the value for beta?

A. I used two sources in this case. I obtained the betas for the companies in the Electric Utility Proxy Group and the Gas Utility Proxy Group from the most recent Value Line reports at the time I prepared my Direct Testimony and analyses. The average of the Value Line betas for the Electric Utility Proxy Group is 0.75.[22] For the Gas Utility Proxy Group, the average beta is 0.81.[23]

The second source is from S&P Capital IQ. S&P publishes 5-year betas for each company in the proxy group. I added this additional source for a more robust estimate of the CAPM. I would note that Mr. D'Ascendis also used two sources for beta in his CAPM analyses. The S&P betas, however, are known as "raw betas," meaning that they are not adjusted for beta's tendency to rise toward the market beta of 1.0 over time. Value Line adjusts its betas for this tendency and an adjusted beta is thought to be superior to the "raw" unadjusted beta for forecasting purposes. In order to adjust the raw S&P Capital IQ betas, I employed a commonly used

[22] Refer to Exhibit RAB-6, page 1.
[23] Refer to Exhibit RAB-7, page 1.

formula called "the Blume Adjustment" or "the Bloomberg Adjustment." The formula is as follows:

*Adjusted beta = (Raw beta * 0.67) + .33*

This formula results in upward adjustments to beta values less than 1.0, which is the case for all the electric and gas utility companies in the proxy groups. The adjusted beta for the companies in the Electric Utility Proxy Group is 0.65 and for the Gas Utility Proxy Group is 0.74.[24]

Finally, I used the average of the S&P Capital IQ and Value Line betas for purposes of estimating the CAPM ROE for the two proxy groups. Please refer to page 1 of Exhibits RAB-6 and RAB-7 for the proxy group averages.

Q. Please summarize the CAPM results.

A. For the Electric Utility Proxy Group, the CAPM ROE estimates are as follows:

1.	Forward-looking MRP	9.10%
2.	Arithmetic Historical MRP	10.04%
3.	Supply-side Historical MRP	9.30%
4.	Supply-side Less WWII Bias	8.63%
5.	IESE Survey MRP	8.77%
6.	KMPG MRP	8.59%
7.	Kroll MRP	8.77%
8.	Damodaran Average MRP	7.91%

For the Gas Utility Proxy Group, the CAPM ROE estimates are as follows:

1.	Forward-looking MRP	9.52%
2.	Arithmetic Historical MRP	10.56%
3.	Supply-side Historical MRP	9.74%
4.	Supply-side Less WWII Bias	9.01%
5.	IESE Survey MRP	9.16%
6.	KMPG MRP	8.96%

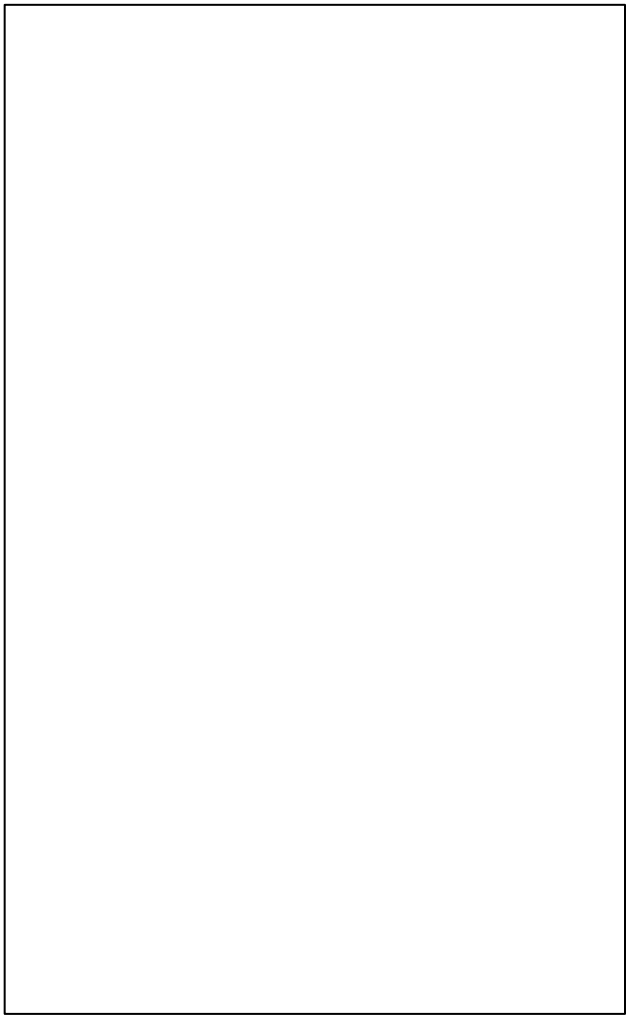
[24] Refer to page 1 of Exhibits RAB-6 and RAB-7.

7.	Kroll MRP	9.16%
8.	Damodaran Average MRP	8.22%

Conclusions and Recommendations

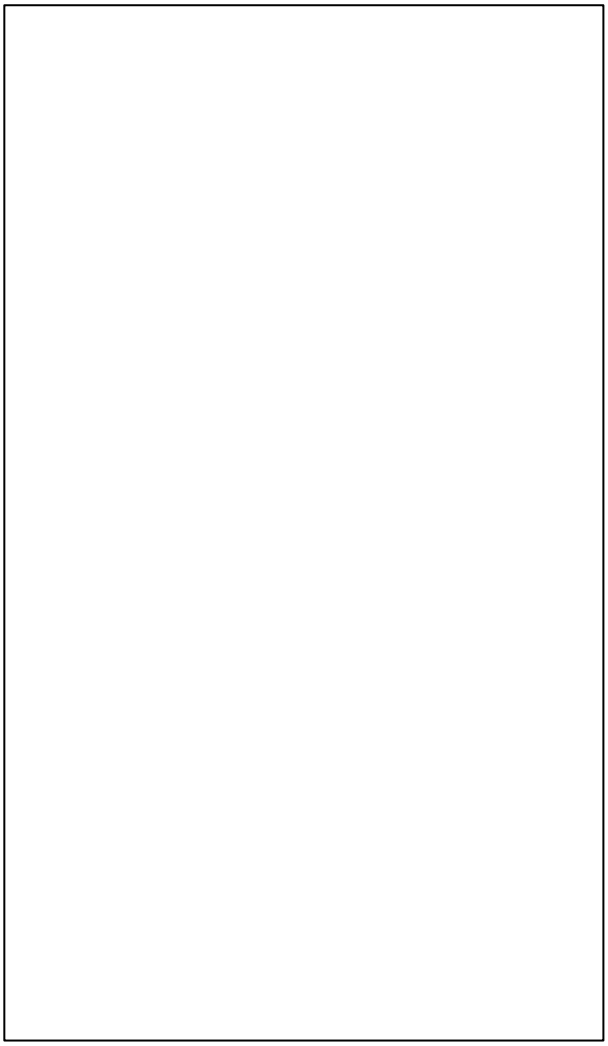
Q. Please summarize the cost of equity results for your DCF and CAPM analyses as they apply to the Electric Utility Proxy Group.

A. Table 1 summarizes my ROE results using the DCF and CAPM for the Electric Utility Proxy Group.



Q. Please summarize the cost of equity results for your DCF and CAPM analyses as they apply to the Gas Utility Proxy Group.

A. Table 2 summarizes my ROE results using the DCF and CAPM for the Gas Utility Proxy Group.



Q. What is your recommended ROE for the electric and gas utility operations of LGE and KU?

A. My recommended ROE for LGE/KU's electric and gas operations is 9.60%. The range of ROE results for the Electric Utility Proxy Group is 9.0% (CAPM average results) to 10.0% (median DCF results rounding up). My recommended ROE is slightly above the midpoint of this range.

The range of ROE results for LGE's gas utility operations is 9.30% to 10.20%. The lower end of this recommended range is consistent with the average ROE results from the CAPM analyses. The upper end of the range is consistent with the average DCF results. My 9.60% recommendation is below the midpoint of the range.

Given LGE/KU's credit ratings of A3 from Moody's and A- from S&P, a 9.60% ROE is just and reasonable for the low-risk electric and gas utility operations of the Companies.

Q. Earlier in your testimony you expressed concerns regarding the increase in the consensus analysts' earnings growth forecasts for your DCF model. Please explain your concern in this regard.

A. In this case, the average of consensus analysts' earnings growth rates for the Electric Utility Proxy Group is 6.40% to 6.87% as shown in my Exhibit RAB-4. The consensus analysts' forecasts for the Gas Utility Proxy Group are much higher, ranging from 7.44% to 7.83%. These earnings growth forecasts are significantly higher than the long-term growth rate of the overall economy as measured by growth in the GDP, as well as historical earnings and dividend growth for the companies in the proxy groups. For mature, steady-state industries such as electric and gas utilities, it is highly unlikely that earnings growth significantly above GDP growth can be maintained indefinitely as the constant growth DCF model assumes. In other words, electric and gas utilities cannot outgrow the GDP in perpetuity. Using these consensus forecasts alone would overstate the DCF ROE in this case, especially for the utilities in the Gas Utility Proxy Group.

