
Pennsylvania Public	
Utility Commission,	
v.	
UGI Utilities, Inc. -	
Electric Division	
Initial In-Person	
Hearing	

Docket No.:
R-2025-3059430

Pages 351 - 412

Hearing Room 4, Plaza Level
Commonwealth Keystone
Building
400 North Street
Harrisburg, PA

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Docket No. R-2025-3059430

Hearing Date: August 13, 2026

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 List of Testimony and

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Direct Testimony of David

Garrett with Exhibits

DJG-1 through DJG-16 and

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2-SR

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2025-3059430
	:	
UGI Utilities, Inc. – Electric Division	:	
	:	

OCA HEARING EXHIBIT 1

LIST OF EVIDENCE
TO BE MOVED INTO THE EVIDENTIARY RECORD
BY THE OFFICE OF CONSUMER ADVOCATE

The Office of Consumer Advocate (OCA) intends to submit the following evidence into the evidentiary record in the above captioned proceedings at the scheduled evidentiary hearings in this proceeding.

DIRECT TESTIMONY

OCA CORRECTED
Statement No. 1:

Direct Testimony of Michael Deupree consisting of written testimony with signed verification of Michael Deupree, Senior Research Consultant, Acadian Consulting Group, and the following:

- Appendix A
- Exhibit MWD-1 through Exhibit MWD-8

OCA CORRECTED¹
Statement No. 2:

Direct Testimony of Dante Mugrace consisting of written testimony with signed verification of Dante Mugrace, Senior Consultant, PCMG and Associates LLC, and the following:

- Appendix A
- Exhibits DM – 1 through DM-2, DM-5 through DM-8, DM-11 through DM-14, DM-16 through DM-20, DM-23 through DM-26, and DM-28 through DM-31.

¹ The Correction also applies to the Confidential version of Mr. Mugrace's direct testimony.

CONFIDENTIAL

- OCA Statement No. 2: CONFIDENTIAL Direct Testimony of Dante Mugrace consisting of written testimony with signed verification of Dante Mugrace, Senior Consultant, PCMG and Associates LLC, and the following:
- Appendix A
 - Schedule DM-1 through Schedule DM-31

- OCA Statement No. 3: Direct Testimony of David J. Garrett consisting of written testimony with signed verification of David J. Garrett, Managing Member, Resolve Utility Consulting PLLC, and the following:
- Appendix A through Appendix B
 - Exhibit DJG-1 through Exhibit DJG-16

- OCA Statement No. 4: Direct Testimony of James S. Garren consisting of written testimony with signed verification of James S. Garren, Senior Manager, NewGen Strategies and Solutions LLC, and the following:
- Exhibit JSG-1 through Exhibit JSG-3

- OCA Statement No. 5: Direct Testimony of Barbara R. Alexander consisting of written testimony with signed verification of Barbara Alexander, Sole Member, Barbara Alexander Consulting, LLC, and the following:
- Exhibit BA-1 through BA-7

CONFIDENTIAL

- OCA Statement No. 5: CONFIDENTIAL Direct Testimony of Barbara R. Alexander consisting of written testimony with signed verification of Barbara Alexander, Sole Member, Barbara Alexander Consulting, LLC, and the following:
- Exhibit BA-1 through Exhibit BA-7

OCA CORRECTED

- Statement No. 6: Direct Testimony of Roger Colton consisting of written testimony with signed verification of Roger Colton, Owner, Fisher Sheehan & Colton, and the following:
- Exhibit RDC-1

- OCA Statement No. 7: Direct Testimony of Zachary Teti consisting of written testimony with signed verification of

Zachary Teti, Senior Regulatory Analyst,
Pennsylvania Office of Consumer Advocate, and the
following:

- Exhibit ZT-1

SURREBUTTAL TESTIMONY

OCA Statement No. 1SR: Surrebuttal Testimony of Michael Deupree consisting of written testimony with signed verification of Michael Deupree, Senior Research Consultant, Acadian Consulting Group

OCA Statement No. 2SR: Surrebuttal Testimony of Dante Mugrace consisting of written testimony with signed verification of Dante Mugrace, Senior Consultant, PCMG and Associates LLC, and the following:

- Exhibits SR-DM-1 through SR-DM-2, SR-DM_5 through SR-DM-8, SR-DM-10 through SR-DM-14, SR-DM-16 through SR-DM-18

CONFIDENTIAL

OCA Statement No. 2SR: CONFIDENTIAL Surrebuttal Testimony of Dante Mugrace consisting of written testimony with signed verification of Dante Mugrace, Senior Consultant, PCMG and Associates LLC, and the following:

- Exhibits SR-DM-1 through SR-DM-18

HIGHLY CONFIDENTIAL

OCA Statement No. 2SR: HIGHLY CONFIDENTIAL Surrebuttal Testimony of Dante Mugrace consisting of written testimony with signed verification of Dante Mugrace, Senior Consultant, PCMG and Associates LLC, and the following:

- Exhibits SR-DM-1 through SR-DM-18

OCA Statement No. 3SR: Surrebuttal Testimony of David J. Garrett consisting of written testimony with signed verification of David J. Garrett, Managing Member, Resolve Utility Consulting PLLC.

OCA Statement No. 4SR: Surrebuttal Testimony of James S. Garren consisting of written testimony with signed verification of James S. Garren, Senior Manager, NewGen Strategies and Solutions LLC.

OCA Statement No. 5SR: Surrebuttal Testimony of Barbara R. Alexander consisting of written testimony with signed verification of Barbara Alexander, Sole Member, Barbara Alexander Consulting, LLC, and the following:

- Exhibit BA-8

OCA Statement No. 6SR: Surrebuttal Testimony of Roger Colton consisting of written testimony with signed verification of Roger Colton, Owner, Fisher Sheehan & Colton.

ADDITIONAL EXHIBITS

OCA Hearing Exhibit 1: List of Evidence to be Moved into the Evidentiary Record by the Office of Consumer Advocate (OCA)

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2025-3059430
	:	
UGI Utilities, Inc. – Electric Division	:	

**TESTIMONY AND EXHIBIT LIST OF THE BUREAU OF INVESTIGATION AND
ENFORCEMENT**

**TO ADMINISTRATIVE LAW JUDGE STEVEN K. HAAS AND
ADMINISTRATIVE LAW JUDGE CHAD L. ALLENSWORTH:**

The Bureau of Investigation and Enforcement (“I&E”) intends to move for the admission of the following evidence into the record in the above-captioned proceeding at the evidentiary hearings scheduled for August 12-14, 2026:

- I&E Statement No. 1 – Direct Testimony of Getachew Bedasa (PROPRIETARY AND NON-PROPRIETARY VERSIONS)
- I&E Exhibit No. 1 (PROPRIETARY AND NON-PROPRIETARY VERSIONS))
- I&E Statement No. 2 – Direct Testimony of D.C. Patel
- I&E Exhibit No. 2
- I&E Statement No. 3 – Direct Testimony of Ethan H. Cline
- I&E Statement No. 1-R – Rebuttal Testimony of Getachew Bedasa
- I&E Exhibit No. 1-R
- I&E Statement No. 1-SR – Surrebuttal Testimony of Getachew Bedasa (PROPRIETARY AND NON-PROPRIETARY VERSIONS)
- I&E Exhibit No. 1-SR
- I&E Statement No. 2-SR – Surrebuttal Testimony of D.C. Patel
- I&E Exhibit No. 2-SR
- I&E Statement No. 3-SR – Surrebuttal Testimony of Ethan H. Cline
- Verifications of Getachew Bedasa, D.C. Patel and Ethan H. Cline

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Adam Williams', with a long horizontal flourish extending to the right.

Adam J. Williams, PA
Pennsylvania Public Utility Commission
Bureau of Investigation and Enforcement
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120
adawilliam@pa.gov
(717) 787-8754

Dated: 8-13-26

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Pennsylvania Public Utility Commission, et al.	:	
v.	:	Docket No. R-2025-3059430
UGI Utilities, Inc. – Electric Division	:	

DIRECT TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 18, 2026

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Exhibit DJG-2	Proxy Group Summary
Exhibit DJG-3	DCF – Stock and Index Prices
Exhibit DJG-4	DCF – Dividend Yields
Exhibit DJG-5	DCF – Terminal Growth Determinants
Exhibit DJG-6	DCF – Final Results
Exhibit DJG-7	CAPM – Risk-Free Rate Estimate
Exhibit DJG-8	CAPM – Beta Coefficients
Exhibit DJG-9	CAPM – Implied ERP Estimate
Exhibit DJG-10	CAPM – Equity Risk Premium Results
Exhibit DJG-11	CAPM – Final Results
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Exhibit DJG-13	Proxy Group Debt Ratios
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Exhibit DJG-15	Hamda Model Results
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APPENDICES

Appendix A:	Discounted Cash Flow Model Theory
Appendix B:	Capital Asset Pricing Model Theory

1 **I. INTRODUCTION**

2 **Q. State your name and occupation.**

3 A. My name is David Garrett. I am a consultant specializing in public utility regulation. I am
4 the managing member of Resolve Utility Consulting PLLC.

5 **Q. Summarize your educational background and professional experience.**

6 A. I received a B.B.A. with a major in Finance, an M.B.A., and a Juris Doctor from the
7 University of Oklahoma. I worked in private legal practice for several years before
8 accepting a position as assistant general counsel at the Oklahoma Corporation Commission
9 in 2011. At the commission, I worked in the Office of General Counsel in regulatory
10 proceedings. In 2012, I began working for the Public Utility Division as a regulatory
11 analyst providing testimony in regulatory proceedings. After leaving the commission, I
12 formed Resolve Utility Consulting PLLC, where I have represented various consumer
13 groups and state agencies in utility regulatory proceedings, primarily in the areas of cost of
14 capital and depreciation. I am a Certified Depreciation Professional with the Society of
15 Depreciation Professionals. I am also a Certified Rate of Return Analyst with the Society
16 of Utility and Regulatory Financial Analysts. A more complete description of my
17 qualifications and regulatory experience is included in my curriculum vitae.¹

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

19 A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate (“OCA”).

¹ Exhibit DJG-1.

1 **Q. Describe the purpose and scope of your testimony in this proceeding.**

2 A. My testimony addresses UGI Utilities, Inc. – Electric Division’s (“UGI” or the
3 “Company”) proposed rate of return in response to the direct testimony of Company
4 witness Dylan D’Ascendis.

5 **Q. Please describe the organization of your testimony.**

6 A. In the executive summary below, I provide an overview of the cost of capital issues, my
7 recommendations, and my response to the Company’s testimony on these issues. In the
8 sections that follow, I discuss the legal standards governing the awarded return issue as
9 well as the general concepts involved in estimating the cost of equity. I discuss the concepts
10 of risk and return. I provide detailed analysis of the Discounted Cash Flow (“DCF”) Model,
11 the Capital Asset Pricing Model (“CAPM”), including my results for these models and my
12 responses to Mr. D’Ascendis’s results. I also address capital structure, which is a key
13 component to the cost of capital.

14 **II. EXECUTIVE SUMMARY**

15 **Q. Please summarize your rate of return recommendation to the Commission.**

16 A. The key points of my testimony are as follows:

- 17 • The Commission should reject the Company’s proposed return on equity (“ROE”)
18 of 10.85% because it is excessive and unsupported. An objective cost of equity
19 analysis shows that the Company’s market-based cost of equity is no higher than
20 8.7%. Based on this cost of equity analysis, I recommend an authorized ROE of
21 8.7% for UGI.

- In order to promote a fair authorized rate of return, the Commission should also reject UGI's proposed ratemaking capital structure, which consists of 45.75% debt and 54.25% equity (I refer to the rounded figures of 46% and 54% throughout in my testimony). The Company's proposed, equity-rich capital structure consists of much higher amounts of high-cost equity rather than low-cost debt, which contributes to an excessive authorized rate of return. By comparison, UGI's proposed debt ratio is much lower than its parent company's debt ratio, the average rate of the proxy group, and debt ratios observed in comparable industries in the U.S. I propose a ratemaking capital structure for the Company that is equal to the proxy group average, which consists of 58% debt and 42% equity.
- Alternatively, if the Commission accepts the Company's proposed ratemaking capital structure, then UGI's cost of equity estimate under the CAPM (and ultimate authorized ROE) must be mathematically adjusted to account for the fact that UGI has less financial risk than the proxy group average. This mathematical adjustment under the Hamda model shows UGI's cost of equity is only 8.0% under its equity-rich capital structure. Accordingly, if the Commission accepts UGI's low-risk, equity-rich capital structure, then I recommend an authorized ROE of 8.0% for the Company.
- Based on the results of my financial modeling using the DCF and CAPM models, my primary recommendation results in a weighted average authorized rate of return of 6.65%. My alternative recommendation would result in an authorized rate of return of 6.71%, as summarized in the following figures.

**Figure 1:
Primary Recommendation**

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	58.0%	5.17%	3.00%
Common Equity	42.0%	8.70%	3.65%
Total	100.0%		6.65%

**Figure 2:
Alternative Recommendation**

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	45.8%	5.17%	2.37%
Common Equity	54.3%	8.00%	4.34%
Total	100.0%		6.71%

Q. Please summarize the statement of Vice Chair Barrow filed in this case regarding capital structure.

A. In her statement dated April 16, 2026, Vice Chair Barrow expressed concern regarding UGI's proposed capital structure and its impact to the Company's proposed rate increase.

As stated by Vice Chair Barrow:

1 I urge the parties to take a critical look at the Company's requested rate of
2 return and return on equity (ROE) as well as the capital structure (common
3 equity ratio and debt capital) to ensure reasonableness. Deviations in each
4 of these items translate into millions of dollars charged to customers of all
5 rate classes. Too often, the relationship between debt and ROE to cost of
6 debt and capital is asserted as a general matter from basic economic
7 principle alone. However, those relationships are not established
8 empirically and left for the Commission to assume the relationship without
9 any supporting data. Therefore, I believe a careful and detailed review of
10 UGI's claimed capital structure and ROE is warranted.²

11 **Q. Do you share Vice Chair Barrow's concern regarding UGI's proposed capital**
12 **structure?**

13 A. Yes. UGI's proposed capital structure for ratemaking purposes is entirely unreasonable,
14 and it exacerbates the unwarranted, excessive transfer of wealth from customers to UGI's
15 shareholders. Pursuant to Vice Chair Barrow's guidance, I conducted a critical analysis of
16 UGI's market based cost of equity and based my authorized ROE for UGI on my cost of
17 equity analysis. However, a company's cost of equity and its capital structure are
18 inextricably and mathematically related. Since UGI's proposed debt ratio of 46% is notably
19 less than the proxy group's average debt ratio of 58%, in order for the Company's cost of
20 equity estimate of 8.7% to be accurate (or whichever cost of equity estimate the
21 Commission ultimately adopts), the Commission should impute a capital structure for UGI
22 that is equal to the proxy group average, which consists of 58% debt and 42% equity.
23 Unlike competitive companies, regulated utilities do not have a natural financial incentive
24 to operate with sufficient amounts of low-cost debt in order to minimize capital costs. A
25 regulator standing in the place of competition should ensure the Company's weighted
26 average cost of capital is minimized to its lowest reasonable level. In order to accomplish

² Statement of Vice Chair Kimberly Barrow, April 16, 2026.

1 this, the Commission must impute a ratemaking debt ratio of 58%, which is equal to the
2 proxy group average (in addition to adopting a fair ROE). Taking this approach perfectly
3 re-establishes the empirical relationship between the Company's ratemaking capital
4 structure, its authorized ROE, and ultimately, its approved rates, as instructed in Vice Chair
5 Barrow's statement.

6 **Q. Does the capital structure of UGI's parent company also relate to Vice Chair**
7 **Barrow's concerns regarding capital structure?**

8 A. Yes. UGI's parent company, UGI Corp., has a long-term debt ratio of 58%, which is
9 significantly higher than the Company's proposed ratemaking debt ratio of only 46%.
10 Since UGI is a wholly owned subsidiary of UGI Corp., the Company's "equity" on its
11 balance sheet is funded by UGI Corp. Since the parent company has a debt ratio of 58%,
12 this means UGI Corp. is using debt to finance the Company's "equity." Since the Company
13 also issues its own debt, this strategy is known as "double leverage." While this
14 arrangement is not problematic among competitive firms, it often results in unfair,
15 excessive returns for regulated utilities to the extent there is not an adjustment made by the
16 regulator. If no adjustment is made, shareholders of the parent company effectively earn a
17 high-cost equity return on low-cost debt. In fact, UGI Corp's earned ROE last year was
18 15.2%, which is significantly higher than its cost of equity, or even the inflated ROEs
19 typically authorized by regulators. In order to mitigate the excessive return that would
20 otherwise occur through double leverage, the Commission should impute a capital structure
21 for ratemaking purposes that is equal to the proxy group average. In light of the fact the
22 average proxy debt ratio of 58% is still considerably less than UGI Corp's debt ratio of
23 58%, my proposed capital structure adjustment is very reasonable. In this regard, my

1 proposed capital structure should not be considered a “hypothetical” capital structure any
2 more than the authorized ROE be considered hypothetical. Instead, it is the actual, fair
3 capital structure that should be used to calculate the actual, authorized rate of return.

4 **Q. Does your proposed capital structure adjustment acknowledge the issues raised in**
5 **Governor Shapiro’s letter to utility leaders?**

6 A. Yes. In his letter to utility leaders dated April 29, 2026, Governor Shapiro stated:

7 [D]ebt should normally represent a clear majority of a utility’s proposed
8 ratemaking capital structure, as it does in many other lower-risk industries.
9 As one measure of this approach, any equity share proposed in a rate case
10 in excess of the amount of equity employed by the utility’s parent holding
11 company will require extraordinary justification to receive my
12 Administration’s support.³

13 As discussed above in response to Vice Chair Barrow’s statement, the double leverage
14 strategy employed by UGI and UGI Corp. results in an unfair boon for shareholders at the
15 expense of customers. More specifically, it results in an even higher authorized return
16 above the utility’s market based required return (i.e., cost of equity).

17 **Q. Please summarize the results of your capital structure analysis.**

18 A. The figure below highlights just how unreasonable UGI’s proposed debt ratio really is.

³ Office of the Governor, Letter to Utility Leaders (April 29, 2026).

**Figure 3:
Capital Structure Analysis Summary**

Industry / Company	Debt Ratio
Cable TV Industry	65%
Power Industry	63%
Telecom Services Industry	61%
UGI Parent Company	58%
Proxy Group of Utilities	58%
Company Proposed	46%

Clearly, UGI's proposed debt ratio of 46% is unreasonably low, and has the effect of increasing capital costs and extracting excess funds from customers for the benefit of shareholders, to the extent it is allowed by the Commission. The details of my capital structure analysis are discussed later in my testimony.

Q. Please describe the impact on customer rates resulting from Company's proposed rate of return compared with your recommendations.

A. For my primary recommendation, which is an authorized ROE of 8.7% and a ratemaking capital structure of 58% debt and 42% equity, it would result in a revenue requirement increase of \$1,768,159 million. For my alternative recommendation, which is an authorized ROE of 8.0% and the Company's proposed capital structure, it would result in a revenue requirement increase of \$2,888,906.⁴

⁴ These estimates do not take into account the OCA's other proposed adjustment. See the direct testimony and exhibits of OCA witness Jennifer Rogers for details regarding the impacts of OCA's adjustments to the revenue requirement.

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A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public . . . but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.⁸

18 In *Federal Power Commission v. Hope Natural Gas Company*,⁹ the Court expanded on the
19 guidelines set forth in *Bluefield* and stated:

⁵ *Wilcox v. Consolidated Gas Co. of New York*, 212 U.S. 19 (1909).

⁶ *Id.* at 48.

⁷ *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

⁸ *Id.* at 692-93.

⁹ *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 From the investor or company point of view it is important that there be
2 enough revenue not only for operating expenses but also for the capital costs
3 of the business. These include service on the debt and dividends on the
4 stock. By that standard the return to the equity owner should be
5 commensurate with returns on investments in other enterprises having
6 corresponding risks. That return, moreover, should be sufficient to assure
7 confidence in the financial integrity of the enterprise, so as to maintain its
8 credit and to attract capital.¹⁰

9 The cost of capital models I have employed in this case are in accordance with the
10 foregoing legal standards.

11 **Q. Should the awarded rate of return be based on the Company's actual cost of capital?**

12 A. Yes. The *Hope* Court makes it clear that the allowed return should be based on the actual
13 cost of capital. Moreover, the awarded return must also be fair, just, and reasonable under
14 the circumstances of each case. Under the rate base rate of return model, a utility should
15 be allowed to recover all its reasonable expenses, its capital investments through
16 depreciation, and a return on its capital investments sufficient to satisfy the required return
17 of its investors. The "required return" from the investors' perspective is synonymous with
18 the "cost of capital" from the utility's perspective. Scholars agree that the allowed rate of
19 return should be based on the actual cost of capital:

20 Since by definition the cost of capital of a regulated firm represents
21 precisely the expected return that investors could anticipate from other
22 investments while bearing no more or less risk, and since investors will not
23 provide capital unless the investment is expected to yield its opportunity
24 cost of capital, the correspondence of the definition of the cost of capital
25 with the court's definition of legally required earnings appears clear.¹¹

¹⁰ *Id.* at 603 (emphasis added).

¹¹ A. Lawrence Kolbe, James A. Read, Jr. & George R. Hall, *The Cost of Capital: Estimating the Rate of Return for Public Utilities*, p. 21 (The MIT Press 1984).

1 The models I have employed in this case closely estimate the Company's market-based
2 cost of equity. If the Commission sets the awarded return based on my lower, and more
3 reasonable, rate of return, it will comply with the U.S. Supreme Court's standards, allow
4 the Company to maintain its financial integrity, and satisfy the claims of its investors. On
5 the other hand, if the Commission sets the allowed rate of return *higher* than the true cost
6 of capital, it arguably results in an inappropriate transfer of wealth from ratepayers to
7 shareholders.

8 **Q. What does this standard mean for determining the awarded return and the cost of**
9 **capital?**

10 A. It is important to understand that the *awarded* return and the *cost* of capital are different
11 but related concepts. The two concepts are related in that the legal and technical standards
12 encompassing this issue require that the awarded return reflects the true cost of capital. On
13 the other hand, the two concepts are different in that the legal standards do not mandate
14 that awarded returns exactly match the cost of capital. Awarded returns are set through the
15 regulatory process and may be influenced by factors other than objective market drivers.
16 The cost of capital, on the other hand, should be evaluated objectively and be closely tied
17 to economic realities. In other words, the cost of capital is driven by stock prices, dividends,
18 growth rates, and — most importantly — it is driven by risk. The cost of capital can be
19 estimated by financial models used by firms, investors, and academics around the world
20 for decades. The problem is, with respect to regulated utilities, there has been a trend in
21 which awarded returns fail to closely track with actual market-based cost of capital as
22 further discussed below. To the extent this occurs, the results are detrimental to ratepayers
23 and the state's economy.

1 **Q. Describe the economic impact that occurs when the awarded return strays too far**
2 **from the U.S. Supreme Court’s cost of equity standard.**

3 A. When the awarded ROE is set far above the *cost* of equity, it runs the risk of violating the
4 U.S. Supreme Court’s standards that the awarded return should be *based on the cost of*
5 *capital*.¹² If the Commission were to adopt the Company’s position in this case, it would
6 be permitting an excess transfer of wealth from customers to Company shareholders. The
7 Commission should avoid over-insuring shareholder returns at the expense of ratepayers
8 and instead set a return that reflects a fair balance of risk, cost, and consumer protection.
9 Moreover, establishing an awarded return that far exceeds the true cost of capital
10 effectively prevents the awarded returns from changing along with economic conditions.
11 This is especially true given the fact that regulators tend to be influenced by the awarded
12 returns in other jurisdictions, regardless of the various unknown factors, like whether or
13 not the other jurisdiction uses an FPFTY, influencing those awarded returns. This is yet
14 another reason why it is crucial for regulators to focus on the target utility’s actual *cost* of
15 equity, rather than awarded returns from other jurisdictions. Awarded returns may be
16 influenced by settlements and other political factors not based on true market conditions.
17 In contrast, the market-based cost of equity as estimated through objective models is not
18 influenced by these factors but is instead driven by market-based factors. If regulators rely
19 too heavily on the awarded returns from other jurisdictions, it can create a cycle over time
20 that bears little relation to the market-based cost of equity and a national trend of over-
21 awarding utilities.

¹² See *Hope Natural Gas Co.*, 320 U.S. at 603.

IV. GENERAL CONCEPTS AND METHODOLOGY

Q. Discuss your approach to estimating the cost of equity in this case.

A. While a competitive firm must estimate its own cost of capital to assess the profitability of competing capital projects, regulators determine a utility's cost of capital to establish a fair rate of return. The legal standards set forth above do not include specific guidelines regarding the models that must be used to estimate the cost of equity. Over the years, however, regulatory commissions have consistently relied on several models. The models I have employed in this case have been the two most widely used and accepted in regulatory proceedings for many years. These models are the DCF Model and the CAPM. The specific inputs and calculations for these models are described in more detail below.

Q. Please explain why multiple models are used to estimate the cost of equity.

A. The models used to estimate the cost of equity attempt to measure the return on equity required by investors by estimating several different inputs. It is preferable to use multiple models because the results of any one model may contain a degree of imprecision, especially depending on the reliability of the inputs used at the time of conducting the model. By using multiple models, the analyst can compare the results of the models and look for outlying results and inconsistencies. Likewise, if multiple models produce a similar result, it may indicate a narrower range for the cost of equity estimate.

Q. Please discuss the benefits of choosing a proxy group of companies in conducting cost of capital analyses.

A. The cost of equity models in this case can be used to estimate the cost of capital of any individual, publicly-traded company. There are advantages, however, to conducting cost of capital analyses on a "proxy group" of companies that are comparable to the target

1 company. First, it is better to assess the financial soundness of a utility by comparing it to
2 a group of other financially sound utilities. Second, using a proxy group provides more
3 reliability and confidence in the overall results because there is a larger sample size.
4 Finally, the use of a proxy group is often a pure necessity when the target company is a
5 subsidiary that is not publicly traded. This is because the financial models used to estimate
6 the cost of equity require information from publicly-traded firms, such as stock prices and
7 dividends.

8 **Q. Describe the proxy group you selected in this case.**

9 A. In this case, I chose to use the same utility proxy group that Mr. D'Ascendis used for his
10 analyses. Thus, the difference in our modeling results is due to the different inputs and
11 assumptions used in our modeling, rather than the composition of the proxy group.

12 **V. RISK AND RETURN CONCEPTS**

13 **Q. Please discuss the general relationship between risk and return.**

14 A. As discussed above, risk is the most important factor for the Commission to consider when
15 determining the allowed return. There is a direct relationship between risk and return: the
16 more (or less) risk an investor assumes, the larger (or smaller) return the investor will
17 demand. There are two primary types of risk: firm-specific risk and market risk. Firm-
18 specific risk affects individual companies, while market risk affects all companies in the
19 market to varying degrees.

20 **Q. Discuss the differences between firm-specific risk and market risk.**

21 A. Firm-specific risk affects individual companies, rather than the entire market. For example,
22 a competitive firm might overestimate customer demand for a new product, resulting in

1 reduced sales revenue. This is an example of a firm-specific risk called “project risk.”¹³
2 There are several other types of firm-specific risks, including: (1) “financial risk” — the
3 risk that equity investors of leveraged firms face as residual claimants on earnings; (2)
4 “default risk” — the risk that a firm will default on its debt securities; and (3) “business
5 risk” — which encompasses all other operating and managerial factors that may result in
6 investors realizing less than their expected return in that particular company.

7 While firm-specific risk affects individual companies, market risk affects all
8 companies in the market to varying degrees. Examples of market risk include interest rate
9 risk, inflation risk, and the risk of major socio-economic events. When there are changes
10 in these risk factors, they affect all firms in the market to some extent.¹⁴

11 Analysis of the U.S. market in 2001 provides a good example for contrasting firm-
12 specific risk and market risk. During that year, Enron Corp.’s stock fell from \$80 per share
13 and the company filed for bankruptcy at the end of the year. If an investor’s portfolio had
14 held only Enron stock at the beginning of 2001, this irrational investor would have lost the
15 entire investment by the end of the year due to assuming the full exposure of Enron’s firm-
16 specific risk (in that case, imprudent management). On the other hand, a rational,
17 diversified investor who invested the same amount of capital in a portfolio holding every
18 stock in the S&P 500 would have had a much different result that year. The rational investor
19 would have been relatively unaffected by the fall of Enron because her portfolio included
20 499 other stocks. Each of those stocks, however, would have been affected by various

¹³ Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, pp. 62-63 (3rd ed., John Wiley & Sons, Inc. 2012).

¹⁴ See Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments*, p. 149 (9th ed., McGraw-Hill/Irwin 2013).

1 *market* risk factors that occurred that year, including the terrorist attacks on September
2 11th, which affected all stocks in the market. Thus, the rational investor would have
3 incurred a relatively minor loss due to market risk factors, while the irrational investor
4 would have lost everything due to firm-specific risk factors.

5 **Q. Can investors minimize firm-specific risk through portfolio diversification?**

6 A. Yes. A fundamental concept in finance is that firm-specific risk can be minimized through
7 diversification.¹⁵ If someone irrationally invested all their funds in one firm (such as
8 Enron), they would be exposed to all the firm-specific risk *and* the market risk inherent in
9 that single firm. Rational investors, however, are risk-averse and seek to eliminate risk they
10 can control. Investors can essentially eliminate firm-specific risk by adding more stocks to
11 their portfolio through a process called “diversification.”

12 There are two reasons why diversification eliminates firm-specific risk. First, each
13 stock in a diversified portfolio represents a much smaller percentage of the overall portfolio
14 than it would in a portfolio of just one or a few stocks. Thus, any firm-specific action that
15 changes the stock price of one stock in the diversified portfolio will have only a small
16 impact on the entire portfolio.¹⁶

17 The second reason why diversification eliminates firm-specific risk is that the
18 effects of firm-specific actions on stock prices can be either positive or negative for each
19 stock. Thus, in large, diversified portfolios, the net effect of these positive and negative

¹⁵ See John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, pp. 179-80 (3rd ed., South Western Cengage Learning 2010).

¹⁶ See Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, p. 64 (3rd ed., John Wiley & Sons, Inc. 2012).

1 firm-specific risk factors will be essentially zero and will not affect the value of the overall
2 portfolio.¹⁷ Firm-specific risk is also called “diversifiable risk” because it can be easily
3 eliminated through diversification.

4 **Q. Do investors expect an additional return for assuming firm-specific risks?**

5 A. No. Because investors eliminate firm-specific risk through diversification, they know they
6 cannot expect a higher return for assuming the firm-specific risk in any one company. Thus,
7 the risks associated with an individual firm’s operations are not rewarded by the market.
8 In fact, firm-specific risk is also called “unrewarded” risk for this reason. Market risk, on
9 the other hand, cannot be eliminated through diversification. Because market risk cannot
10 be eliminated through diversification, investors expect a return for assuming this type of
11 risk. Market risk is also called “systematic risk.” Scholars recognize the fact that market
12 risk, or “systematic risk,” is the only type of risk for which investors expect a return for
13 bearing:

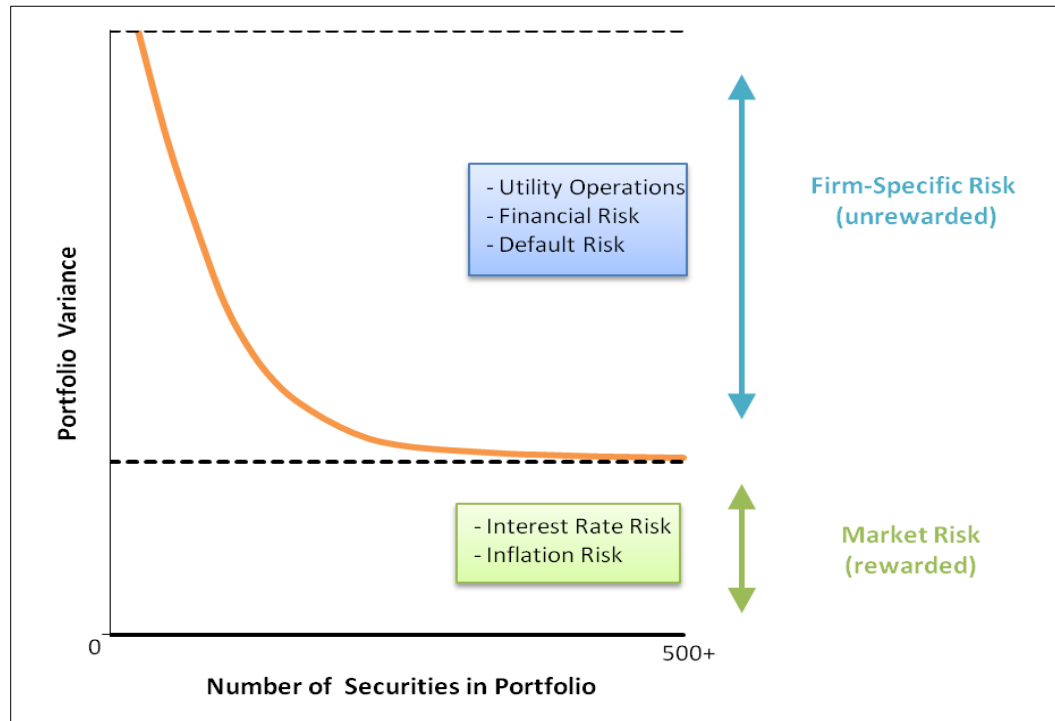
14 If investors can cheaply eliminate some risks through diversification, then
15 we should not expect a security to earn higher returns for risks that can be
16 eliminated through diversification. Investors can expect compensation *only*
17 for bearing systematic risk (i.e., risk that cannot be diversified away).¹⁸

18 These important concepts are illustrated in the figure below. Some form of this figure is
19 found in many financial textbooks.

¹⁷ *Id.*

¹⁸ See John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 180 (3rd ed., South Western Cengage Learning 2010).

**Figure 4:
Effects of Portfolio Diversification**



This figure shows that as stocks are added to a portfolio, the amount of firm-specific risk is reduced until it is essentially eliminated. No matter how many stocks are added, however, there remains a certain level of fixed market risk. The level of market risk will vary from firm to firm. Market risk is the only type of risk that is rewarded by the market and is thus the primary type of risk the Commission should consider when determining the allowed return for the utilities it regulates.

Q. Describe how market risk is measured.

A. Investors who want to eliminate firm-specific risk must hold a fully diversified portfolio. To determine the amount of risk that a single stock adds to the overall market portfolio, investors measure the covariance between a single stock and the market portfolio. The

1 result of this calculation is called “beta.”¹⁹ Beta represents the sensitivity of a given security
2 to the market as a whole. The market portfolio of all stocks has a beta equal to one. Stocks
3 with betas greater than one are relatively more sensitive to market risk than the average
4 stock. For example, if the market increases (decreases) by 1.0%, a stock with a beta of 1.5
5 will, on average, increase (decrease) by 1.5%. In contrast, stocks with betas of less than
6 one are less sensitive to market risk, such that if the market increases (decreases) by 1.0%,
7 a stock with a beta of 0.5 will, on average, only increase (decrease) by 0.5%. Thus, stocks
8 with low betas are relatively insulated from market conditions. The beta term is used in the
9 CAPM to estimate the cost of equity, which is discussed in more detail later.²⁰

10 **Q. Are public utilities characterized as defensive firms that have low betas, low market**
11 **risk, and are relatively insulated from overall market conditions?**

12 A. Yes. Although market risk affects all firms in the market, it affects different firms to
13 varying degrees. Firms with high betas are affected more than firms with low betas, which
14 is why firms with high betas are riskier. Stocks with betas greater than one are generally
15 known as “cyclical stocks.” Firms in cyclical industries are sensitive to recurring patterns
16 of recession and recovery known as the “business cycle.”²¹ Thus, cyclical firms are exposed
17 to a greater level of market risk. Securities with betas less than one, on the other hand, are
18 known as “defensive stocks.” Companies in defensive industries, such as public utility
19 companies, “will have low betas and performance that is comparatively unaffected by

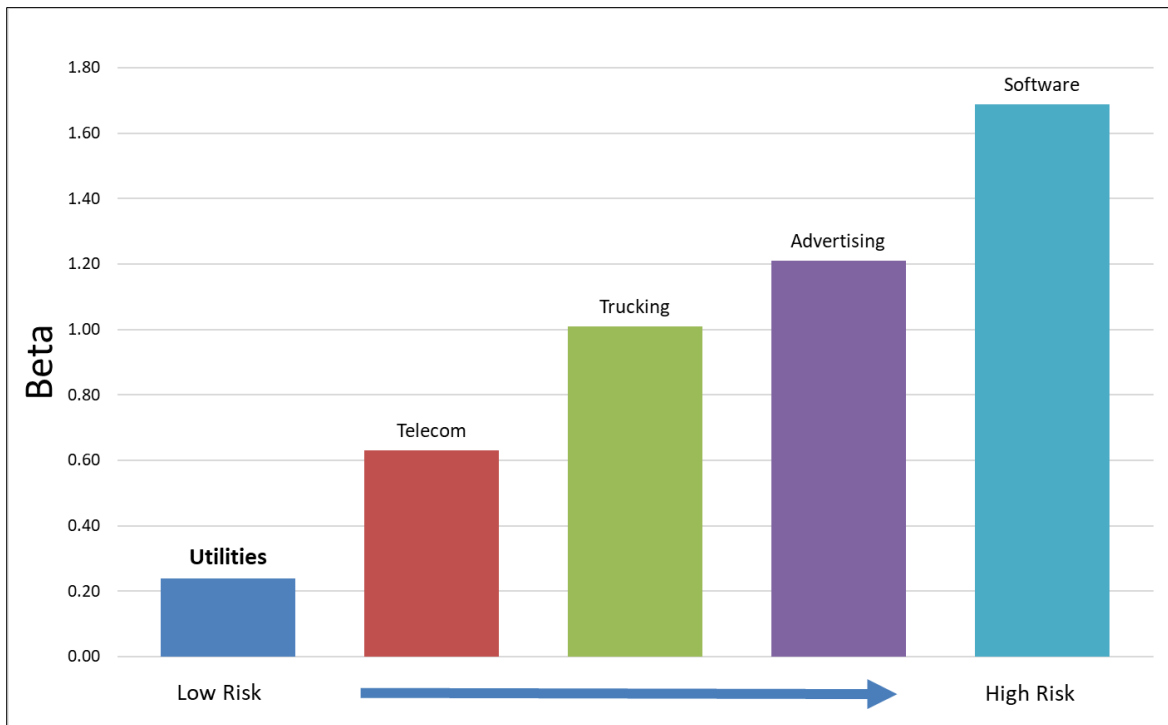
¹⁹ *Id.* at 180-81.

²⁰ Though it will be discussed in more detail later, Exhibit DJG-9 shows that the average beta of the proxy group was less than 1.0. This confirms the well-known concept that utilities are relatively low-risk firms.