As support for this, in *Fundamentals of Financial Management,* Brigham and Houston note the following:

> Second, the constant growth model as expressed in Equation 9.2 is not appropriate unless a company's growth rate is expected to remain constant in the future. This condition almost never holds for new start-up firms, but it does exist for many mature companies. Indeed, mature firms such as Keller, Allied, and GE are generally expected to grow at about the same rate as nominal gross domestic product (i.e., real gross domestic product [GDP] plus inflation).[25]

Pratt and Grabowski also cautioned as follows:

> It is theoretically impossible for the sustainable perpetual growth rate for a company to significantly exceed the growth rate in the economy. Any rate over a 6% to 7% perpetual growth rate should be questioned carefully.[26]

Regarding forecasts of GDP, Federal Reserve projections of June 18, 2025, called for longer-run real GDP growth of 1.8% and PCE inflation of 2.0%. This translates into forecasted nominal GDP growth of 3.80% per year. The Congressional Budget Office also projects growth in real GDP through 2035 of 1.80% and CPI inflation of 2.0%.[27] If we assume forecasted long-run nominal GDP growth of around 4.0%, then forecasted constant earnings growth rates between 6.40% - 7.83% for the electric and gas utility industries simply cannot be sustained over time.

Given current consensus earnings growth forecasts, forecasted dividend growth must also be considered in the DCF ROE analyses. The lower dividend

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[25] Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, 333-334, Eleventh Edition (2022, 2020 Cengage Learning, Inc.)

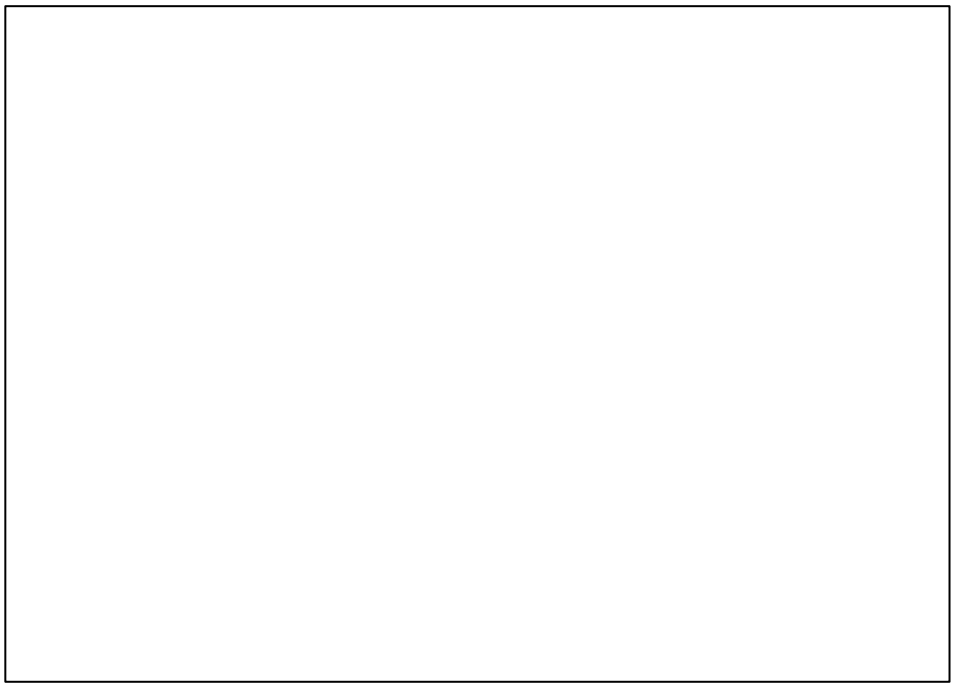
[26] Shannon Pratt and Roger Grabowski, Cost of Capital 461 (Wiley, 5th ed.)

[27] https://www.cbo.gov/system/files/2025-03/61187-Long-Term-Outlook-2025.pdf.

growth forecasts from Value Line help to offset the higher consensus analysts' forecasts for the Electric Utility Proxy Group, but in my opinion do not fully offset these forecasts for the Gas Utility Proxy Group. The resulting ROEs for the Gas Utility Proxy Group using the S&P Capital IQ and Zacks forecasts range from 10.98% to 11.59%. These ROE results do not represent long-term earnings growth for gas utilities and fail the basic test of reasonableness when compared to recent commission-allowed ROEs for gas utilities that averaged 9.83% for the first half of 2025.

Q. How do the S&P Capital IQ and Zacks growth rates compare to historical earnings and dividend growth for the Electric Utility Proxy Group?

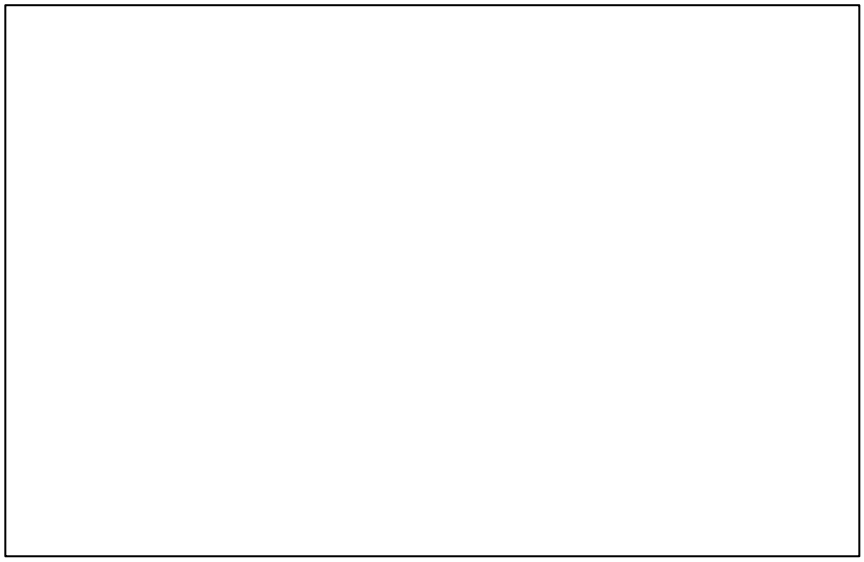
A. Table 3 below presents Value Line's 5-year and 10-year historical earnings and dividend growth for the companies in the Electric Utility Proxy Group.



Historical earnings growth ranges from 3.8% to 4.4%. Historical dividend is 5.0%. Historical growth rates are all significantly lower than the average consensus earnings growth forecasts in this case.

Q. How do the S&P Capital IQ and Zacks growth rates compare to historical earnings and dividend growth for the Gas Utility Proxy Group?

A. Table 4 below presents Value Line's 5-year and 10-year historical earnings and dividend growth for the companies in the Gas Utility Proxy Group.



Regarding historical earnings growth, the 5-year average earnings growth rate is skewed because of the 25% growth rate of Northwest Natural Holding Co., which is clearly a statistical aberration. Excluding Southwest Gas, the average historical earnings growth rates range from 4.92% to 7.00% with a midpoint of 5.96%. Dividend growth ranged from 5.43% to 6.75% with a midpoint of 6.09%. Using an historical growth rate of 6.00%, the resulting DCF ROE would be :

$$(3.55\% * 1.03) + 6.0\% = 9.66\%$$

My recommended 9.60% ROE for LGE's gas operations reasonably approximates a DCF ROE using a 6.00% historical growth rate.

Q. Did you review LGE/KU's requested capital structures?

A. Yes. Companies' witness Burgos presented the requested capital structures for the Companies. I reviewed Mr. Burgos testimony and the J-Schedules that support the capital structures and find the requested capital structures reasonable for purposes of this case.

Q. Did you identify any issues with the Companies' requested cost of long-term debt?

A. Yes. Both LGE and KU included new long-term debt issuances of $800 million in their proposed capital structures. The Companies' assumed coupon rate for this new debt was 6.50% and it was further assumed to be issued on August 1, 2025. On August 13, 2025 it was reported by Investing.com that LGE and KU each had issued $700 million of long-term debt with a coupon rate of 5.85%.[28] I recommend that the Commission adjust the Companies' assumed coupon rate of 6.50% to the actual coupon rate of 5.85%. Mr. Lane Kollen, witness for the OAG and KIUC, will address this adjustment in his Direct Testimony.

Q. Should the Companies' capital structure be adjusted for the lower amount of long-term debt?

A. No. The Companies' proposed forecasted common equity ratios of 52.86% for KU and 52.93% for LGE are reasonable and adequate for the provision of service to

[28] https://za.investing.com/news/sec-filings/louisville-gas-and-electric-and-kentucky-utilities-issue-700-million-bonds-each-93CH-3838160

ratepayers. Given that they are forecasted amounts for the test years, I recommend that the Commission accept the forecasted common equity percentages in this case.

Q. What is the current treatment for the ROE that is applied to LGE and KU's Environmental Cost Recovery (ECR) riders?

A. Pursuant to past Commission Orders, the ECR riders are calculated with a reduction to the Companies' Commission-approved ROE.[29] Most recently, the Commission awarded a 10 basis point reduction for capital riders in Case No. 2024-00276 involving Atmos Energy Corporation and asserted that the ROE for capital riders is adjusted downwards because "[w]ith a rider, since a return is guaranteed and the time line of recovery is known and ordinarily not meaningfully delayed, the required return is less than the ROE associated with a rate case as the risk involved is decreased and most lag associated with recovery is eliminated."[30] This approach continues to be appropriate and applicable for LGE and KU's ECR riders and I recommend that the Commission apply a 10 basis point reduction to my recommended ROE of 9.60%, making the ECR ROE 9.50%.

Q. Did you review the Direct Testimony filed by LGE witness Rieth regarding LGE's Gas Line Tracker (GLT)?

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[29] LG&E and KU base rate cases 2020-00350 and 2020-00349 [ECR]: In Re: Application Of Louisville Gas And Electric Company For An Adjustment Of Its Electric And Gas Rates, A Certificate Of Public Convenience And Necessity To Deploy Advanced Metering Infrastructure, Approval Of Certain Regulatory And Accounting Treatments, And Establishment Of A One-Year Surcredit, Case No. 2020-00350, Final Order dated June 30, 2021 at 7-8; In Re: Application Of Kentucky Utilities Company For An Adjustment Of Its Electric Rates, A Certificate Of Public Convenience And Necessity To Deploy Advanced Metering Infrastructure, Approval Of Certain Regulatory And Accounting Treatments, And Establishment Of A One-Year Surcredit, Final Order dated June 30, 2021 at 7 [ECR].

[30] Case No. 2024-00276, *Electronic Application of Atmos Energy Corporation for an Adjustment of Rates; Approval of Tariff Revisions; and Other General Relief* (Ky. PSC Aug. 11, 2025), Order, page 38.

A. Yes. Mr. Rieth presented testimony supporting the continuance of LGE's GLT in this proceeding. The GLT provides for recovery of safety-related investments in areas related to service risers, customer service line ownership, leak mitigation through the main replacement program and replacing company services, and the replacement of Aldyl-A plastic pipe. The GLT operates outside of LGE's rate cases and is trued-up yearly for actual costs.

Q. What is your ROE recommendation for the GLT?

A. If the Commission decides to continue the GLT in this proceeding, then consistent with its treatment of other tracker mechanisms I recommend that the Commission apply a 10 basis point reduction to investments included in the GLT. If the Commission adopts my recommended ROE, then the ROE for the GLT should be 9.50% consistent with the ECR riders.

IV. RESPONSE TO LGE/KU ROE TESTIMONY

Q. Please summarize your conclusions with respect to Mr. D'Ascendis' ROE recommendation.

A. Mr. D'Ascendis' recommended 10.95% ROE is grossly excessive, would inflate LGE/KU's revenue requirement, harm Kentucky ratepayers, and should be rejected by the Commission. The remainder of this section of my testimony will present my points of disagreement with Mr. D'Ascendis and how his CAPM and risk premium analyses in particular contributed significantly to an inflated ROE recommendation for LGE/KU.

Q. Before you address the specifics of Mr. D'Ascendis' analyses, do you have any general observations regarding his 10.95% ROE recommendation?

A. Yes. I noted earlier in Section II that the average allowed ROE for vertically integrated electric utilities was 9.84% in 2024 and 9.74% through the first half of 2025. The average allowed ROE for gas utilities in fully litigated cases was 9.78% in 2024 and 9.83% in the first half of 2025. Mr. D'Ascendis' recommended ROE of 10.95% represents an extreme outlier compared to recent commission-allowed ROEs. Having said this, I do not recommend that the Commission base its allowed ROE in this case on average allowed ROEs in other states. Nonetheless, the average allowed ROEs I have cited provide the Commission a general basis for comparison and demonstrate that Mr. D'Ascendis' 10.95% ROE recommendation for LGE/KU is far outside of the mainstream.

Q. What was the KPSC's allowed ROE in its recent Order for Atmos Energy in Case No. 2024-00276 issued August 11, 2025?

A. The Commission's Order specified an allowed ROE for Atmos Energy of 9.75%. Mr. D'Ascendis was Atmos' witness in that case and recommended a ROE of 10.95%, the same ROE he recommends for LGE/KU's electric and gas operations. Obviously, Mr. D'Ascendis' ROE recommendation in this case is far above the Commission's allowed ROE for Atmos and should be rejected in this proceeding as well.

Q. How did Mr. D'Ascendis develop his recommended ROE range for the Companies?

A. On page 4 of his Direct Testimony, Mr. D'Ascendis presented the ROE range from the application of the models he used. For LGE/KU's electric operations his recommended range before adjustments is 10.32% - 11.84%. He then increased this range by 0.05% to 0.10% for a size adjustment, by -0.07% for a credit risk adjustment, and by 0.15% for flotation costs. This resulted in an adjusted ROE range of 10.51% - 12.03% for LGE and 10.46% - 11.97% for KU.

For LGE's gas operations, Mr. D'Ascendis' ROE range before adjustments is 10.29% - 11.92%, then was increased by 0.15% for a size adjustment and 0.15% for flotation costs. These adjustments resulted in a range of 10.59% - 12.22%.

From this range of results, Mr. D'Ascendis recommended a 10.95% ROE for LGE/KU's electric and gas operations.

Q. Where does Mr. D'Ascendis' 10.95% ROE recommendation fall within the recommended ranges he presented on page 4?

A. The midpoints of Mr. D'Ascendis' Electric Utility Proxy Group ROE ranges are 11.22% and 11.27%. The midpoint for his Gas Utility Proxy Group ROE range is 11.41%. Mr. D'Ascendis' 10.95% recommendation is below all of these midpoints. Mr. D'Ascendis did not provide an explanation in his testimony as to why his ROE recommendations are in the lower half of his recommended ranges.

DCF Analyses

Q. Please comment on Mr. D'Ascendis' DCF analyses.

A. Mr. D'Ascendis presented the results of his DCF analyses in his Exhibit DWD-3, page 1, for both his proxy groups. The average of the median and average results

for his Gas Utility Proxy Group results is 10.29%. The average of the median and average results for his Electric Utility Proxy Group is 10.32%. Mr. D'Ascendis utilized earnings growth rates from Value Line, S&P Capital IQ, and Zacks to develop his DCF ROE estimates. These are all commonly cited sources of earnings growth forecasts and I used the same sources as well. While Mr. D'Ascendis relied upon Value Line's earnings growth forecasts he also should have considered Value Line's dividend growth forecast for both proxy groups. I agree with Mr. D'Ascendis' statement on page 21 of his Direct Testimony that security analysts' earnings growth forecasts have a more significant influence on market prices than dividend expectations. However, because dividend payments are such a significant portion of the total return to utility shareholders, forecasted dividend growth should also be considered and Value Line is a trusted source of this information.

In addition, it is crucially important to consider the lower dividend growth forecasts for both proxy groups in this proceeding due to the unsustainably high earnings growth forecasts from S&P Capital IQ and Zacks. I explained earlier in my testimony why this is the case presently. Using only earnings growth forecasts will lead to a significant overstatement of the ROE results from the DCF model.

Risk Premium Model Analyses

Q. Before you address the specifics of Mr. D'Ascendis' risk premium model ("RPM") analyses, do you have any general comments regarding the risk premium method of estimating the investor required ROE for regulated utilities?

A. Yes. The bond yield plus RP approach is imprecise and can only provide very general guidance on the current authorized ROE for a regulated electric utility. Historical risk premiums can change substantially over time based on investor preferences and market conditions. As such, this approach is a "blunt instrument," if you will, for estimating the ROE in regulated proceedings. In my view, a properly formulated DCF model using current stock prices and growth forecasts is far more reliable and accurate than the bond yield plus risk premium models that rely on an historical analysis of risk premiums.

As I will explain, much of Mr. D'Ascendis' RPM analyses are based on historical risk premium analyses that may have no relevance in today's marketplace. Regarding his use of more forward-looking analyses, Mr. D'Ascendis systematically overstated his risk premiums. Both of these general problems led directly to excessive MRP ROEs for LGE/KU's electric and gas operations.

Q. Summarize and describe Mr. D'Ascendis' approach to estimating the expected RPM ROE.

A. First, Mr. D'Ascendis described the total market approach to estimating the RPM beginning on page 23 of his Direct Testimony. This method adds the prospective yield on a public utility bond (5.73%) to the average of (1) an equity risk premium that is derived from a beta-adjusted total market equity risk premium, (2) an equity risk premium based on the S&P Utilities Index, and (3) an equity risk premium based on authorized ROEs for electric and gas distribution utilities.

The beta-driven total market equity risk premium is actually composed of three historical market data-based equity risk premiums, a Value Line-based equity

risk premium, and a combined Value Line, Bloomberg, and S&P Capital IQ-based equity risk premium. These RPs are summarized on page 33, Table 7 of Mr. D'Ascendis' Direct Testimony. The risk premiums range from 5.85% to 9.88%, with an average of 7.19%.

Q. Did Mr. D'Ascendis use historical market returns as one method of estimating the MRP?

A. Yes. In Exhibit DWD-4, page 6 Mr. D'Ascendis showed that he used the "Kroll Equity Risk Premium" as one way of determining the MRP. He explained in that exhibit that the MRP was based on historical monthly returns on large company common stocks from Kroll and Bloomberg less the arithmetic mean monthly yield of Moody's average Aaa/Aa2 corporate bonds from 1928 – 2024.

Q. Did Mr. D'Ascendis address the potential for the overstatement of historical risk premiums that you addressed in discussing the CAPM MRP earlier in your testimony?

A. No. There is credible analysis that historical risk premiums may be overstated due to (1) rising price/earnings ratios that are not expected to persist and (2) the "World War II bias", both of which I explained in Section III of my Direct Testimony. Mr. D'Ascendis did not address these two potential sources of overstatement of the MRPs in his historical analysis.

Q. Did Mr. D'Ascendis use regression analyses to forecast risk premiums?

A. Yes. Mr. D'Ascendis explained the derivation of his regression-based market risk premium on pages 25 - 26 of his Direct Testimony. He calculated an MRP of 6.82% by attempting to model the relationship between interest rates and the MRP using

the yield on Moody's Aaa/Aa-rated corporate bonds as the independent variable and the monthly market risk premium as the dependent variable. I examined Mr. D'Ascendis' analysis and regression results included in his work paper MRP ERP WP.

Q. Was Mr. D'Ascendis' regression analysis statistically valid and does it form a sound basis for forecasting the expected risk premium?

A. No. There are statistical tests that are part of regression analyses that are designed to test the validity of the model and how well the model explains and predicts what is going on with the data set. One bedrock test is called the R-squared statistic, also referred to as the coefficient of determination. R-squared measures the proportion of variance in the dependent variable (the monthly risk premium) that is explained by the independent variable (corporate bond yields). R-squared results fall between 0 and 1. A higher value indicates that the model explains more of the total variation in the dependent variable. For example, an R-squared of .80 means that the model explains 80% of the variation and may be a good predictive model.