²¹ See Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments*, p. 382 (9th ed., McGraw-Hill/Irwin 2013).

overall market conditions.”²² In fact, financial textbooks often use utility companies as prime examples of low-risk, defensive firms. The figure below compares the betas of several industries and illustrates that the utility industry is one of the least risky industries in the U.S. market.²³

**Figure 5:
Beta by Industry**



The fact that utilities are relatively insulated from market conditions should be accurately reflected in the Company’s cost of equity estimate.

²² *Id.* at 383.

²³ See Betas by Sector (US) available at <http://pages.stern.nyu.edu/~adamodar/> (2018). (After clicking the link, click “Data” then “Current Data” then “Risk / Discount Rate” from the drop down menu, then “Total Beta by Industry Sector”). The exact beta calculations are not as important as illustrating the well-known fact that utilities are very low-risk companies. The fact that the utility industry is one of the lowest risk industries in the country should not change from year to year.

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A. The DCF Model is based on a fundamental financial model called the “dividend discount model,” which maintains that the value of a security is equal to the present value of the future cash flows it generates.²⁴ Cash flows from common stock are paid to investors in the form of dividends. There are several variations of the DCF Model. These versions, along with other formulas and theories related to the DCF Model, are discussed in more detail in Appendix A.

A. There are three primary inputs in the DCF Model: (1) stock price; (2) dividend; and (3) the long-term growth rate. The stock prices and dividends are known inputs based on recorded data, while the growth rate projection must be estimated. I discuss each of these inputs separately below.

How did you determine the stock price input of the DCF Model?

A. For the stock price (P_0), I used a 30-day average of stock prices for each company in the proxy group.²⁵ Analysts sometimes rely on average stock prices for longer periods (*e.g.*, 60, 90, or 180 days). According to the efficient market hypothesis, however, markets reflect all relevant information available at a particular time, and prices adjust instantaneously to

²⁵ Exhibit DJG-3.

1 the arrival of new information.²⁶ Past stock prices, in essence, reflect outdated information.
2 The DCF Model used in utility rate cases is a derivation of the dividend discount model,
3 which is used to determine the current value of an asset. Thus, according to the dividend
4 discount model and the efficient market hypothesis, the value for the “P₀” term in the DCF
5 Model should technically be the current stock price, rather than an average.

6 **Q. Why did you use a 30-day average for the current stock price input?**

7 A. Using a short-term average of stock prices for the current stock price input adheres to
8 market efficiency principles while avoiding any irregularities that may arise from using a
9 single current stock price. In the context of a utility rate proceeding, there is a significant
10 length of time between when an application is filed and when testimony is due. Choosing
11 a current stock price for one particular day could raise a separate issue concerning which
12 day was chosen to be used in the analysis. In addition, a single stock price on a particular
13 day may be unusually high or low. It is arguably ill-advised to use a single stock price in a
14 model that is ultimately used to set rates for several years, especially if a stock is
15 experiencing some volatility. Thus, it is preferable to use a short-term average of stock
16 prices, which represents a good balance between adhering to well-established principles of
17 market efficiency while avoiding any unnecessary contentions that may arise from using a

²⁶ See Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, Vol. 25, No. 2 The Journal of Finance, p. 383 (1970); see also John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 357 (3rd ed., South Western Cengage Learning 2010). The efficient market hypothesis was formally presented by Eugene Fama in 1970 and is a cornerstone of modern financial theory and practice.

single stock price on a given day. The stock prices I used in my DCF analysis are based on 30-day averages of adjusted closing stock prices for each company in the proxy group.²⁷

B. Dividend

Q. Describe how you determined the dividend input of the DCF Model.

A. The dividend term in the DCF Model represents dividends per share (d_0). I used forward-looking annualized dividends published by Yahoo! Finance for the dividend input to my constant growth DCF Model.²⁸ Dividing these dividends by the stock prices for each proxy company results in the dividend yield for each company.²⁹

Q. Are the stock price and dividend inputs for each proxy company a significant issue in this case?

A. No. Although my stock price and dividend inputs are more recent than those used by Mr. D'Ascendis, there is not a statistically significant difference between them because utility stock prices and dividends are generally quite stable. This is another reason that cost of capital models such as the CAPM and the DCF Model are well-suited to be conducted on utilities. The differences between my DCF Model and Mr. D'Ascendis's DCF Model are primarily driven by differences in our growth rate estimates, which are further discussed below.

²⁷ Exhibit DJG-3. Adjusted closing prices, rather than actual closing prices, are ideal for analyzing historical stock prices. The adjusted price provides an accurate representation of the firm's equity value beyond the mere market price because it accounts for stock splits and dividends.

²⁸ Exhibit DJG-4.

²⁹ *Id.*

1 **C. Growth Rate**

2 **Q. Please Summarize the growth rate input in the DCF Model.**

3 A. The most critical input in the DCF Model is the growth rate. Unlike the stock price and
4 dividend inputs, the growth rate input (g) must be estimated. As a result, the growth rate is
5 often the most contentious issue related to DCF model inputs in utility rate cases. The DCF
6 model used in this case is based on the sustainable growth valuation model. Under this
7 model, a stock is valued by the present value of its future cash flows in the form of
8 dividends. Before future cash flows are discounted by the cost of equity, however, they
9 must be “grown” into the future by a sustainable growth rate. As stated above, one of the
10 inherent assumptions of this model is that these cash flows in the form of dividends grow
11 at a sustainable rate forever. For young, high-growth firms, estimating the growth rate to
12 be used in the model can be especially difficult, and may require the use of multi-stage
13 growth models. For mature, low-growth firms such as utilities, however, estimating the
14 sustainable growth rate is more transparent. The growth term of the DCF Model is one of
15 the most important, yet least understood, aspects of cost of equity estimations in utility
16 regulatory proceedings. I provide a more detailed explanation on the various determinants
17 of growth below.

18 **Q. Describe the various determinants of growth that can be considered for the growth**
19 **rate input in the DCF Model.**

20 A. Although the DCF Model directly considers the growth of dividends, there are a variety of
21 growth determinants that should be considered when estimating growth rates. It should be
22 noted that these various growth determinants are used primarily to determine the short-
23 term growth rates in multi-stage DCF models. For utility companies, it is necessary to focus

1 primarily on a long-term growth rate in dividends. This is also known as a “sustainable”
2 growth rate, since this is the growth rate assumed for the company’s dividends in
3 perpetuity. That is not to say that these growth determinants cannot be considered when
4 estimating sustainable growth; however, as discussed below, sustainable growth must be
5 constrained much more than short-term growth, especially for young firms with high
6 growth opportunities. Additionally, I briefly discuss these growth determinants here
7 because it may reveal some of the sources of confusion in this area.

8 (1) Historical Growth

9 Looking at a firm’s actual historical experience may theoretically provide a good
10 starting point for estimating short-term growth. However, past growth is not always a good
11 indicator of future growth. Some metrics that might be considered here are a historical
12 growth in revenues, operating income, and net income. Since dividends are paid from
13 earnings, estimating historical earnings growth may provide an indication of future
14 earnings and dividend growth.

15 (2) Analyst Growth Rates

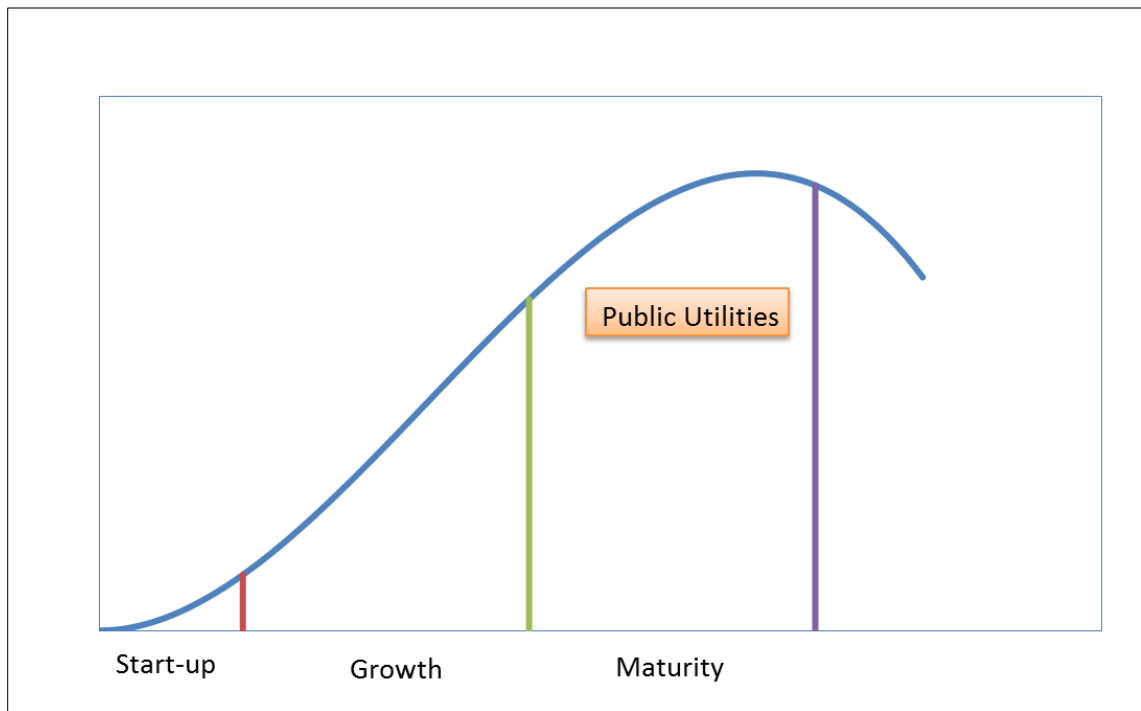
16 Analyst growth rates refer to short-term projections of earnings growth published
17 by institutional research analysts such as Value Line and Bloomberg. Analyst growth rates,
18 including the limitations with using them in the DCF Model to estimate utility cost of
19 equity, are discussed in more detail below.

20 (3) Sustainable Growth Rates

21 In order to make the DCF Model a viable, practical model, an infinite stream of
22 future cash flows must be estimated and then discounted back to the present. Otherwise,
23 each annual cash flow would have to be estimated separately. Some analysts use “multi-

stage” DCF Models to estimate the value of high-growth firms through two or more stages of growth, with the final stage of growth being sustainable. However, it is not necessary to use multi-stage DCF Models to analyze the cost of equity of regulated utility companies. This is because regulated utilities are already in their “sustainable,” low growth stage. Unlike most competitive firms, the growth of regulated utilities is constrained by physical service territories and limited primarily by ratepayer and load growth within those territories. The Figure below illustrates the well-known business/industry life-cycle pattern.

**Figure 6:
Industry Life Cycle**



In an industry’s early stages, there are ample opportunities for growth and profitable reinvestment. In the maturity stage however, growth opportunities diminish, and firms choose to pay out a larger portion of their earnings in the form of dividends instead of

reinvesting them in operations to pursue further growth opportunities. Once a firm is in the maturity stage, it is not necessary to consider higher short-term growth metrics in multi-stage DCF Models; rather, it is sufficient to analyze the cost of equity using a stable growth DCF Model with one sustainable growth rate.

Q. Is the aggregate growth rate of the economy typically a limiting factor for the terminal growth rate in the DCF Model?

A. Yes. A fundamental concept in finance is that no firm can grow forever at a rate higher than the growth rate of the economy in which it operates.³⁰ Thus, the terminal growth rate used in the DCF Model should not exceed the aggregate economic growth rate. This is especially true when the DCF Model is conducted on public utilities because these firms have defined service territories. As stated by Dr. Damodaran: “[i]f a firm is a purely domestic company, either because of internal constraints . . . or external constraints (such as those imposed by a government), the growth rate in the domestic economy will be the limiting value.”³¹

In fact, it is reasonable to assume that a regulated utility would grow at a rate that is less than the U.S. economic growth rate. Unlike competitive firms, which might increase their growth by launching a new product line, franchising, or expanding into new and developing markets, utility operating companies with defined service territories cannot do

³⁰ See Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 306 (3rd ed., John Wiley & Sons, Inc. 2012).

³¹ Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 306 (3rd ed., John Wiley & Sons, Inc. 2012); Aswath Damodaran is a renowned Professor of Finance at NYU Stern School of Business known for his expertise in corporate finance and valuation, teaching MBA students and publishing influential books. He is recognized for transparent teaching, real-time analysis, and making complex finance accessible globally through various platforms.

1 any of these things to grow. Gross Domestic Product (“GDP”) is one of the most widely
2 used measures of economic production and is used to measure aggregate economic growth.
3 According to the Congressional Budget Office’s Budget Outlook, the long-term forecast
4 for nominal U.S. GDP growth is 3.8%.³² For mature companies in mature industries, such
5 as utility companies, the terminal growth rate should not exceed nominal GDP growth.
6 This is the growth rate I used in the sustainable growth variation of my DCF Model.³³

7 **Q. Did you also consider a variation of the DCF Model that incorporates analysts’**
8 **growth rate projections?**

9 A. Yes. In this case, I present the results of analyst growth variation of my DCF Model because
10 it is commonly presented in rate proceedings and considered by regulators when assessing
11 a utility’s authorized ROE.

12 **Q. Please describe the results of your DCF Models?**

13 A. For my DCF Models, I considered two variations: one using analysts’ growth rates and one
14 using the maximum sustainable growth rate. The results of these models are 8.1% and
15 7.3%, respectively.³⁴

16 **D. Response to Mr. D’Ascendis’s DCF Model**

17 **Q. Please summarize the results of Mr. D’Ascendis’s DCF analyses.**

18 A. Mr. D’Ascendis’s application of the DCF Model produced an indicated cost of equity result
19 of 10.43%.³⁵

³² Congressional Budget Office Long-Term Budget Outlook, <https://www.cbo.gov/publication/59014>.

³³ Exhibit DJG-6.

³⁴ *Id.*

³⁵ Direct Testimony of Dylan W. D’Ascendis, p. 4, Table 2.

1 **Q. Does the result of Mr. D’Ascendis’s DCF Model indicate a reasonable cost of equity**
2 **estimate for UGI?**

3 A. No. Whether the sustainable GDP growth rate or projected dividend growth rates published
4 by Value Line are considered, the highest DCF result I obtained was 8.1%. The primary
5 reason Mr. D’Ascendis’s DCF results are overstated is his use of unsustainably high growth
6 rates for some proxy companies, and average growth rates for the proxy group that are
7 unsustainably high. For example, Mr. D’Ascendis incorporated an annual long-term
8 growth rate as high as 11% for Entergy Corporation. This means Mr. D’Ascendis is
9 suggesting the company’s earnings will grow by more than 11% each year, every year, in
10 perpetuity. This growth rate estimate published by S&P Capital IQ is a short-term growth
11 rate. It is Mr. D’Ascendis, not the commercial analyst, who is suggesting that this annual
12 earnings growth rate can be achieved each year in perpetuity, which is simply unsustainable
13 and technically impossible. As a result, the cost of equity results indicated by Mr.
14 D’Ascendis’s DCF Model are overstated.

15 **VII. CAPITAL ASSET PRICING MODEL ANALYSIS**

16 **Q. Please describe the CAPM.**

17 A. The CAPM is a market-based model founded on the principle that investors expect higher
18 returns for incurring additional risk.³⁶ The CAPM estimates this expected return. The
19 various assumptions, theories, and equations involved in the CAPM are discussed further
20 in Appendix B. Using the CAPM to estimate the cost of equity of a regulated utility is

³⁶ William F. Sharpe, *A Simplified Model for Portfolio Analysis*, pp. 277-93 (Management Science IX 1963); see also John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 208 (3rd ed., South-Western Cengage Learning 2010).

1 consistent with the legal standards governing the fair rate of return. The U.S. Supreme
2 Court has recognized that “the amount of *risk* in the business is a most important factor”
3 in determining the allowed rate of return,³⁷ and that “the return to the equity owner should
4 be commensurate with returns on investments in other enterprises having corresponding
5 *risks*.”³⁸ The CAPM is a useful model because it directly considers the amount of risk
6 inherent in a business and directly measures the most important component of a fair rate of
7 return analysis: Risk.

8 **Q. Describe the inputs for the CAPM.**

9 A. The basic CAPM equation requires only three inputs to estimate the cost of equity: (1) the
10 risk-free rate; (2) the beta coefficient; and (3) the equity risk premium. Each input is
11 discussed separately below.

12 **A. The Risk-Free Rate**

13 **Q. Please explain the risk-free rate.**

14 A. The first term in the CAPM is the risk-free rate (R_F). The risk-free rate is simply the level
15 of return investors can achieve without assuming any risk. The risk-free rate represents the
16 bare minimum return that any investor would require on an investment. Even though no
17 investment is technically devoid of risk, investors often use U.S. Treasury securities to
18 represent the risk-free rate because they accept that those securities essentially contain no
19 default risk. The Treasury issues securities with different maturities, including short-term
20 Treasury Bills, intermediate-term Treasury Notes, and long-term Treasury Bonds.

³⁷ *Wilcox*, 212 U.S. at 48 (emphasis added).

³⁸ *Hope Natural Gas Co.*, 320 U.S. at 603 (emphasis added).

1 **Q. Is it preferable to use the yield on long-term Treasury bonds for the risk-free rate in**
2 **the CAPM?**

3 A. Yes. In valuing an asset, investors estimate cash flows over long periods of time. Common
4 stock is viewed as a long-term investment, and the cash flows from dividends are assumed
5 to last indefinitely. As a result, short-term Treasury bill yields are rarely used in the CAPM
6 to represent the risk-free rate. Short-term rates are subject to greater volatility and thus can
7 lead to unreliable estimates. Instead, long-term Treasury bonds are usually used to
8 represent the risk-free rate in the CAPM. I considered a 30-day average of daily Treasury
9 yield curve rates on 30-year Treasury bonds in my risk-free rate estimate, which resulted
10 in a risk-free rate of 5.02%.³⁹

11 **B. The Beta Coefficient**

12 **Q. How is the beta coefficient used in this model?**

13 A. As discussed above, beta represents the sensitivity of a given security to movements in the
14 overall market. The CAPM states that in efficient capital markets, the expected risk
15 premium on each investment is proportional to its beta. Recall that a security with a beta
16 greater than 1.0 is riskier than the market portfolio. Conversely, a security with a beta less
17 than one is less risky than the market portfolio. An index such as the S&P 500 Index is
18 used as a proxy for the market portfolio. The historical betas for publicly traded firms are
19 published by various institutional analysts. Beta may also be calculated through a linear
20 regression analysis, which provides additional statistical information about the relationship
21 between a single stock and the market portfolio. The market portfolio of all stocks has a

³⁹ Exhibit DJG-7.

1 beta equal to one. Stocks with betas greater than one are relatively more sensitive to market
2 risk than the average stock. In contrast, stocks with betas of less than one are less sensitive
3 to market risk.

4 **Q. Describe the source for the betas you used in your CAPM analysis.**

5 A. I used betas recently published by Value Line Investment Survey. The beta for each proxy
6 company is less than 1.0, and the average beta for the total proxy group is only 0.83.⁴⁰
7 Thus, we have an objective measure to prove the well-known concept that utility stocks
8 are less risky than the average stock in the market. While there is evidence suggesting that
9 betas published by sources such as Value Line may actually overestimate the risk of
10 utilities (and thus overestimate the CAPM), I used the betas published by Value Line in the
11 interest of reasonableness.⁴¹

12 **C. The Equity Risk Premium**

13 **Q. Describe the equity risk premium.**

14 A. The final term of the CAPM is the equity risk premium (“ERP”), which is the required
15 return on the market portfolio less the risk-free rate ($R_M - R_F$). In other words, the ERP is
16 the level of return investors expect above the risk-free rate in exchange for investing in
17 risky securities. Many experts agree that “the single most important variable for making
18 investment decisions is the equity risk premium.”⁴² Likewise, the ERP is arguably the

⁴⁰ Exhibit DJG-8.

⁴¹ See Appendix B for a more detailed discussion of raw beta calculations and adjustments.

⁴² Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns*, p. 4 (Princeton University Press 2002).

single most important factor in estimating the cost of capital in this matter. There are three basic methods that can be used to estimate the ERP: (1) calculating a historical average; (2) taking a survey of experts; and (3) calculating the implied ERP. I will discuss each method in turn, noting advantages and disadvantages of these methods.

1. Historical Average

Q. Describe the historical equity risk premium.

A. The historical ERP may be calculated by simply taking the difference between returns on stocks and returns on government bonds over a certain period of time. Many practitioners rely on the historical ERP as an estimate for the forward-looking ERP because it is easy to obtain. However, there are disadvantages to relying on the historical ERP.

Q. What are the limitations of relying solely on a historical average to estimate the current or forward-looking ERP?

A. Some investors may rely on the historic ERP because it is convenient and easy to calculate. But what matters in the CAPM model is the current and forward-looking risk premium.⁴³ Some investors may think that a historic ERP provides some indication of what the prospective risk premium is; however, there is empirical evidence to suggest the prospective, forward-looking ERP is actually *lower* than the historical ERP. In a landmark publication on risk premiums around the world, *Triumph of the Optimists*, the authors suggest through extensive empirical research that the prospective ERP is lower than the

⁴³ John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 330 (3rd ed., South-Western Cengage Learning 2010).

1 historical ERP.⁴⁴ This is due in large part to what is known as “survivorship bias” or
2 “success bias” — a tendency for failed companies to be excluded from historical indices.⁴⁵

3 From their extensive analysis, the authors make the following conclusion regarding the
4 prospective ERP:

5 The result is a forward-looking, geometric mean risk premium for the
6 United States . . . of around 2½ to 4 percent and an arithmetic mean risk
7 premium . . . that falls within a range from a little below 4 to a little above
8 5 percent.⁴⁶

9 Indeed, these results are lower than many reported historical risk premiums. Other noted
10 experts agree:

11 The historical risk premium obtained by looking at U.S. data is biased
12 upwards because of survivor bias. . . The true premium, it is argued, is much
13 lower. This view is backed up by a study of large equity markets over the
14 twentieth century (*Triumph of the Optimists*), which concluded that the
15 historical risk premium is closer to 4%.⁴⁷

16 Regardless of the variations in historic ERP estimates, many leading scholars and
17 practitioners agree that simply relying on a historic ERP to estimate the risk premium going
18 forward is not ideal. Fortunately, “a naïve reliance on long-run historical averages is not
19 the only approach for estimating the expected risk premium.”⁴⁸

⁴⁴ Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns*, p. 34 (Princeton University Press 2002).

⁴⁵ *Id.* at 194.

⁴⁶ *Id.*

⁴⁷ Aswath Damodaran, *Equity Risk Premiums: Determinants, Estimation and Implications – The 2015 Edition*, p. 17 (New York University 2015).

⁴⁸ John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 330 (3rd ed., South Western Cengage Learning 2010).

1 **Q. Did you rely on the historical ERP as part of your CAPM analysis in this case?**

2 A. No. Due to the limitations of this approach, I primarily relied on the ERP reported in expert
3 surveys and the implied ERP method discussed below.

4 **2. Expert Surveys**

5 **Q. Describe the expert survey approach to estimating the ERP.**

6 A. As its name implies, the expert survey approach to estimating the ERP involves conducting
7 a survey of experts including professors, analysts, chief financial officers, and other
8 executives around the country and asking them what they think the ERP is. The IESE
9 Business School conducts such a survey each year. Its 2025 expert survey reported an
10 average ERP of 5.3%.⁴⁹

11 **3. Implied Equity Risk Premium**

12 **Q. Describe the implied equity risk premium approach.**

13 A. The third method of estimating the ERP is arguably the most accurate. The implied ERP
14 relies on the stable growth model proposed by Gordon, often called the “Gordon Growth
15 Model,” which is a basic stock valuation model that has been widely used in finance for
16 many years.⁵⁰ This model is a mathematical derivation of the DCF Model. In fact, the
17 underlying concept in both models is the same: The current value of an asset is equal to the
18 present value of its future cash flows. Instead of using this model to determine the discount

⁴⁹ Pablo Fernandez, et al., *Survey: Market Risk Premium and Risk-Free Rate used for 54 countries in 2025* (IESE Business School 2024), copy available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5260463
IESE Business School is the graduate business school of the University of Navarra.

⁵⁰ Myron J. Gordon and Eli Shapiro, *Capital Equipment Analysis: The Required Rate of Profit* 102-10 (Management Science Vol. 3, No. 1 Oct. 1956); Myron Gordon was an American economist and Professor Emeritus of Finance at the Rotman School of Management, University of Toronto. In 1956, Gordon along with Eli Shapiro, published a method for valuing a stock or business, now known as the Gordon growth model.

rate of one company, we can use it to determine the discount rate for the entire market by substituting the inputs of the model. Specifically, instead of using the current stock price (P_0), we will use the current value of the S&P 500 (V_{500}). Instead of using the dividends of a single firm, we will consider the dividends paid by the entire market. Additionally, we should consider potential dividends. In other words, stock buybacks should be considered in addition to paid dividends, as stock buybacks represent another way for the firm to transfer free cash flow to shareholders. Focusing on dividends alone, without considering stock buybacks, could understate the cash flow component of the model and ultimately understate the implied ERP. The market dividend yield plus the market buyback yield gives us the gross cash yield to use as our cash flow in the numerator of the discount model. This gross cash yield is increased each year over the next five years by the growth rate. These cash flows must be discounted to determine their present value. The discount rate in each denominator is the risk-free rate (R_F) plus the discount rate (K). Equation 1 below shows how the implied return is calculated. Since the current value of the S&P is known, we can solve for K , the implied market return.⁵¹

**Equation 1:
Implied Market Return**

$$V_{500} = \frac{CY_1(1+g)^1}{(1+R_F+K)^1} + \frac{CY_2(1+g)^2}{(1+R_F+K)^2} + \dots + \frac{CY_5(1+g)^5 + TV}{(1+R_F+K)^5}$$

⁵¹ See Exhibit DJG-9 for detailed calculation.

where: V_{500} = current value of index (S&P 500)
 CY_{1-5} = average cash yield over last five years (includes dividends and buybacks)
 g = compound growth rate in earnings over last five years
 R_F = risk-free rate
 K = implied market return (this is what we are solving for)
 TV = terminal value = $CY_5 (1+R_F) / K$

The discount rate is called the “implied” return because it is based on the current value of the index as well as the value of free cash flow to investors projected over the next five years. Thus, based on these inputs, the market is “implying” the expected return; or in other words, based on the current value of all stocks (the index price) and the projected value of future cash flows, the market is telling us the return expected by investors for investing in the market portfolio. After solving for the implied market return (K), we simply subtract the risk-free rate from it to arrive at the implied ERP as shown in the following equation.

**Equation 2:
Implied Equity Risk Premium**

$$\text{Implied Expected Market Return} - R_F = \text{Implied ERP}$$

Q. Discuss the results of your implied ERP calculation.

A. After collecting data for the index value, operating earnings, dividends, and buybacks for the S&P 500 over the past six years, I calculated the dividend yield, buyback yield, and gross cash yield for each year. I also calculated the compound annual growth rate (g) from operating earnings. I used these inputs, along with the risk-free rate and current value of the index to calculate a current required return on the U.S. equity market of 10.0%. I subtracted the risk-free rate to arrive at the implied equity risk premium of 5.0%.⁵² Dr.

⁵² *Id.*

Damodaran, one of the world's leading experts on the ERP, promotes the implied ERP method discussed above. He calculates monthly and annual implied ERPs with this method and publishes his results. Dr. Damodaran's average ERP estimate for May of 2026 using several implied ERP variations was 4.5%.⁵³

Q. Did you also consider the ERP estimate published by Kroll?

A. Yes. Kroll (formerly Duff & Phelps), is a multinational financial and risk advisory company. Kroll recently published an ERP estimate of 5.0%.⁵⁴

Q. What are the results of your final ERP estimate?

A. For the final ERP estimate I used in my CAPM analysis, I considered the results of the ERP surveys, the estimated ERP reported by Kroll, the estimated ERP calculated by Dr. Damodaran, and the implied ERP based on my calculations.⁵⁵ The results are summarized in the following figure:

**Figure 7:
Equity Risk Premium Results**

IESE Business School Survey	5.3%
Kroll (Duff & Phelps) Report	5.0%
Damodaran (average)	4.5%
Garrett	5.0%
Average	4.9%

⁵³ See monthly ERP estimates published by Dr. Damodaran at <http://pages.stern.nyu.edu/~adamodar/>

⁵⁴ Kroll, Cost of Capital Inputs Updated to Reflect a De-Escalation of Trade Tensions and Economic Support from Monetary and Fiscal Policies (September 3, 2025).

⁵⁵ See also Exhibit DJG-10.

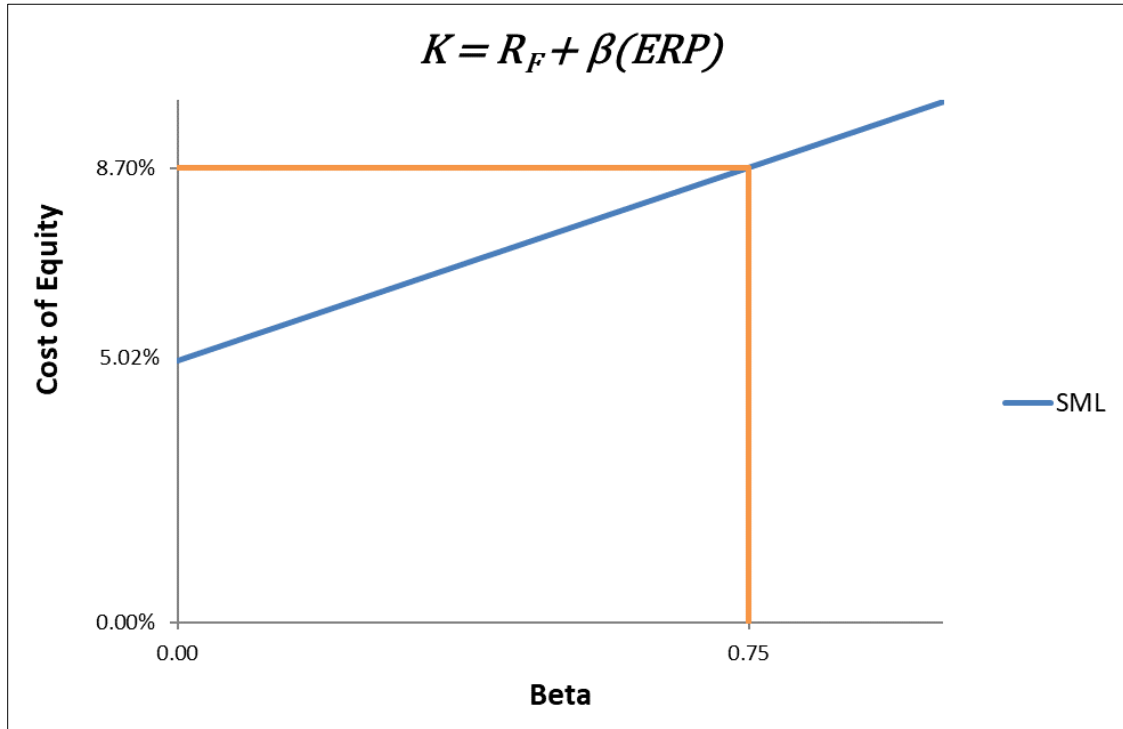
1 I used the average ERP of 4.9% from these sources in my CAPM.

2 **Q. Please explain the final results of your CAPM analysis.**

3 A. Using the inputs for the risk-free rate, beta, and equity risk premium discussed above, I
4 estimate that the Company's CAPM cost of equity is 8.7%, but only if the proxy group
5 average debt ratio is assumed (otherwise, the Company's CAPM cost of equity estimate is
6 only 8.0%, which is discussed later in my testimony regarding the Hamada Model).⁵⁶ The
7 CAPM can be displayed graphically through what is known as the Security Market Line
8 ("SML"). The figure below shows the expected return (cost of equity) on the y-axis, and
9 the average beta for the proxy group on the x-axis. The SML intercepts the y-axis at the
10 level of the risk-free rate. The slope of the SML is the equity risk premium.

⁵⁶ Exhibits DJG-11 and DJG-12.

Figure 8:
CAPM Graph



The SML provides the rate of return that will compensate investors for the beta risk of that investment. Thus, at an average beta of 0.75 for the proxy group, and assuming the proxy group’s average capital structure is used, the CAPM result is 8.7%.

D. Response to Mr. D’Ascendis’s CAPM Analysis and Other Issues

Q. Please summarize the results of Mr. D’Ascendis’s CAPM analysis

A. Mr. D’Ascendis’s application of the CAPM produced a results ranging from 10.22% - 11.45%.⁵⁷ As part of these CAPM results, Mr. D’Ascendis incorporated a variation of the CAPM called the “empirical CAPM” (“ECAPM”). Mr. D’Ascendis also conducted another

⁵⁷ Direct Testimony of Dylan W. D’Ascendis, p. 4, Table 2.

1 type of risk premium analysis, which produced results from 10.59% - 11.00%.⁵⁸ Mr.
2 D'Ascendis also proposes a size premium and a flotation cost premium, which increase his
3 results even further. Finally, Mr. D'Ascendis also conducts his modeling on a group of
4 non-utility companies.

5 **Q. Do the results of Mr. D'Ascendis's CAPM and other risk premium analyses indicate**
6 **a reasonable cost of equity estimate for UGI?**

7 A. No. The primary factor which causes Mr. D'Ascendis's CAPM and ECAPM results to be
8 unreasonably high is his use of an unreasonably high ERP estimate. Also, the size premium
9 Mr. D'Ascendis applies to his CAPM results is unreasonable and unnecessary. I will
10 discuss these issues below as well as the results of Mr. D'Ascendis's other risk premium
11 analysis.

12 **1. Equity Risk Premium**

13 **Q. Did Mr. D'Ascendis rely on a reasonable measure for the ERP?**

14 A. No. The primary factor which causes Mr. D'Ascendis's CAPM results to be unreasonably
15 high is his use of an unreasonably high ERP estimate. Mr. D'Ascendis considered an ERP
16 as high as 8.61% in his analysis.⁵⁹ The ERP is one of three inputs in the CAPM equation,
17 and it is one of the most important factors for estimating the cost of equity in this case. As
18 discussed above, I used three widely accepted methods for estimating the ERP, including
19 consulting expert surveys, calculating the implied ERP based on aggregate market data,

⁵⁸ *Id.*

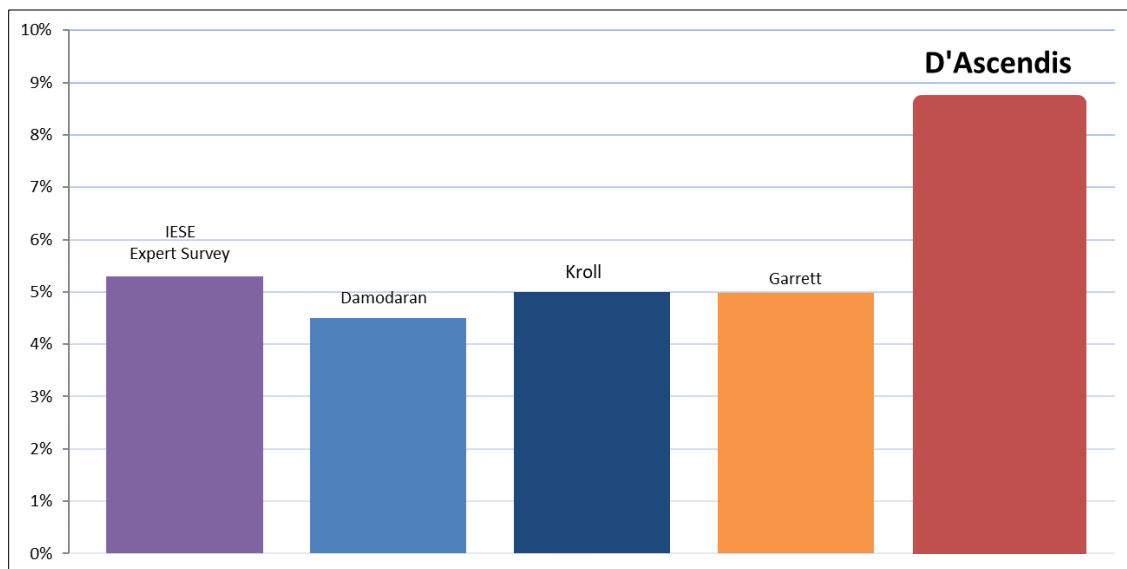
⁵⁹ *Id.* at Exhibit DWD-5.

and considering the ERPs published by reputable analysts. The average ERP calculated from my research is only 4.9%.

Q. Please discuss and illustrate how Mr. D'Ascendis's ERP compares with other estimates for the ERP.

A. The 2025 IESE Business School expert survey reports an average ERP of 5.3%. Similarly, Kroll recently estimated an ERP of 5.0%. Dr. Damodaran, one of the leading experts on the ERP, recently estimated an ERP of only 4.5%.⁶⁰ The chart in the following figure illustrates that Mr. D'Ascendis's ERP estimate higher than other reasonable, objective estimates for the ERP.⁶¹

**Figure 9:
Equity Risk Premium Comparison**



⁶⁰ Aswath Damodaran, *Implied Equity Risk Premium Update*, DAMODARAN ONLINE, <http://pages.stern.nyu.edu/~adamodar/>. Dr. Damodaran estimates several ERPs using various assumptions.

⁶¹ The ERP estimated by Dr. Damodaran is the highest of several ERP estimates under slightly differing assumptions.

1 When compared with other independent sources for the ERP, as well as my estimate, Mr.
2 D'Ascendis's ERP estimate is clearly too high. This factor contributes to Mr. D'Ascendis's
3 CAPM results to overstate UGI's cost of equity.

4 **2. Other Risk Premium Analysis**

5 **Q. Please describe Mr. D'Ascendis's other risk premium analysis in addition to the**
6 **CAPM.**

7 A. In addition to the CAPM, which is a risk premium model, Mr. D'Ascendis also conducted
8 another type of risk premium model, which considers in part the difference between stock
9 and bond returns dating back to 1926.⁶² Mr. D'Ascendis also considered the authorized
10 ROEs from past rate cases dating back to 1980.⁶³

11 **Q. Does the result of Mr. D'Ascendis's risk premium model indicate a reasonable cost of**
12 **equity for UGI?**

13 A. No. First, to the extent Mr. D'Ascendis based his risk premium model on prior authorized
14 ROEs, this model does not even assess a market-based cost of equity for UGI, and thus
15 should be rejected for that reason alone. In addition, incorporating stock and bond returns
16 dating back to 1926 has no relevant bearing on UGI's current and forward-looking cost of
17 equity, which is what the Company's authorized ROE should be based on. If the
18 Commission is going to focus on a type of risk premium model to assess UGI's market-
19 based cost of equity in this case, it should focus on the one that resulted in a Nobel Prize
20 in Economic Sciences – the CAPM – and not the problematic risk premium model offered
21 by Mr. D'Ascendis.

⁶² Direct Testimony of Dylan W. D'Ascendis, p. 48.

⁶³ *Id.* at p. 31.