However, Mr. D'Ascendis' regression analysis has an R-squared of only 0.028, meaning that his model only explains about 2.80% of the total variation in historical market risk premiums. This is a very poor result and means that his model cannot and should not be relied upon to predict market risk premiums based on changes in bond yields.

Another measure of statistical accuracy, the t-statistic, shows that the independent variable, bond yields, is statistically significant in his regression model. This means it is a factor in predicting market risk premiums, but the overall

explanatory power of the model is so poor that it cannot be used accurately for forecasting purposes. The Commission should reject Mr. D'Ascendis' regression-based risk premium of 6.82%.

Q. Did Mr. D'Ascendis use regression equations to estimate risk premiums elsewhere in his analyses?

A. Yes. Mr. D'Ascendis employed two other regression analyses to estimate risk premiums. These are as follows:

- Regression analysis of monthly historical equity risk premiums between the S&P Utility Index and Moody's A2-rated public utility bond yields. This resulted in a risk premium of 4.80%.
- Regression analysis of the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government Securities. This analysis resulted in a market equity risk premium of 7.94% that was used in Mr. D'Ascendis' CAPM analysis.

Q. Were these two regression analyses similarly flawed in terms of low R-squared statistics?

A. Yes. The regression analysis of monthly historical equity risk premiums between the S&P Utility Index and Moody's A2-rated public utility bond yields had an R-squared value of only 0.013. Regression analysis of the monthly annualized historical returns on the S&P 500 relative to historical yields on long-term U.S. Government Securities had an R-squared value of only 0.019. These two R-squared values are even lower than the 0.028 R-squared value I mentioned previously.

To sum up, the two regression analyses Mr. D'Ascendis used to estimate risk premiums for his RPM ROE and the one he used for his CAPM ROE have little, if any, predictive value and should not be relied upon by the Commission.

Q. Briefly summarize Mr. D'Ascendis' PRPM analysis.

A. Mr. D'Ascendis described his PRPM approach beginning on page 26 of his Direct Testimony. According to Mr. D'Ascendis, the PRPM estimates the risk-return relationship by predicting volatility or risk. Mr. D'Ascendis testified that the PRPM is not based on an estimate of investor behavior, "but rather on an evaluation of the results of that behavior (*i.e.*, the variance of historical equity risk premiums.)"[31] The historical annual equity risk premium is generated using GARCH, generalized autoregressive conditional heteroscedasticity, and Eviews© statistical software. Mr. D'Ascendis relied on the monthly risk premiums between historical returns on the Ibbotson large company stocks and average Aaa and Aa corporate monthly bond yields, from January 1928 through February 2025. The PRPM risk premium result was 7.32%.

Q. Should the Commission rely on the PRPM developed and presented by Mr. D'Ascendis?

A. No. Mr. D'Ascendis did not show that the model he developed is relied upon by investors to determine their required ROE for regulated electric and gas utilities. Neither did he demonstrate that his PRPM is a widely accepted approach by regulatory commissions. The Kentucky Public Service Commission (KY PSC)

[31] Direct Testimony of Dylan W. D'Ascendis, p. 27, lines 4 to 7.

expressly rejected Mr. D'Ascendis' PRPM approach in Case Nos. 2021-00190, 2021-00214, and 2024-00276. In its Order in Case No. 2024-00276, the Commission stated the following:

> Although the Commission supports the use and presentation of multiple modeling approaches, the Commission finds that Atmos Kentucky's use of the Predictive Risk Premium Model (PRPM) should be rejected. Though the PRPM model has been published and presented in multiple forums, it has been rejected by this Commission and only been addressed by three other regulatory commissions thus far and is not universally accepted.[32]

Mr. D'Ascendis' PRPM approach was also rejected by the Florida Public Service Commission (FPSC) in Docket No. 20200139-WS, in which the FPSC made the following conclusion with respect to the PRPM:

> The only cost of equity model analysis that supports a 10.75 percent ROE is UIF witness D'Ascendis' Predictive Risk Premium Model (PRPM) with an average result of 11.66 percent. However, the record showed that the PRPM is based on the GARCH model, which used Eviews statistical software to derive a predictive equity risk premium, which is added to a projected risk-free rate. This method is akin to a black box calculation where the inputs were entered and a result was produced using statistical software. Witness D'Ascendis and his colleagues developed the PRPM method and admitted that it is used primarily by himself and other colleagues familiar with the methodology. The record failed to support that witness D'Ascendis' PRPM methodology is widely accepted by other jurisdictions as a method to estimate the equity risk premium. Therefore, we find that the cost of equity models using the PRPM shall be discounted in this case.[33]

The "black box" aspect of Mr. D'Ascendis' PRPM is indeed a valid concern. Mr. D'Ascendis' workpapers contain variance results, GARCH series, and GARCH

[32] Case No. 2024-00276, Order, page 36.

[33] Docket No. 20200139-WS, Order No. PSC-2021-0206-FOF-WS, June 4, 2021, page 94.

coefficients that were generated from the Eviews© software. Whether or not this information accurately portrays investor required returns and expectations is highly questionable. In fact, the "predictive" part of the PRPM consists of analyzing historical variances in risk premiums. The implicit assumption is that this historical behavior will persist into the future, which may not be correct.

In any event, using the 7.32% PRPM risk premium and the bond yield for the Gas Utility Proxy Group results in an excessive ROE result:

*(7.32% * .79) + 5.80% = 11.58% PRPM ROE*

This ROE result is excessive in light of recent commission-allowed ROEs that I referenced earlier in my testimony and contributed significantly to the overstatement of Mr. D'Ascendis' risk premium ROE results.

To conclude, the PRPM is based on historical risk premium relationships that may or may not hold for the future. We do not really know if investors expect the variance of historical risk premiums to continue or if they even use this information to assist them in determining their required ROE. We also do not know if investors would model the PRPM using Mr. D'Ascendis' assumptions. I recommend that the Commission not gamble with considering the PRPM and continue to reject it in this proceeding as it has consistently done in prior cases.

Q. Did Mr. D'Ascendis' other RP estimates produce unreasonable results with respect to his total market using beta RPM ROE?

A. Yes. Earlier I cited the top end of Mr. D'Ascendis' RP range of 9.88%, which was the result for the combined Value Line, Bloomberg, and S&P Capital IQ-based

equity risk premium. Evaluating this RP on its own would render the following RPM ROE:

*(9.88% * .79) + 5.80% = 13.61% ROE*

This RP ROE result is so far removed from current commission-allowed ROE and from the reality of current capital markets that it should be summarily rejected by the Commission. This ROE result, along with the untenable ROE result from Mr. D'Ascendis' PRPM analysis heavily biases upward his RPM ROE recommendation from the total market approach using beta.

To provide the Commission with some perspective, I reviewed the allowed ROEs and corresponding A-rated utility bond yields provided by Mr. D'Ascendis in his electronic work papers. Going back to 1981, the average commission-allowed ROE for electric companies that year was 12.90%. The corresponding average A-rated bond yield was 9.87%. In 1993 the average commission-allowed ROE for electric companies was 11.48% and the average yield on the A-rated Treasury Bond was 7.76% With the July 2025 Mergent A-rated utility bond yield at 5.88%, it is implausible that investors would expect ROEs anywhere near 11.58% - 13.61% in the current economic environment. The 11.58% and 13.61% RP ROE results are outliers, are completely unrepresentative of current investor required ROEs for regulated electric and gas utilities and should be rejected by the Commission.

Q. Why are Mr. D'Ascendis' projected MRPs from Value Line's *Summary and Index* and Value Line, Bloomberg, and S&P Capital IQ so high?

A. The problem with Mr. D'Ascendis' projected MRP stems from overstated expected market returns of 11.20% (*Summary and* Index) and 15.23% (Value Line, Bloomberg and S&P). The expected average earnings growth rates that Mr. D'Ascendis used were 9.16% and 13.84%, respectively. I calculated these expected growth rates from Mr. D'Ascendis' workpapers. These earnings growth rates from Value Line, Bloomberg, and S&P Capital IQ are unsustainably high in that they vastly exceed both the historical capital appreciation for the S&P 500 as well as historical and projected GDP growth rates. Kroll's historical analysis shows that the arithmetic average capital appreciation for the S&P 500 was 7.9% for the historical period 1926 to 2022.[34] Geometric, or compound growth was 6.1%. This historical experience stands in stark contrast to Mr. D'Ascendis' forecasted growth rates of 9.16% to 13.84%.

Mr. D'Ascendis' unsustainable earnings growth forecasts are not supportable when one further considers both historical and forecasted GDP growth for the U.S. Based on data from the Bureau of Economic Analysis, U.S. Department of Commerce, I calculated that the compound yearly growth rate for U.S. GDP from 1929 to 2024 was 6.1%. It is noteworthy that this growth rate matched the historical compound growth rate for capital appreciation for the S&P 500 of 6.1% from Kroll.

Regarding forecasts of GDP, projections that I referenced in Sections II and III of my testimony show even lower forecasted GDP growth than the historical

[34] Summary Statistics of Annual Total Returns, Income Returns, and Capital Appreciation Returns of Basic U.S. Asset Classes, 1926 - 2022, Cost of Capital Navigator: U.S. Cost of Capital Module.

average I calculated. Assuming forecasted long-run nominal GDP growth of around 4.0%, Mr. D'Ascendis' constant growth rates for the market of 9.81% and 13.84% simply cannot be sustained over the long-run. Using such inflated growth rates will inevitably lead to an overstatement in the long-run expected market return, the associated MRP, and the MRP ROE result.