1 **3. Size Effect**

2 **Q. Describe Mr. D’Ascendis’s size premium.**

3 A. Mr. D’Ascendis considers the notion that UGI’s size relative to the proxy group has an
4 increasing effect on its cost of equity, and he applied a size premium of 0.40% to UGI’s
5 indicated range of cost of equity.⁶⁴

6 **Q. Do you agree with Mr. D’Ascendis’s opinion regarding UGI’s size?**

7 A. No. UGI should not receive any upward adjustment or consideration to its cost of equity
8 estimate or authorized ROE due to its size. The “size effect” phenomenon arose from a
9 1981 study conducted by Banz, which found that “in the 1936 – 1975 period, the common
10 stock of small firms had, on average, higher risk-adjusted returns than the common stock
11 of large firms.”⁶⁵ According to Ibbotson, Banz’s size effect study was “[o]ne of the most
12 remarkable discoveries of modern finance.”⁶⁶ Perhaps there was some merit to this idea at
13 the time, but the size effect phenomenon was short lived. Banz’s 1981 publication
14 generated much interest in the size effect and spurred the launch of significant new small
15 cap investment funds. However, this “honeymoon period lasted for approximately two
16 years. . .”⁶⁷ After 1983, U.S. small-cap stocks actually underperformed relative to large
17 cap stocks. In other words, the size effect essentially reversed. In *Triumph of the Optimists*,
18 the authors conducted an extensive empirical study of the size effect phenomenon around

⁶⁴ *Id.* at 60.

⁶⁵ Rolf W. Banz, *The Relationship Between Return and Market Value of Common Stocks* 3-18 (Journal of Financial Economics 9 (1981)).

⁶⁶ 2015 Ibbotson Stocks, Bonds, Bills, and Inflation Classic Yearbook 99 (Morningstar 2015).

⁶⁷ Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 131 (Princeton University Press 2002).

1 the world. They found that after the size effect phenomenon was discovered in 1981, it
2 disappeared within a few years:

3 It is clear . . . that there was a global reversal of the size effect in virtually
4 every country, with the size premium not just disappearing but going into
5 reverse. Researchers around the world universally fell victim to Murphy's
6 Law, with the very effect they were documenting – and inventing
7 explanations for – promptly reversing itself shortly after their studies were
8 published.⁶⁸

9 In other words, the authors assert that the very discovery of the size effect phenomenon
10 likely caused its own demise. The authors ultimately concluded that it is “inappropriate to
11 use the term ‘size effect’ to imply that we should automatically expect there to be a small-
12 cap premium,” yet, this is exactly what utility witnesses often do in attempting to
13 artificially inflate the cost of equity with a size premium, and what Mr. D’Ascendis is trying
14 to do here. Other prominent sources have agreed that the size premium is a dead
15 phenomenon. According to Ibbotson:

16 The unpredictability of small-cap returns has given rise to another argument
17 against the existence of a size premium: that markets have changed so that
18 the size premium no longer exists. As evidence, one might observe the last
19 20 years of market data to see that the performance of large-cap stocks was
20 basically equal to that of small cap stocks. In fact, large-cap stocks have
21 outperformed small-cap stocks in five of the last 10 years.⁶⁹

22 In addition to the studies discussed above, other scholars have concluded similar results.

23 According to Kalesnik and Beck:

⁶⁸ *Id.* at 133.

⁶⁹ 2015 Ibbotson Stocks, Bonds, Bills, and Inflation Classic Yearbook 112 (Morningstar 2015); Roger Ibbotson is Professor in the Practice Emeritus of Finance at Yale School of Management. He is also chairman of Zebra Capital Management, LLC, an equity investment, index, and hedge fund manager. He is founder, advisor and former chairman of Ibbotson Associates, now a Morningstar Company.

1 Today, more than 30 years after the initial publication of Banz's paper, the
2 empirical evidence is extremely weak even before adjusting for possible
3 biases. . . . The U.S. long-term size premium is driven by the extreme
4 outliers, which occurred three-quarters of a century ago. . . . Finally,
5 adjusting for biases . . . makes the size premium vanish. If the size premium
6 were discovered today, rather than in the 1980s, it would be challenging to
7 even publish a paper documenting that small stocks outperform large
8 ones.⁷⁰

9 For all of these reasons, the Commission should reject the arbitrary size premium proposed
10 by the Company.

11 **4. Flotation Costs**

12 **Q. Please summarize Mr. D'Ascendis's position regarding flotation costs.**

13 A. Mr. D'Ascendis adds 0.13% to his cost of equity estimate as a flotation cost adjustment.⁷¹

14 The Commission should reject any argument that suggests flotation costs should have an
15 increasing effect on UGI's cost of equity or authorized ROE.

16 **Q. Why should flotation costs not have an increasing effect on UGI's cost of equity or**
17 **authorized ROE?**

18 A. When companies issue equity securities, they typically hire at least one investment bank as
19 an underwriter for the securities. "Flotation costs" generally refer to the underwriter's
20 compensation for the services it provides in connection with the securities offering.

⁷⁰ Vitali Kalesnik and Noah Beck, *Busting the Myth About Size* (Research Affiliates 2014), available at https://www.researchaffiliates.com/Our%20Ideas/Insights/Fundamentals/Pages/284_Busting_the_Myth_About_Size.aspx (emphasis added); Vitali Kalesnik is responsible for quantitative research using advanced econometric tools in asset pricing and active asset allocation. This research is used to enhance Research Affiliates' products—in particular, RAFI® Fundamental Index strategies and global tactical asset allocation products. In addition, Vitali is an adjunct professor in business and economics at Chapman University, Orange, California. Noah Beck conducts quantitative equity research relating to dynamic factor investing and smart beta strategies. He supports existing portfolios and advances research for product development.

⁷¹ Direct Testimony of Dylan W. D'Ascendis, p. 4, Table 2.

1 However, Mr. D’Ascendis’s arguments regarding flotation costs should be rejected for
2 several reasons, as discussed further below.

3 **1. Flotation costs are not actual “out-of-pocket” costs.**

4 The Company has not experienced any out-of-pocket costs for flotation. Underwriters are
5 not compensated in this fashion. Instead, underwriters are compensated through an
6 “underwriting spread.” An underwriting spread is the difference between the price at which
7 the underwriter purchases the shares from the firm, and the price at which the underwriter
8 sells the shares to investors.⁷² Accordingly, the Company has not experienced any out-of-
9 pocket flotation costs, and if it has, those costs should be included in the Company’s
10 expense schedules.

11 **2. The market already accounts for flotation costs.**

12 When an underwriter markets a firm’s securities to investors, the investors are aware of the
13 underwriter’s fees. The investors know that a portion of the price they are paying for the
14 shares does not go directly to the company, but instead goes to compensate the underwriter
15 for its services. In fact, federal law requires that the underwriter’s compensation be
16 disclosed on the front page of the prospectus.⁷³ Thus, investors have already considered
17 and accounted for flotation costs when making their decision to purchase shares at the
18 quoted price.

⁷² See John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do*, p. 509 (3rd ed., South Western Cengage Learning 2010).

⁷³ See 17 C.F.R. § 229.501(b)(3) (requiring that the underwriter’s discounts and commissions be disclosed on the outside cover page of the prospectus). A prospectus is a legal document that provides details about an investment offering.

1 As a result, there is no need for shareholders to receive additional compensation to
2 account for costs they have already considered and agreed to. Similar compensation
3 structures are found in other kinds of business transactions. For example, a homeowner
4 may hire a realtor and sell a home for \$100,000. After the realtor takes a six percent
5 commission, the seller nets \$94,000. The buyer and seller agreed to the transaction
6 notwithstanding the realtor's commission. Obviously, it would be unreasonable for the
7 buyer or seller to demand additional funds from anyone after the deal is completed to
8 reimburse them for the realtor's fees. Likewise, investors of competitive firms do not
9 expect additional compensation for flotation costs. Thus, it would not be appropriate for a
10 commission standing in the place of competition to reward a utility's investors with this
11 additional compensation.

**3. It is inappropriate to add any additional basis points to an awarded ROE
proposal that is already far above the Company's cost of equity.**

12 For the reasons discussed above, flotation costs should be disallowed from a technical
13 standpoint; they should also be disallowed from a policy standpoint. The Company is
14 asking this Commission to award it a cost of equity that is nearly 300 basis points above a
15 reasonable estimate of its market-based cost of equity. Under these circumstances, it is
16 especially inappropriate to suggest that flotation costs should be considered in any way to
17 increase an already inflated ROE proposal.

1 **5. Non-Utility Group Modeling**

2 **Q. Please summarize the results of Mr. D’Ascendis’s cost of equity models conducted on**
3 **a group of non-utility companies.**

4 A. Mr. D’Ascendis conducted additional cost of equity modeling using a group of non-utility
5 companies. This model produced a result as high as 12.98%.⁷⁴

6 **Q. Do the results of the cost of equity models conducted by Mr. D’Ascendis on a group**
7 **of non-utility companies indicate an accurate cost of equity estimate for UGI?**

8 A. No. The result of his non-utility modeling is even higher than the results Mr. D’Ascendis
9 arrived at using the utility proxy group. The same unreasonable assumptions and inputs
10 employed by Mr. D’Ascendis on the utility proxy group modeling also apply to his non-
11 utility group modeling. For that reason alone, the results of the non-utility modeling should
12 be rejected. Moreover, this model adds no marginal value to the process of developing a
13 reasonable estimate for UGI’s cost of equity. The companies included in Mr. D’Ascendis’s
14 non-utility group are undoubtedly less comparable than those included in the utility proxy
15 group. For these reasons, the Commission should reject the results of the non-utility
16 modeling as providing a meaningful indication of UGI’s cost of equity in this case.

17 **VIII. CAPITAL STRUCTURE**

18 **Q. Describe in general the concept of a company’s “capital structure.”**

19 A. “Capital structure” refers to the way a company finances its overall operations through
20 external financing. The primary sources of long-term, external financing are debt capital
21 and equity capital. Debt capital usually comes in the form of contractual bond issues that

⁷⁴ Direct Testimony of Dylan W. D’Ascendis, p. 4, Table 2.

1 require the firm to make payments, while equity capital represents an ownership interest in
2 the form of stock. Because a firm cannot pay dividends on common stock until it satisfies
3 its debt obligations to bondholders, stockholders are referred to as “residual claimants.”
4 The fact that stockholders have a lower priority to claims on company assets increases their
5 risk and the required return relative to bondholders. Thus, equity capital has a higher cost
6 than debt capital. Firms can reduce their Weighted Average Cost of Capital (WACC) by
7 recapitalizing and increasing their debt financing. In addition, because interest expense is
8 deductible, increasing debt also adds value to the firm by reducing the firm’s tax obligation.

9 **Q. Please explain the concept of the “weighted average cost of capital.”**

10 A. The term “cost of capital” refers to the weighted average cost of all the components of a
11 company’s capital structure, including debt and equity. Determining the cost of debt is
12 relatively straightforward. Interest payments on bonds are contractual, “embedded costs”
13 that are generally calculated by dividing total interest payments by the book value of
14 outstanding debt. Determining the cost of equity, on the other hand, is more complex.
15 Unlike the known, contractual cost of debt, there is no explicit “cost” of equity; the cost of
16 equity must be estimated through various financial models. Thus, the overall weighted
17 average cost of capital includes the cost of debt and the estimated cost of equity. It is a
18 “weighted average” because it is based upon the Company’s relative levels of debt and
19 equity, or “capital structure.” Companies in the competitive market often use their WACC
20 as the discount rate to determine the value of capital projects, so it is important that this
21 figure be closely estimated. The basic WACC equation used in regulatory proceedings is
22 presented as follows:

Equation 3:
Weighted Average Cost of Capital

$$WACC = \left(\frac{D}{D + E} \right) C_D + \left(\frac{E}{D + E} \right) C_E$$

where: $WACC$ = *weighted average cost of capital*
 D = *book value of debt*
 C_D = *embedded cost of debt capital*
 E = *book value of equity*
 C_E = *market-based cost of equity capital*

Thus, the three components of the weighted average cost of capital include the following:

- (1) Cost of Equity
- (2) Cost of Debt
- (3) Capital Structure

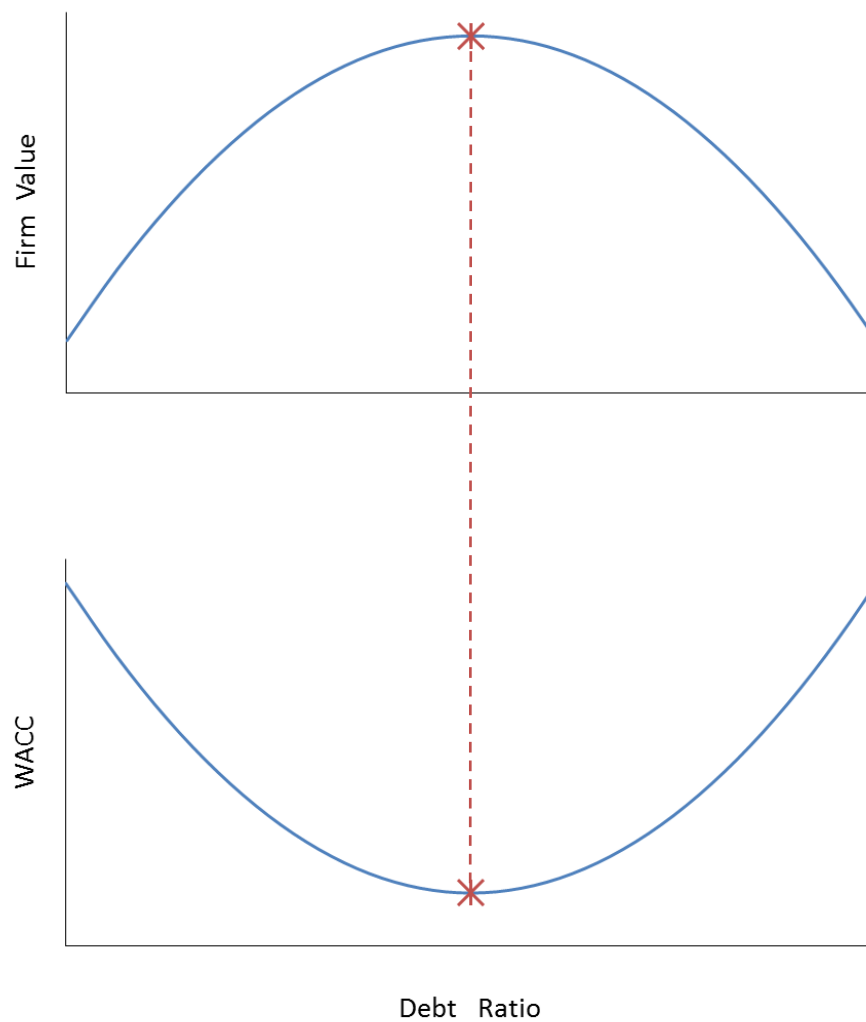
The term “cost of capital” is necessarily synonymous with the “weighted average cost of capital,” and the terms are used interchangeably throughout this testimony.

Q. Is it true that, by increasing debt, competitive firms can add value and reduce their WACC?

A. Yes, it is. A competitive firm can add value by increasing debt. After a certain point, however, the marginal cost of additional debt outweighs its marginal benefit. This is because the more debt the firm uses, the higher interest expense it must pay, which causes the likelihood of loss to increase. This also increases the risk of non-recovery for both bondholders and shareholders, causing both groups of investors to demand a greater return on their investment. Thus, if debt financing is too high, the firm’s WACC will increase instead of decrease. The following Figure illustrates these concepts.

1
2

**Figure 10:
Optimal Debt Ratio**



3 As shown in this figure, a competitive firm's value is maximized when the WACC is
4 minimized. In both graphs, the debt ratio is shown on the x-axis. By increasing its debt
5 ratio, a competitive firm can minimize its WACC and maximize its value. At a certain
6 point, however, the benefits of increasing debt do not outweigh the costs.

1 **Q. Does the rate base rate of return model effectively incentivize utilities to operate at**
2 **the optimal capital structure?**

3 A. No. While it is true that competitive firms maximize their value by minimizing their
4 WACC, this is not the case for regulated utilities. Under the rate base rate of return model,
5 a higher WACC results in higher rates, all else held constant. The basic revenue
6 requirement equation is as follows:

7 **Equation 4:**
8 **Revenue Requirement for Regulated Utilities**

9
$$RR = O + d + T + r(A - D)$$

where: RR = revenue requirement
 O = operating expenses
 d = depreciation expense
 T = corporate tax
 r = **weighted average cost of capital (WACC)**
 A = plant investments
 D = accumulated depreciation

10 As shown in this equation, utilities can increase their revenue requirement by *increasing*
11 their WACC, not by minimizing it. Thus, because there is no incentive for a regulated
12 utility to minimize its WACC, a Commission standing in the place of competition must
13 ensure that the regulated utility is operating at the lowest reasonable WACC. Left
14 unrestrained, utilities will increase their equity and decrease their debt to unreasonably
15 increase their profits that flow through to shareholders.

16 **Q. Can utilities generally afford to have higher debt levels than other industries?**

17 A. Yes. Because regulated utilities have large amounts of fixed assets, stable earnings, and
18 low risk relative to other industries, they can afford to have relatively higher debt ratios (or
19 “leverage”). As aptly stated by Dr. Damodaran:

1 Since financial leverage multiplies the underlying business risk, it stands to
2 reason that firms that have high business risk should be reluctant to take on
3 financial leverage. It also stands to reason that firms that operate in stable
4 businesses should be much more willing to take on financial leverage.
5 *Utilities*, for instance, have historically had high debt ratios but have not
6 had high betas, mostly because their underlying businesses have been stable
7 and fairly predictable.⁷⁵

8 Note that Dr. Damodaran explicitly contrasts utilities with firms that have high underlying
9 business risk. Because utilities have low levels of risk and operate a stable business, they
10 should generally operate with relatively high levels of debt to achieve their optimal capital
11 structure.

12 **A. Proxy, Parent Company, and Industry Debt Ratios**

13 **Q. Please describe the debt ratios of the proxy group.**

14 A. According to Value Line, the average capital structure mix for the proxy group consists of
15 58% debt and 42% equity.⁷⁶ This debt ratio is notably higher than UGI's proposed capital
16 structure consisting of only 46% debt. More importantly, this means that UGI has a lower
17 level of financial risk relative to the proxy group – a discrepancy that can be mathematically
18 accounted for in terms of cost of equity estimation through the Hamada Model, which is
19 discussed in more detail below.

⁷⁵ *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, p. 196 (emphasis added).

⁷⁶ Exhibit DJG-13.

1 **Q. Please describe the debt ratios recently observed in competitive U.S. industries.**

2 A. There are more than 2,000 firms in U.S. industries with higher debt ratios of at least 50%,
3 and with an average debt ratio of about 63%.⁷⁷ The following figure shows a sample of
4 these industries.

⁷⁷ See Exhibit DJG-14.

1
2

**Figure 11:
Industry Debt Ratio Comparison**

Industry	# Firms	Debt Ratio
Retail (Building Supply)	14	97%
Restaurant/Dining	64	95%
Hotel/Gaming	63	82%
Brokerage & Investment Banking	32	79%
Retail (Automotive)	34	77%
Hospitals/Healthcare Facilities	31	76%
Rubber& Tires	3	74%
Bank (Money Center)	15	73%
Recreation	49	72%
Air Transport	23	71%
Food Wholesalers	13	69%
Retail (Grocery and Food)	15	67%
Chemical (Diversified)	4	66%
Cable TV	9	65%
Telecom (Wireless)	12	65%
Advertising	52	64%
Transportation	19	64%
R.E.I.T.	190	63%
Power	46	63%
Oil/Gas Distribution	23	63%
Transportation (Railroads)	4	62%
Computers/Peripherals	36	61%
Telecom. Services	39	61%
Broadcasting	24	61%
Auto & Truck	33	60%
Retail (Special Lines)	94	60%
Software (Internet)	29	60%
Green & Renewable Energy	15	59%
Environmental & Waste Services	53	58%
Office Equipment & Services	14	58%
Utility (General)	14	58%
Beverage (Soft)	27	57%
Apparel	35	56%
Information Services	15	56%
Total / Average	1,143	67%

1 Many of the industries shown here, like public utilities, are generally well-established
2 industries with large amounts of capital assets. The shareholders of these industries
3 generally prefer these higher debt ratios in order to maximize their profits. There are several
4 notable industries that are relatively comparable to public utilities. For example, the Cable
5 TV, Telecom, Power, and Telecom industries all have an average debt ratios of at least
6 60%.

7 **Q. Are you basing your capital structure recommendation on any industry or company**
8 **outside of the proxy group?**

9 A. No. I am basing my capital structure recommendation primarily on the proxy group average
10 capital structure. I present the capital structures observed in other competitive industries to
11 show it is not uncommon for firms to operate with relatively higher amounts of leverage.

12 **Q. Please describe the capital structure of the Company's parent company, UGI Corp.**

13 A. At the end of 2025, UGI's parent company reported a long-term debt ratio of 57.8%, which
14 is considerable higher than the Company's proposed ratemaking debt ratio of only 46%.
15 This fact alone shows that UGI's debt ratio should be higher than 46% for ratemaking
16 purposes. Given the parent company's debt ratio, a ratemaking debt ratio of only 58% for
17 UGI would be very reasonable and conservative.

18 **Q. Please discuss in more detail the problems that arise when there is such a large**
19 **discrepancy between the parent company and subsidiary utility's debt ratios.**

20 A. Since UGI is a wholly owned subsidiary of UGI Corp., the Company's "equity" on its
21 balance sheet is funded by UGI Corp. Since the parent company has a debt ratio of 58%,
22 this means UGI Corp. is using debt to finance the Company's "equity." Since the Company
23 also issues its own debt, this strategy is known as "double leverage." While this
24 arrangement is not problematic among competitive firms, it often results in unfair,

1 excessive returns for regulated utilities to the extent there is not an adjustment made by the
2 regulator. If no adjustment is made, shareholders of the parent company effectively earn a
3 high-cost equity return on its low-cost debt. In order to mitigate the excessive return that
4 would otherwise occur through double leverage, the Commission should impute a capital
5 structure that is equal to the proxy group average. In light of the fact the average proxy
6 debt ratio of 58% is still considerably less than UGI Corp's debt ratio of 58%, my proposed
7 capital structure adjustment is very reasonable.

8 **Q. Is there other factors indicating UGI Corp. may be benefiting from double leverage?**

9 A. Yes. According to Value Line, UGI Corp's earned ROE last year was 15.2%, which is
10 significantly higher than its cost of equity, or even the inflated ROEs typically authorized
11 by regulators.

12 **B. The Hamada Model: Capital Structure's Effect on ROE**

13 **Q. Have you considered the impact that your capital structure recommendation could**
14 **have on the company's indicated cost of equity?**

15 A. Yes. I assessed the impact of my capital structure proposal on the Company's cost of equity
16 estimate by using the Hamada model.

17 **Q. What is the premise of the Hamada model?**

18 A. The Hamada formula can be used to analyze changes in a firm's cost of capital as it adds
19 or reduces financial leverage, or debt, in its capital structure by starting with an "unlevered"
20 beta and then "relevering" the beta at different debt ratios. As leverage increases, equity
21 investors bear increasing amounts of risk, leading to higher betas. Before the effects of
22 financial leverage can be accounted for, however, the effects of leverage must first be

removed, which is accomplished through the Hamada formula. The Hamada formula for unlevering beta is stated as follows:⁷⁸

**Equation 5:
Hamada Formula**

$$\beta_U = \frac{\beta_L}{\left[1 + (1 - T_c) \left(\frac{D}{E}\right)\right]}$$

where: β_U = unlevered beta (or “asset” beta)
 β_L = average levered beta of proxy group
 T_c = corporate tax rate
 D = book value of debt
 E = book value of equity

Using this equation, the beta for the firm can be unlevered, and then “relevered” based on various debt ratios (by rearranging this equation to solve for β_L).

Q. Please summarize the results of the Hamada formula based on the average capital structure of the proxy group.

A. The average capital structure of the proxy group consists of 58% debt and 42% equity. Because UGI’s debt ratio is notably lower than that of the proxy group, when UGI is “relevered” to match the proxy group, it results in a lower ROE than if UGI had been operating with a capital structure equal to that of the proxy group. This makes sense because UGI has less financial risk relative to the proxy group due to the lower amount of debt in its capital structure. The results of my Hamada model are presented in the following figure.

⁷⁸ Damodaran *supra* n. 22 at 197. This formula was originally developed by Hamada in 1972.

1
2

**Figure 12:
Hamada Model ROE**

Unlevering Beta			
Proxy Debt Ratio		58%	
Proxy Equity Ratio		42%	
Proxy Debt / Equity Ratio		1.4	
Tax Rate		21%	
Equity Risk Premium		4.9%	
Risk-free Rate		5.0%	
Proxy Group Beta		0.75	
Unlevered Beta		0.36	
Relevered Betas and Cost of Equity Estimates			
Debt Ratio	D/E Ratio	Levered Beta	Cost of Equity
0%	0.0	0.36	6.8%
20%	0.3	0.43	7.1%
25%	0.3	0.45	7.2%
30%	0.4	0.48	7.4%
46%	0.8	0.59	8.0%
58%	1.4	0.75	8.7%
60%	1.5	0.78	8.9%

3 According to the results of the Hamada model, if the Commission were to adopt the
4 Company's proposed capital structure consisting of only 46% debt, then its indicated cost
5 of equity estimate (under the CAPM) would be only 8.0%.⁷⁹. Alternatively, if the
6 Commission adopts my proposed capital structure consisting of 58% debt – equal to the
7 proxy group average, then UGI's indicated cost of equity un the CAPM is 8.7%. An

⁷⁹ See Exhibit DJG-15.

1 authorized ROE of 8.7% and a ratemaking debt ratio of 58% are my primary
2 recommendations to the Commission.

3 IX. CONCLUSION

4 **Q. Please summarize your analyses and conclusions regarding UGI's cost of equity.**

5 A. A utility's awarded ROE should be based on its cost of equity, which can be estimated
6 using various financial models. In estimating UGI's cost of equity, I performed a cost of
7 equity analysis on a proxy group of utility companies using the two most widely used and
8 widely-accepted financial models for calculating cost of equity in utility rate proceedings:
9 the CAPM and DCF Model. I conducted two variations of both the CAPM and DCF Model.
10 The results are shown in the figure below.

11 **Figure 13:**
12 **Cost of Equity Model Summary**

Model	Cost of Equity
CAPM (at Proxy Debt Ratio)	8.7%
Hamada CAPM (at Company-Proposed Debt Ratio)	8.0%
DCF Model (Analyst Growth)	8.1%
DCF Model (Sustainable Growth)	7.3%
Model Average	8.0%
Recommended ROE	8.7%

1 **Q. Please summarize your recommendation to the Commission regarding UGI's**
2 **authorized rate of return.**

3 A. My primary recommendation to the Commission is an authorized ROE of 8.7% for UGI
4 and an imputed capital structure consisting of 58% debt and 42% equity. If the Commission
5 adopts the Company's proposed capital structure, my alternative recommendation to the
6 Commission is an authorized ROE of 8.0%. My recommendations are summarized in the
7 following figures.

8 **Figure 14:**
9 **Primary Recommendation**

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	58.0%	5.17%	3.00%
Common Equity	42.0%	8.70%	3.65%
Total	100.0%		6.65%

10 **Figure 15:**
11 **Alternative Recommendation**

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	45.8%	5.17%	2.37%
Common Equity	54.3%	8.00%	4.34%
Total	100.0%		6.71%

12 **Q. Does this conclude your testimony?**

13 A. Yes.

APPENDIX A:

DISCOUNTED CASH FLOW MODEL THEORY

The Discounted Cash Flow (“DCF”) Model is based on a fundamental financial model called the “dividend discount model,” which maintains that the value of a security is equal to the present value of the future cash flows it generates. Cash flows from common stock are paid to investors in the form of dividends. There are several variations of the DCF Model. In its most general form, the DCF Model is expressed as follows:¹

Equation 1: General Discounted Cash Flow Model

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_n}{(1+k)^n}$$

where:

P_0	=	current stock price
$D_1 \dots D_n$	=	expected future dividends
k	=	discount rate / required return

The General DCF Model would require an estimation of an infinite stream of dividends. Since this would be impractical, analysts use more feasible variations of the General DCF Model, which are discussed further below.

The DCF Models rely on the following four assumptions:

1. Investors evaluate common stocks in the classical valuation framework; that is, they trade securities rationally at prices reflecting their perceptions of value;
2. Investors discount the expected cash flows at the same rate (K) in every future period;

¹ See Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 410 (9th ed., McGraw-Hill/Irwin 2013).

3. The K obtained from the DCF equation corresponds to that specific stream of future cash flows alone; and
4. Dividends, rather than earnings, constitute the source of value.

The General DCF can be rearranged to make it more practical for estimating the cost of equity. Regulators typically rely on some variation of the Constant Growth DCF Model, which is expressed as follows:

**Equation 2:
Constant Growth Discounted Cash Flow Model**

$$K = \frac{D_1}{P_0} + g$$

where: K = discount rate / required return on equity
 D_1 = expected dividend per share one year from now
 P_0 = current stock price
 g = expected growth rate of future dividends

Unlike the General DCF Model, the Constant Growth DCF Model solves directly for the required return (K). In addition, by assuming that dividends grow at a constant rate, the dividend stream from the General DCF Model may be essentially substituted with a term representing the expected constant growth rate of future dividends (g). The Constant Growth DCF Model may be considered in two parts. The first part is the dividend yield (D_1/P_0), and the second part is the growth rate (g). In other words, the required return in the DCF Model is equivalent to the dividend yield plus the growth rate.

In addition to the four assumptions listed above, the Constant Growth DCF Model relies on four additional assumptions as follows:²

² *Id.* at 254-56.

1. The discount rate (K) must exceed the growth rate (g);
2. The dividend growth rate (g) is constant in every year to infinity;
3. Investors require the same return (K) in every year; and
4. There is no external financing; that is, growth is provided only by the retention of earnings.

Because the growth rate in this model is assumed to be constant, it is important not to use growth rates that are unreasonably high. In fact, the constant growth rate estimate for a regulated utility with a defined service territory should not exceed the growth rate for the economy in which it operates.

APPENDIX B:

CAPITAL ASSET PRICING MODEL THEORY

The Capital Asset Pricing Model (“CAPM”) is a market-based model founded on the principle that investors demand higher returns for incurring additional risk.¹ The CAPM estimates this required return. The CAPM relies on the following assumptions:

1. Investors are rational, risk-adverse, and strive to maximize profit and terminal wealth;
2. Investors make choices based on risk and return. Return is measured by the mean returns expected from a portfolio of assets; risk is measured by the variance of these portfolio returns;
3. Investors have homogenous expectations of risk and return;
4. Investors have identical time horizons;
5. Information is freely and simultaneously available to investors.
6. There is a risk-free asset, and investors can borrow and lend unlimited amounts at the risk-free rate;
7. There are no taxes, transaction costs, restrictions on selling short, or other market imperfections; and,
8. Total asset quality is fixed, and all assets are marketable and divisible.²

¹ William F. Sharpe, *A Simplified Model for Portfolio Analysis* 277-93 (Management Science IX 1963); *see also* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 208 (3rd ed., South Western Cengage Learning 2010).

² *Id.*

While some of these assumptions may appear to be restrictive, they do not outweigh the inherent value of the model. The CAPM has been widely used by firms, analysts, and regulators for decades to estimate the cost of equity capital.

The basic CAPM equation is expressed as follows:

**Equation 1:
Capital Asset Pricing Model**

$$K = R_F + \beta_i(R_M - R_F)$$

where:

K	=	<i>required return</i>
R_F	=	<i>risk-free rate</i>
β	=	<i>beta coefficient of asset i</i>
R_M	=	<i>required return on the overall market</i>

There are essentially three terms within the CAPM equation that are required to calculate the required return (K): (1) the risk-free rate (R_F); (2) the beta coefficient (β); and (3) the equity risk premium ($R_M - R_F$), which is the required return on the overall market less the risk-free rate.

Raw Beta Calculations and Adjustments

A stock's beta equals the covariance of the asset's returns with the returns on a market portfolio, divided by the portfolio's variance, as expressed in the following formula:³

**Equation 2:
Beta**

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

where:

β_i	=	<i>beta of asset i</i>
σ_{im}	=	<i>covariance of asset i returns with market portfolio returns</i>
σ_m^2	=	<i>variance of market portfolio</i>

³ John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 180-81 (3rd ed., South Western Cengage Learning 2010).

Betas that are published by various research firms are typically calculated through a regression analysis that considers the movements in price of an individual stock and movements in the price of the overall market portfolio. The betas produced by this regression analysis are considered “raw” betas. There is empirical evidence that raw betas should be adjusted to account for beta’s natural tendency to revert to an underlying mean.⁴ Some analysts use an adjustment method proposed by Blume, which adjusts raw betas toward the market mean of one.⁵ While the Blume adjustment method is popular due to its simplicity, it is arguably arbitrary, and some would say not useful at all. According to Dr. Damodaran: “While we agree with the notion that betas move toward 1.0 over time, the [Blume adjustment] strikes us as arbitrary and not particularly useful.”⁶ The Blume adjustment method is especially arbitrary when applied to industries with consistently low betas, such as the utility industry. For industries with consistently low betas, it is better to employ an adjustment method that adjusts raw betas toward an industry average, rather than the market average. Vasicek proposed such a method, which is preferable to the Blume adjustment method because it allows raw betas to be adjusted toward an industry average, and also accounts for the statistical accuracy of the raw beta calculation.⁷ In other words, “[t]he Vasicek adjustment seeks to overcome one weakness of the Blume model by not applying the same adjustment to every security; rather, a security-specific adjustment is made depending on the

⁴ See Michael J. Gombola and Douglas R. Kahl, *Time-Series Processes of Utility Betas: Implications for Forecasting Systematic Risk* 84-92 (Financial Management Autumn 1990).

⁵ See Marshall Blume, *On the Assessment of Risk*, Vol. 26, No. 1, The Journal of Finance 1 (1971).

⁶ See Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 187 (3rd ed., John Wiley & Sons, Inc. 2012).

⁷ Oldrich A. Vasicek, *A Note on Using Cross-Sectional Information in Bayesian Estimation of Security Betas* 1233-1239 (Journal of Finance, Vol. 28, No. 5, December 1973).

statistical quality of the regression.”⁸ The Vasicek beta adjustment equation is expressed as follows:

**Equation 3:
Vasicek Beta Adjustment**

$$\beta_{i1} = \frac{\sigma_{\beta_{i0}}^2}{\sigma_{\beta_0}^2 + \sigma_{\beta_{i0}}^2} \beta_0 + \frac{\sigma_{\beta_0}^2}{\sigma_{\beta_0}^2 + \sigma_{\beta_{i0}}^2} \beta_{i0}$$

where:

β_{i1}	=	<i>Vasicek adjusted beta for security i</i>
β_{i0}	=	<i>historical beta for security i</i>
β_0	=	<i>beta of industry or proxy group</i>
$\sigma_{\beta_0}^2$	=	<i>variance of betas in the industry or proxy group</i>
$\sigma_{\beta_{i0}}^2$	=	<i>square of standard error of the historical beta for security i</i>

The Vasicek beta adjustment is an improvement on the Blume model because the Vasicek model does not apply the same adjustment to every security. A higher standard error produced by the regression analysis indicates a lower statistical significance of the beta estimate. Thus, a beta with a high standard error should receive a greater adjustment than a beta with a low standard error. As stated in Ibbotson:

While the Vasicek formula looks intimidating, it is really quite simple. The adjusted beta for a company is a weighted average of the company’s historical beta and the beta of the market, industry, or peer group. How much weight is given to the company and historical beta depends on the statistical significance of the company beta statistic. If a company beta has a low standard error, then it will have a higher weighting in the Vasicek formula. If a company beta has a high standard error, then it will have lower weighting in the Vasicek formula. An advantage of this adjustment methodology is that it does not force an adjustment to the market as a whole. Instead, the adjustment can be toward an industry or some other peer group. *This is most useful in looking at companies in industries that on average have high or low betas.*⁹

⁸ 2012 Ibbotson Stocks, Bonds, Bills, and Inflation Valuation Yearbook 77-78 (Morningstar 2012).

⁹ *Id.* at 78 (emphasis added).

Thus, the Vasicek adjustment method is statistically more accurate, and is the preferred method to use when analyzing companies in an industry that has inherently low betas, such as the utility industry. The Vasicek method was also confirmed by Gombola, who conducted a study specifically related to utility companies. Gombola concluded that “[t]he strong evidence of autoregressive tendencies in *utility* betas lends support to the application of adjustment procedures such as the . . . adjustment procedure presented by Vasicek.”¹⁰ Gombola also concluded that adjusting raw betas toward the market mean of 1.0 is *too high*, and that “[i]nstead, they should be adjusted toward a value that is less than one.”¹¹ In conducting the Vasicek adjustment on betas in previous cases, it reveals that utility betas are even lower than those published by Value Line.¹² Gombola’s findings are particularly important here, because his study was conducted specifically on utility companies. This evidence indicates that using Value Line’s betas in a CAPM cost of equity estimate for a utility company may lead to overestimated results. Regardless, adjusting betas to a level that is *higher* than Value Line’s betas is not reasonable, and it would produce CAPM cost of equity results that are too high.

¹⁰ Michael J. Gombola and Douglas R. Kahl, *Time-Series Processes of Utility Betas: Implications for Forecasting Systematic Risk* 92 (Financial Management Autumn 1990) (emphasis added).

¹¹ *Id.* at 91-92.

¹² See e.g. Responsive Testimony of David J. Garrett, filed March 21, 2016 in Cause No. PUD 201500273 before the Corporation Commission of Oklahoma (the Company’s 2015 rate case), at pp. 56 – 59.

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EDUCATION

University of Oklahoma Master of Business Administration Areas of Concentration: Finance, Energy	Norman, OK 2014
University of Oklahoma College of Law Juris Doctor Member, American Indian Law Review	Norman, OK 2007
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PROFESSIONAL DESIGNATIONS

Society of Depreciation Professionals
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WORK EXPERIENCE

Resolve Utility Consulting PLLC <u>Managing Member</u> Provide expert analysis and testimony specializing in depreciation and cost of capital issues for clients in utility regulatory proceedings.	Oklahoma City, OK 2016 – Present
Oklahoma Corporation Commission <u>Public Utility Regulatory Analyst</u> <u>Assistant General Counsel</u> Represented commission staff in utility regulatory proceedings and provided legal opinions to commissioners. Provided expert analysis and testimony in depreciation, cost of capital, incentive compensation, payroll and other issues.	Oklahoma City, OK 2012 – 2016 2011 – 2012
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University of Oklahoma

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PROFESSIONAL ASSOCIATIONS

Oklahoma Bar Association

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Society of Depreciation Professionals

Board Member – President

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2014 – Present

2017

Society of Utility Regulatory Financial Analysts

2014 – Present

Utility Regulatory Proceedings

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Delaware Public Service Commission	Artesian Water Company	25-0346	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Pennsylvania Public Utility Commission	Pennsylvania-American Water Company	A-2024-3049015	Fair market value review (Borough of Greenville)	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Kiawah Island Utility, Inc.	2025-243-WS	Cost of capital, depreciation rates, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	City of Lancaster - Bureau of Water	R-2025-3057237	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Massachusetts Department of Public Utilities	Liberty Utilities Corp. d/b/a Liberty	D.P.U. 25-85	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	2025.09.072	Cost of capital, awarded rate of return, capital structure	Montana Consumer Counsel and Denbury Onshore LLC
Wyoming Public Service Commission	Montana-Dakota Utilities Co.	20004-174-ER-25	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Washington Utilities & Transportation Commission	Northwest Natural Gas Company	UG-250610	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
Pennsylvania Public Utility Commission	Pennsylvania American Water Company	R-2025-3057983 R-2025-3058051	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
New York State Public Service Commission	New York State Electric & Gas and Rochester Gas and Electric Corporation	25-E-0375, 25-G-0378 25-E-0379, 25-G-0380	Cost of capital, depreciation rates, net salvage	Utility Intervention Unit of the New York State Department of State's Division of Consumer Protection
Pennsylvania Public Utility Commission	PPL Electric Utilities Corporation	R-2025-3057164	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	OS-24-00028202	Depreciation rates, service lives, net salvage	The City of El Paso
Public Utility Commission of Texas	Texas-New Mexico Power Company	PUC 58964	Depreciation rates, service lives, net salvage	Alliance of Texas-New Mexico Power Municipalities
New Jersey Board of Public Utilities	South Jersey Gas	GR25110627	Cost of capital, awarded rate of return, capital structure	Staff of the New Jersey Board of Public Utilities

Utility Regulatory Proceedings

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Maryland Public Service Commission	Potomac Electric Power Company	9820	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
New Jersey Board of Public Utilities	Rockland Electric Company	ER25060374	Cost of capital, depreciation rates, net salvage	Staff of the New Jersey Board of Public Utilities
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-25-0105	Cost of capital, depreciation rates, net salvage	Arizona Large Customer Group and Freeport Minerals Corporation
New Jersey Board of Public Utilities	Middlesex Water Company	WR25060372	Cost of capital, depreciation rates, net salvage	Staff of the New Jersey Board of Public Utilities
Maryland Public Service Commission	Maryland-American Water Company	9808	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Arizona Corporation Commission	Tucson Electric Power Company	E-01933A-25-0103	Cost of capital, awarded rate of return, capital structure	Arizona Large Customer Group and Freeport Minerals Corporation
Public Service Commission of West Virginia	West Virginia American Water Company	25-0426-W-42T 25-0428-S-42T	Cost of capital, awarded rate of return, capital structure	Consumer Advocate Division of the Public Service Commission of West Virginia
Federal Energy Regulatory Commission	Pacific Gas and Electric Company	ER24-96	Depreciation rates, service lives, net salvage	Northern California Power Agency
Public Utility Commission of Texas	Oncor Electric Delivery Company LLC	PUC 58306	Depreciation rates, service lives, net salvage	Alliance of Oncor Cities
Public Service Commission of West Virginia	Hope Gas, Inc.	24-0678-G-D	Cost of capital, awarded rate of return, capital structure	Consumer Advocate Division of the Public Service Commission of West Virginia
Pennsylvania Public Utility Commission	The York Water Company, et al	R-2025-3053442 R-2025-3053573	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Pennsylvania Public Utility Commission	UGI Utilities, Inc.	R-2024-3052716	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Wyoming Public Service Commission	Rocky Mountain Power	20000-671-ER-24	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 2023-000086	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Public Service Commission of South Carolina	Piedmont Natural Gas Company	2022-89-G 2024-179-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Florida Public Service Commission	Peoples Gas System	20250029-GU	Cost of capital, awarded rate of return, capital structure	Florida Office of Public Counsel
Public Service Commission of the State of Montana	NorthWestern Energy	2024.05.053	Cost of capital, depreciation rates, net salvage	Montana Consumer Counsel and Montana Large Customer Group
New York State Public Service Commission	Niagara Mohawk Power Corporation	24-E-0322 24-G-0323	Depreciation rates, service lives, net salvage, depreciation reserve	Utility Intervention Unit of the New York State Department of State's Division of Consumer Protection
Public Utilities Commission of Ohio	Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company	24-468-EL-AIR, <i>et seq.</i>	Depreciation rates, service lives, net salvage	Office of the Ohio Consumers' Counsel
Public Utility Commission of Texas	El Paso Electric Company	PUC 57568	Depreciation rates, service lives, net salvage	The City of El Paso
Public Service Commission of Utah	Enbridge Gas Utah	25-057-06	Cost of capital, depreciation rates, net salvage	Office of Consumer Services
Pennsylvania Public Utility Commission	Pennsylvania-American Water Company	A-2025-3052983	Fair market value review (Elizabeth Borough)	Pennsylvania Office of Consumer Advocate
Commonwealth of Virginia State Corporation Commission	Virginia Electric and Power Company	PUR-2025-00058	Cost of capital, awarded rate of return, capital structure	Data Center Coalition
Delaware Public Service Commission	Delmarva Power & Light Company	24-1044	Cost of capital, depreciation rates, net salvage	Division of the Public Advocate
New York State Public Service Commission	Consolidated Edison Company of New York, Inc.	25-E-0072 25-G-0073	Depreciation rates, service lives, net salvage, depreciation reserve	Utility Intervention Unit of the New York State Department of State's Division of Consumer Protection
Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania	R-2025-3053499	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Public Utility Commission of Texas	CenterPoint Energy Houston Electric	PUC 58028	System restoration costs	Texas Coast Utilities Coalition
Mississippi Public Service Commission	Atmos Energy Corporation	2025-UN-59	Depreciation rates, service lives, net salvage	Mississippi Public Utilities Staff
Public Service Commission of West Virginia	Appalachian Power Company and Wheeling Power Company	24-0854-E-42T	Cost of capital, awarded rate of return, capital structure	Consumer Advocate Division of the Public Service Commission of West Virginia
Public Service Commission of West Virginia	Appalachian Power Company and Wheeling Power Company	24-0670-E-D	Depreciation rates, service lives, net salvage	Consumer Advocate Division of the Public Service Commission of West Virginia

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
New Jersey Board of Public Utilities	Atlantic City Electric Company	ER24110854	Cost of capital, awarded rate of return, capital structure	Staff of the New Jersey Board of Public Utilities
Pennsylvania Public Utility Commission	Aqua Pennsylvania, Inc.	A-2022-3033138	Fair market value review (Beaver Falls)	Pennsylvania Office of Consumer Advocate
Mississippi Public Service Commission	Mississippi Power Company	2024-UN-117	Depreciation rates, service lives, net salvage	Mississippi Public Utilities Staff
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	2024.05.061	Cost of capital, depreciation rates, net salvage	Montana Consumer Counsel
Maryland Public Service Commission	Columbia Gas of Maryland	9754	Cost of capital, depreciation rates, net salvage	Maryland Office of People's Counsel
Railroad Commission of Texas	Atmos Energy, Mid-Tex Division	OS-24-00019196	Depreciation rates, service lives, net salvage	Atmos Texas Municipalities
Wyoming Public Service Commission	Montana-Dakota Utilities Co.	30013-415-GR-24	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Indiana Utility Regulatory Commission	Duke Energy Indiana	46038	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Railroad Commission of Texas	Atmos Energy, West Texas Division	OS-24-00018879	Depreciation rates, service lives, net salvage	The Cities of Amarillo, Lubbock, Dalhart, and Channing
Washington Utilities & Transportation Commission	Cascadia Water, LLC	UW-240151	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Railroad Commission of Texas	West Texas Gas Utility	OS-24-00017816	Cost of capital, depreciation rates, net salvage	Alliance of WTG Municipalities
Maryland Public Service Commission	Washington Gas Light Company	9737	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Railroad Commission of Texas	Texas Gas Services Company	OS-24-00017471	Depreciation rates, service lives, net salvage	The Steering Committee of Cities
Pennsylvania Public Utility Commission	Veolia Water Pennsylvania, Inc.	R-2024-3045192 R-2024-3045193	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Pennsylvania Public Utility Commission	PECO Energy Company - Gas Division	R-2024-3046932	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate

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Pennsylvania Public Utility Commission	PECO Energy Company - Electric Division	R-2024-3046931	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 2023-000087	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Maryland Public Service Commission	Maryland Water Service, Inc.	9729	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Kansas Corporation Commission	Kansas Gas Service	24-KGSG-610-RTS	Depreciation rates, service lives, net salvage	The Citizens' Utility Ratepayer Board
Pennsylvania Public Utility Commission	FirstEnergy Pennsylvania Electric Company	R-2024-3047068	Depreciation rates, service lives, net salvage	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Chesapeake Utilities Corporation Sandpiper Energy, Inc. Elkton Gas Company	9721	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Pennsylvania Public Utility Commission	Duquesne Light Company	R-2024-3046523	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Public Utility Commission of Texas	CenterPoint Energy Houston Electric	PUC 56211	Depreciation rates, service lives, net salvage	Texas Coast Utilities Coalition
Washington Utilities & Transportation Commission	Avista Corporation	UE-240006 UG-240007	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Public Utility Commission of Texas	AEP Texas Inc.	PUC 56165	Depreciation rates, service lives, net salvage	Cities Served by AEP Texas
Public Utilities Commission of Nevada	Southwest Gas Corporation	23-09012	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Public Utilities Commission of the State of California	Southern California Edison	A.23-05-010	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	Pennsylvania-American Water Company	R-2023-3043189 R-2023-3043190	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45967	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company D/B/A National Grid	D.P.U. 23-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy

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Iowa Utilities Board	Interstate Power and Light Company	RPU-2023-0002	Depreciation rates, service lives, net salvage	Office of Consumer Advocate
Public Service Commission of South Carolina	Duke Energy Carolinas	2023-388-E 2023-403-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Indiana Utility Regulatory Commission	Citizens Energy Group	45988	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Railroad Commission of Texas	CenterPoint Energy Resources Corp.	OS-23-00015513	Depreciation rates, service lives, net salvage	Alliance of CenterPoint Municipalities
Indiana Utility Regulatory Commission	CenterPoint Energy Indiana South	45990	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Delaware Public Service Commission	Artesian Water Company, Inc.	23-0601	Cost of capital, depreciation rates, net salvage	Division of the Public Advocate
Maryland Public Service Commission	Washington Gas Light Company	9704	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Delaware Public Service Commission	Veolia Water Delaware Inc.	23-0598	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	United Illuminating Company	22-08-08	Depreciation rates, service lives, net salvage	PURA Staff
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 54634	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Railroad Commission of Texas	SiEnergy, LP	OS-23-00013504	Depreciation rates, service lives, net salvage	Texas municipal intervenor group
Pennsylvania Public Utility Commission	Aqua Pennsylvania, Inc.	A-2022-3034143	Fair market value review	Pennsylvania Office of Consumer Advocate
Wyoming Public Service Commission	Rocky Mountain Power	20000-633-ER-23	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Maryland Public Service Commission	Potomac Electric Power Company	9702	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Public Utilities Commission of Nevada	Nevada Power Company d/b/a NV Energy	23-06007 23-06008	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection

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Public Utilities Commission of Ohio	Northeast Ohio Natural Gas Corp.	23-0154-GA-AIR	Cost of capital, awarded rate of return, capital structure	Office of the Ohio Consumers' Counsel
New York State Public Service Commission	The Brooklyn Union Gas Company and Keyspan Gas East Corporation d/b/a Nation Grid	23-G-0225 23-G-0226	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-23-11	Cost of capital, awarded rate of return, capital structure	Micron Technology, Inc.
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45933	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Fitchburg Gas and Electric Company d/b/a Unitil	D.P.U. 23-80; 23-81	D.P.U. Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Kansas Corporation Commission	Evergy Kansas Central, Evergy Kansas South, and Evergy Metro	23-EKCE-775-RTS	Depreciation rates, service lives, net salvage	The Citizens' Utility Ratepayer Board
Delaware Public Service Commission	Delmarva Power & Light Company	22-0897	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	Connecticut Water Company	23-08-32	Depreciation rates, service lives, net salvage	PURA Staff
Connecticut Public Utilities Regulatory Authority	Connecticut Natural Gas Corporation and The Southern Connecticut Gas Company	23-11-02	Depreciation rates, service lives, net salvage	PURA Staff
Railroad Commission of Texas	Atmos Pipeline – Texas	OS-23-00013758	Depreciation rates, service lives, net salvage	Atmos Texas Municipalities
Wyoming Public Service Commission	Black Hills Wyoming Gas	30026-78-GR-23	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Indiana Utility Regulatory Commission	Indianapolis Power & Light Company d/b/a AES Indiana	45911	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
New Mexico Public Regulation Commission	Southwestern Public Service Company	22-00286-UT	Cost of capital, depreciation rates, net salvage	The New Mexico Large Customer Group; Occidental Permian
Public Utilities Commission of the State of California	Southern California Gas Company San Diego Gas & Electric Company	A.22-05-015 A.22-05-016	Depreciation rates, service lives, net salvage	The Utility Reform Network
Public Utilities Commission of the State of Colorado	Public Service Company of Colorado	22AL-0530E 22AL-0478E	Cost of capital, awarded rate of return, capital structure	Colorado Energy Consumers

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New Mexico Public Regulatory Commission	Public Service Company of New Mexico	22-00270-UT	Cost of capital, depreciation rates, net salvage	The Albuquerque Bernalillo County Water Utility Authority
Florida Public Service Commission	Peoples Gas System	20230023-GU 20220219-GU 20220212-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Maryland Public Service Commission	Potomac Edison Company	9695	Cost of capital, depreciation rates, net salvage	Maryland Office of People's Counsel
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	2022.11.099	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Indiana-American Water Company	45870	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Dominion Energy South Carolina	2023-70-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Maryland Public Service Commission	Columbia Gas of Maryland	9701	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Pennsylvania Public Utility Commission	Columbia Water Company	R-2023-3040258	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Baltimore Gas and Electric Company	9692	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-22-0144	Cost of capital, awarded rate of return, capital structure	Residential Utility Consumer Office
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 2022-000093	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Public Service Commission of the State of Montana	NorthWestern Energy	2022.07.078	Cost of capital, depreciation rates, net salvage	Montana Consumer Counsel and Montana Large Customer Group
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45772	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Duke Energy Progress	2022-254-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Wyoming Public Service Commission	Cheyenne Light, Fuel and Power Company D/B/A Black Hills Energy	20003-214-ER-22	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate

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Railroad Commission of Texas	Texas Gas Services Company	OS-22-00009896	Depreciation rates, service lives, net salvage	The City of El Paso
Public Utilities Commission of Nevada	Sierra Pacific Power Company	22-06014	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Washington Utilities & Transportation Commission	Puget Sound Energy	UE-220066 UG-220067 UG-210918	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
Public Utility Commission of Texas	Oncor Electric Delivery Company LLC	PUC 53601	Depreciation rates, service lives, net salvage	Alliance of Oncor Cities
Florida Public Service Commission	Florida Public Utilities Company	20220067-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 53719	Depreciation rates, decommissioning costs	Texas Municipal Group
Florida Public Service Commission	Florida City Gas	2020069-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Connecticut Public Utilities Regulatory Authority	Aquarion Water Company of Connecticut	22-07-01	Depreciation rates, service lives, net salvage	PURA Staff
Washington Utilities & Transportation Commission	Avista Corporation	UE-220053 UG-220054 UE-210854	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Federal Energy Regulatory Commission	ANR Pipeline Company	RP22-501-000	Depreciation rates, service lives, net salvage	Ascent Resources - Utica, LLC
Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania, Inc.	R-2022-3031211	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Piedmont Natural Gas Company	2022-89-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	UGI Utilities, Inc. - Gas Division	R-2021-3030218	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	A.21-06-021	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	PECO Energy Company - Gas Division	R-2022-3031113	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 202100164	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Massachusetts Department of Public Utilities	NSTAR Electric Company D/B/A Eversource Energy	D.P.U. 22-22	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Michigan Public Service Company	DTE Electric Company	U-20836	Cost of capital, awarded rate of return, capital structure	Michigan Environmental Council and Citizens Utility Board of Michigan
New York State Public Service Commission	Consolidated Edison Company of New York, Inc.	22-E-0064 22-G-0065	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Whiteland Township	A-2021-3026132	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Kiawah Island Utility, Inc.	2021-324-WS	Cost of capital, awarded rate of return, capital structure	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / Willistown Township	A-2021-3027268	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45621	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Arkansas Public Service Commission	Southwestern Electric Power Company	21-070-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers
Federal Energy Regulatory Commission	Southern Star Central Gas Pipeline	RP21-778-002	Depreciation rates, service lives, net salvage	Consumer-Owned Shippers
Railroad Commission of Texas	Participating Texas gas utilities in consolidated proceeding	OS-21-00007061	Securitization of extraordinary gas costs arising from winter storms	The City of El Paso
Public Service Commission of South Carolina	Palmetto Wastewater Reclamation, Inc.	2021-153-S	Cost of capital, awarded rate of return, capital structure, ring-fencing	South Carolina Office of Regulatory Staff
Public Utilities Commission of the State of Colorado	Public Service Company of Colorado	21AL-0317E	Cost of capital, depreciation rates, net salvage	Colorado Energy Consumers
Pennsylvania Public Utility Commission	City of Lancaster - Water Department	R-2021-3026682	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 51802	Depreciation rates, service lives, net salvage	The Alliance of Xcel Municipalities

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Pennsylvania Public Utility Commission	The Borough of Hanover - Hanover Municipal Waterworks	R-2021-3026116	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Delmarva Power & Light Company	9670	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 202100063	Cost of capital, awarded rate of return, capital structure	Oklahoma Industrial Energy Consumers
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45576	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	El Paso Electric Company	PUC 52195	Depreciation rates, service lives, net salvage	The City of El Paso
Pennsylvania Public Utility Commission	Aqua Pennsylvania	R-2021-3027385	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of the State of Montana	NorthWestern Energy	D2021.02.022	Cost of capital, awarded rate of return, capital structure	Montana Consumer Counsel
Pennsylvania Public Utility Commission	PECO Energy Company	R-2021-3024601	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	20-00238-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 202100055	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Pennsylvania Public Utility Commission	Duquesne Light Company	R-2021-3024750	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Columbia Gas of Maryland	9664	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Southern Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45447	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 51415	Depreciation rates, service lives, net salvage	Cities Advocating Reasonable Deregulation
New Mexico Public Regulatory Commission	Avangrid, Inc., Avangrid Networks, Inc., NM Green Holdings, Inc., PNM, and PNM Resources	20-00222-UT	Ring fencing and capital structure	The Albuquerque Bernalillo County Water Utility Authority

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Indiana Utility Regulatory Commission	Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45468	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of Nevada	Nevada Power Company and Sierra Pacific Power Company, d/b/a NV Energy	20-07023	Construction work in progress	MGM Resorts International, Caesars Enterprise Services, LLC, and the Southern Nevada Water Authority
Massachusetts Department of Public Utilities	Boston Gas Company, d/b/a National Grid	D.P.U. 20-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Public Service Commission of the State of Montana	ABACO Energy Services, LLC	D2020.07.082	Cost of capital and authorized rate of return	Montana Consumer Counsel
Maryland Public Service Commission	Washington Gas Light Company	9651	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Florida Public Service Commission	Utilities, Inc. of Florida	20200139-WS	Cost of capital and authorized rate of return	Florida Office of Public Counsel
New Mexico Public Regulatory Commission	El Paso Electric Company	20-00104-UT	Cost of capital, depreciation rates, net salvage	City of Las Cruces and Doña Ana County
Public Utilities Commission of Nevada	Nevada Power Company	20-06003	Cost of capital, awarded rate of return, capital structure, earnings sharing	MGM Resorts International, Caesars Enterprise Services, LLC, Wynn Las Vegas, LLC, Smart Energy Alliance, and Circus Circus Las Vegas, LLC
Wyoming Public Service Commission	Rocky Mountain Power	20000-578-ER-20	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Florida Public Service Commission	Peoples Gas System	20200051-GU 20200166-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Wyoming Public Service Commission	Rocky Mountain Power	20000-539-EA-18	Depreciation rates, service lives, net salvage	Wyoming Industrial Energy Consumers
Public Service Commission of South Carolina	Dominion Energy South Carolina	2020-125-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	The City of Bethlehem	2020-3020256	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	GUD 10928	Depreciation rates, service lives, net salvage	Gulf Coast Service Area Steering Committee
Public Utilities Commission of the State of California	Southern California Edison	A.19-08-013	Depreciation rates, service lives, net salvage	The Utility Reform Network

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Massachusetts Department of Public Utilities	NSTAR Gas Company	D.P.U. 19-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Georgia Public Service Commission	Liberty Utilities (Peach State Natural Gas)	42959	Depreciation rates, service lives, net salvage	Public Interest Advocacy Staff
Florida Public Service Commission	Florida Public Utilities Company	20190155-El 20190156-El 20190174-El	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Illinois Commerce Commission	Commonwealth Edison Company	20-0393	Depreciation rates, service lives, net salvage	The Office of the Illinois Attorney General
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 49831	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Public Service Commission of South Carolina	Blue Granite Water Company	2019-290-WS	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Railroad Commission of Texas	CenterPoint Energy Resources	GUD 10920	Depreciation rates and grouping procedure	Alliance of CenterPoint Municipalities
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Norriton Township	A-2019-3009052	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	19-00170-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Indiana Utility Regulatory Commission	Duke Energy Indiana	45253	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Maryland Public Service Commission	Columbia Gas of Maryland	9609	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-190334	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45235	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	18-12-009	Depreciation rates, service lives, net salvage	The Utility Reform Network
Oklahoma Corporation Commission	The Empire District Electric Company	PUD 201800133	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results

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Arkansas Public Service Commission	Southwestern Electric Power Company	19-008-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers
Public Utility Commission of Texas	CenterPoint Energy Houston Electric	PUC 49421	Depreciation rates, service lives, net salvage	Texas Coast Utilities Coalition
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company	D.P.U. 18-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201800140	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2018.9.60	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45159	Depreciation rates, grouping procedure, demolition costs	Indiana Office of Utility Consumer Counselor
Public Service Commission of the State of Montana	NorthWestern Energy	D2018.2.12	Depreciation rates, service lives, net salvage	Montana Consumer Counsel
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 201800097	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Wal-Mart
Nevada Public Utilities Commission	Southwest Gas Corporation	18-05031	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	Texas-New Mexico Power Company	PUC 48401	Depreciation rates, service lives, net salvage	Alliance of Texas-New Mexico Power Municipalities
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201700496	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Maryland Public Service Commission	Washington Gas Light Company	9481	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Citizens Energy Group	45039	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 48371	Depreciation rates, decommissioning costs	Texas Municipal Group
Washington Utilities & Transportation Commission	Avista Corporation	UE-180167	Depreciation rates, service lives, net salvage	Washington Office of Attorney General

Utility Regulatory Proceedings

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
New Mexico Public Regulation Commission	Southwestern Public Service Company	17-00255-UT	Cost of capital and authorized rate of return	HollyFrontier Navajo Refining; Occidental Permian
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 47527	Depreciation rates, plant service lives	Alliance of Xcel Municipalities
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2017.9.79	Depreciation rates, service lives, net salvage	Montana Consumer Counsel
Florida Public Service Commission	Florida City Gas	20170179-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-170485	Cost of capital and authorized rate of return	Washington Office of Attorney General
Wyoming Public Service Commission	Powder River Energy Corporation	10014-182-CA-17	Credit analysis, cost of capital	Private customer
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201700151	Depreciation, terminal salvage, risk analysis	Oklahoma Industrial Energy Consumers
Public Utility Commission of Texas	Oncor Electric Delivery Company	PUC 46957	Depreciation rates, simulated analysis	Alliance of Oncor Cities
Nevada Public Utilities Commission	Nevada Power Company	17-06004	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	El Paso Electric Company	PUC 46831	Depreciation rates, interim retirements	City of El Paso
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-24	Accelerated depreciation of North Valmy plant	Micron Technology, Inc.
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-23	Depreciation rates, service lives, net salvage	Micron Technology, Inc.
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 46449	Depreciation rates, decommissioning costs	Cities Advocating Reasonable Deregulation
Massachusetts Department of Public Utilities	Eversource Energy	D.P.U. 17-05	Cost of capital, capital structure, and rate of return	Sunrun Inc.; Energy Freedom Coalition of America
Railroad Commission of Texas	Atmos Pipeline - Texas	GUD 10580	Depreciation rates, grouping procedure	City of Dallas

Utility Regulatory Proceedings

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Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	Sharyland Utility Company	PUC 45414	Depreciation rates, simulated analysis	City of Mission
Oklahoma Corporation Commission	Empire District Electric Company	PUD 201600468	Cost of capital, depreciation rates	Oklahoma Industrial Energy Consumers
Railroad Commission of Texas	CenterPoint Energy Texas Gas	GUD 10567	Depreciation rates, simulated plant analysis	Texas Coast Utilities Coalition
Arkansas Public Service Commission	Oklahoma Gas & Electric Company	160-159-GU	Cost of capital, depreciation rates, terminal salvage	Arkansas River Valley Energy Consumers; Wal-Mart
Florida Public Service Commission	Peoples Gas	160-159-GU	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-16-0036	Cost of capital, depreciation rates, terminal salvage	Energy Freedom Coalition of America
Nevada Public Utilities Commission	Sierra Pacific Power Company	16-06008	Depreciation rates, net salvage, theoretical reserve	Northern Nevada Utility Customers
Oklahoma Corporation Commission	Oklahoma Gas & Electric Co.	PUD 201500273	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201500208	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 201500213	Cost of capital, depreciation rates, net salvage	Public Utility Division

Proxy Group Summary

Exhibit DJG-2

Company	Ticker	Market Cap. (\$ millions)	Market Category	Value Line Safety Rank	Financial Strength
Alliant Energy Corporation	LNT	19,100	Large Cap	1	A
Ameren Corporation AEE	AEE	30,800	Large Cap	1	A
American Electric Power Corporation Inc.	AEP	71,600	Large Cap	1	A
Edison International	EIX	28,300	Large Cap	3	B++
Entergy Corporation	ETR	51,500	Large Cap	1	A
Eversource Energy, Inc.	EVRG	19,300	Large Cap	2	B++
FirstEnergy Corporation	FE	28,600	Large Cap	2	B++
IDACORP, Inc.	IDA	7,900	Mid Cap	1	A
OGE Energy Corporation	OGE	10,000	Large Cap	2	B++
Pinnacle West Capital Corporation	PNW	12,400	Large Cap	2	B++
Portland General Electric Company	POR	6,100	Mid Cap	2	B++
Southern Company	SO	105,000	Large Cap	1	A
Xcel Energy Inc.	XEL	50,200	Large Cap	2	A

Value Line Investment Survey

DCF - Stock and Index Prices

Exhibit DJG-3

Ticker	^GSPC	LNT	AEE	AEP	EIX	ETR	EVRG	FE	IDA	OGE	PNW	POR	SO	XEL
30-day Average	7409	72.33	109.38	129.90	70.11	111.62	81.96	45.72	141.95	47.49	100.82	49.49	92.91	79.62
Standard Deviation	133.8	1.05	2.16	3.23	1.27	2.88	1.09	1.18	2.94	0.69	1.56	1.11	1.63	1.55
04/28/26	7139	71.92	112.20	134.61	67.94	112.55	81.24	49.07	144.75	47.59	102.21	51.58	93.63	79.48
04/29/26	7136	71.46	111.29	133.47	67.94	114.05	80.65	48.44	143.38	47.34	100.78	51.05	92.74	78.82
04/30/26	7209	73.43	113.65	136.12	69.49	117.27	82.15	47.03	146.85	48.80	102.81	51.93	95.91	82.95
05/01/26	7230	74.06	113.56	135.92	69.88	116.43	81.92	46.44	146.21	48.18	102.63	49.73	95.92	82.58
05/04/26	7201	73.68	112.39	133.69	69.00	116.40	81.40	46.30	145.73	47.84	101.82	49.01	95.20	81.17
05/05/26	7259	73.07	111.64	136.05	68.87	117.36	80.93	45.41	145.02	47.84	101.30	49.12	95.11	81.45
05/06/26	7365	72.31	109.59	131.60	68.80	112.96	80.32	45.08	144.08	47.73	100.17	48.82	92.74	80.55
05/07/26	7337	71.69	108.77	130.81	68.57	112.02	82.04	45.17	143.17	47.33	99.53	48.62	91.67	80.43
05/08/26	7399	71.76	109.07	130.16	68.95	111.59	81.10	44.33	144.00	47.35	99.25	48.51	91.05	79.39
05/11/26	7413	72.47	109.99	130.70	70.58	112.97	82.74	44.60	145.41	47.40	99.71	48.36	92.34	80.60
05/12/26	7401	72.59	109.49	131.94	71.27	112.93	82.61	44.71	143.72	47.64	99.83	48.40	92.70	79.90
05/13/26	7444	72.30	109.09	127.95	70.62	112.35	81.77	44.12	142.30	47.34	99.08	48.21	92.38	79.91
05/14/26	7501	72.45	109.60	128.60	70.73	112.90	82.04	44.50	142.49	47.51	99.77	48.24	92.91	80.03
05/15/26	7409	70.90	106.36	125.15	69.16	109.03	79.83	43.82	139.96	46.27	98.40	47.28	91.79	77.92
05/18/26	7403	72.09	107.38	127.68	68.44	109.58	81.28	44.32	140.71	47.31	99.76	48.29	93.71	78.10
05/19/26	7354	73.00	109.00	128.92	70.68	110.55	82.28	45.07	141.95	48.05	101.50	49.29	94.14	79.73
05/20/26	7433	72.50	108.69	128.87	69.74	111.93	82.47	45.44	141.55	47.90	101.93	49.71	93.62	79.86
05/21/26	7446	73.28	109.84	129.61	70.32	112.27	82.96	45.50	141.60	48.10	101.84	49.57	94.24	80.20
05/22/26	7473	73.95	111.29	131.59	71.18	112.40	83.94	46.31	142.00	48.54	102.94	49.82	94.55	81.08
05/26/26	7519	73.68	111.03	130.90	71.24	111.97	84.11	46.64	142.65	48.41	102.83	49.84	94.09	80.78
05/27/26	7520	73.75	111.12	129.57	71.66	111.51	84.17	46.78	143.74	48.18	102.80	51.15	93.74	81.00
05/28/26	7564	72.17	108.93	127.76	70.28	109.62	82.85	46.19	140.59	47.38	100.85	50.67	92.52	79.26
05/29/26	7580	71.61	107.97	126.67	69.94	109.05	82.04	46.39	140.27	47.23	99.74	50.12	92.05	79.50
06/01/26	7600	69.57	105.09	123.79	69.09	104.97	80.39	45.38	135.01	45.66	97.48	48.47	89.03	76.41
06/02/26	7610	70.96	106.78	127.11	70.92	107.60	81.35	45.32	136.44	46.61	98.82	49.49	90.51	77.87
06/03/26	7554	70.79	106.23	126.31	70.86	108.66	81.07	45.54	136.68	46.40	99.39	48.92	90.49	77.39
06/04/26	7584	71.39	106.99	127.79	71.81	109.28	81.89	45.64	138.61	46.97	100.48	49.67	91.62	77.77
06/05/26	7384	72.87	109.27	129.14	73.33	110.74	83.27	46.42	141.34	47.80	103.06	50.53	92.60	79.04
06/08/26	7406	71.71	107.15	126.77	70.84	108.11	81.69	45.71	138.07	46.62	101.29	49.98	91.28	77.62
06/09/26	7387	72.37	107.99	127.76	71.26	109.66	82.27	45.91	140.30	47.40	102.65	50.24	92.95	77.87

All prices are adjusted closing prices reported by Yahoo! Finance, <http://finance.yahoo.com>

DCF - Dividend Yields

Exhibit DJG-4

		[1]	[2]	[3]
Company	Ticker	Annualized Dividend	Stock Price	Dividend Yield
Alliant Energy Corporation	LNT	2.09	72.33	2.89%
Ameren Corporation AEE	AEE	3.00	109.38	2.74%
American Electric Power Corporation Inc.	AEP	3.80	129.90	2.93%
Edison International	EIX	3.51	70.11	5.01%
Entergy Corporation	ETR	2.56	111.62	2.29%
Evergy, Inc.	EVRG	2.78	81.96	3.39%
FirstEnergy Corporation	FE	1.86	45.72	4.07%
IDACORP, Inc.	IDA	3.50	141.95	2.47%
OGE Energy Corporation	OGE	1.70	47.49	3.58%
Pinnacle West Capital Corporation	PNW	3.64	100.82	3.61%
Portland General Electric Company	POR	2.13	49.49	4.30%
Southern Company	SO	3.04	92.91	3.27%
Xcel Energy Inc.	XEL	2.37	79.62	2.98%
Average		\$2.77	\$87.18	3.35%

[1] Yahoo Finance

[2] Average stock price from Exhibit DJG-3

[3] = [1] / [2]

DCF - Terminal Growth Rate Determinants

Exhibit DJG-5

DCF Growth Rate Indicators	Rate
Nominal GDP (2026-2056)	3.8%
Real GDP	1.6%
Long-Term Growth Ceiling	3.8%

CBO, The 2026 Long-Term Budget Outlook (nominal annual GDP growth)

DCF - Final Result

Exhibit DJG-6

		[1]	[2]	[3]	[4]	[5]
Company	Ticker	Dividend Yield	Analyst Growth	Sustainable Growth	DCF Result (Analyst Growth)	DCF Result (Sustainable Growth)
Alliant Energy Corporation	LNT	2.9%	6.0%	3.8%	9.1%	6.8%
Ameren Corporation AEE	AEE	2.7%	5.0%	3.8%	7.9%	6.6%
American Electric Power Corporation Inc.	AEP	2.9%	3.5%	3.8%	6.5%	6.8%
Edison International	EIX	5.0%	6.0%	3.8%	11.3%	9.0%
Entergy Corporation	ETR	2.3%	7.0%	3.8%	9.5%	6.2%
Evergy, Inc.	EVRG	3.4%	3.0%	3.8%	6.5%	7.3%
FirstEnergy Corporation	FE	4.1%	5.0%	3.8%	9.3%	8.0%
IDACORP, Inc.	IDA	2.5%	4.0%	3.8%	6.6%	6.4%
OGE Energy Corporation	OGE	3.6%	1.5%	3.8%	5.1%	7.5%
Pinnacle West Capital Corporation	PNW	3.6%	3.5%	3.8%	7.2%	7.5%
Portland General Electric Company	POR	4.3%	5.5%	3.8%	10.0%	8.3%
Southern Company	SO	3.3%	3.0%	3.8%	6.4%	7.2%
Xcel Energy Inc.	XEL	3.0%	6.5%	3.8%	9.7%	6.9%
Average		3.3%	4.6%	3.8%	8.1%	7.3%

[1] Dividend Yield from Exhibit DJG-4

[2] Forecasted dividend growth rates - Value Line

[3] Sustainable growth rate from Exhibit DJG-5

[4] Annual Compounding DCF = $D_0 (1 + g) / P_0 + g$ (using analyst growth rate)

[5] Annual Compounding DCF = $D_0 (1 + g) / P_0 + g$ (using sustainable growth rate)

CAPM - Risk-Free Rate Estimate

Exhibit DJG-7

Date	Rate
06/09/26	5.01%
06/08/26	5.03%
06/05/26	5.01%
06/04/26	4.97%
06/03/26	4.99%
06/02/26	4.97%
06/01/26	4.99%
05/29/26	4.99%
05/28/26	4.98%
05/27/26	5.01%
05/26/26	5.03%
05/22/26	5.07%
05/21/26	5.10%
05/20/26	5.11%
05/19/26	5.18%
05/18/26	5.14%
05/15/26	5.12%
05/14/26	5.02%
05/13/26	5.03%
05/12/26	5.03%
05/11/26	4.98%
05/08/26	4.95%
05/07/26	4.97%
05/06/26	4.94%
05/05/26	4.98%
05/04/26	5.02%
05/01/26	4.97%
04/30/26	4.98%
04/29/26	4.98%
04/28/26	4.94%
Average	5.02%

*Daily Treasury Yield Curve Rates on 10-year T-bonds,
<http://www.treasury.gov/resources-center/data-chart-center/interest-rates/>

CAPM - Beta Coefficients

Exhibit DJG-8

Company	Ticker	Beta
Alliant Energy Corporation	LNT	0.80
Ameren Corporation AEE	AEE	0.75
American Electric Power Corporation Inc.	AEP	0.70
Edison International	EIX	0.90
Entergy Corporation	ETR	0.75
Evergy, Inc.	EVRG	0.75
FirstEnergy Corporation	FE	0.70
IDACORP, Inc.	IDA	0.65
OGE Energy Corporation	OGE	0.85
Pinnacle West Capital Corporation	PNW	0.75
Portland General Electric Company	POR	0.75
Southern Company	SO	0.65
Xcel Energy Inc.	XEL	0.70
Average		0.75

Value Line Investment Survey

CAPM - Implied Equity Risk Premium Estimate

Exhibit DJG-9

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Year	Market Value	Operating Earnings	Dividends	Buybacks	Earnings Yield	Dividend Yield	Buyback Yield	Gross Cash Yield
2014	18,245	1,004	350	553	5.50%	1.92%	3.03%	4.95%
2015	17,900	885	382	572	4.95%	2.14%	3.20%	5.33%
2016	19,268	920	397	536	4.77%	2.06%	2.78%	4.85%
2017	22,821	1,066	420	519	4.67%	1.84%	2.28%	4.12%
2018	21,027	1,282	456	806	6.10%	2.17%	3.84%	6.01%
2019	26,760	1,305	485	729	4.88%	1.81%	2.72%	4.54%
2020	31,659	1,019	480	520	3.22%	1.52%	1.64%	3.16%
2021	40,356	1,739	511	882	4.31%	1.27%	2.18%	3.45%
2022	32,133	1,656	565	923	5.15%	1.76%	2.87%	4.63%
2023	36,870	1,790	588	795	4.85%	1.60%	2.16%	3.75%
2024	49,805	1,967	630	943	3.95%	1.26%	1.89%	3.16%
Cash Yield	4.36%	[9]						
Growth Rate	6.95%	[10]						
Risk-free Rate	5.02%	[11]						
Current Index Value	7,409	[12]						
	[13]	[14]	[15]	[16]	[17]			
Year	1	2	3	4	5			
Expected Dividends	345	369	395	422	452			
Expected Terminal Value					9537			
Present Value	314	305	297	289	6204			
Intrinsic Index Value	7409	[18]						
Required Return on Market	10.0%	[19]						
Implied Equity Risk Premium	5.0%	[20]						

[1-4] S&P Quarterly Press Releases, data found at <https://us.spindices.com/indices/equity/sp-500> (additional info tab) (all dollar figures are in \$ billions)

[1] Market value of S&P 500

[5] = [2] / [1]

[6] = [3] / [1]

[7] = [4] / [1]

[8] = [6] + [7]

[9] = Average of [8]

[10] = Compound annual growth rate of [2] = $(\text{end value} / \text{beginning value})^{1/10} - 1$

[11] Risk-free rate from DJG risk-free rate exhibit

[12] 30-day average of closing index prices from DJG stock price exhibit

[13-16] Expected dividends = $[9] * [12] * (1 + [10])^0$; Present value = $\text{expected dividend} / (1 + [11] + [19])^0$

[17] Expected terminal value = $\text{expected dividend} * (1 + [11]) / [19]$; Present value = $(\text{expected dividend} + \text{expected terminal value}) / (1 + [11] + [19])^0$

[18] = Sum([13-17]) present values.