I cited sources in the Conclusions and Recommendations portion of Section III that caution against using growth rates in the constant growth DCF model that exceed long-run growth in the economy. In *Cost of Capital*, Pratt and Grabowski also noted the following with respect to growth rates that significantly exceed growth in GDP:

> The growth rate assumed in calculating the terminal value is a compound growth rate *in perpetuity*, which is a very long time. At a growth rate of 20% compounded annually, the company's revenues would soon exceed the gross domestic product (GDP) of the United States and eventually that of the world. Long-term growth rates exceeding the real growth in GDP plus inflation are generally not sustainable. Most analysts use more conservative growth rates in calculating the terminal value. Generally, the long-term growth rate only applies to the existing enterprise or core business net cash flows, consistent with the net cash flow projections in the discounted cash flow method . . . . [35]

Since the constant growth DCF requires a sustainable long-run growth rate, which Mr. D'Ascendis does not use, his projected market returns and MRP estimates are overstated and should be rejected.

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[35] Shannon Pratt and Roger Grabowski, Cost of Capital 1195 (Wiley, 5th ed.)

Q. Beginning on page 35 of his Direct Testimony, Mr. D'Ascendis described an RP approach based on state utility regulatory commission-authorized ROEs. Please summarize and respond to this RP approach.

A. Mr. D'Ascendis explained that he conducted a regression analysis based on regulatory awarded ROEs related to the yields on Moody's A2-rated public utility bonds. This analysis purports to show the inverse relationship between utility bond yields and the investor required ROE. In other words, as bond yields decline the RP increases and vice versa.

This analysis assumes that investor required ROEs are deterministically based on historical average state utility regulatory commission-allowed ROEs and the RP relationship posited by Mr. D'Ascendis' regression analyses. Mr. D'Ascendis presented no evidence that investors in electric and gas utility stocks adopt this mechanistic approach to formulate their expected ROEs.

Applying Mr. D'Ascendis' regression model to current utility bond yields reveals substantial inaccuracy and overstatement of the investor required ROE. Using electric utility allowed ROEs as an example and the July 2025 Mergent Utility Bond Yield of 5.93%, Mr. D'Ascendis' RP ROE would be:

*(5.93% * -0.4737) + 7.4891 = 4.86% + 5.93% = 10.61% RP ROE*

Compared to the average commission-allowed ROE for vertically integrated electric companies for the first half of 2025 of 9.74%, Mr. D'Ascendis' regression model overstated the ROE by 0.87%, or 87 basis points.

CAPM and Empirical CAPM (ECAPM)

Q. Please summarize the results of Mr. D'Ascendis' CAPM/ECAPM analyses.

A. Mr. D'Ascendis' Exhibit DWD-5, pages 1 and 2, present summaries of his CAPM/ECAPM analyses for the Gas Utility Proxy Group and the Electric Utility Proxy Group. The results for the Gas Utility Proxy Group range from 11.09% to 11.11% excluding the PRPM. The results for the Electric Utility Proxy Group range from 10.70% to 10.79% excluding the PRPM.

Q. Summarize and describe Mr. D'Ascendis' approach to estimating the expected MRP for his CAPM/ECAPM analyses.

A. Mr. D'Ascendis presented five different MRP analyses that he used to estimate the expected MRP for the CAPM/ECAPM. Mr. D'Ascendis explained on page 41 of his Direct Testimony that his MRPs were derived from an average of three historical data-based MRPs, one Value Line data-based MRP, and one Value Line/Bloomberg/S&P Capital IQ data-based MRP. The MRPs for each method are shown in Table 13 on page 42 of his Direct Testimony. The MRPs ranged from 6.65% to 10.68% with an average MRP of 8.15%.

Q. Referring to the historical MRP from 1926 - 2024 of 7.31%, did Mr. D'Ascendis evaluate the potential for overstatement based on the "supply-side" MRP and the "supply-side MRP less WWII bias" you discussed in the section on the CAPM?

A. No. I included the 7.31% MRP in my historical MRPs for the CAPM and also included the lower MRPs from the "supply-side" MRP and the "supply-side less WWII bias" MRP. These MRPs should be included in an objective evaluation of

historical MRPs in the context of the CAPM. Mr. D'Ascendis' 7.31% Ibbotson MRP is very likely overstated and contributes to an excessive CAPM result.

Q. What is the CAPM result using the prospective equity risk premium for the S&P 500 of 10.68%?

A. Using Mr. D'Ascendis' risk-free rate of 4.55%, the Gas Utility Proxy Group average beta of 0.79, and the projected S&P MRP of 10.68%, the traditional CAPM result is:

*CAPM ROE = 4.55% + (0.79 * 10.68%) = 12.99%*

Mr. D'Ascendis' CAPM result using the prospective S&P 500 MRP is not only completely out of line with the allowed ROEs I cited earlier, it is totally implausible given current financial market conditions. Mr. D'Ascendis' methodology is fatally flawed if it produces this kind of CAPM ROE result.

The source of the ROE overstatement is the excessive earnings growth rates that I described earlier in my response to Mr. D'Ascendis' MRP results. Mr. D'Ascendis used the same expected market returns here, resulting in the same excessive market ROEs and market risk premiums.

Q. Did Mr. D'Ascendis consider the MRPs from sources that you presented in your testimony?

A. No. As I cited earlier in my Direct Testimony, Kroll and KMPG currently recommend an MRP of 5.25% - 5.50%, the average of the Damodaran MRPs is 4.28%, and the historical MRPs range from 5.31% to 7.31%. The U.S. MRP was 5.5% from the IESE Business School Survey in 2025. Mr. D'Ascendis' average recommended MRP of 8.15% is obviously far in excess of these MRPs.

Finally, I note that in the authoritative corporate finance textbook by Brealey, Myers, Allen and Edmans, the authors stated: "We have no official position on the issue, but we believe that a range of 5 to 8 percent is reasonable for the risk premium in the United States."[36] Mr. D'Ascendis' recommended average MRP of 8.15% exceeds the top end of this range.

Q. Please address Mr. D'Ascendis' use of the ECAPM.

A. The ECAPM is designed to account for the possibility that the CAPM understates the ROE for companies with betas less than 1.0. Mr. D'Ascendis provided a discussion of the ECAPM beginning on page 38 of his Direct Testimony. My review of Mr. D'Ascendis' Exhibit DWD-5 indicates that he applied an ECAPM formula included in *Modern Regulatory Finance* by Dr. Roger Morin, which is set forth on page 39 of his Direct Testimony.

The argument that an adjustment factor is needed to "correct" the CAPM results for companies with betas less than 1.0 is further evidence of the lack of accuracy inherent in the CAPM itself and with beta in particular, as I pointed out in Section III of my Direct Testimony. The ECAPM adjustment also suggests that published betas by such sources as Value Line, Bloomberg, and S&P Capital IQ are incorrect and that investors should not rely on them in formulating their estimates using the CAPM. Finally, although Mr. D'Ascendis cited the source of the ECAPM formula he used, he provided no evidence that investors favor this version of the ECAPM over the standard CAPM.

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[36] Richard A. Brealey, Stewart C. Myers, Franklin Allen and Alex Edmans, *Principles of Corporate Finance*, page 189; McGraw-Hill/Irwin, 14th Edition, 2023.

Non-Utility Group ROE

Q. Beginning at page 43 of his Direct Testimony, Mr. D'Ascendis presented a proposal for including groups of 49 (Electric Utility Proxy Group) and 47 (Gas Utility Proxy Group) domestic, non-price regulated companies in his ROE analyses. Is it appropriate to use a group of unregulated companies to estimate a fair ROE for the Companies?

A. No. Mr. D'Ascendis' inclusion of unregulated non-utility companies as an additional method of evaluating the fair rate of return for the Companies is inappropriate and should be rejected by the Commission.

Utilities have protected markets, *e.g.*, service territories, and may increase the prices they charge in the face of falling demand or loss of customers. This is contrary to competitive, unregulated companies who often lower their prices when demand for their products decline. Obviously, the non-utility companies face risks that lower risk regulated electric and gas utilities like LGE/KU do not face. As a consequence, non-utility companies will have higher required returns from their shareholders. According to Mr. D'Ascendis' Exhibit DWD-7, page 1, the average ROE results for his non-price regulated groups excluding the PRPM range from 11.77% to 11.95%. These results are far higher than the utility proxy group DCF results for both myself and Mr. D'Ascendis and are far in excess of my CAPM results. Mr. D'Ascendis' analysis makes it very clear that investors require higher returns for the members of this group of unregulated companies and that these returns should in no way be applied to LGE and KU.

I should also add that Mr. D'Ascendis applied the RPM and CAPM to the two non-utility groups in the same ways that he did with the Electric Utility Proxy Group and the Gas Utility Proxy Group. Thus, my criticisms that I described earlier of his application of the RPM and CAPM would apply to the non-utility groups as well.

Adjustments to the Cost of Equity

Q. Did Mr. D'Ascendis propose additional adjustments to his recommended ROE in this case?

A. Yes. Mr. D'Ascendis proposed a size adjustment, a credit risk adjustment, and a flotation cost adjustment. These adjustments are summarized in Table 16, page 61 of Mr. D'Ascendis' Direct Testimony.

Q. Has the KPSC rejected these adjustments in past rate cases?

A. Yes, the Commission has consistently rejected these adjustments and Mr. D'Ascendis acknowledged this, citing language from the Commission Orders in Case Nos. 2021-00214 and 2022-00432.[37] The Commission also rejected these adjustments in the recently decided Atmos Energy Case No. 2024-00276. Mr. D'Ascendis was the witness for Atmos Energy in that case.

Q. Did Mr. D'Ascendis provide any additional information in his Direct Testimony that, in your view, would be persuasive enough for the Commission to reverse its position in this case?

[37] D'Ascendis Direct Testimony, page 30, lines 4 through 17.

A. No. In this case, Mr. D'Ascendis provided similar arguments in favor of these adjustments as he did in the three cases I have referenced above.

Q. Should the Commission reject these adjustments in this case consistent with its Orders in Case Nos. 2021-00214, 2022-00432, 2024-00276?

A. Yes. Although these adjustments should be rejected by the Commission consistent with these three past rate cases, I will continue to offer my arguments as to why these adjustments should be rejected in this case in order to supply the Commission with a complete record.

Size Adjustment

Q. Beginning on page 49 of his Direct Testimony, Mr. D'Ascendis presented his position on including a small size RP adjustment designed to compensate for the alleged additional risk associated with the small size of LGE and KU's regulated utility operations relative to the Utility Proxy Groups. Should the Commission consider increasing the ROE for LGE/KU's operations based on its smaller size relative to the Utility Proxy Groups?

A. No. The ROE size premium adjustment calculated by Mr. D'Ascendis is inappropriate for regulated electric and gas utilities such as LGE and KU. Kroll's size decile calculations are not limited to regulated companies and include many unregulated companies, all of which are taken from the Center for Research in Securities Prices ("CRSP") data base. Kroll also publishes average betas for each decile group. Mr. D'Ascendis used the 4th, 5th, and 7th deciles in order to estimate the size premium for LGE/KU's electric and gas ROEs. For the 7th decile that Mr.

D'Ascendis used to measure LGE's gas operations size premium, the average beta ranged from 1.25 to 1.38. For the 5th decile, the average beta ranged from 1.17 to 1.24. For the 4th decile, the average beta ranged from 1.13 to 1.19. These decile average betas far higher than the average proxy groups betas of 0.70 to 0.77 that I used in my CAPM analysis for the proxy groups. Although we do not know what LGE/KU's stand-alone beta would be, we do know that the current Value Line beta for the Companies parent, PPL Corporation, is 0.80, which is also far lower than the betas for the deciles used by Mr. D'Ascendis to calculate his size adjustment. What this means is that regulated electric and gas companies have far lower risk than the companies in the deciles analyzed by Mr. D'Ascendis and that his proposed small size adjustment should be rejected by the Commission.

Q. Is Mr. D'Ascendis' size adjustment consistent with his credit risk adjustment?

A. No. Mr. D'Ascendis proposed a credit risk adjustment of -0.07% to reflect the higher credit ratings of LGE and KU relative to the Electric Utility Proxy Group. He proposed no credit risk adjustment for LGE's gas operations. Credit ratings from S&P and Moody's reflect a comprehensive risk assessment of the companies that receive these ratings. LGE's credit ratings of A3/A- from Moody's and S&P reflect strong, lower risk utilities relative to the utility proxy groups. An increase in LGE'KU's ROE for a size adjustment is inconsistent with their higher credit ratings.

Flotation Costs

Q. Beginning on page 58 of his Direct Testimony, Mr. D'Ascendis discussed flotation costs and the need for including a flotation cost adjustment to the Company's allowed ROE. Are flotation costs a legitimate consideration for the Commission's determination of ROE in this proceeding?

A. No. Mr. D'Ascendis recommended that the Commission consider adding an adjustment of 0.15% to the Companies' ROE to recognize flotation costs. A flotation cost adjustment attempts to recognize and collect the costs of issuing common stock. Such costs typically include legal, accounting, and printing costs as well as broker fees and discounts.

It is likely that flotation costs are already accounted for in current stock prices and that adding an adjustment for flotation costs is double counting. A DCF model using current stock prices should already account for investor expectations regarding the collection of flotation costs. Multiplying the dividend yield by a 4% flotation cost adjustment, for example, essentially assumes that the current stock price is wrong and that it must be adjusted downward to increase the dividend yield and the resulting cost of equity. This is not an appropriate assumption regarding investor expectations or current stock prices. Stock prices most likely already account for flotation costs, to the extent that such costs are even considered by investors.

As I stated previously, the Commission has consistently rejected a flotation cost adjustment in past cases.

Q. Does this complete your Direct Testimony?

A. Yes.

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF KENTUCKY UTILITIES COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC RATES, AND APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS	**)**	**CASE NO. 2025-00113**

In the Matter of:

ELECTRONIC APPLICATION OF LOUISVILLE GAS AND ELECTRIC COMPANY FOR AN ADJUSTMENT OF ITS ELECTRIC AND GAS RATES, AND APPROVAL OF CERTAIN REGULATORY AND ACCOUNTING TREATMENTS	**)**	**CASE NO. 2025-00114**

EXHIBITS

OF

RICHARD A. BAUDINO

ON BEHALF OF THE
OFFICE OF THE ATTORNEY GENERAL OF THE COMMONWEALTH OF KENTUCKY AND KENTUCKY INDUSTRIAL UTILITY CUSTOMERS

J. KENNEDY AND ASSOCIATES, INC.
ROSWELL, GEORGIA

AUGUST 2025

AFFIDAVIT

STATE OF GEORGIA)

COUNTY OF FULTON)

RICHARD A. BAUDINO, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.

Richard A. Baudino

Sworn to and subscribed before me on this
29th day of August 2025.

Jessica K Inman
NOTARY PUBLIC
Cherokee County, GEORGIA
My Commission Expires 07/31/2027

Notary Public

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Forty-two years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Aqua Large Users Group
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Cities Served by AEP Texas
City of New York
Climax Molybdenum Company
Connecticut Industrial Energy Consumers
Crescent City Power Users Group
Cripple Creek & Victor Gold Mining Co.
Dearborn Industrial Generation, LLC
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
North Carolina Attorney General's Office
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
Peoples Industrial Intervenors
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Steering Committee of Cities Served by CoServ Gas, Ltd.
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service
South Carolina Office of Regulatory Staff
Texas Industrial Energy Consumers

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Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

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01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.

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04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and Health Care Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T	WV	West Virginia Energy Users Group	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues

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07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation

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11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation
03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design

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04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return

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08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.

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12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital

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Date	Case	Jurisdict.	Party	Utility	Subject
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Co.	Return on equity, capital structure
8/18	18-05-16	CT	Connecticut Industrial Energy Consumers	Connecticut Natural Gas Co.	Cost and revenue allocation
9/18	9484	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design
9/18	2017-370-E	SC	South Carolina Office of Regulatory Staff	South Carolina Electric & Gas, Dominion Resources, SCANA	Return on equity, service quality standards, credit quality conditions
10/18	18-1115-G-390P	WV	West Va. Energy Users Group	Mountaineer Gas Company	Customer protections for Infrastructure Replacement and Expansion Program
12/18	R-2018-3003558, R-2018-3003561	PA	Aqua Large Users Group	Aqua Pennsylvania, Inc.	Cost and revenue allocation
02/19	UD-18-07	CCNO	Crescent City Power Users' Gp.	Entergy New Orleans, LLC	Return on equity, Reliability Incentive Mechanism, other proposed riders
03/19	2018-00358	KY	Office of the Attorney General	Kentucky American Water Co.	Return on equity, Qualified Infrastructure Program rider

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Date	Case	Jurisdict.	Party	Utility	Subject
05/19	19-E-0065 19-G-0066	NY	City of New York	Consolidated Edison Co.	Cost and revenue allocation, rate design, tariff issues, fast-charging station incentives
05/2019	19-0513-TF	VT	Vt. Dept. of Public Service	Vermont Gas Systems	Return on equity, capital structure
06/2019	5-TG-100	WI	Wisconsin Industrial Energy Group	WEPCO, Wisconsin Gas, Wisconsin PS	Transportation and balancing issues
07/2019	49494	TX	Cities Served by AEP Texas	AEP Texas, Inc.	Return on equity, capital structure
08/2019	19-G-0309 19-G-0310	NY	City of New York	Brooklyn Union Gas Co.., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, tariff issues and modifications
08/2019	19-0316-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Company	Cost and revenue allocation
8/2019	5-UR-109	WI	Wisconsin Industrial Energy Gp.	Wisconsin Electric Power Co., Wisconsin Gas, LLC	Cost Allocation, Class cost of service study
8/2019	6690-UR-126	WI	Wisconsin Industrial Energy Gp.	Wisconsin Public Service Corp.	Cost Allocation, Class cost of service study
9/2019	9610	MD	Maryland Energy Group	Baltimore Gas and Electric Co.	Cost and revenue allocation, rate design
12/2019	2019-00271	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
2/2020	49831	TX	Texas Industrial Energy Consumers	Southwestern Public Service Co.	Return on equity, capital structure, rate of return
2/2020	E-7. Sub 1214	NC	NC Attorney General's Office	Duke Energy Carolinas	Return on equity, capital structure, rate of return, economic conditions
2/2020	E-2. Sub 1219	NC	NC Attorney General's Office	Duke Energy Progress	Return on equity, capital structure, rate of return, economic conditions
5/2020	R-2019- 3015162	PA	Industrial Energy Consumers of Pennsylvania	UGI Utilities, Inc.	Return on equity, cost of debt, revenue allocation, rate design
6/2020	20-G-0101	NY	Multiple Intervenors	Corning Natural Gas Corp.	Cost and revenue allocation
9/2020	R-2020- 2019369	PA	AK Steel	Pennsylvania-American Water Company	Cost and revenue allocation, rate design
9/2020	20-035-04	UT	The Kroger Co.	Rocky Mountain Power	Cost and revenue allocation, rate design
10/2020	2020-00174	KY	Ky. Office of the Attorney General, Ky. Industrial Utility Customers	Kentucky Power Co.	Return on equity
3/2021	2020-00349	KY	Ky. Office of the Attorney General, Ky. Industrial Utility Customers	Kentucky Utilities Co.	Return on equity