[19] = [20] + [11]

[20] Internal rate of return calculation setting [18] equal to [12] and solving for the discount rate

CAPM - Equity Risk Premium Results

IESE Business School Survey	5.3%	[1]
Kroll (Duff & Phelps) Report	5.0%	[2]
Damodaran (average)	4.5%	[3]
Garrett	<u>5.0%</u>	[4]
Average	4.9%	

CAPM - Final Results

Exhibit DJG-11

		[1]	[2]
Company	Ticker	Beta	CAPM Result
Alliant Energy Corporation	LNT	0.80	9.0%
Ameren Corporation AEE	AEE	0.75	8.7%
American Electric Power Corporation Inc.	AEP	0.70	8.5%
Edison International	EIX	0.90	9.5%
Entergy Corporation	ETR	0.75	8.7%
Evergy, Inc.	EVRG	0.75	8.7%
FirstEnergy Corporation	FE	0.70	8.5%
IDACORP, Inc.	IDA	0.65	8.2%
OGE Energy Corporation	OGE	0.85	9.2%
Pinnacle West Capital Corporation	PNW	0.75	8.7%
Portland General Electric Company	POR	0.75	8.7%
Southern Company	SO	0.65	8.2%
Xcel Energy Inc.	XEL	0.70	8.5%
Average			8.7%
Risk-free Rate	[3]	5.0%	
Equity Risk Premium	[4]	4.9%	

[1] From Exhibit DJG-8

[2] = [3] + [1] * [4]

[3] From Exhibit DJG-7

[4] From Exhibit DJG-10

Cost of Equity Summary

Exhibit DJG-12

Model	Cost of Equity
CAPM (at Proxy Debt Ratio)	8.7%
Hamada CAPM (at Company-Proposed Debt Ratio)	8.0%
DCF Model (Analyst Growth)	8.1%
DCF Model (Sustainable Growth)	7.3%
Model Average	8.0%
Recommended ROE	8.7%

Proxy Company Debt Ratios

Exhibit DJG-13

Company	Ticker	Debt Ratio
Alliant Energy Corporation	LNT	60%
Ameren Corporation AEE	AEE	53%
American Electric Power Corporation Inc.	AEP	58%
Edison International	EIX	65%
Entergy Corporation	ETR	62%
Evergy, Inc.	EVRG	56%
FirstEnergy Corporation	FE	67%
IDACORP, Inc.	IDA	50%
OGE Energy Corporation	OGE	52%
Pinnacle West Capital Corporation	PNW	57%
Portland General Electric Company	POR	54%
Southern Company	SO	64%
Xcel Energy Inc.	XEL	58%
Average		58%

Debt ratios from Value Line Investment Survey - 2025

Competitive Industry Debt Ratios

Exhibit DJG-14

Industry	# Firms	Debt Ratio
Retail (Building Supply)	14	97%
Restaurant/Dining	64	95%
Hotel/Gaming	63	82%
Brokerage & Investment Banking	32	79%
Retail (Automotive)	34	77%
Hospitals/Healthcare Facilities	31	76%
Rubber& Tires	3	74%
Bank (Money Center)	15	73%
Recreation	49	72%
Air Transport	23	71%
Food Wholesalers	13	69%
Retail (Grocery and Food)	15	67%
Chemical (Diversified)	4	66%
Cable TV	9	65%
Telecom (Wireless)	12	65%
Advertising	52	64%
Transportation	19	64%
R.E.I.T.	190	63%
Power	46	63%
Oil/Gas Distribution	23	63%
Transportation (Railroads)	4	62%
Computers/Peripherals	36	61%
Telecom. Services	39	61%
Broadcasting	24	61%
Auto & Truck	33	60%
Retail (Special Lines)	94	60%
Software (Internet)	29	60%
Green & Renewable Energy	15	59%
Environmental & Waste Services	53	58%
Office Equipment & Services	14	58%
Utility (General)	14	58%
Beverage (Soft)	27	57%
Apparel	35	56%
Information Services	15	56%
Retail (Distributors)	62	55%
Utility (Water)	14	55%
Farming/Agriculture	35	55%
Aerospace/Defense	79	55%
Packaging & Container	19	54%
Computer Services	64	54%
Retail (REITs)	26	54%
Chemical (Basic)	29	52%
Furn/Home Furnishings	27	52%
Business & Consumer Services	155	51%
Household Products	110	51%
Drugs (Biotechnology)	496	51%
Real Estate (Development)	14	50%
Total / Average	2,273	63%

Hamada Model Results

Exhibit DJG-15

Unlevering Beta		
Proxy Debt Ratio	58%	[1]
Proxy Equity Ratio	42%	[2]
Proxy Debt / Equity Ratio	1.4	[3]
Tax Rate	21%	[4]
Equity Risk Premium	4.9%	[5]
Risk-free Rate	5.0%	[6]
Proxy Group Beta	0.75	[7]
Unlevered Beta	0.36	[8]

[9] [10] [11] [12]

Relevered Betas and Cost of Equity Estimates			
Debt Ratio	D/E Ratio	Levered Beta	Cost of Equity
0%	0.0	0.36	6.8%
20%	0.3	0.43	7.1%
25%	0.3	0.45	7.2%
30%	0.4	0.48	7.4%
46%	0.8	0.59	8.0%
58%	1.4	0.75	8.7%
60%	1.5	0.78	8.9%

- [1] Proxy group average debt ratio
 [2] Proxy group average equity ratio
 [3] = [1] / [2]
 [4] Company assumed tax rate
 [5] Equity risk premium from Exhibit DJG-11
 [6] Risk-free rate from Exhibit DJG-11
 [7] Average proxy beta from Exhibit DJG-11
 [8] = [7] / (1 + (1 - [4]) * [3])
 [9] Various debt ratios (Garrett proposed highlighted)
 [10] = [9] / (1 - [9])
 [11] = [8] * (1 + (1 - [4]) * [10])
 [12] = [6] + [11] * [5]

Primary Recommendation

<u>Capital Component</u>	<u>Proposed Ratio</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Long-Term Debt	58.0%	5.17%	3.00%
Common Equity	<u>42.0%</u>	8.70%	<u>3.65%</u>
Total	100.0%		6.65%

Alternative Recommendation

<u>Capital Component</u>	<u>Proposed Ratio</u>	<u>Cost Rate</u>	<u>Weighted Cost</u>
Long-Term Debt	45.8%	5.17%	2.37%
Common Equity	<u>54.3%</u>	8.00%	<u>4.34%</u>
Total	100.0%		6.71%

CERTIFICATE OF SERVICE

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2025-3059430
	:	
UGI Utilities, Inc. – Electric Division	:	
	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts above set forth in my Direct Testimony, OCA Statement No. 3, are true and correct to the best of my knowledge, information, and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 18, 2026

Signature: /s/ David J. Garrett
David J. Garrett

Address: 101 Park Avenue
Suite 1125
Oklahoma City, OK 73120

1 **Q. State your name and occupation.**

2 A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I
3 am the managing member of Resolve Utility Consulting PLLC.

4 **Q. Have you previously filed testimony in this proceeding?**

5 A. Yes. I filed direct testimony in OCA Statement 3 on June 19, 2026, on behalf of the
6 Pennsylvania Office of Consumer Advocate (“OCA”). A summary of my qualifications is
7 included in my direct testimony.

8 **Q. What is the purpose of your surrebuttal testimony?**

9 A. My surrebuttal testimony responds to the rebuttal testimony of UGI Utilities, Inc. – Electric
10 Division’s (“UGI” or the “Company”) witness Dylan D’Ascendis regarding rate of return
11 issues.

12 **Q. Did the Company’s rebuttal testimony cause you to change any of your positions or**
13 **recommendations discussed in your direct testimony?**

14 A. No. To the extent I do not specifically address a statement made in the Company’s rebuttal
15 testimony filed in this case, it should not constitute my agreement with such testimony.

16 **Q. Are you sponsoring any exhibits to your surrebuttal testimony?**

17 A. No.

18 **Q. Please summarize your surrebuttal testimony directed to the rebuttal testimony of**
19 **Mr. D’Ascendis.**

20 A. In my surrebuttal testimony, I address Mr. D’Ascendis’s updated cost of equity results. I
21 will also address the assertions made in his rebuttal testimony regarding capital structure,
22 the Discounted Cash Flow (“DCF”) Model, the Capital Asset Pricing Model (“CAPM”),
23 and other issues. I also briefly address the rebuttal testimony of Jessica Rogers.

1 **A. Updated Cost of Equity Analysis**

2 **Q. Please summarize Mr. D’Ascendis’s updated cost of equity analysis.**

3 A. Mr. D’Ascendis conducted an updated cost of equity analysis. Based on this analysis, Mr.
4 D’Ascendis concludes his original recommended ROE of 10.85% is reasonable.¹

5 **Q. Does Mr. D’Ascendis’s updated cost of equity analysis indicate a reasonable**
6 **authorized ROE for UGI?**

7 A. No. The results of Mr. D’Ascendis’s updated analysis are even more unreasonable than
8 his original analysis. His updated cost of equity ranges as high as 12.17%. To put this
9 number in perspective, Kroll (a highly respected international corporate finance advising
10 firm) recently estimated a cost of equity of the entire U.S. equity market to be 8.5%.² Since
11 utility betas are less than 1.0 (a fact even Mr. D’Ascendis agrees with), then Kroll’s
12 estimate of the cost of equity for any company with a beta of less than 1.0 would have to
13 be *less than* 8.5%. In his updated analysis Mr. D’Ascendis used substantially similar
14 assumptions and methods in his updated ROE analysis as he did in his original ROE
15 analysis. Thus, the criticisms raised in my direct testimony regarding Mr. D’Ascendis’s
16 original ROE analysis also apply to his updated ROE analysis.

17 **Q. Mr. D’Ascendis removed Portland General Electric Company (“POR”) from the**
18 **proxy group in his updated analysis. Would removing POR from your proxy group**
19 **have had any material impact on your results?**

20 A. No. In my direct testimony and analysis, I used the same proxy group as Mr. D’Ascendis.
21 If I also removed POR from my proxy group, my results would not change. POR’s

¹ Rebuttal Testimony of Dylan D’Ascendis, p. 5.

² Kroll Recommended U.S. Equity Risk Premium and Corresponding Risk-Free Rates to be Used in Computing Cost of Capital: January 2008 - Present (April 30, 2026); available at <https://www.kroll.com/en/reports/cost-of-capital/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates>

1 indicated cost of equity under the CAPM is 8.7%, which also equals the proxy group
2 average CAPM result of 8.7%, which is also equivalent to my recommended ROE for the
3 Company.

4 **B. Capital Structure**

5 **Q. Please summarize Mr. D'Ascendis's criticisms of your capital structure adjustment.**

6 A. Mr. D'Ascendis claims that UGI's proposed capital structure is reasonable because it is
7 within a range of other operating subsidiary capital structures.³

8 **Q. What is your response to Mr. D'Ascendis's rebuttal testimony on this issue?**

9 A. My capital structure adjustment simply aligns UGI's capital structure with the average
10 capital structure of Mr. D'Ascendis's own proxy group. The average debt ratio of Mr.
11 D'Ascendis's own proxy group is 58%. To accept a debt ratio less than this for the purpose
12 of calculating the ROR essentially amounts to cherry-picking the metrics of the proxy
13 group to obtain a more favorable ROR for the Company. This is because there is a direct
14 relationship between risk and cost of equity. The more financial risk (or debt) a company
15 has in its capital structure, it will have an increasing effect on its cost of equity. The fact
16 that UGI has less debt in its capital structure relative to the proxy group is significant, and
17 it means that UGI has less financial risk than the proxy group. Since we are obtaining all
18 of the other metrics used to estimate UGI's cost of equity from the proxy group, it would
19 be inaccurate to reject the capital structure of that same proxy group as part of the analyses.
20 The Hamada model I used in this case mathematically reconciles the discrepancy between

³ Rebuttal Testimony of Dylan D'Ascendis, p. 10, lines 5-19.

1 UGI's low debt ratio relative to the proxy group's average. In that regard, the authorized
2 ROE I propose for UGI is very reasonable.

3 **Q. Does your proposed capital structure adjustment acknowledge the issues raised in**
4 **Governor Shapiro's letter to utility leaders?**

5 A. Yes. In his letter to utility leaders dated April 29, 2026, Governor Shapiro stated:

6 [D]ebt should normally represent a clear majority of a utility's proposed
7 ratemaking capital structure, as it does in many other lower-risk industries.
8 As one measure of this approach, any equity share proposed in a rate case
9 in excess of the amount of equity employed by the utility's parent holding
10 company will require extraordinary justification to receive my
11 Administration's support.⁴

12 In my experience, utilities with parent-subsidary structures commonly employ a double
13 leverage strategy, in which more debt is held at the parent level, while the subsidiary has
14 more equity. However, the "equity" on the subsidiary's balance sheet is funded by the debt
15 of the parent company, which ultimately allows the regulated subsidiary to earn a high
16 equity return on the parent's low-cost debt. This results in an unfair boon for shareholders
17 at the expense of customers. More specifically, it results in an even higher authorized
18 return above the utility's market based required return (i.e., cost of equity). As discussed
19 in my direct testimony, the following tables shows a summary of my capital structure
20 analysis in this case.

⁴ Office of the Governor, Letter to Utility Leaders (April 29, 2026).

**Figure 1:
Capital Structure Analysis Summary**

Industry / Company	Debt Ratio
Cable TV Industry	65%
Power Industry	63%
Telecom Services Industry	61%
UGI Parent Company	58%
Proxy Group of Utilities	58%
Company Proposed	46%

I agree with the Governor’s assessment of this issue. In order to more fully eliminate the unfair advantage double leverage provides the utility, the subsidiary’s ratemaking debt ratio would be the same as the parent company’s debt ratio. In this case, UGI’s parent company debt ratio is the same as the proxy group average, which provides a very strong indication that a ratemaking debt ratio of 58% would be fair for the Company. To authorize a debt ratio lower than this is simply increasing UGI Electric’s authorized rate of return above a reasonable level, and promoting an excess transfer of wealth from customers to shareholders.

Q. Does Mr. D’Ascendis’s arguments about the stand-alone principle change your opinion?

A. No. Mr. D’Ascendis raises the *stand-alone* principle in response to my comments about double leverage.⁵ First, even if I were to completely agree with Mr. D’Ascendis regarding

⁵ Rebuttal Testimony of Dylan W. D’Ascendis, p. 13.

1 the stand-alone principle, it would not change any of my recommendations. Thus, the
2 disagreement is more based on principle, rather than a specific recommendation in the case.
3 Furthermore, I believe it is reasonable for the Commission to consider, at the very least,
4 the relationship between parent and subsidiary utility financing. If a utility were financed
5 with 100% debt, then decided to create a parent-sub structure where both entities were still
6 100% debt finance, the subsidiary could label the parent's investment in the subsidiary as
7 "equity" and receive a higher return (about double) than what that capital actual *cost*. In
8 this hypothetical, the required return (aka cost of capital) on the 100% debt financed
9 company is simply the cost of debt (say, 5%). Yet, under the stand-alone principle raised
10 by Mr. D'Ascendis, he would most certainly argue that the cost of that capital is higher
11 (say, 11%). Saying the required return on money borrowed at 5% is actually 11% sounds
12 like a "principle" the Commission should be skeptical of, at the very least.

13 **C. DCF Model.**

14 **Q. Please summarize Mr. D'Ascendis's criticisms of your DCF Model**

15 A. Mr. D'Ascendis disagrees with my application of both the sustainable growth and analyst
16 growth variations of the DCF Model. For the sustainable growth variation, Mr. D'Ascendis
17 notes that it would take many years for the earnings of a company to surpass GDP if its
18 annual growth rates were higher than GDP. For the analyst growth variation, Mr.
19 D'Ascendis argues that dividends are not an appropriate measure for growth and that
20 earnings growth should be used.

1 **Q. What is your response to Mr. D’Ascendis regarding these issues?**

2 A. Utilities are fundamentally very low growth companies. In more than 10 years of testifying
3 as an expert witness, I have never seen a historical or projected annual customer or demand
4 growth rate over a 10-year period that exceeded the long-term U.S. GDP growth rate. To
5 understand why analyst growth rates unreasonably inflate cost of equity estimates in the
6 DCF Model, it is important to understand the difference between “quantitative” and
7 “qualitative” growth determinants. Assessing “quantitative” growth simply involves
8 mathematically calculating a historic metric for growth (such as revenues or earnings) or
9 calculating various fundamental growth determinants using various figures from a firm’s
10 financial statements (such as ROE and the retention ratio). However, any thorough
11 assessment of company growth should also be based upon a “qualitative” analysis. Such
12 an analysis would consider specific strategies that company management will implement
13 to achieve sustainable growth in earnings. Therefore, it is important to begin the analysis
14 of UGI’s growth rate with this simple, qualitative question: how is this regulated utility
15 going to achieve a sustained growth in earnings? If this question were asked of a
16 competitive firm, there could be several answers depending on the type of business model,
17 such as launching a new product line, franchising, rebranding to target a new demographic,
18 or expanding into a developing market. Regulated utilities, however, cannot engage in
19 these potential growth opportunities.

20 **Q. Why is it important to emphasize real, qualitative growth determinants when**
21 **analyzing the growth rates of regulated utilities?**

22 A. While qualitative growth analysis is important regardless of the entity being analyzed, it is
23 especially important in the context of utility ratemaking. This is because the “return on

rate base” model inherently possesses two factors that can contribute to distorted views of utility growth when considered exclusively from a quantitative perspective. These two factors are (1) rate base, and (2) the awarded ROE.

Q. How does rate base distort growth projections for utilities?

A. Under the return on rate base model, a utility’s rate base is multiplied by its awarded rate of return to produce the required level of operating income. Therefore, increases to rate base generally result in increased earnings. Thus, utilities have a natural financial incentive to increase rate base regardless of whether such increases are driven by a corresponding increase in demand. In other words, utilities can “grow” their earnings by simply increasing rate base. Competitive firms, in contrast, cannot achieve automatic and sustained earnings growth by simply increasing capital expenditures and adding to plant.

Q. Are there any other problems with relying on analyst growth projections?

A. Yes. Various institutional analysts, such as Zacks, Value Line, and Bloomberg, publish estimated projections of earnings growth for utilities. These estimates are short-term growth rate projections, ranging from 3–10 years. However, many utility ROE analysts (including Mr. D’Ascendis here) insert these short-term growth projections into the DCF Model as if they were perpetual annual growth rate projections. Although this tactic is common in the regulatory industry, it is not fundamentally sound, and it generally results in inflated DCF cost of equity estimates.

Q. What is your response to Mr. D’Ascendis that dividends are not an appropriate measure for growth in the DCF Model?

A. Mr. D’Ascendis’s arguments on this issue are simply incorrect. To reiterate, the DCF formula itself specifically uses dividends as the measure of cash flow. This works

1 especially well for companies that pay relatively consistent dividends, such as utilities.
2 Using any metric other than dividends is an indirect measure of the cash flow received by
3 investors. Moreover, using analysts' dividends growth results in a growth rate that is more
4 reasonable. What is more pertinent than the source of the growth rate indicator is whether
5 the growth rate and end result produced by the model is reasonable. In his application of
6 the DCF Model, Mr. D'Ascendis is taking the short-term earnings growth projections from
7 analysts and representing those as perpetual growth rates (such as 11% every year, forever,
8 for Entergy Corporation, as discussed in my direct testimony).

9 **D. CAPM Analysis**

10 **Q. Please summarize Mr. D'Ascendis's criticisms of your CAPM analysis.**

11 A. Mr. D'Ascendis primarily disagrees with my equity risk premium ("ERP") estimate, which
12 is a key input to the CAPM. He also disagrees with my application of the Hamada variation
13 of the CAPM, which relates to the beta input.⁶

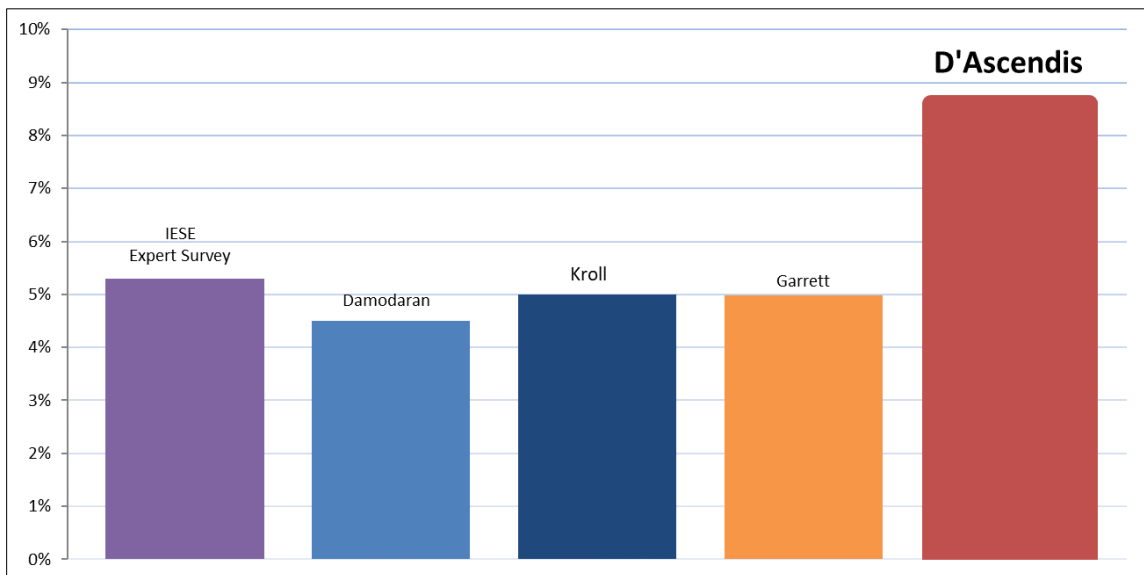
14 **Q. Please briefly reiterate the sources you considered for the ERP estimate.**

15 A. The ERP is an important figure for financial and market analysts in all industries, not just
16 utility regulation. Thus, many analysts, managers, investors, and academics are constantly
17 studying and are concerned with obtaining a reliable and accurate estimate of this important
18 number, which can be used in a variety of financial analyses, including the CAPM. All
19 else held constant, a higher ERP will result in a higher indicated cost of equity and apply
20 upward pressure on the authorized ROE. I considered three reliable and objective sources

⁶ *Id.* at pp. 44-52.

1 to include in my overall ERP estimate, including the result of the IESE Business School
2 survey of experts, the estimate published by Kroll (formerly Duff & Phelps), and the
3 estimate published by one of the world's leading experts on the issue, Dr. Aswath
4 Damodaran. I also conducted and presented my own ERP estimate, the result of which is
5 similar to those from the other sources. The figure below contrasts the ERP estimates from
6 these sources with the ERP estimated by Mr. D'Ascendis.⁷

7 **Figure 2:**
8 **Equity Risk Premium Comparison**



9 When compared with other independent sources for the ERP (as well as my estimate),
10 which do not have a wide variance, Mr. D'Ascendis's ERP estimate is clearly not within
11 the range of reasonableness. Mr. D'Ascendis offers various criticisms of these sources,
12 and basically argues the Commission should accept his estimate over the opinions of

⁷ See also Exhibit DJG-10.

1 hundreds of CEOs, CFOs, scholars, and an international corporate finance advising
2 company. I would argue that investors are more likely to rely on these types of sources for
3 the ERP than Mr. D'Ascendis's personal ERP estimate. Effectively, Mr. D'Ascendis is
4 suggesting the Commission should adopt his ERP estimate over the opinions of thousands
5 of unbiased experts, Kroll (a global financial advisory firm), and one of the world's leading
6 experts on the ERP.

7 **Q. Mr. D'Ascendis argues that the ERP reported by the expert survey, Kroll, and Dr.**
8 **Damodaran did not accurately predict the return on the market. What is your**
9 **response?**

10 A. Mr. D'Ascendis's arguments on this issue attempt to conflate two different metrics. An
11 expected return on a stock or index of stocks based on market risk is very different concept
12 than an earned return. An earned return by a company, group of companies, or an entire
13 market may fluctuate widely from year to year, similar to the boom-bust cycle of the
14 economy. However, this does not have a direct impact on the required return of investors,
15 which will be much more stable over time. For example, during the recession of 2008, the
16 market had a negative return of about 40%. However, it would be impossible for an
17 expected return or ERP estimate to ever be negative. According to Mr. D'Ascendis's logic,
18 however, anyone during 2008 who estimated a positive ERP, required return, or cost of
19 equity estimate would have made an error. Earned returns and expected returns are entirely
20 different concepts. An equity risk premium is not a prediction or forecast of market
21 performance.

22 In criticizing these sources for the ERP, Mr. D'Ascendis compares the ERP
23 estimates from these sources with actual market returns. The main problem with this
24 argument is that the ERP is not supposed to be a prediction of market returns. Market

1 returns will naturally fluctuate (often widely) from year to year, as shown in the table in
2 Mr. D'Ascendis's testimony. However, ERP estimates based on the additional risk of
3 equity securities do not fluctuate widely from year to year in an established economy. The
4 same criticism Mr. D'Ascendis is raising against the objective source of the ERP could be
5 used with his own ERP estimates. Though they are consistently very high, they do not
6 fluctuate widely from year to year based on my experience. If Mr. D'Ascendis's logic
7 were to be followed, one might think an accurate ERP estimate in 2022 would have been
8 negative, since the actual market return were negative. Of course, it is impossible for an
9 ERP estimate to ever be negative. Mr. D'Ascendis's arguments on this issue are confusing,
10 at best. Furthermore, it is not reasonable to assume that the thousands of expert survey
11 respondent, one of the world's single leading experts, and Kroll, are not aware of the actual
12 market returns Mr. D'Ascendis has pointed out. Again, Mr. D'Ascendis is effectively
13 arguing the Commission should ignore the ERP estimates from these objective sources in
14 favor of his own personal estimate. Given the strong likelihood that Mr. D'Ascendis's
15 ERP estimate is upwardly biased, I recommend the Commission focus on the ERP estimate
16 from more objective sources.

17 **Q. Mr. D'Ascendis claims your implied ERP model does not take into account capital**
18 **appreciation, growth in dividends, or buy backs into your calculated growth rate.**
19 **What is your response?**

20 **A.** First, the result of my application of the implied ERP model produced the exact same result
21 as recent ERP estimates published by both Dr. Damodaran and Kroll, which are objective,
22 respected sources for ERP. This indicates my ERP estimate is reasonable. Furthermore,
23 my implied ERP model effectively applies a DCF application to the S&P 500, which is not
24 materially different than applying the DCF Model to a single company. Instead of solving

1 for the price, we are solving for the discount rate (i.e., the implied cost of equity). My
2 implied ERP model does in fact take into account stock buybacks in addition to dividends
3 (because failing to account for buybacks could understate the “cash flow” that investors
4 would received if only dividends were considered).⁸ Regarding Mr. D’Ascendis’s claim
5 that the model does not account for market appreciation, this is not a valid criticism of the
6 model. Like the DCF Model, the implied ERP model is discounting a stream of cash flows
7 (i.e., dividends and buybacks), which has an annual growth rate, back to the present market
8 value. The result of this model indicates an implied discount rate (i.e., equity risk
9 premium).

10 **Q. According to Mr. D’Ascendis the Hamada Model you conducted in which the**
11 **Company’s beta is adjusted to reflect leverage is not necessary. What is your**
12 **response?**

13 A. According to Mr. D’Ascendis, “the Company’s requested equity ratio is consistent with
14 the range of equity ratios in place within both my updated proxy group and Mr. Garrett’s
15 proxy group. As a result, there is no need for Mr. Garrett to adjust the Value Line betas in
16 his CAPM for any difference in financial risk.”⁹ This statement is simply false. The
17 Company’s proposed debt ratio of 46% is lower than every single company in the proxy
18 group. The *lowest* debt ratio in the proxy group is 50%.¹⁰ Even if Mr. D’Ascendis is
19 referring to the operating subsidiaries of the proxy group, then his statement is still factually
20 incorrect. This is because operating subsidiaries are patently *different companies* than the

⁸ Exhibit DJG-9 (column [7] shows the buyback yield).

⁹ Rebuttal testimony of Dylan W. D’Ascendis, p. 71, lines 1-6.

¹⁰ See Exhibit DJG-13.

1 proxy group companies. The betas of the proxy companies are directly impacted by the
2 reported capital structures of *those* companies – not a different group of companies. The
3 fact of the matter is, UGI has much less debt and financial risk relative to the proxy group,
4 and thus it's indicated cost of equity under the CAPM must be adjusted to account for that
5 difference in risk (or adjust the ratemaking capital structure to match the proxy group
6 average, which is my primary recommendation).

7 **Q. Mr. D'Ascendis disagrees with your testimony that investors do not expect a return**
8 **for assuming firm-specific business risks. What is your response?**

9 A. I thoroughly discuss this issue in my direct testimony. The concept that investors do not
10 expect a return for assuming firm-specific business risk is a cornerstone of modern
11 portfolio theory and the CAPM (as thoroughly discussed and cited in my direct testimony).
12 Moreover, in the case of a regulated monopoly such as UGI, the firm-specific risk is even
13 lower because the utilities do not have the same type of bankruptcy risk or failure risk that
14 a typical company would have. Effectively, utilities such as UGI have a social safety net
15 provided by the government and their customers that would prevent them from
16 experiencing a complete financial failure. In that regard, it is not unreasonable to assume
17 the utility's required return on equity would be materially higher than its cost of debt,
18 because there is no reasonable foreseeable scenario in which shareholders are standing in
19 line behind bondholders in a bankruptcy proceeding. So to the extent firm-specific risk
20 should be considered, as Mr. D'Ascendis is implying, it would only reduce UGI's cost of
21 equity even further.

1 **Q. Are there other assertions made by Mr. D’Ascendis would like to address?**

2 A. Yes. Mr. D’Ascendis asserts that I contradict myself when discussing the legal standards
3 governing the authorized ROE issue.¹¹ Based on any reasonable interpretation of *Hope*
4 and *Bluefield*, the authorized ROE should be based on the cost of equity, though it need
5 not exactly equal the cost of equity. There is nothing contradictory about my discussion
6 of this issue in my direct testimony. The Company’s cost of equity is very likely below
7 8.7%, but an authorized ROE of 8.7% would be reasonable under the circumstances
8 because it is, at the very least, based on an objective application of cost of equity modeling.

9 Mr. D’Ascendis also continues to argue there should be a flotation cost adjustment,
10 despite UGI not issuing equity in five years. According to Mr. D’Ascendis’s logic as I
11 understand it, even if a utility parent company issues equity just one time many decades
12 ago, there should be a permanent upward adjustment to the authorized ROE of its
13 subsidiary going forward, indefinitely. Doing so would certainly compensate investors far
14 more than the actual cost of the equity issuance. Again, this does not appear to be an
15 argument driven by a desire for an objective cost of equity estimate, but rather one that is
16 simply biased towards higher results.

17 **Q. Are these any issues raised in Ms. Rogers’s testimony you would like to respond to?**

18 A. Yes. Ms. Rogers says that UGI should earn a reasonable rate of return, and effectively
19 adopts the position of Mr. D’Ascendis. She then appeals to the Commission’s past practice
20 of approving utilities’ ratemaking capital structures without adjustment. She then appeals
21 to the status quo by noting my proposed ROE is lower than any prior return authorized by

¹¹ Rebuttal Testimony of Dylan W. D’Ascendis, p. 50.

1 the Commission. She appears to offer no technical analysis or substantive argument in
2 support of these opinions.

3 Ms. Rogers then states “the Company has a long history of earning a return
4 hundreds of basis points below the authorized ROE in the Commission’s published
5 Quarterly Earnings Reports.”¹² The Company’s actual earnings are irrelevant to setting an
6 authorized ROE that allows a utility the opportunity to earn a fair return under the regulatory
7 model. Nowhere in *Hope* or *Bluefield* is it stated or implied that a regulator must bail out
8 a utility that is either unwilling or unable to earn its authorized ROE.

9 **Q. Does this conclude your surrebuttal testimony?**

10 **A.** Yes.

¹² Rebuttal Testimony of Jessica Rogers, p. 8.

CERTIFICATE OF SERVICE

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2025-3059430
	:	
UGI Utilities, Inc. – Electric Division	:	
	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement No. 3SR, are true and correct to the best of my knowledge, information, and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2026

Signature: /s/ David J. Garrett
David J. Garrett

Address: 101 Park Avenue
Suite 1125
Oklahoma City, OK 73120

I&E Statement No. 2
Witness: D. C. Patel

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

UGI UTILITIES, INC. - ELECTRIC DIVISION

Docket No. R-2025-3059430

Direct Testimony

of

D. C. Patel

Bureau of Investigation & Enforcement

Concerning:

Rate of Return

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1 **INTRODUCTION**

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

3 A. My name is D. C. Patel, and my business address is Pennsylvania Public Utility
4 Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg,
5 PA 17120.

6
7 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

8 A. I am employed by the Pennsylvania Public Utility Commission (Commission) in
9 the Bureau of Investigation & Enforcement (I&E) as a Fixed Utility Financial
10 Analyst.

11
12 **Q. SUMMARIZE YOUR EDUCATION AND EMPLOYMENT HISTORY.**

13 A. An outline of my educational and professional experience is attached as
14 Appendix A.

15
16 **Q. PLEASE DESCRIBE THE ROLE OF I&E IN RATE PROCEEDINGS.**

17 A. I&E is responsible for protecting the public interest in proceedings before the
18 Commission. I&E's analysis in this proceeding is based on its responsibility to
19 represent the public interest. This responsibility requires balancing the interests of
20 ratepayers, the regulated utility, and the regulated community as a whole.

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

2 A. The purpose of my direct testimony is to review the base rate filing of UGI
3 Utilities, Inc. - Electric Division (UGI Electric or Company) and make
4 recommendations regarding the Company's rate of return, including capital
5 structure, cost of long-term debt, the cost of equity, and the overall fair rate of
6 return for the fully projected future test year (FPFTY) ending September 30, 2027.

7
8 **Q. DOES YOUR DIRECT TESTIMONY INCLUDE AN EXHIBIT?**

9 A. Yes. I&E Exhibit No. 2 contains schedules that support my direct testimony.

10
11 **BACKGROUND**

12 **Q. WHAT IS THE GENERAL DEFINITION OF RATE OF RETURN IN THE**
13 **CONTEXT OF A BASE RATE CASE?**

14 A. Rate of return is one of the components of the revenue requirement formula. Rate
15 of return is the amount of revenue an investment generates in the form of net
16 income. It is typically expressed as a percentage of the amount of an asset base at
17 a particular point in time, which in base rate proceedings is the projected rate base
18 balance at the end of the test year and in this case the end of the FPFTY.

19
20 **Q. WHAT IS THE REVENUE REQUIREMENT FORMULA?**

21 A. The revenue requirement formula used in base rate cases is as follows:

22
$$RR = E + D + T + (RB \times ROR)$$

Where:

RR = Revenue Requirement

E = Operating Expenses

D = Depreciation Expense

T = Taxes

RB = Rate Base

ROR = Overall Rate of Return

In the above formula, the rate of return is expressed as a percentage. The calculation of that percentage is independent of the determination of the appropriate rate base value for ratemaking purposes. As such, the appropriate total dollar return is dependent upon the proper computation of the rate of return and the proper valuation of the company's rate base.

Q. WHAT CONSTITUTES A FAIR AND REASONABLE OVERALL RATE OF RETURN?

A. A fair and reasonable overall rate of return is one that will allow the utility an *opportunity* to recover those costs, which are reasonable and prudently incurred by all classes of capital used to finance the rate base during the prospective period in which its rates will be in effect. The Commission has the authority to determine the fair revenue requirement and rate of return, which the utility has the opportunity to earn, but is not guaranteed to earn.

1 The *Bluefield Water Works & Improvements Co. v. Public Service Comm. of*
2 *West Virginia*, 262 U.S. 679, 692-93 (1923), and the *Federal Power Commission et*
3 *al v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944) cases set forth the principles
4 that are generally accepted by regulators throughout the country as the appropriate
5 criteria for measuring a fair rate of return:

- 6 1. A utility is entitled to a return similar to that being earned by other
7 enterprises with corresponding risks and uncertainties, but not as
8 high as those earned by highly profitable or speculative ventures.
- 9 2. A utility is entitled to a return level reasonably sufficient to assure
10 financial soundness.
- 11 3. A utility is entitled to a return sufficient to maintain and support its
12 credit and raise necessary capital.
- 13 4. A fair return can change (increase or decrease) along with economic
14 conditions and capital markets.

15
16 **Q. EXPLAIN HOW THE OVERALL RATE OF RETURN IS**

17 **TRADITIONALLY CALCULATED IN BASE RATE PROCEEDINGS.**

18 A. In base rate proceedings, the overall rate of return is traditionally calculated using
19 the weighted average cost of capital method. To calculate the weighted average
20 cost of capital, a company's capital structure must first be determined by
21 comparing the percentage of each capitalization component, which has financed
22 rate base, to total capital. In UGI Electric's case, the capital components consist of

1 long-term debt and common equity. Next, the effective cost rate of each capital
2 structure component must be determined. The historical component of the cost
3 rate of debt can be computed accurately, and any future debt issuances are based
4 on estimates. The cost rate of common equity is not fixed and is more difficult to
5 measure. Because of this difficulty, a proxy group is used as discussed later in this
6 testimony. Next, each capital structure component percentage is multiplied by its
7 corresponding effective cost rate to determine the weighted capital component cost
8 rate. The I&E table in the “*I&E Position*” section below demonstrates the
9 interaction of each capital structure component and its corresponding effective
10 cost rate. Finally, the sum of the weighted cost rates produces the overall rate of
11 return. This overall rate of return is multiplied by the rate base to determine the
12 return portion of a company’s revenue requirement.

14 **COMPANY’S RATE OF RETURN CLAIM**

15 **Q. WHO IS THE COMPANY’S RATE OF RETURN WITNESS?**

16 A. UGI Electric witness Dylan W. D’Ascendis is the primary witness addressing the
17 cost of common equity and overall rate of return for UGI Electric. Mr.
18 D’Ascendis provides his analysis for the proxy group selection, claimed capital
19 structure, cost of common equity, and the overall rate of return for UGI Electric.¹

¹ UGI Electric Statement No. 8.

1 **Q. PLEASE SUMMARIZE THE COMPANY’S RATE OF RETURN CLAIMS.**

2 A. Mr. D’Ascendis recommends the following rate of return for the Company based
3 on the FPFTY ending September 30, 2027:²

UGI Utilities, Inc. - Electric Division Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	45.75%	5.17%	2.37%
Common Equity	<u>54.25%</u>	10.85%	<u>5.89%</u>
Total	<u>100.00%</u>		<u>8.26%</u>

4
5
6 **I&E POSITION**

7 **Q. PLEASE SUMMARIZE YOUR RATE OF RETURN RECOMMENDATION**
8 **FOR UGI ELECTRIC.**

9 A. I recommend the following rate of return for the Company:³

I&E Recommendation UGI Utilities, Inc. - Electric Division Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.00%	5.17%	2.59%
Common Equity	<u>50.00%</u>	9.69%	<u>4.85%</u>
Total	<u>100.00%</u>		<u>7.44%</u>

10

² UGI Gas Exhibit B, Schedule DWD-1, p. 1.

³ I&E Exhibit No. 2, Schedule 1.

1 **Q. HOW HAVE YOU CALCULATED YOUR RECOMMENDED RETURN ON**
2 **EQUITY?**

3 A. I recommend a return on equity of 9.69% for UGI Electric, which is based on the
4 average of the following results:

Discounted Cash Flow (DCF) Model	10.18%
Average of I&E calculated traditional Capital Asset Pricing Model (CAPM) Result and Kroll CAPM Result	9.32%
National Average of Electric Distribution Authorized Return on Equity (ROE) Complied by S&P Global	<u>9.56%</u>
Average ROE ((10.18% + 9.32% + 9.56%) ÷ 3)	<u>9.69%</u>

5
6 As summarized above and explained in further detail below, my return on equity
7 recommendation is calculated using the DCF method, the average of two
8 variations of the CAPM, and the recent national average authorized return on
9 equity for rate cases involving electric distribution utilities.

10
11 **PROXY GROUP**

12 **Q. WHAT IS A PROXY GROUP AS USED IN BASE RATE CASES?**

13 A. A proxy group is a set of companies that have similar traits in comparison to the
14 subject utility. This group of companies acts as a benchmark for determining the
15 subject utility's rate of return in a base rate case.

16
17 **Q. WHAT ARE THE REASONS FOR USING A PROXY GROUP?**

18 A. A proxy group's cost of equity is used as a benchmark to satisfy the long-

1 established guideline of utility regulation that seeks to provide the subject utility
2 with the opportunity to earn a return similar to that of enterprises with
3 corresponding risks and uncertainties.

4 A proxy group is typically utilized since the use of data exclusively from
5 one company may be less reliable. The lower reliability occurs because the data
6 for one company may be subject to events that can cause short-term anomalies in
7 the marketplace. The rate of return on common equity for a single company could
8 become distorted in these circumstances and would therefore not be representative
9 of similarly situated companies. Therefore, a proxy group has the effect of
10 smoothing out potential anomalies associated with a single company.

11
12 **Q. WHAT CRITERIA DID YOU USE IN SELECTING YOUR UTILITY**
13 **PROXY GROUP?**

14 A. The criteria for my proxy group are designed to select companies that are
15 representative of the Company. I applied the following criteria to Value Line's
16 East, Central, and West Electric Utility groups:

- 17 1. Fifty percent or more of the company's revenue must be generated
18 from the regulated electric utility industry.
- 19 2. The company's stock must be publicly traded.
- 20 3. Investment information for the company must be available from
21 more than one source, which includes Value Line.

4. The company must not be currently involved in an announced merger or the target of an acquisition.
5. The company must have four consecutive years of historic earnings data.
6. The company must be operating in a state that has a deregulated electric utility market.

Q. WHAT CRITERIA DID MR. D’ASCENDIS USE IN SELECTING HIS ELECTRIC PROXY GROUP COMPANIES?

A. Mr. D’Ascendis determined his Electric Utility Proxy Group of companies by using the following criteria:⁴

1. Utilities are included in the Electric Utility Group (East, Central, or West) of *Value Line’s Standard Edition* as of January 30, 2026.
2. Utilities have 70% or greater of fiscal year 2024 total operating income derived from, and 70% or greater of fiscal year 2024 total assets attributable to the regulated electric operations.
3. Utilities had not publicly announced that they were involved in any major merger or acquisition activity (i.e., one publicly traded utility merging with or acquiring another) or any other major development.
4. Utilities have not cut or omitted their common dividends during the

⁴ UGI Electric Statement No. 8, p. 13, lines 294-311.

five years ended 2024 or through the time of preparation of his testimony.

5. Utilities have Value Line and Bloomberg Professional Services adjusted Beta coefficients.

6. Utilities have positive Value Line five-year dividends per share growth rate projections.

7. Utilities have Value Line, Zacks, or S&P Capital IQ consensus five-year earnings per share growth rate projections.

Q. WHAT PROXY GROUP DID YOU USE IN YOUR ANALYSIS?

A. I include the following twelve companies in my proxy group:

Company	Stock Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Consolidated Edison, Inc.	ED
Entergy Corporation	ETR
Exelon Corporation	EXC
FirstEnergy Corporation	FE
IDACORP, Inc.	IDA
PPL Corporation	PPL
Public Service Enterprise Group, Inc.	PEG
TXNM Energy, Inc.	TXNM
Xcel Energy, Inc.	XEL

1 **Q. WHAT PROXY GROUP DID MR. D’ASCENDIS USE IN HIS ANALYSIS?**

2 A. Mr. D’Ascendis includes the following thirteen companies in his proxy group:⁵

Company	Stock Ticker
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Corporation Inc.	AEP
Edison International	EIX
Entergy Corporation	ETR
Evergy, Inc.	EVRG
FirstEnergy Corporation	FE
IDACORP, Inc.	IDA
OGE Energy Corporation	OGE
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Southern Company	SO
Xcel Energy Inc.	XEL

3

4

5 **Q. DO YOU AGREE WITH MR. D’ASCENDIS’ PROXY GROUP?**

6 A. Not entirely. While we do have seven companies that match, Mr. D’Ascendis
7 includes six companies that I do not.

⁵ UGI Electric Statement No. 8, p. 14, line 313.

1 **Q. PLEASE LIST THE SIX COMPANIES MR. D'ASCENDIS HAS**
2 **INCLUDED THAT YOU DO NOT AND EXPLAIN WHY YOU HAVE**
3 **EXCLUDED THEM FROM YOUR PROXY GROUP.**

4 A. I have excluded the following companies from my proxy group: Edison
5 International (EIX), Evergy, Inc. (EVRG), OGE Energy Corporation (OGE),
6 Pinnacle West Capital Corporation (PNW), Portland General Electric Company
7 (POR), and Southern Company (SO). I excluded these companies from my
8 electric proxy group because they do not satisfy my proxy group selection
9 criterion number 6, which states that the utility must operate in a state that has a
10 deregulated electric utility market.

11
12 **Q. EXPLAIN WHAT IS MEANT BY A DEREGULATED ELECTRIC UTILITY**
13 **MARKET.**

14 A. A deregulated electric market is a market in which the utility is responsible only
15 for the distribution of electricity, not the generation. Deregulation permits electric
16 suppliers to compete and sell electricity directly to consumers and allows
17 consumers the ability to seek competitive rates from other electricity suppliers.

18
19 **Q. WHY DID YOU INCLUDE THE CRITERION THAT A COMPANY MUST**
20 **OPERATE IN A STATE THAT HAS A DEREGULATED ELECTRIC**
21 **UTILITY MARKET?**

22 A. I included the criterion that a company must operate in a deregulated market, like

1 Pennsylvania, so that the companies included in my proxy group would all be of
2 similar risk to the Company. Unlike regulated markets, which contain largely
3 vertically integrated utilities, deregulated markets permit electricity providers to
4 compete and sell electricity directly to consumers. This criterion helps to ensure
5 that each company in the proxy group is operating in a similar market and under
6 similar circumstances as the Company. Furthermore, by virtue of the vertically
7 integrated nature of regulated utilities, generation is owned and operated by the
8 utility, which could place the companies in a substantially different risk profile
9 based on the types and ages of generation plant owned and operated.

11 **CAPITAL STRUCTURE**

12 **Q. WHAT IS A CAPITAL STRUCTURE?**

13 A. A capital structure represents how a firm has financed its rate base with different
14 sources of funds. The primary funding sources are long-term debt and common
15 equity. A capital structure may also include preferred stock and/or short-term debt,
16 which is not the case for the Company in this proceeding.

18 **Q. WHAT IS THE CLAIMED CAPITAL STRUCTURE USED BY THE** 19 **COMPANY?**

20 A. UGI Electric is claiming a forecasted capital structure for the FPFTY, which is

summarized in the table below:⁶

Type of Capital	Ratio
Long-Term Debt	45.75%
Common Equity	<u>54.25%</u>
Total	<u>100.00%</u>

Q. WHAT IS THE BASIS FOR THE COMPANY’S CLAIMED CAPITAL STRUCTURE?

A. Mr. D’Ascendis opines that the Company’s claimed equity ratio of 54.25% is appropriate for ratemaking purposes in the current proceeding because it is within the range of: (1) the common equity ratios of 26.94% to 52.01% currently maintained and expected to be maintained by his Electric Utility Proxy Group companies; and (2) the common equity ratios of 38.13% to 67.52% currently maintained and expected to be maintained by the operating utility subsidiaries of the companies in his Electric Utility Proxy Group.⁷

Q. HAS THE COMMISSION RECENTLY COMMENTED ON UGI ELECTRIC’S CLAIMED CAPITAL STRUCTURE?

A. Yes. Vice Chair Barrow expressed concern regarding the Company’s claimed overall rate of return and return on equity (ROE) as well as the capital structure

⁶ UGI Electric Statement No. 8, p. 14, lines 316-317.

⁷ UGI Electric Statement No. 8, pp. 15-16, lines 344-364.

1 and its financial impact on customers. In her statement at the public meeting held
2 on April 16, 2026, she stated, “I urge the parties to take a critical look at the
3 Company’s requested rate of return and return on equity (ROE) as well as the
4 capital structure (common equity ratio and debt capital) to ensure reasonableness.
5 Deviations in each of these items translate into millions of dollars charged to
6 customers of all rate classes.”⁸

7
8 **Q. HAS THE COMMISSION RECENTLY COMMENTED ON ANY OTHER**
9 **REGULATED UTILITY’S CAPITAL STRUCTURE?**

10 A. Yes. At the December 4, 2025 public meeting, Vice Chair Barrow commented on
11 Columbia Gas of Pennsylvania, Inc.’s (Columbia Gas) requested capital structure
12 of 54.4% equity and 45.6% debt. The Office of Consumer Advocate and the
13 Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania
14 argued in favor of a hypothetical 50/50 capital structure, citing their proxy group’s
15 average capital structure was 45% equity and 55% debt. Vice Chair Barrow stated
16 that the discrepancy between the proxy group and Columbia Gas’ capital structure
17 made it necessary for an adjustment to the Company’s capital structure, and that a
18 50/50 capital structure “is a better representation of the Company’s **actual**
19 financial risk and would have resulted in millions of dollars in reduced revenue

⁸ I&E Exhibit No. 2, Schedule 2, p. 1.

1 requirement for the Company and resultant lower rates for Columbia Gas
2 customers.”⁹

3
4 **Q. WHAT IS YOUR RECOMMENDATION REGARDING THE COMPANY’S**
5 **CAPITAL STRUCTURE?**

6 A. I recommend using a capital structure with long-term debt of 50.00% and common
7 equity of 50.00% as presented in the I&E recommendation.¹⁰

8
9 **Q. WHAT IS THE BASIS FOR YOUR CAPITAL STRUCTURE**
10 **RECOMMENDATION?**

11 A. A capital structure of 50% long-term debt and 50% common equity is reasonable
12 when trying to balance the financial integrity of a utility as well as trying to
13 control costs to ratepayers in this proceeding. Limiting a company’s capital
14 structure from becoming too equity heavy is reasonable and necessary for a fair
15 ratemaking process. Implementing a capital structure with 50% long-term debt
16 and 50% common equity is currently in the interest of ratepayers considering the
17 increased cost of living and resultant financial challenges faced by ratepayers
18 while utility rates are ballooning. Therefore, it is appropriate and essential at this
19 time to implement a reasonable hypothetical capital structure (50/50) for
20 ratemaking purposes, which would help to strike a balance between rewarding the

⁹ I&E Exhibit No. 2, Schedule 2, pp. 2-5.

¹⁰ I&E Exhibit No. 2, Schedule 1.

1 Company while also reducing the costs that would be passed on to ratepayers.
2 UGI Electric likely has access to a cheaper long-term borrowing source as
3 compared to the equity cost to satisfy the 4.25% (54.25% - 50.00%) shortfall in
4 the claimed common equity ratio of 54.25%.

5 Importantly, my recommended 50% equity capital ratio is above the overall
6 five-year (2021-2025) average equity ratio of 42.48% of my proxy group
7 companies.¹¹ Considering the rate impact of an equity heavy capital structure, it is
8 inappropriate and unreasonable to allow the Company's claimed 54.25% common
9 equity ratio for ratemaking purposes, which is higher by 11.77% (54.25% -
10 42.48%) than my proxy group's average equity ratio.

11 Furthermore, at the UGI Electric's public input hearing on June 11, 2026,
12 Mark Szybist, Special Counsel (Energy Affordability) for Governor Josh Shapiro
13 filed comments on UGI Electric's base rate filing, stating,¹²

14 UGI Electric's proposed capital structure of 54.5 percent
15 common equity and 45.5 percent long-term debt is nearly
16 inverse to its parent company, UGI Corporation, which
17 employs a capital structure of 58.1 percent debt and 41.8
18 percent equity, which does not meet the Governor's precept
19 that utilities should seek to raise capital in the most cost-
20 effective form available.

21 The sheer discrepancy identified in this statement regarding the diversion between
22 how UGI Electric's parent company, UGI Corporation, finances its operations at
23 its choice and what it has claimed for the subsidiary company in this filing lends

¹¹ I&E Exhibit No. 2, Schedule 2, pp. 6-7.

¹² I&E Exhibit No. 2, Schedule 2, pp. 8-15.

further support to my recommendation to utilize a 50/50 capital structure in this proceeding.

Q. HAVE YOU CONSIDERED WHAT CAPITAL STRUCTURES ARE PROJECTED TO BE FOR THE ELECTRIC UTILITY INDUSTRY IN THE NEAR FUTURE?

A. Yes. According to Value Line's 2027 estimates, the projected capital structures for my proxy group companies are as follows:¹³

Company	Ticker	Long-Term Debt Ratio	Common Equity Ratio
Alliant Energy Corporation	LNT	63.50%	36.50%
Ameren Corporation	AEE	51.50%	48.00%
American Electric Power Co. Inc.	AEP	58.00%	42.00%
Consolidated Edison, Inc.	ED	53.50%	46.50%
Entergy Corporation	ETR	63.50%	36.50%
Exelon Corporation	EXC	62.00%	38.00%
FirstEnergy Corporation	FE	68.50%	31.50%
IDACORP, Inc.	IDA	46.50%	53.50%
PPL Corporation	PPL	50.50%	50.00%
Public Service Enterprise Group, Inc.	PEG	56.50%	43.50%
TXNM Energy, Inc.	TXNM	62.00%	38.00%
Xcel Energy, Inc.	XEL	<u>59.50%</u>	<u>40.50%</u>
Average		<u>57.96%</u>	<u>42.04%</u>

¹³ Value Line Reports, March 6, 2026, April 17, 2026, and May 8, 2026.

1 These future projections are consistent with the proxy group's historical five-year
2 average capital structure of 57.46% long-term debt and 42.48% common equity.¹⁴
3

4 **Q. WHAT IS THE RECENT NATIONAL AVERAGE AUTHORIZED**
5 **CAPITAL STRUCTURE FOR ELECTRIC DISTRIBUTION UTILITIES**
6 **ACROSS THE U.S.?**

7 A. According to the report issued by Regulatory Research Associates, a group within
8 S&P Global Market Intelligence shows that the average authorized equity ratio for
9 electric distribution utility rate cases from January 2025 through March 2026 was
10 50.42%. In addition, for perspective, the average authorized return on equity in
11 the same time frame was 9.56%.¹⁵ These equity ratio and authorized return
12 figures are both well below what UGI Electric is requesting in this proceeding.
13

14 **Q. WHAT ARE YOUR FINAL COMMENTS REGARDING UGI ELECTRIC'S**
15 **EQUITY HEAVY CAPITAL STRUCTURE IN THIS PROCEEDING?**

16 A. UGI Electric's claimed capital structure of 54.25% equity and 45.75% long-term
17 debt is considerably more equity-heavy than the proxy group's five-year averages,
18 Value Line's 2027 projections, and the recent national authorized capital structures
19 for electric distribution utilities.

¹⁴ I&E Exhibit No. 2, Schedule 2, pp. 6-7.

¹⁵ I&E Exhibit No. 2, Schedule 2, p. 16.

The table below illustrates the cost savings to ratepayers if the Company were to employ an optimal capital structure with 50% long-term debt and 50% common equity in its cost of capital using the Company's claimed return on equity, debt cost, and rate base:

UGI UTILITIES, INC. – ELECTRIC DIVISION As-filed Capital Structure and Cost Rates			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	45.75%	5.17%	2.37%
Common Equity	<u>54.25%</u>	10.85%	<u>5.89%</u>
Total	<u>100.00%</u>		<u>8.26%</u>
50/50 Capital Structure and Cost Rates			
Long-Term Debt	50.00%	5.17%	2.58%
Common Equity	<u>50.00%</u>	10.85%	<u>5.42%</u>
Total	<u>100.00%</u>		<u>8.00%</u>
Difference in the Overall Rate of Return (8.26% - 8.00%)			0.26%
Impact Prior to Gross Up (Claimed Rate Base* x Difference in the Overall Rate of Return (\$239,228,000 x 0.0026))			\$621,993
Gross Revenue Conversion Factor**			1.494391
Total Savings to Ratepayers			\$929,501

* UGI Electric Exhibit A, Schedule C-1.

In this example, if the Company were to employ a 50/50 capital structure and not change the cost of debt and requested return on equity, the cost savings to ratepayers would be \$929,501, which is approximately 5.38% of the requested total revenue increase of \$17,283,000.¹⁶

¹⁶ UGI Electric Exhibit A, Schedule D-2.

1 **COST OF LONG-TERM DEBT**

2 **Q. WHAT IS THE COMPANY'S CLAIM FOR THE LONG-TERM DEBT**
3 **COST RATE?**

4 A. The Company is claiming a long-term debt cost rate of 5.17% for the FPFTY.¹⁷

6 **Q. WHAT IS YOUR RECOMMENDATION REGARDING THE COMPANY'S**
7 **COST RATE OF LONG-TERM DEBT?**

8 A. I recommend using the Company's claimed long-term debt cost rate of 5.17% for
9 the FPFTY.

11 **Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION TO USE THE**
12 **COMPANY'S COST RATE OF LONG-TERM DEBT?**

13 A. I accept UGI Electric's claimed debt cost because it falls within my proxy group's
14 implied long-term debt cost range of 4.33% to 5.76%, with an average implied
15 long-term debt cost rate of 4.84% for 2025.¹⁸ The Company's cost rate of long-
16 term debt is also below the Mergent Bond Record average yield of 5.75% for the
17 period of May 2025 through April 2026 for A-rated public utility bonds.¹⁹ I
18 recommend that the Company's claimed cost rate of long-term debt be used since
19 it is reasonable and falls within the metrics described above.

¹⁷ UGI Electric Statement No. 8, p. 3, lines 75-76 and 79.

¹⁸ I&E Exhibit No. 2, Schedule 3.

¹⁹ I&E Exhibit No. 2, Schedule 3.

COST OF COMMON EQUITY

Common Methods

Q. WHAT METHODS ARE COMMONLY PRESENTED BY UTILITIES IN DETERMINING THE COST OF COMMON EQUITY?

A. Four methods commonly presented to estimate the cost of common equity are the DCF Method, CAPM, Risk Premium (RP) Method, and the Comparable Earnings (CE) Method.

Q. WHAT IS THE THEORETICAL BASIS FOR THE DCF METHOD?

A. The DCF method is the “dividend discount model” of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows. The DCF method assumes that investors evaluate stocks in the traditional economic framework, which maintains that the value of a financial asset is determined by its earning power, or its ability to generate future cash flows. The DCF method is also considered a forward-looking model to estimate the cost of common equity.

Q. WHAT IS THE THEORETICAL BASIS FOR THE CAPM?

A. The CAPM describes the relationship between a stock’s investment risk and its market rate of return. It identifies the rate of return investors expect so that it is comparable with returns of other stocks having similar risk. This method hypothesizes that the investor-required return on a company’s stock is equal to the

1 return on a “risk free” asset plus an equity premium reflecting the company’s
2 investment risk. In the CAPM, two types of risk are associated with a stock:
3 (1) firm-specific risk (unsystematic risk); and (2) market risk (systematic risk),
4 which is measured by a firm’s beta. The CAPM allows for investors to receive a
5 return only for bearing systematic risk. Unsystematic risk is assumed to be
6 diversified away, and therefore, does not earn a return.

7
8 **Q. WHAT IS THE THEORETICAL BASIS FOR THE RP METHOD?**

9 A. The theoretical basis for the RP method is a simplified version of the CAPM. The
10 RP method’s theory is that common stock is riskier than debt, thus, investors
11 require a higher expected return on stocks than bonds. In the RP approach, the
12 cost of equity is made up of the cost of debt and a risk premium. While the CAPM
13 uses the market risk premium, it also directly measures the systematic risk of a
14 company using beta. The RP method does not measure the specific risk of a
15 company.

16
17 **Q. WHAT IS THE THEORETICAL BASIS FOR THE CE METHOD?**

18 A. The CE method utilizes the concept of opportunity cost. This means that investors
19 will likely dedicate their capital to the investment offering the highest return with
20 similar risk to alternative investments. Unlike the DCF, CAPM, and the RP
21 methods, the CE method is not market-based and relies upon historic accounting
22 data. Like the RP method, the CE method does not measure the specific risk of a

1 company. The most problematic issue with the CE method is determining what
2 constitutes comparable companies.

3
4 **Q. WHAT METHODS DO YOU RECOMMEND USING TO DETERMINE AN**
5 **APPROPRIATE COST OF COMMON EQUITY FOR THE COMPANY?**

6 A. I recommend using a combination of methods to determine the appropriate cost of
7 common equity. I have employed the DCF, CAPM (traditional and Kroll), and
8 have incorporated the recent average national authorized return on equity for
9 electric distribution companies in rate cases concluded in 2025 through March
10 2026. I have used the DCF and CAPM because they have the most wide-spread
11 regulatory acceptance, and the Commission has more recently based its ROE
12 decisions on a combination of the DCF and composite CAPM methods.
13 Additionally, the average authorized returns for electric distribution utilities from
14 across the nation in rate case decisions should be considered, as it aligns with the
15 guidance derived from the *Hope* and *Bluefield* cases that the subject utility is
16 entitled to a return similar to that being earned by comparable enterprises.

17
18 **Q. PLEASE EXPLAIN WHY YOU CHOSE TO USE THE DCF IN YOUR**
19 **ANALYSIS IN DETERMINING YOUR RECOMMENDED RETURN ON**
20 **EQUITY.**

21 A. I have used the DCF for a variety of reasons. First, the DCF is appealing to
22 investors as it is based upon the concept that the receipt of dividends in addition to

1 the expected appreciation is the total return requirement determined by the
2 market.²⁰ Second, the use of a growth rate and expected dividend yield are also
3 strengths of the DCF, as this recognizes the time value of money and is forward-
4 looking. Third, the use of the utility's own, or in this case, the proxy group's stock
5 prices and growth rates directly in the calculation make the DCF industry and
6 company specific. Finally, current inflationary and economic trends are most
7 certainly reflected in a stock's price, which is used in determining the dividend
8 yield, and by analysts who generate forecasted earnings growth rates. Therefore,
9 the DCF contains the most up-to-date projected information of any model and is
10 the preferred method for determining the rate of return for the current economic
11 market because it measures the cost of equity directly.

12
13 **Q. PLEASE EXPLAIN WHY YOU CHOSE TO USE THE CAPM IN YOUR**
14 **ANALYSIS TO DETERMINE YOUR RECOMMENDED RETURN ON**
15 **EQUITY.**

16 A. Considering the most recent Commission's orders in base rate proceedings²¹ that
17 relied on I&E's DCF and CAPM analyses results in determining the appropriate
18 ROE, I have considered the CAPM with the DCF as a basis for my

²⁰ David C. Parcell, "The Cost of Capital – A Practitioner's Guide," 2020 Edition, p. 153.

²¹ *Pa. PUC v. Aqua Pennsylvania, Inc.*, Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 154 and 178 (Order Entered May 16, 2022), *Pa. PUC v. Columbia Water Company*, Docket No. R-2023-3040258, p. 105 (Order Entered January 18, 2024), *Pa. PUC v. Pennsylvania-American Water Company*, Docket Nos. R-2023-30433189 & R-2023-3043190, p. 194 (Order Entered July 22, 2024), and *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2025-3053499 (Order Entered December 9, 2025). See generally Rate of Return on Common Equity - Disposition, pp. 226 and 234.

1 recommendation in this proceeding. I chose to use both the composite CAPM and
2 the DCF because they include inputs that allow the results to be specific to the
3 utility industry. The CAPM is based on the performance of U.S. Treasury bonds
4 and the performance of the market as measured through the S&P 500 and is
5 company-specific through the use of beta. Beta reflects a stock's volatility relative
6 to the overall market, thereby incorporating an industry-specific aspect to the
7 CAPM, but only as a measure of how reactive the industry is compared to the
8 market as a whole. Although changes in the utility industry are more likely to be
9 accurately reflected in the DCF, which uses the companies' actual prices,
10 dividends, and growth rates, I have included the results of my CAPM analyses
11 because changes in the market, whether as a whole or specific to the utility
12 industry, can affect the outcome of each method in different ways.

13
14 **Q. PLEASE EXPLAIN WHY YOU HAVE CHOSEN TO EXCLUDE THE RP**
15 **METHOD FROM YOUR ANALYSIS.**

16 A. The RP method is excluded because it is a simplified version of the CAPM. The
17 RP method has a number of underlying assumptions and the most critical one, as
18 well as the most disputed one, is the assumption that the equity risk premium is
19 constant over time.²² More importantly, unlike the CAPM, the RP method does
20 not recognize company-specific risk through beta.

²² David C. Parcell, "The Cost of Capital - A Practitioner's Guide," 2020 Edition, pp. 167-168.

1 **Q. EXPLAIN WHY YOU HAVE CHOSEN TO EXCLUDE THE CE METHOD**
2 **IN YOUR ANALYSIS.**

3 A. The CE method is excluded because the choice of which companies are
4 comparable is highly subjective. Moreover, its historical usage in this regulatory
5 forum has been minimal.

6
7 **SUMMARY OF THE COMPANY'S RESULTS**

8 **Q. WHAT ARE THE RESULTS OF MR. D'ASCENDIS' COST OF EQUITY**
9 **ANALYSIS?**

10 A. Mr. D'Ascendis used the DCF, CAPM, and the RP methods in analyzing the
11 Company's cost of equity. Additionally, Mr. D'Ascendis used the Empirical
12 Capital Asset Pricing Model (ECAPM) in forming his recommendation under the
13 CAPM method. He then listed the results for each method for the electric utility
14 group and created an indicated ROE range based on the average of the mean and
15 median of the methods' results. He also produced an ROE range applying market
16 models to comparable risk, non-price regulated companies group. Additionally,
17 Mr. D'Ascendis recommended that the cost of equity be increased by 0.40% for
18 what he labels a "Business Risk Adjustment" due to the Company's small size. He
19 also recommended that the cost of equity be increased by 0.13% due to the
20 Company incurring flotation costs when issuing common stock. Ultimately, Mr.
21 D'Ascendis recommends a 10.85% cost of common equity for the Company based

on his indicated range of ROE after adjustment (10.68% - 13.45%), a summary of his analysis results is shown in the table below:²³

Method	Indicated Results
DCF (Electric Group)	10.43%
CAPM including ECAPM (Electric Group)	10.22% - 11.45%
RPM (Electric Group)	10.59% - 11.00%
Cost of Equity Models applied to Non-price Regulated Company Group	<u>12.35% - 12.98%</u>
Indicated Range of Common Equity Cost before Adjustments for UGI Electric	10.22% - 12.98%
Business Risk Adjustment	0.40%
Credit Risk Adjustment	(0.07%)
Flotation Cost Adjustment	<u>0.13%</u>
Indicated Range of Common Equity Cost before Adjustments	<u>10.68% - 13.45%</u>
Recommended Cost of Equity	10.85%

I&E RECOMMENDATION

Q. WHAT IS YOUR RECOMMENDED COST OF COMMON EQUITY FOR THE COMPANY?

A. Based upon my analysis, I recommend a cost of common equity of 9.69% for UGI Electric.²⁴

²³ UGI Electric Statement No. 8, p. 4, lines 90-98 and p. 5, lines 106-108 and Exhibit B, Schedule DWD-1, p. 2.

²⁴ I&E Exhibit No. 2, Schedule 1.

1 **Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION?**

2 A. As explained above and discussed in further detail below, my recommendation is
3 based on the use of the DCF, two versions of the CAPM, and the recent national
4 average authorized return on equity for the electric distribution companies.

5
6 **Discounted Cash Flow**

7 **Q. PLEASE EXPLAIN YOUR DCF ANALYSIS.**

8 A. My analysis employs the constant growth DCF model as portrayed in the
9 following formula:

10
$$K = D_1/P_0 + g$$

11 Where:

12 K = Cost of equity

13 D_1 = Dividend expected during the year

14 P_0 = Current price of the stock

15 g = Expected growth rate

16 When a forecast of D_1 is not available, D_0 (the current dividend) must be adjusted
17 by one half of the expected growth rate to account for changes in the dividend paid
18 in period one. As forecasts for each company in my proxy group were available
19 from Value Line, no dividends were adjusted for the purpose of my analysis.

1 **Q. PLEASE EXPLAIN HOW YOU DEVELOPED THE DIVIDEND YIELDS**
2 **USED IN YOUR DCF ANALYSIS.**

3 A. A representative dividend yield must be calculated over a time frame that avoids
4 the problems of both short-term anomalies and stale data series. For my DCF
5 analysis, the dividend yield calculation places equal emphasis on the most recent
6 spot and the 52-week average dividend yields. The following table summarizes
7 my dividend yield computations for the proxy group:²⁵

Proxy Group - Average Dividend Yields	
(a) Spot Dividend Yield	3.23%
(b) 52-week Average Dividend Yield	<u>3.36%</u>
(c) Average ((a +b) ÷ 2)	<u>3.29%</u>

8
9
10 **Q. WHAT INFORMATION DID YOU RELY UPON TO DETERMINE YOUR**
11 **EXPECTED GROWTH RATE?**

12 A. I have used five-year earnings per share projected growth rate estimates from S&P,
13 Zacks, and Value Line.

²⁵ I&E Exhibit No. 2, Schedule 4.

Q. WHAT WERE THE RESULTS OF YOUR FORECASTED EARNINGS GROWTH RATES?

A. The expected average growth rates for my proxy group range are 6.43% to 9.01% with an overall average growth rate of 7.43%.²⁶ For ratemaking purposes, I eliminated Entergy Corporation's S&P growth estimate of 12.17% and Zacks growth estimate of 13.30% to determine a new adjusted average growth rate of 6.89%.²⁷

Q. WHY DID YOU ELIMINATE ENTERGY CORPORATION'S S&P AND ZACKS PROJECTED GROWTH RATES?

A. While the use of a proxy group largely smooths out various anomalies, S&P's and Zacks' growth projections for Entergy Corporation are extremely inconsistent and would have an unreasonable and unwarranted impact on my DCF analysis. The S&P and Zacks' growth estimates of 12.17% and 13.30% respectively are greater than two standard deviations over the originally calculated average growth rate of 7.43%. Notably, Value Line estimates Entergy Corporation's growth rate at 3.00%, which is significantly lower than the S&P and Zacks estimates. This inconsistency would adversely affect my recommendation for the Company's cost of common equity by creating an unjustified increase in return on equity and consequently raising ratepayers' rates. Such an unjustified increase would be

²⁶ I&E Exhibit No. 2, Schedule 5.

²⁷ I&E Exhibit No. 2, Schedule 5.

harmful to ratepayers and would not be in the public interest. Additionally, I was unable to find any explanation or justification of why these estimates were so high.

Q. WHAT IS THE RESULT OF YOUR DCF ANALYSIS BASED ON YOUR RECOMMENDED DIVIDEND YIELD AND ADJUSTED GROWTH RATE?

A. The result of my DCF analysis is 10.18%, which is calculated as follows:²⁸

K	=	D_1/P_0	+	g
10.18%	=	3.29%	+	6.89%

Capital Asset Pricing Model

Q. PLEASE EXPLAIN YOUR CAPM ANALYSIS.

A. My analysis employs the traditional CAPM as portrayed in the following formula:

$$K = R_f + \beta(R_m - R_f)$$

Where:

K = Cost of equity

R_f = Risk-free rate of return

R_m = Expected rate of return on the overall stock market

β = Beta measures the systematic risk of an asset

$R_m - R_f$ = Equity Risk Premium (ERP)

²⁸ I&E Exhibit No. 2, Schedule 6.

1 **Q. WHAT IS BETA AS EMPLOYED IN YOUR CAPM ANALYSIS?**

2 A. Beta is a measure of the systematic risk of a stock in relation to the rest of the
3 stock market. A stock's beta is estimated by calculating the linear regression of a
4 stock's return against the return on the overall stock market. The beta of a stock
5 with a price pattern identical to that of the overall stock market will equal one. A
6 stock with a price movement that is greater than the overall stock market will have
7 a beta that is greater than one and would be described as having more investment
8 risk than the market. Conversely, a stock with a price movement that is less than
9 the overall stock market will have a beta of less than one and would be described
10 as having less investment risk than the overall stock market.

11
12 **Q. HOW DID YOU DETERMINE BETA FOR YOUR CAPM ANALYSIS?**

13 A. In estimating an equity cost rate for my proxy group, I used the average of the
14 betas for the companies as provided in the Value Line Investment Survey. The
15 average beta for my proxy group is 0.73.²⁹

16
17 **Q. WHAT RISK-FREE RATE OF RETURN HAVE YOU USED FOR YOUR**
18 **CAPM ANALYSIS?**

19 A. I used the risk-free rate of return (R_f) from the projected yield on 10-year Treasury
20 Notes. While the yield on the short-term T-Bill is a more theoretically correct

²⁹ I&E Exhibit No. 2, Schedule 7.

1 parameter to represent a risk-free rate of return, it can be extremely volatile. The
2 volatility of short-term T-Bills is directly influenced by Federal Reserve policy. At
3 the other extreme, the 30-year Treasury Bond exhibits more stability but is not
4 risk-free. Long-term Treasury Bonds have substantial maturity risk associated
5 with market risk and the risk of unexpected inflation. Long-term treasuries
6 normally offer higher yields to compensate investors for these risks. As a result, I
7 used the yield on the 10-year Treasury Note because it mitigates the shortcomings
8 of the other two alternatives. Additionally, the Commission has historically agreed
9 with I&E and recognized the 10-year Treasury Note as the superior measure of the
10 risk-free rate of return.³⁰

11 The forecasted yield on the 10-year Treasury Note, as seen in Blue Chip
12 Financial Forecast is 4.30% from the third quarter of 2026 to 4.20% for the third
13 quarter of 2027, and it is forecasted to remain at 4.20% from 2027-2031. For my
14 CAPM analysis, I used 4.23%, which is the average of all the yield forecasts I
15 observed.³¹

³⁰ *Pa. PUC v. UGI Utilities, Inc. - Electric Division*, Docket No. R-2017-2640058 (Order Entered October 25, 2018). *See generally* Disposition of Capital Asset Pricing Model (CAPM), p. 99; *Pa. PUC v. Aqua - Pennsylvania, Inc.*, Docket Nos. R-2021-3027385 & R-2021-3027386, p. 154 (Order Entered May 16, 2022); *Pa. PUC v. Columbia Water Company*, Docket No. R-2023-3040258 (Order Entered January 18, 2024). *See generally* Disposition of Cost of Common Equity, pp. 107-108; *Pa. PUC v. Pennsylvania-American Water Company*, Docket Nos. R-2023-3043189 & R-2023-3043190 (Order Entered July 22, 2024). *See generally* Disposition of Capital Asset Pricing Model (CAPM), pp. 171-172, and *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2025-3053499 (Order Entered December 9, 2025). *See generally* Rate of Return on Common Equity - Disposition, p. 234.

³¹ I&E Exhibit No. 2, Schedule 8.

Q. HOW DID YOU DETERMINE THE RETURN ON THE OVERALL STOCK MARKET IN YOUR FORECASTED CAPM ANALYSIS?

A. To arrive at a representative expected return on the overall stock market, I observed Value Line's 1700 stocks and the historical returns of the S&P 500. Value Line expects its universe of approximately 1700 stocks to have an average yearly return of 11.83% over the next three to five years based on a forecasted dividend yield of 2.10% and a yearly index appreciation of 45%.³² The S&P 500 Index has had an average return of 12.35% over the past 100 years (1926-2025).³³ I have averaged the S&P 500 return of 12.35% and the Value Line return of 11.83%, producing an estimated market return of 12.09%.³⁴

Q. WHAT IS THE COST OF EQUITY RESULT FROM YOUR TRADITIONAL CAPM ANALYSIS USING A FORECASTED OVERALL MARKET RETURN?

A. The result of my traditional CAPM analysis is as follows:³⁵

$$\begin{array}{rclcl} K & = & R_f & + & \beta(R_m - R_f) \\ 9.97\% & = & 4.23\% & + & 0.73 (12.09\% - 4.23\%) \end{array}$$

³² I&E Exhibit No. 2, Schedule 10.

³³ I&E Exhibit No. 2, Schedule 9.

³⁴ I&E Exhibit No. 2, Schedule 10.

³⁵ I&E Exhibit No. 2, Schedule 11.

1 **Q. ARE YOU PROVIDING AN ADDITIONAL CAPM ANALYSIS?**

2 A. Yes. I am providing an additional CAPM analysis using Kroll's (formerly Duff &
3 Phelps) recommended U.S. Equity Risk Premium (ERP) paired with Kroll's
4 suggested use of the 20-year U.S. Treasury yield. Kroll is a trusted source that
5 bases its publicly available ERP on current and forecasted economic and financial
6 market conditions.

7
8 **Q. WHAT IS KROLL'S CURRENT RECOMMENDED ERP?**

9 A. As of March 23, 2026, Kroll recommends an ERP of 5.00% when developing
10 discount rates.³⁶

11
12 **Q. WHAT IS THE CURRENT 20-YEAR U.S. TREASURY YIELD?**

13 A. As of May 27, 2026, the 20-Year U.S. Treasury yield was 5.01%.³⁷

14
15 **Q. WHAT IS THE COST OF EQUITY RESULT FROM YOUR CAPM**
16 **ANALYSIS USING KROLL'S RECOMMENDED ERP AND THE**
17 **SUGGESTED 20-YEAR U.S. TREASURY YIELD?**

18 A. The result of my CAPM analysis using Kroll's recommended ERP and the 20-Year
19 US Treasury yield as a risk-free rate is as follows:³⁸

³⁶ I&E Exhibit No. 2, Schedule 12, pp. 1-4.

³⁷ I&E Exhibit No. 2, Schedule 12, pp. 5-6.

³⁸ I&E Exhibit No. 2, Schedule 11.

K	=	R _f	+	β(ERP)
8.66%	=	5.01%	+	0.73 (5.00%)

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16

Q. WHAT IS THE RESULT OF YOUR CAPM ANALYSIS BASED ON THE AVERAGE OF TRADITIONAL CAPM WITH FORECASTED OVERALL MARKET RETURN AND CAPM WITH KROLL’S RECOMMENDED ERP?

A. The average of my CAPM analyses is 9.32% ((9.97% + 8.66%) ÷ 2).³⁹

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS REGARDING YOUR CAPM ANALYSIS?