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Date	Case	Jurisdict.	Party	Utility	Subject
3/2021	2020-00350	KY	Ky. Office of the Attorney General, Ky. Industrial Utility Customers	Louisville Gas and Electric Co.	Return on equity
3/2021	20-0746-G-42T	WV	West Va. Energy Users Group	Dominion Energy West Va.	Cost and revenue allocation, cost of equity
4/2021	17-12-03RE11	CT	Connecticut Industrial Energy Consumers	PURA Investigation Into Distribution System Planning	Economic development rates
6/2021	U-20940	MI	Dearborn Industrial Generation, LLC	DTE Gas Company	Cost and revenue allocation, rate design
7/2021	21-0043-G-PC	WV	West Va. Energy Users Group	Mountaineer Gas Co., UGI Corporation	Hold harmless conditions for utility acquisition
07/2021	U-35441	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on equity, cost of capital, service quality
08/2021	51802	TX	Texas Industrial Energy Consumers	Southwestern Public Service Company	Return on equity
09/21	2021-00190	KY	Kentucky Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity, cost of debt
09/21	2021-00183	KY	Kentucky Office of the Attorney General	Columbia Gas of Kentucky, Inc.	Return on equity, cost of debt, capital structure
09/21	21-0369-W-42T	WV	West Va. Energy Users Group	West Virginia-American Water Company	Revenue stabilization mechanism
09/21	2021-00185	KY	Kentucky Office of the Attorney General	Delta Natural Gas Company, Inc.	Return on equity, cost of debt, capital structure
09/21	2021-00214	KY	Kentucky Office of the Attorney General	Atmos Energy Corporation	Return on equity, common equity ratio
11/21	R-2021-3027385, R-2021-3027386	PA	Aqua Large Users Group	Aqua Pennsylvania, Inc.	Cost and revenue allocation, Rate design
11/21	21-G-0394	NY	Multiple Intervenors	Corning Natural Gas Corp.	Cost and revenue allocation
06/22	21-G-0577	NY	Multiple Intervenors	Liberty Utilities (St. Lawrence Gas) Corp.	Cost of revenue allocation, rate design
07/22	2022-89-G	SC	South Carolina Office of Regulatory Staff	Piedmont Natural Gas Co.	Return on equity, capital structure cost of capital
07/22	R-2022-3031672, R-2022-3031673	PA	Cleveland-Cliffs Steel	Pennsylvania American Water Company	Cost and revenue allocation, rate design

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Date	Case	Jurisdict.	Party	Utility	Subject
10/22	2022-00147	KY	Kentucky Office of the Attorney General and the City of Clinton	Water Service Corporation of Kentucky	Cost of equity
12/22	2022-254-E	SC	South Carolina Office of Regulatory Staff	Duke Energy Progress	Cost of equity
12/22	22-08-08	CT	Connecticut Industrial Energy Consumers	United Illuminating Co.	Cost and revenue allocation, rate design, economic development rates
03/23	2022-00372	KY	Kentucky Office of the Attorney General	Duke Energy Kentucky, Inc.	Cost of equity, capital structure, weighted cost of capital
08/23	23-0280-G-42-T	WV	West Va. Energy Users Group	Mountaineer Gas Co.	Cost and revenue allocation, Rate design
09/23	6680-UR-124	WI	Wisconsin Industrial Energy Group	Wisconsin Power and Light Co.	Cost and revenue allocation, rate design
09/23	6690-UR-127	WI	Wisconsin Industrial Energy Group	Wisconsin Public Service Corp.	Revenue allocation, rate design
09/23	5-UR-110	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
09/23	2023-00191	KY	Kentucky Office of the Attorney General	Kentucky-American Water Co.	Return on equity, capital structure, and weighted cost of capital
10/23	2023-00159	KY	Ky. Office of the Attorney General, Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity
11/23	23-0460-E-42T	WV	West Virginia Energy Users Group	Monongahela Power Co. and The Potomac Edison Company	Return on equity, cost of capital
02/24	R-2023-3043189 C-2023-3044289 C-2023-3044375	PA	Cleveland-Cliffs Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design, revenue decoupling rider
03/24	R-2023-3044549	PA	Peoples Industrial Intervenors	Peoples Natural Gas Company	Cost and revenue allocation, rate design
08/24	2024-00092	KY	Kentucky Office of the Attorney General	Columbia Gas of Kentucky	Return on equity, Cost of capital
09/2024	R-2024-3047822 R-2024-3047824	PA	Aqua Large Users Group	Aqua Pennsylvania, Inc.	Revenue allocation
01/2025	2024-00276	KY	Kentucky Office of the Attorney General	Atmos Energy Corp.	Return on equity, capital structure
02/2025	2024-00346	KY	Kentucky Office of the Attorney General	Delta Natural Gas Co.	Return on equity, capital structure

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Date	Case	Jurisdict.	Party	Utility	Subject
03/25	2024-00354	KY	Kentucky Office of the Attorney General	Duke Energy Kentucky, Inc.	Cost of equity, capital structure, cost of debt
05/25	Fiscal Years 2026-2027	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost of service and revenue allocations, rate design
6/25	57568	TX	Freeport-McMoRan	El Paso Electric Co.	Return on equity, common equity ratio
8/25	2025-00122	KY	Kentucky Office of the Attorney General	Kentucky-American Water Co.	Cost of equity, capital structure, cost of capital
8/25	2025-00113 2025-00114	KY	Kentucky Office of the Attorney General	Louisville Gas and Electric Co., Kentucky Utilities Co.	Cost of equity, capital structure, cost of debt

ELECTRIC UTILITY PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

Company Name	Average Price				Current Dividend	Dividend Yield			
	1-month	2-month	3-month	6-month		1-month	2-month	3-month	6-month
Alliant Energy Corporation	63.25	62.07	61.89	61.95	1.92	3.04%	3.09%	3.10%	3.10%
Ameren Corporation	97.77	96.83	96.96	97.70	2.84	2.90%	2.93%	2.93%	2.91%
American Electric Power Company	107.00	104.75	104.39	104.56	3.72	3.48%	3.55%	3.56%	3.56%
Duke Energy	118.51	117.42	117.49	117.62	4.18	3.53%	3.56%	3.56%	3.55%
Entergy Corporation	84.93	83.62	83.34	83.45	2.40	2.83%	2.87%	2.88%	2.88%
Evergy, Inc.	69.17	68.27	67.79	67.49	2.67	3.86%	3.91%	3.94%	3.96%
IDACORP, Inc.	119.55	117.31	116.74	115.83	3.44	2.88%	2.93%	2.95%	2.97%
OGE Energy Corporation	44.55	44.34	44.33	44.41	1.69	3.78%	3.80%	3.80%	3.79%
Pinnacle West Capital Corporation	91.00	90.25	90.69	91.35	3.58	3.93%	3.97%	3.95%	3.92%
Portland General Electric Company	40.82	40.84	41.30	42.23	2.10	5.14%	5.14%	5.08%	4.97%
Southern Company	93.48	91.65	90.90	90.00	2.96	3.17%	3.23%	3.26%	3.29%
Xcel Energy Inc.	70.15	69.11	69.50	69.40	2.28	3.25%	3.30%	3.28%	3.29%
Proxy Group Average						3.48%	3.52%	3.52%	3.52%

Sources: Current dividend reported by the Value Line Investment Survey reports for each company
Closing daily stock prices from S&P Capital IQ, February 1 through July 31, 2025

GAS UTILITY PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

Company Name	Average Price				Current	Dividend Yield			
	1-month	2-month	3-month	6-month	Dividend	1-month	2-month	3-month	6-month
Atmos Energy	155.08	154.24	155.39	153.07	3.48	2.24%	2.26%	2.24%	2.27%
New Jersey Resources Corp.	45.79	45.33	45.86	46.96	1.80	3.93%	3.97%	3.92%	3.83%
NiSource	40.69	40.18	39.81	39.51	1.12	2.75%	2.79%	2.81%	2.84%
Northwest Natural Holding Company	41.27	40.69	41.04	41.38	1.96	4.75%	4.82%	4.78%	4.74%
One Gas, Inc.	73.11	73.09	74.05	74.15	2.68	3.67%	3.67%	3.62%	3.61%
Southwest Gas	76.93	75.06	73.93	73.94	2.48	3.22%	3.30%	3.35%	3.35%
Spire	75.05	74.28	74.33	75.04	3.14	4.18%	4.23%	4.22%	4.18%
Proxy Group Average						3.54%	3.58%	3.56%	3.55%

Sources: Current dividend reported by the Value Line Investment Survey, May 23, 2025
Closing daily stock prices from S&P Capital IQ, February 1 through July 31, 2025

ELECTRIC UTILITY PROXY GROUP
DCF Growth Rate Analysis

	Company	(1) Value Line DPS	(2) Value Line EPS	(3) S&P IQ EPS	(4) Zacks EPS
1	Alliant Energy Corporation	6.00%	6.00%	6.67%	6.60%
2	Ameren Corporation	6.50%	6.50%	7.65%	7.90%
3	American Electric Power Company	5.50%	6.50%	6.97%	6.40%
4	Duke Energy	3.50%	6.00%	6.51%	6.30%
5	Entergy Corporation	5.50%	3.00%	8.88%	9.50%
6	Evergy, Inc.	7.00%	7.50%	5.70%	5.70%
7	IDACORP, Inc.	5.50%	6.00%	8.55%	8.10%
8	OGE Energy Corporation	3.00%	6.50%	6.64%	6.30%
9	Pinnacle West Capital Corporation	1.50%	5.00%	5.25%	2.10%
10	Portland General Electric Company	5.50%	6.50%	4.88%	3.30%
11	Southern Company	3.50%	6.50%	6.77%	6.80%
12	Xcel Energy Inc.	6.50%	7.00%	7.95%	7.80%
	Average	4.96%	6.08%	6.87%	6.40%
	Median	5.50%	6.50%	6.72%	6.50%