A. Yes. As discussed above, and as I&E has historically reasoned, the CAPM inputs are highly subjective, and other than beta, not company or industry specific. So, while I believe the DCF is the most reliable of the cost of equity models, I am providing a CAPM analysis as it does provide some value and the Commission has recently relied on a combination of both the DCF and composite CAPM models.⁴⁰

³⁹ I&E Exhibit No. 2, Schedule 11.
⁴⁰ *Pa. PUC v. Aqua Pennsylvania, Inc.*, Docket Nos. R-2021-3027385 & R-2021-3027386, pp. 154 and 178 (Order Entered May 16, 2022), *Pa. PUC v. Columbia Water Company*, Docket No. R-2023-3040258, p. 105 (Order Entered January 18, 2024), *Pa. PUC v. Pennsylvania-American Water Company*, Docket Nos. R-2023-30433189 & R-2023-3043190, p. 194 (Order Entered July 22, 2024), and *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2025-3053499 (Order Entered December 9, 2025). See generally Rate of Return on Common Equity - Disposition, pp. 226 and 234.

1 **National Average Authorized ROE**

2 **Q. WHAT IS THE RECENT NATIONAL AVERAGE AUTHORIZED ROE**
3 **FOR ELECTRIC DISTRIBUTION UTILITIES ACROSS THE U.S.?**

4 A. Data provided by S&P Global Market Intelligence shows the national average
5 authorized ROE for electric distribution companies across the U.S. was 9.56% for
6 rate cases decided in 2025 through 2026.⁴¹

7
8 **Q. PLEASE EXPLAIN WHY YOU HAVE INCORPORATED RECENT**
9 **NATIONAL AUTHORIZED EQUITY RETURNS FOR ELECTRIC**
10 **DISTRIBUTION UTILITIES IN YOUR ROE ANALYSIS.**

11 A. This information complies with the principle derived from the *Hope* and *Bluefield*
12 cases, previously discussed above, that a utility is entitled to a return similar to
13 that being earned by other enterprises with corresponding risks and uncertainties,
14 but not as high as those earned by highly profitable or speculative ventures.
15 Therefore, it is reasonable and logical to include in my recommendation the
16 authorized returns of electric distribution companies in recently completed rate
17 cases across the country.

18 I&E Exhibit No. 2, Schedule 2, p. 8 cited above, also illustrates the
19 differences in the requested ROE and capital structure equity ratio as compared to
20 electric distribution utilities in rate proceedings across the U.S. My recommended

⁴¹ I&E Exhibit No. 2, Schedule 2, p. 8.

1 ROE of 9.69% for the Company in this case is comparable, yet higher than the
2 national average of 9.56% for recently authorized returns on common equity.
3

4 **Q. PLEASE EXPLAIN WHY THE GROUP OF COMPANIES INCLUDED IN**
5 **YOUR NATIONAL AUTHORIZED EQUITY RETURNS ANALYSIS DOES**
6 **NOT ALIGN WITH THE COMPANIES IN YOUR PROXY GROUP.**

7 A. As discussed in greater detail in the Proxy Group section above, the companies
8 that formulate my proxy group must be publicly traded. The variables required to
9 be used in the various ROE models, such as stock price, earnings per share growth
10 projections, projected dividends, etc. are only available for publicly traded
11 companies. Many of the companies included in this analysis are subsidiary
12 operating companies, and therefore, the information required to perform an ROE
13 analysis is not readily available.
14

15 **CRITIQUE OF MR. D'ASCENDIS' PROPOSED COST OF EQUITY**

16 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' 10.85% PROPOSED COST**
17 **OF EQUITY?**

18 A. No. I disagree with Mr. D'Ascendis' proposed cost of equity for several reasons.
19 First, I disagree with the weights given to the results of his ECAPM and Risk
20 Premium model, in his recommendation. Second, I disagree with his reliance on
21 the 30-year Treasury Bond for the risk-free rate. Third, I disagree with Mr.
22 D'Ascendis' consideration of the DCF, CAPM including ECAPM, and RP analysis

1 results of Non-price Regulated Companies Proxy Group that are not regulated
2 electric utilities used in determining the cost of equity for UGI Electric.

3 Finally, I disagree with his inclusion of a business risk adjustment and flotation
4 cost adjustment or adder inflating his recommended cost of equity.

5
6 **Weights Given to the ECAPM and RP Methods**

7 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' RELIANCE ON THE**
8 **ECAPM AND RP MODELS?**

9 A. No. I am not opposed to including the results of the CAPM with the DCF model;
10 however, I am opposed to giving considerable weight to the ECAPM and RP
11 model results in determining an appropriate cost of equity for UGI Electric. As
12 explained further below, it is inappropriate to give the ECAPM and RP models
13 similar weight to the DCF and traditional CAPM as Mr. D'Ascendis has done in
14 creating his indicated cost of equity range of 10.22% - 12.98% before adjustments.
15 I briefly discuss the reasons for disagreement with the ECAPM's use alongside the
16 traditional CAPM in a separate section below.

17 In response to I&E-RR-14, Mr. D'Ascendis does not specifically admit that
18 the Commission explicitly did not rely on the RP analysis results in determining
19 an appropriate ROE in the last ten years. However, he cites a quote from the
20 Commission's order in Columbia Water Company (Columbia Water) rate case at
21 Docket No. R-2013-2360798 where the Commission did not specifically mention
22 or consider Columbia Water's RP analysis result in determining a reasonable

1 ratemaking ROE of 9.75%. Similarly, he cites a quote from the Administrative
2 Law Judge (ALJ) recommended decision in the Emporium Water Company
3 (Emporium Water) rate case at Docket No, R-2014-2402324, where the ALJ
4 recommended the Commission adjust his recommendations, but there is no
5 specific mention about the ALJ's reliance on Emporium Water's RP analysis
6 results.⁴²

7 In its order, the Commission does not specifically mention reliance on
8 specific cost of equity models of any parties in determining the appropriate ROE
9 for Emporium Water and states,⁴³

10 As discussed, *supra*, the OCA recommends a return of 9.10%
11 as the midpoint of its DCF and CE analyses; I&E recommends
12 a return of 8.89% based on its DCF analyses; and the Company
13 proposes a return of 10.3%, which utilizes its DCF, RP, and
14 CAPM analyses to which the Company adds a size risk
15 adjustment of 75 basis points. Based on our review of the
16 testimony, data, and cost models presented, and considering
17 our adoption of a 60% / 40% hypothetical capital structure, we
18 believe that the range of returns provided in evidence supports
19 an ROE finding of 10.0% for our ratemaking determinations
20 herein.
21

22 **Mr. D'Ascendis' DCF Analysis**

23 **Q. PLEASE COMMENT ON MR. D'ASCENDIS' DCF ANALYSIS.**

24 A. Mr. D'Ascendis presents a single-stage constant growth DCF analysis⁴⁴ using
25 adjusted dividend yield and analysts' five-year forecasts of earnings per share

⁴² I&E Exhibit No. 2, Schedule 13.

⁴³ *Pa. PUC v. Emporium Water Company*, Docket No. R-2014-2402324 (Order Entered January 28, 2015). See generally *Disposition of Return on Equity*, pp. 34-35.

⁴⁴ UGI Electric Statement No. 8, p. 19, lines 428-429.

1 growth rates.⁴⁵ The constant growth DCF model when applied to his electric
2 proxy group produces a mean result of 10.40% and a median result of 10.45%.
3 Mr. D'Ascendis concludes a DCF result of 10.43%, the average of his mean and
4 median results.⁴⁶ I will not offer any specific critiques of Mr. D'Ascendis' DCF
5 analysis because our proxy group companies and data inputs are different.
6

7 **Predictive Risk Premium Model**

8 **Q. WHAT IS THE PREDICTIVE RISK PREMIUM MODEL (PRPM)?**

9 A. The PRPM is a method published in August 2011 by Pauline M. Ahern, Frank J.
10 Hanley, and Richard A. Michelfelder in the article *New Approach to Estimating*
11 *the Cost of Common Equity Capital for Public Utilities*.⁴⁷ Mr. D'Ascendis' PRPM
12 requires EvIEWS[®] statistical software to compute a predicted market equity risk
13 premium.⁴⁸
14

15 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' USE OF THE PRPM?**

16 A. No. Mr. D'Ascendis' PRPM is not a commonly used method and cannot be
17 evaluated or recreated without the software. To the best of my knowledge, the
18 Commission did not recognize or consider the PRPM results in determining a

⁴⁵ UGI Electric Statement No. 8, p. 20, lines 445-447 and 455-456.

⁴⁶ UGI Electric Statement No. 8, p. 21, lines 465-469.

⁴⁷ UGI Electric Statement No. 8, p. 26, lines 569-571 and Ahern, Pauline M., Hanley, Frank J., Michelfelder, Richard A. (December 2011, Volume 40, Issue 3). *New Approach to Estimating the Cost of Common Equity Capital for Public Utilities*. Journal of Regulatory Economics, pp. 261-278.

⁴⁸ UGI Electric Statement No. 8, p. 26, lines 582-586.

1 ratemaking ROE for any utilities. Additionally, the PRPM does not solve the
2 problem of the RP method because it is still an indirect measure of the cost of
3 equity, and the PRPM complicates the RP method with the introduction of a
4 measurement that requires the use of specialized software.

5
6 **Empirical Capital Asset Pricing Model**

7 **Q. WHAT IS THE ECAPM?**

8 A. The ECAPM is a modified version of the CAPM that attempts to address the belief
9 that the actual risk versus return correlation is flatter than what is predicted by the
10 CAPM. The implication is that the CAPM underestimates returns with lower
11 levels of risk and over-estimates the returns associated with higher levels of risk.
12 The ECAPM entails assigning 25% weight to the market beta (1.0) and 75%
13 weight to the individual company (or proxy group) beta.⁴⁹

14
15 **Q. WHAT DOES MR. D’ASCENDIS CLAIM IS THE BASIS FOR HIS USE OF**
16 **THE ECAPM?**

17 A. Mr. D’Ascendis opines that the ECAPM is a well-established model that has been
18 relied on in both academic and regulatory settings.⁵⁰ He notes that the Security
19 Market Line (SML) defined by the CAPM is not as steeply sloped as the predicted
20 SML.⁵¹ He uses a formula to account for the systematic risk that is not accounted

⁴⁹ David C. Parcell, “The Cost of Capital – A Practitioner’s Guide,” 2020 Edition, p. 106.

⁵⁰ UGI Electric Statement No. 8, p. 33, lines 715-716.

⁵¹ UGI Electric Statement No. 8, p. 34, lines 722-724.

1 for with beta in the CAPM formula. This methodology, called ECAPM, uses a
2 factor, alpha, to account for the additional systematic risk not captured by beta.

3
4 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' USE OF THE ECAPM?**

5 A. No. I recommend the Commission reject Mr. D'Ascendis' calculated ECAPM
6 result, which he used along with the traditional CAPM result to produce a
7 combined average CAPM result. The use of the ECAPM in estimating the cost of
8 capital does not increase the validity of the result, but instead it injects another
9 measure of subjectivity to the CAPM in an attempt to make the SML more
10 accurate. The ECAPM reduces the purpose of the beta, which is the only
11 company-specific variable in the CAPM. This additional layer of subjectivity
12 provides an even stronger basis to rely on the DCF and CAPM without the
13 ECAPM as I have done to calculate a utility's cost of equity.

14 Mr. D'Ascendis' averaging the traditional CAPM result with the ECAPM
15 result merely inflates his CAPM indicated cost of equity. His traditional mean
16 CAPM result of 9.87% when averaged with the mean ECAPM result of 10.74%
17 produces a higher indicated cost of equity of 10.21%, which used the Value Line
18 beta and Bloomberg beta.⁵² Similarly, using the Value Line beta, his traditional
19 mean CAPM result of 11.26% when averaged with mean ECAPM result of
20 11.78% produces a higher indicated cost of equity of 11.43%.⁵³

⁵² UGI Electric Exhibit B, Schedule DWD-6, p. 1.

⁵³ UGI Electric Exhibit B, Schedule DWD-6, p. 2.

1 In response to I&E-RR-14 regarding the Commission's specific reliance on
2 ECAPM in determining the appropriate ROE for Emporium Water Company (at
3 Docket No. R-2014-2402324), Mr. D'Ascendis cites a quote from the ALJ's
4 recommended decision, which merely notes Mr. D'Ascendis' claimed capital
5 structure and cost rates.⁵⁴ The ALJ in that matter did not indicate any reliance on
6 the ECAPM or other cost of equity method but deferred to the Commission to
7 decide an appropriate ROE for Emporium Water.

8 Additionally, to the best of my knowledge, there is no instance where the
9 Commission explicitly relied on the utility's ECAPM results when determining an
10 appropriate cost of equity for a regulated utility in Pennsylvania.

11
12 **Risk-Free Rate**

13 **Q. WHAT RISK-FREE RATE DOES MR. D'ASCENDIS USE IN HIS CAPM**
14 **ANALYSIS?**

15 **A.** Mr. D'Ascendis used a risk-free rate of 4.74%, which is calculated by using the
16 average of expected/forecasted yields on 30-year U.S. Treasury bonds for the six
17 quarters ending with the second calendar quarter of 2027, and the long-term
18 projections for the years 2027-2031 and 2032-2036 as published in the Blue-Chip
19 Journal.⁵⁵

⁵⁴ I&E Exhibit No. 2, Schedule 13.

⁵⁵ UGI Electric Statement No. 8, p. 47, lines 978-982.

1 **Q. DO YOU AGREE WITH MR. D’ASCENDIS’ USE OF THE 30-YEAR**
2 **TREASURY BOND TO DETERMINE THE RISK-FREE RATE?**

3 A. No. I disagree with Mr. D’Ascendis’ risk-free rate based on the 30-year Treasury
4 Bond yield. As discussed above, long-term Treasury Bonds have substantial
5 maturity risk associated with the market risk and the risk of unexpected inflation
6 and normally offer higher yields to compensate investors for these risks. Using
7 the 10-year Treasury Note is more appropriate to balance the short-term volatility
8 risk and the long-term inflation risk. Further, as noted above, the Commission has
9 traditionally recognized the 10-year Treasury Note as the superior measure of the
10 risk-free rate of return. Specifically, in the UGI Electric case, the Commission
11 recognized the 10-year Treasury Note as the superior measure for the risk-free rate
12 by stating the following,⁵⁶

13 We agree with I&E and the ALJs that using the yield on the 10-
14 year Treasury Note provides a better measure of the risk-free
15 rate of return than using the yield on the 30-year Treasury
16 Bond, as recommended by UGI. In our view, using the 10-year
17 Treasury Note balances the shortcomings of the short-term T-
18 Bill and the 30-year Treasury Bond. Although long-term
19 Treasury Bonds have less risk of being influenced by federal
20 policies, they have substantial maturity risk associated with the
21 market risk. In addition, long-term Treasury Bonds bear the
22 risk of unexpected inflation.

⁵⁶ *Pa. PUC v. UGI Utilities, Inc. - Electric Division*; Docket No. R-2017-2640058 (Order entered October 25, 2018), See generally Disposition of Capital Asset Pricing Model (CAPM), p. 99.

1 Additionally, the Commission has recently agreed with I&E and has recognized
2 the 10-year Treasury Note as the superior measure of the risk-free rate of return.⁵⁷
3 Finally, applying a long-term Treasury Bond yield projection for the years 2032-
4 2036 is inappropriate and is too far out for determining the cost of capital for UGI
5 Electric's new rates to be effective in 2027.

6
7 **CAPM Market Risk Premium**

8 **Q. WHAT MARKET RISK PREMIUM DID MR. D'ASCENDIS USE IN HIS**
9 **TRADITIONAL CAPM ANALYSIS?**

10 A. Mr. D'Ascendis used 8.61% market risk premium $[(7.31\% + 7.73\% + 7.74\% +$
11 $6.38\% + 13.88\%) \div 5]$ in his CAPM analysis, calculated by averaging the results
12 of five measures for the historic and prospective/projected market risk as shown in
13 Table 11.⁵⁸

14
15 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' USE OF AN AVERAGE**
16 **MARKET RISK PREMIUM OF 8.61%?**

17 A. No. Mr. D'Ascendis used the average 8.61% risk premium in his CAPM

⁵⁷ *Pa. PUC v. Aqua Pennsylvania, Inc.*, Docket Nos. R-2021-3027385 & R-2021-3027386, p. 154 (Order Entered May 16, 2022); *Pa. PUC v. Columbia Water Company*; Docket No. R-2023-3040258 (Order Entered January 18, 2024). See generally *Disposition of Cost of Common Equity*, pp. 107-108; *Pa. PUC v. Pennsylvania-American Water Company*; Docket Nos. R-2023-3043189 and R-2023-3043190 (Order Entered July 22, 2024). See generally *Disposition of Capital Asset Pricing Model (CAPM)*, pp. 171-172; and *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2025-3053499 (Order Entered December 9, 2025). See generally *Rate of Return on Common Equity - Disposition*, p. 234.

⁵⁸ UGI Electric Statement No. 8, p. 49, lines 1014-1017.

1 analysis.⁵⁹ In contrast, Kroll's latest forecast for the equity risk premium is
2 5.00%,⁶⁰ which is significantly lower than Mr. D'Ascendis' calculated risk
3 premium of 8.61%.

4 Additionally, Mr. D'Ascendis inappropriately included the outlier 13.88%
5 (Projected S&P 500 Market Return of 18.62% - Risk-free rate of 4.74%)
6 prospective equity risk premium using measures of capital appreciation and
7 income returns for the S&P 500 in the calculation of average market risk
8 premium.⁶¹ A market risk premium of 13.88% is significantly higher by 117.55%
9 than the lowest market risk premium of 6.38% included in his average risk
10 premium calculation.⁶² Excluding the outlier market risk premium of 13.88%, the
11 average market risk premium of his remaining four measures is 7.29% [(7.31% +
12 7.73% + 7.74% + 6.38%) ÷ 4] as opposed to the 8.61% risk premium Mr.
13 D'Ascendis applied in his CAPM analysis.

14
15 **Q. WHAT WOULD BE MR. D'ASCENDIS' AVERAGE TRADITIONAL**
16 **CAPM RESULTS USING THE MODIFIED MARKET RISK PREMIUM**
17 **OF 7.29%?**

18 A. Using the modified risk premium of 7.29% rather than 8.61%, Mr. D'Ascendis'
19 traditional CAPM result would be 9.11% using the average beta value of 0.60 and

⁵⁹ UGI Electric Exhibit B, Schedule DWD-6, pp. 1-2.

⁶⁰ <https://edge.sitecorecloud.io/krollllc17bf0-kroll6fee-proda464-0e9b/media/Kroll-Images/PDFs/impact-of-the-middle-east-conflict-on-cost-of-capital-assumptions-march-2026-update.pdf> (accessed on May 13, 2026).

⁶¹ UGI Electric Exhibit B, Schedule DWD-6, p. 3.

⁶² UGI Electric Exhibit B, Schedule DWD-6, p. 3.

1 10.28% using the beta value of 0.76 as opposed to his originally calculated CAPM
2 results of 9.87% and 11.26% respectively,⁶³ which are shown in the tables below:

$$\begin{array}{rclcl} K & = & R & + & \beta (R_m - R_f) \\ 9.11\% & = & 4.74\% & + & 0.60 (7.29\%) \end{array}$$

$$\begin{array}{rclcl} K & = & R & + & \beta (R_m - R_f) \\ 10.28\% & = & 4.74\% & + & 0.76 (7.29\%) \end{array}$$

3
4
5 Alternatively, if Mr. D'Ascendis uses Kroll's market risk premium of
6 5.00%, his CAPM result would be 7.74% and 8.54% with two different beta
7 values as shown in the table below:

$$\begin{array}{rclcl} K & = & R & + & \beta (R_m - R_f) \\ 7.74\% & = & 4.74\% & + & 0.60 (5.00\%) \end{array}$$

$$\begin{array}{rclcl} K & = & R & + & \beta (R_m - R_f) \\ 8.54\% & = & 4.74\% & + & 0.76 (5.00\%) \end{array}$$

⁶³ UGI Electric Exhibit B, Schedule DWD-6, pp. 1-2.

1 **Domestic Non-Price Regulated Companies**

2 **Q. DOES MR. D'ASCENDIS RELY ON ANY MARKET DATA INPUTS**
3 **SPECIFIC TO COMPANIES THAT ARE NOT REGULATED UTILITIES?**

4 A. Yes. Mr. D'Ascendis asserts that in the *Hope* and *Bluefield* cases, the U.S.
5 Supreme Court did not specify that comparable risk companies had to be utilities
6 and states that the non-price regulated competitive firms theoretically and
7 empirically results in a proxy group that is comparable in total risk to the Electric
8 Utility Proxy Group.⁶⁴ He then assembled a proxy group consisting of 42 non-
9 price regulated companies operating in various and different business segments.⁶⁵
10 Mr. D'Ascendis calculated common equity costs with data inputs specific to these
11 companies using the DCF, RP, and CAPM methods.⁶⁶ The average of the mean
12 and median results of these analyses yielded a range of 12.35% to 12.98%,⁶⁷
13 which is incorporated into Mr. D'Ascendis' final calculation of UGI Electric's
14 return on equity claim of 10.85%.⁶⁸

15
16 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' APPROACH TO USE THE**
17 **MARKET DATA OF NON-UTILITY COMPANIES TO CALCULATE UGI**
18 **ELECTRIC'S RETURN ON EQUITY?**

19 A. No. The process of choosing a proxy group of non-utility companies, which

⁶⁴ UGI Electric Statement No. 8, p. 50, lines 1031-1035.

⁶⁵ UGI Electric Exhibit B, Schedule DWD-7, p. 3.

⁶⁶ UGI Electric Exhibit B, Schedule DWD-8, pp. 1-7.

⁶⁷ UGI Electric Exhibit B, Schedule DWD-8, p. 1.

⁶⁸ UGI Electric Exhibit B, Schedule DWD-1, p. 2, lines 4 and 10.

1 operate different business segments with dissimilar business and financial risks as
2 compared to the risks to UGI Electric, is highly speculative and subjective. In
3 effect, Mr. D’Ascendis blends the CE approach into the DCF, RP, and CAPM
4 models. As stated earlier, the Commission has ruled on the use of the CE
5 approach, specifically, the use of non-utility companies in comparable groups, and
6 stated,

7 The use of nonregulated companies as a comparable group for
8 regulated firms requires numerous unsupportable assumptions,
9 which results in a highly speculative finding.⁶⁹

10 In the 2017 UGI Utilities, Inc. - Electric Division base rate case, the
11 Commission made the following comments regarding the CE method, specifically,
12 for the use of non-utility companies in comparable proxy groups, and stated,⁷⁰

13 With respect to the CE method, as noted above, this cost of
14 equity method utilizes data for non-regulated firms. Thus, by
15 its very nature, determining which companies are comparable
16 is entirely subjective. In addition, the record indicates that the
17 companies UGI utilized in its CE group results in the selection
18 of companies such as Coca-Cola Company, Kellogg Company,
19 and Walmart Stores, Inc. . . . Each of these companies operates
20 in industries that are very different from a utility company and
21 have significantly more competition, which would require a
22 higher return for the associated additional risk.

23 In the 2025 Columbia Gas rate case order,⁷¹ the Commission concurred with I&E
24 and the ALJ that it is appropriate to apply a proxy group comprised exclusively of

⁶⁹ *Pa. PUC v. Philadelphia Electric Co.*, 33 PUR 4th 319, 341 (Pa PUC 1980).

⁷⁰ *Pa. PUC v. UGI Utilities, Inc. – Electric Division*, Docket No. R-2017-2640058, p. 105 (Order entered October 25, 2018).

⁷¹ *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2025-3053499 (Order Entered December 9, 2025). See generally Fair Rate of Return, Proxy Groups - Disposition, pp. 204 and 205.

1 natural gas utilities in setting the rate of return for Columbia Gas. The
2 Commission specifically noted that non-gas distribution utilities and non-utility
3 companies with unrelated or entirely dissimilar business segments are simply not
4 comparable to gas distribution utilities in terms of business risk and financial risk
5 profiles. Finally, the Commission adopted the ALJs' recommendation to utilize
6 I&E's Natural Gas Utility proxy group and rejected Columbia Gas' Combined
7 Utility Group (Gas and Electric) and Non-regulated Company Group in setting the
8 appropriate return on equity.

9
10 **Q. PLEASE CONTINUE.**

11 A. If the non-price regulated company proxy group is truly similar in total risk to the
12 Company, I would expect to see a similar cost of equity range using the DCF,
13 CAPM, and RP between the Electric Utility and Non-Price Regulated Companies
14 proxy groups used by Mr. D'Ascendis. However, the Non-Price Regulated
15 Company proxy group's cost of equity range is 12.35% - 12.98%, which is higher
16 than the Electric Utility Proxy Group's cost of equity range of 10.22% - 11.45%.⁷²
17 Additionally, Mr. D'Ascendis' indicated cost of equity range of 10.22% - 12.98%
18 is skewed because he considered the Non-Price Regulated Company proxy group
19 cost of equity range of 12.35% - 12.98% in his analysis.⁷³ This clearly
20 demonstrates the Commission's ruling cited above that the use of non-regulated

⁷² UGI Electric Exhibit B, Schedule DWD-1, p. 2.

⁷³ UGI Electric Exhibit B, Schedule DWD-1, p. 2, lines 4-5.

1 companies as a comparable group for regulated firms results in a highly
2 speculative finding.

3
4 **Business Risk Adjustment**

5 **Q. WHAT BUSINESS RISK ADJUSTMENT DID MR. D’ASCENDIS**
6 **PROPOSE TO HIS INDICATED ROE RANGE AND THE BASIS FOR HIS**
7 **ADJUSTMENT?**

8 A. Mr. D’Ascendis added 0.40% or 40 basis points to his cost of common equity
9 because UGI Electric is smaller in size relative to the Electric Utility Proxy Group.
10 He opines that smaller companies are less able to cope with significant events
11 affecting sales, revenues, and earnings. He further states that the loss of revenue
12 from a few larger customers would have a greater effect on a small company. Mr.
13 D’Ascendis relied on technical literature including Kroll’s Cost of Capital
14 Navigator - U.S. Cost of Capital Module, “Size as a Predictor of Equity Returns,”
15 a Fama and French study entitled “The Capital Asset Pricing Model: Theory &
16 Evidence,” and Professor Eugene Brigham’s textbook entitled “Fundamentals of
17 Finance Management.”⁷⁴

18 Mr. D’Ascendis also attempts to discredit a study performed by Dr. Annie
19 Wong, which I&E relies upon in rejecting his size adjustment, by citing a review
20 of her study authored by Thomas M. Zepp. Additionally, Mr. D’Ascendis provides

⁷⁴ UGI Electric Statement No. 8, pp. 54-55, lines 1119 through 1162.

1 two studies he conducted that he claims illustrate the relationship between size and
2 risk for utility companies.⁷⁵

3 Mr. D'Ascendis quantified his size adjustment based on size premiums for
4 portfolios of New York Stock Exchange, American Stock Exchange, and
5 NASDAQ listed companies ranked by deciles for the 1926 to 2024 period. Mr.
6 D'Ascendis states that electric utility proxy group companies by market
7 capitalization measure fell in the 2nd decile place, while UGI Electric by market
8 capitalization measure is in 10th decile place. The size premium spread between
9 2nd decile and 10th decile is 4.14%. Therefore, Mr. D'Ascendis proposes an
10 upward size premium adjustment of 0.40% to the cost of equity.⁷⁶

11 Finally, Mr. D'Ascendis points to a 2019 Commission Order and claims
12 that the Commission considered a size adjustment in the Citizens Electric
13 Company rate case proceeding.⁷⁷

14
15 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' SMALL SIZE RISK**
16 **ADJUSTMENT?**

17 A. No. Mr. D'Ascendis' proposed small size risk adjustment is unnecessary because
18 the technical literature he cited supporting a risk adjustment related to the size of a
19 company is not specific to the utility industry; therefore, it has no relevance in this
20 proceeding. Regulated utilities stand out from non-regulated industries because all

⁷⁵ UGI Electric Statement No. 8, pp. 56-57, lines 1172 through 1188.

⁷⁶ UGI Electric Statement No. 8, pp. 59-60, lines 1219-1239.

⁷⁷ UGI Electric Statement No. 8, pp. 60-61, lines 1242-1263.

1 utilities, small or large, have a monopoly market environment that affords
2 protection from competition risk. UGI Electric is owned by UGI Corporation,
3 which provides UGI Electric the required equity and loan funding support in
4 addition to technical, operational, and managerial support. In addition, any
5 expense impact resulting from the lesser buying power of a smaller utility is
6 reflected in the revenue requirement and the dollar-for-dollar recovery that applies
7 to expenses. To apply an additional size adjustment to a smaller regulated utility
8 would only duplicate the burden on ratepayers.

9 UGI Electric's cost of equity is determined based on market data of the
10 Electric Utility Proxy Group, and therefore, there is no need to apply an
11 unsupported size premium adder to inflate the market-based cost of equity results.
12 Lastly, in response to I&E-RR-23, Mr. D'Ascendis states that UGI Electric lost
13 seventeen customers from 2023 to 2025 but does not provide any information
14 about future potential electric distribution business growth in general and business
15 opportunities for data center electric power demand in the service territories of
16 UGI Electric. Additionally, he agrees that all jurisdictional regulated utilities in
17 Pennsylvania, regardless of size, have the opportunity to recover all prudent
18 expenses necessary to provide safe and reliable service via base rate case filings.⁷⁸

⁷⁸ I&E Exhibit No. 2, Schedule 14.

1 **Q. IS THERE ACADEMIC EVIDENCE THAT SUPPORTS YOUR**
2 **CONCLUSION THAT THE BUSINESS RISK ADJUSTMENT FOR THE**
3 **COMPANY’S SMALL SIZE IS NOT APPLICABLE TO UTILITY**
4 **COMPANIES?**

5 A. Yes. In the article “Utility Stocks and the Size Effect: An Empirical Analysis,” Dr.
6 Annie Wong concludes,

7 The objective of this study is to examine if the size effect exists
8 in the utility industry. After controlling for equity values, there
9 is some weak evidence that firm size is a missing factor from
10 the CAPM for the industrial but not for utility stocks. This
11 implies that although the size phenomenon has been strongly
12 documented for the industrials, the findings suggest that there
13 is no need to adjust for the firm size in utility rate regulation.⁷⁹

14 UGI Electric has presented no significant evidence to support the application of a
15 non-utility study regarding a size adjustment for business risk to a utility setting.

16 As further elaborated below, the criticism of Dr. Wong’s study that Mr.

17 D’Ascendis’ references do not contain enough credible evidence to refute Dr.

18 Wong. Absent any credible article to refute Dr. Wong’s findings, Mr. D’Ascendis’
19 size adjustment to his cost of common equity results should be rejected.

20 Furthermore, the Commission has rejected the application of a size adjustment to
21 the cost of equity calculation in the 2017 UGI Electric base rate proceeding.⁸⁰

⁷⁹ Dr. Annie Wong, “Utility Stocks and the Size Effect: An Empirical Analysis,” *Journal of Midwest Finance Association* 1993, pp. 95-101.

⁸⁰ *Pa. PUC v. UGI Utilities, Inc. – Electric Division*, Docket No. R-2017-2640058 (Order Entered October 25, 2018). See generally *Disposition of Capital Asset Pricing Model (CAPM)*, p. 100.

1 **Q. PLEASE COMMENT ON THE REVIEW OF DR. WONG’S STUDY**
2 **PERFORMED BY DR. ZEPP.**

3 A. The article Mr. D’Ascendis references from Dr. Zepp does not recreate Dr. Wong’s
4 study; it simply speculates on other possible reasons for his results and references
5 the results of two other studies. The first study, completed by the California
6 Public Utilities Commission Staff in 1991, is not included in the article, and
7 therefore, Dr. Zepp’s opinions cannot be properly evaluated. Dr. Zepp also draws
8 his conclusions about an entire industry based on the second study, which
9 examines the effects of size on only four water utility companies. This article does
10 not contain enough credible evidence to refute Dr. Wong’s findings.

11
12 **Q. DID THE COMMISSION SPECIFICALLY AWARD A SIZE ADJUSTMENT**
13 **IN THE REFERENCED COMMISSION ORDER FOR CITIZENS’**
14 **ELECTRIC COMPANY?**

15 A. No. The Commission did not, in fact, award an explicit 100-basis point size
16 adjustment claimed by Citizen Electric Company. In contrast, the Commission
17 determined there was not enough evidence as to whether size is specifically a risk
18 for utilities. In its order, the Commission stated,

19 Consistent with the foregoing discussion, like the ALJs, we
20 shall not specify an exact size adjustment. Instead, we shall
21 adopt the ALJs’ recommendation that Citizens be awarded a
22 DCF cost of common equity of 9.49%. In our view, this cost
23 of equity is reasonable and strikes an appropriate balance by
24 recognizing the general inverse relationship between a
25 company’s size and its risk, while acknowledging that there is

not substantial evidence in the record to prove that an explicit size basis point adjustment is warranted in this case.⁸¹

Q. BASED ON THE COMPANY'S FILED RATE BASE AND CLAIMED CAPITAL STRUCTURE, WHAT IS THE VALUE OF AN ADDITIONAL 0.40% TO THE COST OF EQUITY?

A. The example below illustrates the impact of 0.40% to the Company's cost of equity:

UGI Electric Claimed Equity Percentage of Capital Structure*	54.25%
Size Premium Adjustment applied to the Indicated Cost of Equity	0.40%
Claimed Rate Base*	\$239,228,000
Impact Prior to Gross Up (0.5425 x 0.0040 x \$239,228,000)	\$519,125
Gross Revenue Conversion Factor*	1.494391
Total Impact to Ratepayers (\$519,125 x 1.494391)	\$775,776

* UGI Electric Exhibit A, Schedule C-1.

In this example, applying 0.40% to the cost of equity would force ratepayers to fund unwarranted an additional \$775,776 annually.

Flotation Cost Adjustment

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are the expenses incurred when a company issues securities such as

⁸¹ *Pa. PUC v. Citizens Electric Company of Lewisburg, PA*, Docket No. R-2019-3008212 (Order Entered April 29, 2020). See generally *Disposition of Cost of Common Equity*, pp. 103-104.

1 stocks or bonds when raising capital. These expenses can include legal fees,
2 underwriting fees, auditing fees, administrative costs, or any other necessary and
3 justifiable cost in the issuance process.
4

5 **Q. EXPLAIN THE FLOTATION COST ADJUSTMENT MR. D'ASCENDIS IS**
6 **PROPOSING IN THIS PROCEEDING.**

7 A. Mr. D'Ascendis added 0.13% or 13 basis points to his cost of common equity for a
8 flotation cost adjustment. He states that there is no mechanism to recapture such
9 costs in the ratemaking paradigm other than an adjustment to the allowed common
10 equity cost rate.⁸² Therefore, he opines that UGI Electric should be allowed to
11 recover flotation costs as an adjustment or adder to the common equity cost rate,
12 as these costs are a permanent loss of investment to the utility and cannot be
13 recovered without an adjustment to the common equity cost rate.⁸³ He asserts that
14 flotation costs cannot be recovered as an expense because a common equity
15 issuance is generally used to finance rate base so such costs should be recovered
16 on an ongoing basis in the equity cost rate.⁸⁴

⁸² UGI Electric Statement No. 8 p. 63, lines 1308-1309.

⁸³ UGI Electric Statement No. 8, p. 64, lines 1318-1319.

⁸⁴ UGI Electric Statement No. 8, p. 65, lines 1348-1352.

1 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' DISCUSSION REGARDING**
2 **THE POTENTIAL IMPACT OF STOCK ISSUE FLOTATION COSTS ON**
3 **THE ROE?**

4 A. No. UGI Electric does not issue its own stock independent of the parent company
5 (UGI Corporation) to the general public in the capital market, and the parent
6 company issues stocks for a variety of reasons and uses, so it cannot be assumed
7 they are entirely issued and used for the benefit of UGI Electric. As of the writing
8 of this testimony, I am unaware that UGI Electric's parent company has any plans
9 to issue new stock during the FPFTY, when the new rates will be effective. Mr.
10 D'Ascendis' claim for the flotation cost impact in recommending an ROE for
11 FPFTY ratemaking is improper and unsupported, when the claim for such cost is
12 based on the historical flotation costs of the parent company's 2004 equity offering
13 and 2021 equity units offering.⁸⁵ Therefore, it is inappropriate to present the
14 potential flotation cost impact of 0.13% to support the claimed ROE of 10.85% in
15 this proceeding. Lastly, I am unaware of any instance in the recent past where the
16 Commission has specifically authorized a flotation cost adjustment for the parent
17 company's stock issuance expenses in determining a utility's cost of equity in a
18 base rate proceeding.

⁸⁵ UGI Electric Exhibit B, Schedule DWD-11, p. 1.

Q. BASED ON THE COMPANY’S FILED RATE BASE AND CLAIMED CAPITAL STRUCTURE, WHAT IS THE VALUE OF AN ADDITIONAL 0.13% TO THE COST OF EQUITY?

A. The example below illustrates the impact of flotation cost adjustment of 0.13% to the Company’s cost of equity:

UGI Electric Claimed Equity Percentage of Capital Structure*	54.25%
Size Premium Adjustment applied to the Indicated Cost of Equity	0.13%
Claimed Rate Base*	\$239,228,000
Impact Prior to Gross Up (0.5425 x 0.0013 x \$239,228,000)	\$168,716
Gross Revenue Conversion Factor*	1.494391
Total Impact to Ratepayers (\$168,716 x 1.494391)	\$252,128

* UGI Electric Exhibit A, Schedule C-1.

In this example, an addition of 0.13% to the cost of equity would force ratepayers to fund an unwarranted additional \$252,128 annually.

Actual Operating Revenue and Net Income

Q. DESCRIBE UGI ELECTRIC’S FINANCIAL POSITION FOR THE LAST FIVE YEARS.

A. UGI Electric’s financial data as shown in the table below indicates sound financial conditions due to its strong market presence in the franchised electric distribution

service area:⁸⁶

Year Ended December 31	Operating Revenue	Year to Year Change	Net Income	Year to Year Change
2021	\$91.58M	-	\$4.70M	-
2022	\$136.07M	48.58%	\$6.28M	33.62%
2023	\$133.22M	(2.09%)	\$6.70M	6.69%
2024	\$136.81M	2.69%	\$10.78M	60.90%
2025	\$149.33M	9.15%	\$9.54M	(11.50%)
Average		14.58%		22.43%

The above table shows growth in UGI Electric's average yearly operating revenues and net income of 14.58% and 22.43% respectively for the years 2021-2025. UGI Electric's growth in financial conditions is funded by ratepayers.

Considering the above financial metrics, any concerns over a potential credit downgrade and access to capital markets are speculative and unsupported.

OVERALL RATE OF RETURN RECOMMENDATION

Q. WHAT IS THE COMPANY'S PROPOSED COST OF EQUITY AND OVERALL RATE OF RETURN?

A. The Company is claiming a cost of equity of 10.85% and an overall rate of return

⁸⁶ [Document Search | PA PUC](#) (accessed on May 8, 2026).

of 8.26%.⁸⁷

Q. WHAT IS YOUR RECOMMENDED COST OF EQUITY AND OVERALL RATE OF RETURN?

A. I&E Exhibit No. 2, Schedule 1, shows the calculation of an appropriate cost of equity to be 9.69% for the Company with an overall rate of return for UGI Electric of 7.44%. UGI Electric's requested ROE of 10.85% is higher by 1.16%, or 116 basis points than my recommended ROE of 9.69%.