Sources: **Value Line Investment Survey, May 9, June 6, and July 19, 2025**
S&P Capital IQ and Zacks estimates accessed July 31, 2025

ELECTRIC UTILITY PROXY GROUP
DCF RETURN ON EQUITY

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) S&P IQ EPS	(4) Zacks EPS	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	3.52%	3.52%	3.52%	3.52%	3.52%
Proxy Group Average Growth Rate	4.96%	6.08%	6.87%	6.40%	6.08%
Expected Dividend Yield	3.60%	3.62%	3.64%	3.63%	3.62%
DCF Return on Equity	***8.56%***	***9.70%***	***10.51%***	***10.03%***	***9.70%***
Method 2:					
Dividend Yield	3.52%	3.52%	3.52%	3.52%	3.52%
Proxy Group Median Growth Rate	5.50%	6.50%	6.72%	6.50%	6.31%
Expected Dividend Yield	3.61%	3.63%	3.63%	3.63%	3.63%
DCF Return on Equity	***9.11%***	***10.13%***	***10.35%***	***10.13%***	***9.94%***

GAS UTILITY PROXY GROUP
DCF Growth Rate Analysis

	Company	(1) Value Line DPS	(2) Value Line EPS	(3) S&P IQ EPS	(4) Zacks EPS
1	Atmos Energy	7.00%	7.00%	7.27%	7.30%
2	New Jersey Resources Corp.	5.00%	5.00%	7.90%	7.90%
3	NiSource	4.50%	9.50%	8.08%	7.90%
4	Northwest Natural Holding Company	0.50%	6.50%	5.75%	5.75%
5	One Gas, Inc.	2.00%	4.50%	5.84%	5.60%
6	Southwest Gas	5.50%	10.00%	10.74%	10.50%
7	Spire	4.00%	4.50%	9.23%	7.10%
	Averages	4.07%	6.71%	7.83%	7.44%
	Median	4.50%	6.50%	7.90%	7.30%

Sources: **Value Line Investment Survey, May 23, 2025**
S&P IQ Pro and Zacks accessed July 31, 2025
S&P IQ Pro EPS growth used as proxy for Zacks EPS for New Jersey Resources and Northwest Natural Holding Co.

GAS UTILITY PROXY GROUP
DCF RETURN ON EQUITY

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) S&P IQ Earning Gr.	(4) Zacks Earnings Gr.	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	3.55%	3.55%	3.55%	3.55%	3.55%
Proxy Group Average Growth Rate	4.07%	6.71%	7.83%	7.44%	6.51%
Expected Dividend Yield	3.62%	3.67%	3.69%	3.68%	3.66%
DCF Return on Equity	***7.69%***	***10.38%***	***11.52%***	***11.12%***	***10.17%***
Midpoint of Range					***9.61%***
Method 2:					
Dividend Yield	3.55%	3.55%	3.55%	3.55%	3.55%
Proxy Group Median Growth Rate	4.50%	6.50%	7.90%	7.30%	6.55%
Expected Dividend Yield	3.63%	3.66%	3.69%	3.68%	3.66%
DCF Return on Equity	***8.13%***	***10.16%***	***11.59%***	***10.98%***	***10.21%***
Midpoint of Range					***9.86%***

ELECTRIC UTILITY PROXY GROUP
Capital Asset Pricing Model Analysis

Value Line Forward-Looking MRP

Line No.		Value Line
1	Market Required Return Estimate	10.88%
2	Risk-free Rate of Return, 30-Year Treasury Bond	4.90%
3	Risk Premium	
4	(Line 1 minus Line 2)	5.97%
5	Proxy Group Beta	0.70
6	Proxy Group Beta * Risk Premium	
7	(Line 4 * Line 5)	4.20%
8	CAPM Return on Equity	
9	(Line 2 plus Line 7)	9.10%

Supporting Data for CAPM Analyses

30 Year Treasury Bond Data

	Avg. Yield
Feb-25	4.68%
Mar-25	4.60%
Apr-25	4.60%
May-25	4.90%
Jun-25	4.89%
Jul-25	4.92%
6 month average	4.77%
3 month average	4.90%

Source: Federal Reserve data

Value Line Projected Return Data:

Median Estimated Div. Yield	2.10%
3 - 5 Year Price Appreciation	40.00%
Estimated Annualized Price Appreciation	8.78%
Est. Annual Total Return	10.88%

Source: Value Line Summary and Index, August 1, 2025

Proxy Group Betas:	Adjusted S&P IQ	Value Line
Alliant Energy Corporation	0.71	0.80
Ameren Corporation	0.67	0.80
American Electric Power Company	0.60	0.70
Duke Energy	0.56	0.70
Entergy Corporation	0.71	0.80
Evergy, Inc.	0.65	0.75
IDACORP, Inc.	0.71	0.70
OGE Energy Corporation	0.73	0.85
Pinnacle West Capital Corporation	0.61	0.75
Portland General Electric Company	0.72	0.75
Southern Company	0.58	0.75
Xcel Energy Inc.	0.58	0.70
Average	0.65	0.75
Average of S&P IQ and Value Line		0.70

Sources: Value Line Investment Survey, S&P Capital IQ

ELECTRIC UTILITY PROXY GROUP
Capital Asset Pricing Model Analysis
Historic Market Premium

	Arithmetic Mean	Supply Side MRP	Supply Side Less WWII Bias
Historical Market Risk Premium	7.31%	6.26%	5.31%
Proxy Group Beta	0.70	0.70	0.70
Beta * Market Premium	5.14%	4.40%	3.73%
Risk-free Rate of Return	4.90%	4.90%	4.90%
CAPM Cost of Equity, Value Line Beta	**10.04%**	**9.30%**	**8.63%**

Source: Kroll Cost of Capital Navigator, historical period 1926 - 2024

ELECTRIC UTILITY PROXY GROUP
Capital Asset Pricing Model Analysis
Other Market Risk Premium Sources

	IESE Survey 2024	KMPG	Kroll	Damodaran Average MRP
Market Risk Premium	5.50%	5.25%	5.50%	4.28%
Proxy Group Beta	0.70	0.70	0.70	0.70
Beta times MRP	3.86%	3.69%	3.86%	3.01%
Risk-free Rate of Return	4.90%	4.90%	4.90%	4.90%
CAPM Cost of Equity	**8.77%**	**8.59%**	**8.77%**	**7.91%**

GAS UTILITY PROXY GROUP
Capital Asset Pricing Model Analysis

Value Line Forward-Looking MRP

Line No.		Value Line
1	Market Required Return Estimate	10.88%
2	Risk-free Rate of Return, 30-Year Treasury Bond	4.90%
3	Risk Premium	
4	(Line 1 minus Line 2)	5.97%
5	Proxy Group Beta	0.77
6	Proxy Group Beta * Risk Premium	
7	(Line 4 * Line 5)	4.62%
8	CAPM Return on Equity	
9	(Line 2 plus Line 7)	**9.52%**

Supporting Data for CAPM Analyses

30 Year Treasury Bond Data

	Avg. Yield
Feb-25	4.68%
Mar-25	4.60%
Apr-25	4.60%
May-25	4.90%
Jun-25	4.89%
Jul-25	4.92%
6 month average	4.77%
3 month average	4.90%

Source: Federal Reserve data

Value Line Projected Return Data:

Median Estimated Div. Yield	2.10%
3 - 5 Year Price Appreciation	40.00%
Estimated Annualized Price Appreciation	8.78%
Est. Annual Total Return	10.88%

Source: Value Line Summary and Index, August 1, 2025

Proxy Group Betas:

	S&P IQ	Value Line
Atmos Energy	0.79	0.75
New Jersey Resources Corp.	0.75	0.85
NiSource	0.70	0.85
Northwest Natural Holding Company	0.69	0.80
One Gas, Inc.	0.85	0.80
Southwest Gas	0.64	0.80
Spire	0.76	0.80
Proxy Group Avg.	0.74	0.81

Average of Value Line and S&P 0.77

Sources: Value Line Investment Survey, S&P Capital IQ

GAS UTILITY PROXY GROUP
Capital Asset Pricing Model Analysis
Historic Market Premium

	Arithmetic Mean	Supply Side MRP	Supply Side Less WWII Bias
Historical Market Risk Premium	7.31%	6.26%	5.31%
Proxy Group Beta, Value Line	0.77	0.77	0.77
Beta * Market Premium	5.65%	4.84%	4.11%
Risk-free Rate of Return	4.90%	4.90%	4.90%
CAPM Cost of Equity, Value Line Beta	**10.56%**	**9.74%**	**9.01%**

Source: Kroll Cost of Capital Navigator, historical period 1926 - 2024

GAS UTILITY PROXY GROUP
Capital Asset Pricing Model Analysis
Other Market Risk Premium Sources

	IESE Survey 2025	KMPG	Kroll	Damodaran Average MRP
Market Risk Premium	5.50%	5.25%	5.50%	4.28%
Gas Proxy Group Beta	0.77	0.77	0.77	0.77
Beta times MRP	4.25%	4.06%	4.25%	3.31%
Risk-free Rate of Return	4.90%	4.90%	4.90%	4.90%
CAPM Cost of Equity	**9.16%**	**8.96%**	**9.16%**	**8.22%**