Q. BASED ON THE COMPANY'S AS-FILED RATE BASE AND CLAIMED CAPITAL STRUCTURE, WHAT IS THE VALUE OF AN ADDITIONAL 116 BASIS POINTS TO THE COST OF EQUITY?

A. The example below illustrates the impact of 116 additional basis points (1.16%) to the Company's cost of equity:

UGI Electric Claimed Equity Percentage of Capital Structure*	54.25%
Additional 116 basis points in the claimed ROE	1.16%
Claimed Rate Base*	\$239,228,000
Impact Prior to Gross Up (0.5425 x 0.0116 x \$239,228,000)	\$1,505,462
Gross Revenue Conversion Factor*	1.494391
Total Impact to Ratepayers (\$1,505,462 x 1.494391)	\$2,249,749

* UGI Electric Exhibit A, Schedule C-1.

⁸⁷ UGI Electric Exhibit B, Schedule DWD-1, p. 1.

1 In this example, an addition of 116 basis points to the cost of equity would force
2 ratepayers to fund an unwarranted additional amount of \$2,249,749.

3
4 **Q. DO YOU HAVE ANY FINAL COMMENTS REGARDING THE**
5 **COMPANY’S PROPOSED RETURN ON EQUITY?**

6 A. Yes. First, I reiterate that the data used from S&P Global Market Intelligence, as
7 cited above in the “*Capital Structure*” section, illustrates that the average
8 authorized return on equity decided between 2025-2026 was 9.56%, and the
9 average authorized equity percentage during that same period was 50.42%.⁸⁸ Mr.
10 D’Ascendis’ recommended ROE of 10.85% far exceeds my recommended ROE of
11 9.69%, which is still above the national average authorized ROE of 9.56%.

12 Second, I am not aware of any electric distribution utilities in Pennsylvania
13 were granted a Commission authorized return of 10.85% or higher cost of
14 common equity.

15 Third, as cited to above, the Commission has recently commented on the
16 equity heavy capital structure of UGI Electric and other utility companies, and
17 specifically asked that UGI Electric’s capital structure be subject to a careful
18 evaluation because an equity heavy capital structure puts a burden on customers’
19 rates.

⁸⁸ I&E Exhibit No. 2, Schedule 2, p. 8.

1 Finally, it is important to consider the impact of what the Company's
2 excessive return on equity request of 10.85% would have on rates. As discussed
3 above, any additional basis points beyond the I&E recommended ROE of 9.69%
4 would be excessive and would put an enormous burden on ratepayers during these
5 difficult economic times.

6
7 **Q. DO YOU HAVE ANY FINAL COMMENTS ABOUT THE POTENTIAL**
8 **RATE INCREASE TO BE GRANTED IN THIS PROCEEDING?**

9 A. Yes. I&E witness Getachew Bedasa in I&E Statement No. 1 addresses the
10 intention of UGI Corporation to sell UGI Electric in the coming months. It should
11 be noted that any additional downward adjustment due to uncertainties related to
12 costs and lack of certainty surrounding ownership plans are addressed by Mr.
13 Bedasa who presents the overall I&E revenue requirement.

14
15 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

16 A. Yes. However, I reserve the right to supplement my testimony or revise my
17 recommendations if additional issues or facts arise during this proceeding.

D. C. Patel
Professional and Educational Background

EXPERIENCE:

- Pennsylvania Public Utility Commission, Harrisburg, Pennsylvania
June 2015 to Present
Fixed Utility Financial Analyst, Bureau of Investigation and Enforcement
- Pennsylvania Insurance Department, Harrisburg, Pennsylvania
March 2013 - June 2015
Insurance Company Financial Analyst, Bureau of Company Licensing & Financial Analysis
- Pennsylvania Department of Revenue, Harrisburg, Pennsylvania
November 2010 - March 2013
Accounting Assistant, Bureau of Corporation Taxes (Accounting)
- Hersha Hospitality Management, Harrisburg, Pennsylvania
June 2007 - November 2010
Staff Accountant (Taxes), Accounting Department
- Corporate Experience-India
February 1987 - April 2007
Worked as Company Secretary for three different companies during this period, which were listed on the Stock Exchanges.

EDUCATION/CERTIFICATION:

- Gujarat State University, Ahmedabad, India:
Bachelor of Commerce (Major concentration: Accounting)
June 1980 - April 1983
Bachelor of Law
June 1983 - December 1988
- The Institute of Company Secretaries of India, New Delhi, India:
Post Graduate Professional Degree: Company Secretary
June 1983 - December 1985

RATE CASE TRAINING:

- Attended SURFA - 54th Financial Forum (ROR) in April 2023
- Attended 37th Western NARUC Utility Rate School in May 2016

WORKED ON THE FOLLOWING CASES (Testimony not required):

- R-2025-3053663 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2024-3049248 et al. - City of Lock Haven - Water Department
- R-2024-3048767 - PECO Energy Co. - Gas Operations (1307(f))
- R-2024-3047014 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2022-3032167 - Columbia Gas of Pennsylvania, Inc. (Green Path Rider)
- R-2022-3031172 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2021-3024349 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2021-3023541 - National Fuel Gas Distribution Corporation (§ 1307(f))
- A-2020-3021460 - PA American Water Co.-Upper Pottsgrove-Wastewater (1329)
- A-2020-3020178 - PA American Water Co.-Valley Township-Wastewater (1329)
- A-2020-3019859 - PA American Water Co.-Valley Township-Water (1329)
- R-2020-3019661 - PECO Energy Co. - Gas Operations (1307(f))
- U-2020-3015258 - Pittsburgh Water and Sewer Authority
- R-2019-3008255 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2018-3001568 - PECO Energy Co. - Gas Operations (1307(f))
- R-2018-3000253 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2017-2631441 - Reynolds Water Co.
- A-2017-2629534 - PPL Electric Utilities (Restructuring Plan)
- R-2017-2602611 - PECO Energy Co. - Gas Operations (1307(f))
- R-2016-2567893 - Andreassi Gas Co.
- R-2016-2525128 - Columbia Water Co. - Marietta Division
- R-2015-2493905 - Sands, Inc.
- R-2015-2479962 - Corner Water Supply and Service Corporation
- R-2015-2479955 - Allied Utility Services, Inc.

SUBMITTED TESTIMONY IN THE FOLLOWING CASES:

- R-2025-3057983 et al. - Pennsylvania-American Water Co.
- R-2025-3057237 - City of Lancaster – Bureau of Water
- R-2025-3055010 et al. - Pittsburgh Water and Sewer Authority
- R-2025-3053499 - Columbia Gas of Pennsylvania, Inc.
- R-2025-3054393 - Valley Energy, Inc.
- R-2025-3053112 - Philadelphia Gas Works
- R-2024-3052359 - Pike County Light and Power Company - Electric
- P-2024-3050549 - Deer Haven, LLC. (529)
- R-2024-3050208 - The Newtown Artesian Water Company
- R-2024-3047068 - First Energy Pennsylvania Electric Company
- R-2024-3046931 - PECO Energy Co. - Electric Operations
- R-2024-3046519 - Columbia Gas of Pennsylvania, Inc.

- R-2024-3045192 et al. - Veolia Water Pennsylvania, Inc.
- R-2023-3042804 et al. - Community Utilities of Pennsylvania, Inc.
- R-2023-3043189 et al. - Pennsylvania-American Water Co.
- R-2023-3038630 - Columbia Gas of Pennsylvania, Inc. (1307(f))
- R-2023-3037933 - Philadelphia Gas Works
- R-2022-3037368 - UGI Electric, Inc. - Electric Division
- A-2022-3034143 - Aqua Pennsylvania, Inc. - Borough of Shenandoah (Water System) (1329)
- R-2022-3031672 and R-2022-3031673 - PA American Water Co.
- R-2022-3031211 - Columbia Gas of Pennsylvania, Inc.
- R-2021-3024773 et al. - Pittsburgh Water and Sewer Authority
- A-2021-3024058- PA American Water Co. - Borough of Brentwood (Wastewater System) - 1329
- A-2021-3024681 - PA American Water Co. - York City Sewer Authority/City of York (Wastewater System) (1329)
- R-2021-3024601 - PECO Energy Co. - Electric Operations
- A-2021-3024267 - Aqua Pennsylvania Wastewater, Inc. - Lower Makefield (WW) (1329)
- A-2020-3019634 - PA American Water Co. - Royersford Wastewater (1329)
- R-2020-3018993 - Columbia Gas Pennsylvania, Inc. (1307(f))
- R-2020-3018929 - PECO Energy Co. - Gas Operations
- R-2020-3017951 et al. - Pittsburgh Water and Sewer Authority
- A-2019-3008491 - Aqua Pennsylvania Wastewater, Inc.
- R-2019-3008212 - Citizens Electric Company of Lewisburg, PA
- R-2019-3008208 - Wellsboro Electric Company
- R-2018-3006814 - UGI Utilities, Inc. (Gas Division)
- R-2018-3002645 and 3002647 - Pittsburgh Water and Sewer Authority
- R-2018-3000834 - Suez Water Pennsylvania, Inc.
- R-2018-2647577 - Columbia Gas of Pennsylvania, Inc.
- M-2018-2640802 and M-2018-2640803 - Pittsburgh Water and Sewer Authority (Compliance Plan Stage 2)
- R-2017-2595853 - Pennsylvania American Water Co.
- R-2016-2580030 - UGI Penn Natural Gas, Inc.
- R-2016-2554150 - City of DuBois - Bureau of Water
- R-2016-2529660 - Columbia Gas of Pennsylvania, Inc.
- P-2016-2526627 - PPL Electric Utilities Corp. (DSP IV)

I&E Exhibit No. 2
Witness: D. C. Patel

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

UGI UTILITIES, INC. - ELECTRIC DIVISION

Docket No. R-2025-3059430

Exhibit to Accompany

the

Direct Testimony

of

D. C. Patel

Bureau of Investigation and Enforcement

Concerning:

Rate of Return

I&E Recommendation			
Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost
UGI Utilities, Inc. - Electric Division			
Long-Term Debt	50.00%	5.17%	2.59%
Common Equity	50.00%	9.69%	4.85%
Total	100.00%		7.44%

PENNSYLVANIA PUBLIC UTILITY COMMISSION
Harrisburg, Pennsylvania 17120

Pennsylvania Public Utility Commission
v.
UGI Utilities, Inc. – Electric Division

Public Meeting of April 16, 2026
3059430-TUS
Docket No. R-2025-3059430

STATEMENT OF VICE CHAIR KIMBERLY BARROW

Before us for consideration is the proposed rate increase request by UGI Utilities, Inc. – Electric Division (UGI or Company). UGI proposes an increase of \$17.283 million (11.89%) in additional annual revenues to become effective June 1, 2026. The proposal will result in an increase in a residential customer's bill using 1,000 kWh per month from \$200.50 to \$226.23, a 12.8% increase.

I vote to approve the suspension and investigation of this filing, pursuant to 66 Pa.C.S. § 1308(d). However, I urge the Parties to take a critical look at the Company's requested rate of return and return on equity (ROE) as well as the capital structure (common equity ratio and debt capital) to ensure reasonableness. Deviations in each of these items translate into millions of dollars charged to customers of all rate classes. Too often, the relationship between debt and ROE to cost of debt and capital is asserted as a general matter from basic economic principle alone. However, those relationships are not established empirically and left for the Commission to assume the relationship without any supporting data. Therefore, I believe a careful and detailed review of UGI's claimed capital structure and ROE is warranted.

Additionally, UGI has stated that it is requesting the instant rate increase to, *inter alia*, support ongoing Commission-approved replacement programs designed to enhance safety and reliability. UGI noted that, compared to current plant and base rate levels reflected in existing rates, it projects an increase of approximately \$83.6 million in gross plant through the fully projected future year (FPFTY) ending September 30, 2027. According to UGI, this reflects \$17.7 million of capital investment that was placed in service since the end of the FPFTY in the Company's last base rate case (i.e., September 30, 2024), as well as \$28.6 million in the future test year and \$37.3 million in the FPFTY.

Section 315 of the Code, 66 Pa.C.S. § 315(e), states that whenever a utility utilizes an FPFTY as the basis for its rate increase, the utility shall provide appropriate data evidencing the accuracy of the estimates of its FPFTY. Thus, it is incumbent upon UGI and the Parties challenging the filing to ensure that UGI's estimates in its last and current rate filing comply with Section 315 of the Code. Specifically, UGI should provide documentation/information showing estimates of its FPFTY in its last rate case were accurate or met expectations. If not, the Company should provide an explanation for the deviation and the appropriate adjustments made to account for such deviations in the instant rate filing.

April 16, 2026



Kimberly Barrow, Vice Chair

PENNSYLVANIA PUBLIC UTILITY COMMISSION
Harrisburg, Pennsylvania 17120

Pennsylvania Public Utility Commission, et al.
v.
Columbia Gas of Pennsylvania, Inc.

Public Meeting of December 4, 2025
3053499-OSA
Docket No. R-2025-3053499

STATEMENT OF VICE CHAIR KIMBERLY BARROW

Before us for consideration is the proposed rate increase request by Columbia Gas of Pennsylvania, Inc. (Columbia Gas or Company). Columbia Gas proposed an increase of \$110.4 million (12.02%) in additional annual revenues based on a fully projected future test year (FPFTY) ending December 31, 2026. The proposal would have resulted in an increase in a residential customer's bill using 70 Therms per month from \$138.52 to \$152.29 (an increase of \$15.77 or 11.38%). Columbia Gas also requested an increase in its residential customer charge from \$17.25 to \$31.97 (an increase of \$14.72 or 85.2%).

In their Recommended Decision, Administrative Law Judges (ALJs) Jeffery A. Watson and Chad L. Allensworth recommended that the Commission deny the Company's rate increase request in its entirety or alternatively grant an increase of \$66,424,574. Exceptions and Reply Exceptions were filed.¹

Below are a few issues of concern I would like to highlight.

Frequency of Rate Increase Filings:

The record in this case indicates that since 2008 Columbia Gas has requested an increase almost on an annual basis, including five rate increase requests since 2020.² Columbia Gas' rates have increased by almost \$500 million during this period. The record further shows that Columbia Gas has the highest rates in the state and the highest revenue per unit of natural gas in the state and the third highest for the 25 natural gas distribution companies (NGDCs) offering service in the mid-Atlantic region, surpassed only by NGDCs offering service to New York City.³ Columbia Gas' rates outpace inflation. Over the last 20 years, Columbia's residential customer rates for average heating customers (70 therms per month) have increased by 121% (from \$47.58 in 2005 to \$105.09 in 2025). During this period, the household income for a family of four at 150% FPL only increased 60% (from \$30,000 to \$48,225 per year). Columbia Gas has also filed 12 rate

¹ The Parties to this proceeding include Columbia Gas, the Office of Consumer Advocate (OCA), The Pennsylvania State University (PSU), the Commission's Bureau of Investigation and Enforcement (I&E), the OCA, the Office of Small Business Advocate (OSBA), and the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (CAUSE-PA).

² Including the instant proceeding, the Company has requested a rate increase twelve times since 2009: 2009, 2010, 2012, 2014, 2015, 2016, 2019, 2020, 2021, 2022, 2024, and now 2025. See OCA St. 5 at 7; OSBA M.B. at 5, Table IEC-1; Table 2, *supra*. Further, as noted in Table 2, the instant rate proceeding is the Company's thirteenth since 2008.

³ OCA Ex. MWD-7; I&E St. 2 at 9; OCA M.B. at 36; OCA R.B. at 12; OCA Exh. MWD-7.

cases during this period totaling approved distribution rate increases of over \$487 million.⁴

While I understand that Columbia Gas is entitled to recovery of the cost of investments made to its system, the Company's utilization of the FPFTY, as authorized under 66 Pa.C.S. § 315, and the availability of the distribution system improvement charge (DSIC), as authorized under 66 Pa.C.S. § 1350 and other rate recovery mechanisms, should be enough incentives to discourage Columbia Gas' current near-annual frequency of rate increase requests.

Capital Structure:

Columbia Gas requested a capital structure of 54.4% common equity and 45.60% debt (43.28% long-term debt and 2.32% short-term debt), along with a return on equity (ROE) of 11.35%. Although I&E accepts the Company's proposed capital structure, the OCA and CAUSE-PA, in opposition, argued that the Commission should instead award a hypothetical capital structure of 50% equity and 50% debt (47.68% long-term debt and 2.32% short-term debt).⁵ According to the OCA, the average capital structure mix for the proxy group used in this case as shown on the Value Line consists of 55% debt and 45% equity, the inverse of the ratio proposed by Columbia.⁶

Here, the record clearly reflects that the proxy group's capital structure is composed of less equity than Columbia Gas' capital structure, highlighting reduced risk for the Company when compared to that of the proxy group, and, therefore, suggesting the need for a lower ROE for Columbia Gas. I agree with the OCA that the discrepancy between Columbia Gas' capital structure and the proxy group necessitates an adjustment to the Company's capital structure since Columbia Gas' equity profile has less financial risk than the proxy group. A 50/50 capital structure in this case is equal to the proxy group's average capital structure.⁷ Also noteworthy, CAUSE-PA argued that if the Commission were to apply a hypothetical capital structure of 50% equity and 50% debt, the overall rate of return at the Company's desired ROE of 11.35% would be reduced by 0.27% (from 8.55% to 8.28%), which would have reduced the Company's overall annual revenue requirement increase by \$17.7 million, or from the proposed increase of \$110.5 million sought by Columbia to \$92.8 million.⁸ CAUSE-PA and the OCA propose an overall rate of return of 7.06%.⁹

⁴ CAUSE-PA St. 2 at 21.

⁵ OCA M.B. at 126; OCA St. 3 at 58; OCA Exh. DJG-16.

⁶ OCA M.B. at OCA St. 3 at 50.

⁷ Adoption of the OCA's recommended capital structure and ROE would result in a revenue requirement reduction of \$54.6 million. OCA St. 3 at 3-4, 50. I agree with the OCA that in *Riverton Consol. Water Co. v. Pa. PUC*, 140 A.2d 114 at 121 (Pa. Super. 1958), the Superior Court determined that the Commission may make adjustments to a utility's capital structure where circumstances indicate that the actual capital structure may be unfair to customers, such as when the actual capital structure may be weighted too heavily to the debt side or the equity side. See OCA M.B. at 125.

⁸ CAUSE-PA M.B. at 35-38.

⁹ The OCA's proposed overall rate of return was based upon a weighted average of a 5.20% rate of return on long-term debt, a 5.00% rate of return on short-term debt, and an 8.9% rate of return on common equity. OCA M.B. at 123, 127; OCA St. 3 at 58.

It is clear from the arguments put forward by the Parties in opposition to the Company's proposed capital structure that a 50% equity and 50% debt capital structure is a better representation of the Company's **actual** financial risk and would have resulted in millions of dollars in reduced revenue requirement for the Company and resultant lower rates for Columbia Gas' customers.

Rate of Return on Equity:

Columbia Gas proposed a rate of return on common equity of 11.35% inclusive of the Company's requested upward adjustment of 0.25% for management effectiveness.¹⁰ As a result of its DCF analysis, I&E recommended a cost of common equity of 10.51%.¹¹ The OCA recommended a cost of common equity of 8.90%, based on its CAPM model and the use of a hypothetical capital structure. The OCA noted that an ROE of 8.90% and overall rate of return of 7.06% are sufficient to ensure Columbia Gas' ability to attract capital and continue investment to provide safe and reliable service, while guarding the interests of consumers.¹² The ALJs rejected Columbia Gas' proposed rate of return on common equity of 11.35% and adopted I&E's proposed DCF ROE of 10.51% ROE.¹³

I believe an ROE lower than the ALJs' recommended 10.51% is more appropriate in this case, given Columbia Gas' unique lack of regulatory lag, associated reduced business risk, and the commensurate impact of the Company's nearly annual rate increases in the past five years on customers' rates. Using informed judgment, an ROE of 9.6% is more appropriate. The most recent five-year average of I&E's proxy group companies' capital structure ranges from 39.33% to 57% long-term debt, 0.51% to 12.82% short-term debt, and 35.96% to 60.16% common equity, with an overall five-year average of 47.42 long-term debt, 7.85% short-term debt, and 44.73% common equity.¹⁴ Since the proxy group's capital structure is composed of less equity than Columbia's capital structure (or the hypothetical capital structure) it is appropriate to adjust the equity return to account for the reduced risk of a capital structure that employs more equity. I&E's DCF results range from 9.06% to 11.68% (using an average dividend yield and average growth estimate for each company) with an average of 10.51% and a composite CAPM ROE of 9.935.

Based upon consideration of the competing evidence provided to the record, I believe an ROE that is in the range of the bottom of I&E's DCF range and the Composite CAPM ROE is appropriate. The 9.60% ROE is also an approximate median number between the OCA's proposed ROE of 8.90% and I&E's proposed ROE of 10.51%. With an ROE of 9.60% along with a 50/50 capital structure, the overall rate of return would be 7.40%, resulting in an overall rate increase of approximately \$30,573,357. Accordingly, I would support an ROE of 9.60%.

Smart Remote Methane Detection Pilot: I&E recommended a Smart Remote Methane Detector pilot program in a region where Columbia has risky pipe for the installation of

¹⁰ Columbia Gas St. 8 at 9-10.

¹¹ I&E M.B. at 40-41.

¹² OCA R. Exc. at 10-11; OCA M.B. at 137.

¹³ R.D. at 337-38.

¹⁴ I&E M.B at 37; I&E St. 2 at 20, citing I&E Exh. 2, Sch. 2.

500 to 1,000 Smart Remote Methane Detectors (SRMDs). Columbia stated that it could not commit to the Pilot as outlined by I&E, citing significant IT infrastructure costs and concerns, but was willing to evaluate technologies associated with the integration of Automated Metering Infrastructure and SRMDs for potential future deployment.

I support directing Columbia to implement an internal study to determine whether a methane detection pilot program would be feasible and how it would be implemented. With affordability always on our minds, it is very important for the company to fully understand the potential costs associated with the pilot prior to implementation. The usefulness and safety benefits of methane detectors are tremendous, allowing the ability of real-time smart reporting technology to simultaneously notify the customer and the emergency response officials of a potentially hazardous situation. I want to take the opportunity to thank I&E for putting forth this proposal and for Columbia to be willing to evaluate the pilot.

Additional CAP Screening: The OCA and CAUSE-PA proposed that Columbia conduct initial screening for all applicants applying for service or when transferring service to determine if they qualify as a low-income customer or may be eligible for assistance, such as customer assistance program (CAP). The record indicates that only 20,988 customers, or 23% of the estimated Columbia Gas' low-income customers, were enrolled in CAP and that additional screening is appropriate. I support this proposal and agree that additional screening is needed, and that any tool we can use to nudge customers into a healthy financial relationship with their utility is beneficial for everyone.



December 4, 2025

Kimberly Barrow, Vice Chair

Proxy Group Capital Structure

	2025	2024	2023	2022	2021	Average
Alliant Energy Corporation						
Long-term Debt	\$ 11,163.000	\$ 8,886.000	\$ 8,418.000	\$ 7,812.000	\$ 6,758.000	\$ 6,758.000
Preferred Stock	-	-	-	-	-	-
Common Equity	7,334.000	7,004.000	6,777.000	6,276.000	5,990.000	5,990.000
	18,497.000	15,890.000	15,195.000	14,088.000	12,748.000	12,748.000
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Ameren Corporation						
Long-term Debt	18,287.000	17,329.000	15,121.000	13,685.000	12,562.000	12,562.000
Preferred Stock	-	-	-	-	-	-
Common Equity	13,401.000	12,114.000	11,349.000	10,508.000	9,700.000	9,700.000
	31,688.000	29,443.000	26,470.000	24,193.000	22,262.000	22,262.000
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
American Electric Power Company, Inc.						
Long-term Debt	44,818.000	39,923.200	38,312.000	34,346.500	31,989.600	31,989.600
Preferred Stock	-	-	-	-	-	-
Common Equity	31,138.000	26,943.800	25,246.700	23,893.400	22,433.200	22,433.200
	75,956.000	66,867.000	63,558.700	58,239.900	54,422.800	54,422.800
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Consolidated Edison, Inc.						
Long-term Debt	25,930.000	25,040.000	22,357.000	20,625.000	23,323.000	23,323.000
Preferred Stock	-	-	-	793.000	793.000	793.000
Common Equity	24,190.000	21,962.000	21,158.000	20,687.000	20,037.000	20,037.000
	50,120.000	47,002.000	43,515.000	42,105.000	44,153.000	44,153.000
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Entergy Corporation						
Long-term Debt	28,207.995	26,921.331	23,227.681	23,813.273	25,053.255	25,053.255
Preferred Stock	-	-	-	-	-	-
Common Equity	16,923.076	15,083.908	14,622.647	12,966.985	11,637.284	11,637.284
	45,131.071	42,005.239	37,850.328	36,780.258	36,690.539	36,690.539
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Exelon Corporation						
Long-term Debt	47,949.000	43,554.000	40,330.000	35,928.000	36,682.000	36,682.000
Preferred Stock	-	-	-	-	-	-
Common Equity	28,798.000	26,921.000	25,755.000	24,744.000	34,393.000	34,393.000
	76,747.000	70,475.000	66,085.000	60,672.000	71,075.000	71,075.000
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
FirstEnergy Corporation						
Long-term Debt	25,735.000	22,688.000	23,064.000	21,450.000	22,519.000	22,519.000
Preferred Stock	-	-	-	-	-	-
Common Equity	12,510.000	12,455.000	10,437.000	10,166.000	8,675.000	8,675.000
	38,245.000	35,143.000	33,501.000	31,616.000	31,194.000	31,194.000
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
IDACORP, Inc.						
Long-term Debt	3,547.733	3,053.777	2,775.790	2,194.145	2,000.640	2,000.640
Preferred Stock	-	-	-	-	-	-
Common Equity	3,571.874	3,330.954	2,907.569	2,807.239	2,668.436	2,668.436
	7,119.607	6,384.731	5,683.359	5,001.384	4,669.076	4,669.076
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
PPL Corporation						
Long-term Debt	17,990.000	15,952.000	14,680.000	12,931.000	10,713.000	10,713.000
	54.73%	53.12%	51.31%	48.17%	43.84%	43.84%

Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	14,881.000	45.27%	14,077.000	46.88%	13,933.000	48.69%	13,915.000	51.83%	13,723.000	56.16%	49.77%
	<u>32,871.000</u>	<u>100.00%</u>	<u>30,029.000</u>	<u>100.00%</u>	<u>28,613.000</u>	<u>100.00%</u>	<u>26,846.000</u>	<u>100.00%</u>	<u>24,436.000</u>	<u>100.00%</u>	<u>100.00%</u>
Public Service Enterprise Group, Inc.											
Long-term Debt	21,798.000	56.21%	19,117.000	54.26%	17,957.000	53.71%	16,664.000	54.83%	15,410.000	51.63%	54.13%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	16,982.000	43.79%	16,114.000	45.74%	15,477.000	46.29%	13,729.000	45.17%	14,438.000	48.37%	45.87%
	<u>38,780.000</u>	<u>100.00%</u>	<u>35,231.000</u>	<u>100.00%</u>	<u>33,434.000</u>	<u>100.00%</u>	<u>30,393.000</u>	<u>100.00%</u>	<u>29,848.000</u>	<u>100.00%</u>	<u>100.00%</u>
TXNM Energy, Inc.											
Long-term Debt	5,237.547	60.61%	4,583.611	64.38%	4,425.968	65.33%	3,950.053	64.31%	3,591.648	62.36%	63.40%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	3,404.018	39.39%	2,536.385	35.62%	2,349.093	34.67%	2,191.932	35.69%	2,167.524	37.64%	36.60%
	<u>8,641.565</u>	<u>100.00%</u>	<u>7,119.996</u>	<u>100.00%</u>	<u>6,775.061</u>	<u>100.00%</u>	<u>6,141.985</u>	<u>100.00%</u>	<u>5,759.172</u>	<u>100.00%</u>	<u>100.00%</u>
Xcel Energy, Inc.											
Long-term Debt	33,882.000	58.93%	28,243.000	59.13%	26,013.000	59.62%	23,915.000	58.92%	22,994.000	59.56%	59.23%
Preferred Stock	-	0.00%	-	0.00%	-	0.00%	-	0.00%	-	0.00%	0.00%
Common Equity	23,609.000	41.07%	19,522.000	40.87%	17,616.000	40.38%	16,675.000	41.08%	15,612.000	40.44%	40.77%
	<u>57,491.000</u>	<u>100.00%</u>	<u>47,765.000</u>	<u>100.00%</u>	<u>43,629.000</u>	<u>100.00%</u>	<u>40,590.000</u>	<u>100.00%</u>	<u>38,606.000</u>	<u>100.00%</u>	<u>100.00%</u>

Five-Year Average Capital Structure

Long-term Debt	57.46%
Preferred Stock	0.06%
Common Equity	42.48%
	<u>100.00%</u>

Source:

Compustat (S&P Global Market Intelligence - Data Management Solutions)

Yearly data updates typically provided late April of each year

(data in millions)

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2025-3059430
	:	
UGI Utilities Inc. – Electric Division	:	

**COMMENTS OF GOVERNOR JOSH SHAPIRO
ON UGI UTILITIES, INC.—ELECTRIC DIVISION BASE RATE FILING**

Governor Josh Shapiro respectfully submits these comments regarding the application of UGI Utilities, Inc.—Electric Division (“UGI Electric”) to raise its rates for electric distribution service. If approved, this proposal would increase rates for approximately 63,000 customers in Luzerne and Wyoming counties, and it arises as UGI Corporation is in the process of selling the Electric Division.

The Governor is cognizant that UGI Electric has persistently reported the lowest equity returns among Pennsylvania electric utilities, according to the Public Utility Commission’s Report on the Quarterly Earnings of Jurisdictional Utilities. Nonetheless, he submits these comments to note that the proposed revenue increase of \$17.283 million annually—an 11.9 percent increase over the company’s current revenue requirement—is inconsistent with principles that the Governor recently articulated as a fair barometer of whether utility rate proposals would result in excessive costs for customers.¹ The Governor encourages UGI Electric to work with the parties to this case to revise the proposal in accordance with the principles, as described further below.

¹ A copy of Governor Shapiro’s letter is attached as Exhibit 1. The Governor acknowledges that UGI Electric filed its rate increase application before the publication of the Governor’s letter but believes it is in the public interest to highlight the discrepancies between his principles and UGI Electric’s proposal.

Governor Shapiro has made lowering costs for Pennsylvanians a central focus of his Administration's efforts around economic development and energy and has sounded the alarm about the increasing frequency of utility requests for large base rate increases. On April 29, 2026 the Governor sent an open letter to Pennsylvania utility executives calling on them to put their customers first and change the utility practices that are driving up rates. Specifically, Governor Shapiro articulated three principles for utilities to follow to ensure that rates are fair and that Pennsylvanians are not unduly harmed by unjustifiable costs. These comments will review compliance with the Governor's principles briefly.

First, UGI Electric's proposed capital structure of 54.5 percent common equity and 45.5 percent long-term debt is nearly inverse to its parent company, UGI Corporation, which employs a capital structure of 58.1 percent debt and 41.8. percent equity,² which does not meet the Governor's precept that utilities should seek to raise capital in the most cost-effective form available.

Second, UGI Electric's rate increase proposal does not adequately explain in plain language why its proposed investments are necessary and cost-effective. Through rates based on a fully projected future test year ("FPFTY") ending September 30, 2027, the company proposes to recover costs for—and earn a return on—new capital investments totaling nearly \$70 million between October 1, 2026 and September 30, 2027.³ Most of this investment is being made under the company's current Long-Term Infrastructure Improvement Plan ("LTiIP").⁴ But the company provides little data to support the recovery of its LTiIP investments in base rates and no cost-effectiveness analysis.

² See Book I, UGI Electric Responses to Section 53.53 - III-E - Parent - Subsidiary Relationship, Attachment III-E-2.

³ See UGI Electric Statement No. 1, Direct Testimony of Jessica R. Rogers at 6:15-20.

⁴ See UGI Electric Statement No. 1, Direct Testimony of Jessica R. Rogers at 6:11-20.

Finally, UGI Electric has requested a significant increase to its return on equity: 10.85 percent. In his letter, Governor Shapiro urged utilities to demonstrate the reasonableness of their proposed returns on equity by providing a benchmark that is transparently derived through a public process with competitive bidding by multiple participants to establish a fair market cost of that equity or to request a return on equity that does not exceed the rate of the current 10-year U.S. Treasury yield plus the five-year median of the equity risk premium as published in the Federal Reserve's Financial Stability Reports.

As noted above, the Governor is cognizant that UGI Electric has persistently reported low equity returns according to the Public Utility Commission's Report on the Quarterly Earnings of Jurisdictional Utilities. However, the Governor notes for the record here that UGI Electric's proposed ROE of 10.85 percent is incommensurate with the relatively low-risk nature of monopoly electric distribution service.

For all these reasons, Governor Shapiro opposes UGI Electric's proposed rate increase and urges the company to modify its application to satisfy the Governor's principles.

Respectfully submitted:

Jennifer C. Selber
General Counsel

/s/ Mark Szybist
Mark Szybist, Esq.
Special Counsel for Energy Affordability

PA Attorney I.D. # 94112
(570) 447-4019
mszybist@pa.gov
Counsel for Governor Josh Shapiro

Exhibit 1



GOVERNOR JOSH SHAPIRO

April 29, 2026

Dear Utility Leaders:

As you are no doubt aware, many of your customers across the Commonwealth are experiencing markedly higher utility costs. Rising utility bills have themselves become drivers of inflation. While there are many factors affecting those increases, several core causes are directly within your control and result from your policy and fiscal decisions, including the excessive rate requests several utilities have sought in recent years. Last year alone, 13 Pennsylvania utilities requested \$975 million in higher rates after those very same utilities had earned a total of \$1.4 billion in profits in 2024.

We have reached a tipping point, and this is a moment to put your customers first and change the behaviors causing rate increases. As I've expressed publicly and privately, I believe the 20th century utility model is broken—we can no longer simply prioritize corporate profitability to drive infrastructure development. Rather, we must be laser focused on delivering on the actual needs of our communities. As I stated clearly in my Budget Address in February, Pennsylvania consumers should not be asked to pay a single dollar more than is needed to support a safe and reliable utility system.

Change is needed, and my Administration stands ready to support each Pennsylvania utility in raising the capital you need to invest in your service territories and workers, both in modernizing with cost-effective new technologies and maximizing the existing infrastructure that you have developed over time. However, as we work together to implement this new approach, you must seek to procure that capital in more affordable ways, conscious of the utility burdens facing many consumers across our Commonwealth.

I write today to lay out three commonsense practices to ensure the needs of Pennsylvanians come first. My Administration will use these three practices as a benchmark to evaluate rate case proposals going forward. Let me be clear: my Administration and I will vocally and forcefully oppose rate case requests from utilities that fail to adhere to these three commonsense practices.

First, utilities should seek to raise the most cost-effective forms of capital. Best practices now require you to protect consumers by disfavoring expensive equity when lower-cost debt is available. Given the low risk profile of monopolistic utilities, which maintain a captive rate base able to repay obligations over time, consumers should not be expected to bolster corporate profits through over reliance on costly equity. This means debt should normally represent a clear majority of a utility's proposed ratemaking capital structure, as it does in many other lower-risk industries. As one measure of this approach, any equity share proposed in a rate case in excess of the amount of equity employed by the utility's parent holding company will require extraordinary justification to receive my Administration's support.

For utilities looking to find low-cost sources of capital, my Administration encourages you to apply to the Department of Energy, which is currently offering loan terms as favorable as the 10-year U.S. Treasury yield plus 35 basis points. By comparison, the average Pennsylvania utility requested a return on equity a staggering 682 basis points above the 10-year U.S. Treasury yield last year. Before raising such expensive equity, you should take advantage of more affordable sources of capital, like these loans, that many of your fellow utilities across the country are pursuing. My Administration stands ready to facilitate an introduction to loan officers at the Department of Energy upon your request.

Second, whenever new revenue is sought, a utility must explain in plain, clear language why its proposed investments are necessary, using transparent data to identify a specific reliability or safety concern that will be addressed, or demonstrating with a thorough cost/benefit analysis that the investment will produce significant savings or reliability benefits for consumers. This means showing the value customers will receive in terms of discrete improvements producing tangible outcomes that are timebound, verifiable, and logically linked to the need for additional capital. Creating real value for customers also means maximizing existing grid resources in ways that control costs and defer the need for future upgrades. You must also describe explicitly what amount of your

requested rate increase will be remitted to shareholders through corporate dividends or other means, as compared to what would be used to directly advance the needs of your customers.

Third, you must provide transparent, justifiable equity returns.

Pennsylvania has a long, proud tradition of trusting free markets to deliver fair, transparent pricing. In fact, this year marks the 30th anniversary of Act 138, which introduced competition into our utility sector for the first time. That bipartisan law embodies Pennsylvania's deep-seated belief that free-market competition—when properly implemented and overseen—is the best tool for delivering customers the fair value they deserve. Today, we use markets to price our wholesale power and rely on principles of competition to fairly and impartially award public contracts. Yet less accurate administrative determinations—essentially amounting to educated guesses—still govern how much utilities earn on their equity investment. And all too often the outcome of this administrative process is shrouded in “black box” settlements, that do not provide the public with transparency about costs they will have to pay. These vestiges of the past need to evolve to ensure that utilities are not seeking excessive profits but only the opportunity to earn the fair rate of return to which they are entitled.

To accomplish this, utilities can prove their need for a requested return on equity by providing a benchmark (representing at least 10% of the incremental requested equity) that is transparently derived through a public process with competitive bidding by multiple participants to establish a fair market cost of that equity. This sample offers the energy consumer and Public Utility Commission real-world evidence of the proper authorized return on equity, an amount that will allow the utility to earn reasonable equity returns under efficient operations. If a utility declines to justify its requested return on equity through a competitive, transparent process, it creates a presumption in the view of my Administration that the requested rate is higher than would have been derived from such a competitive process. Absent extraordinary and unforeseen circumstances, a utility can overcome that presumption by requesting a return on equity that does not exceed the rate of the current 10-year U.S. Treasury yield plus the five-year median of the equity risk premium as published in the Federal Reserve's Financial Stability Reports. In simple terms, this allows the filing utility to earn the same expected return as the stock market as a whole, according to Federal Reserve estimates, comfortably exceeding typical Public Utility Commission calculations of risk for the utility sector.

This provides an outcome that is fair for your utility and your customers even without an auction or other market-based price discovery mechanism.

This letter is an effort to be up front with you about my Administration's approach to rate requests going forward. In directly laying out these practices, I am making clear my expectations. I stand ready to collaborate with you, the Public Utility Commission, and other stakeholders in advancing thoughtful rate requests that put Pennsylvania families and businesses first and control costs after years of unacceptably high rate increases. Should you wish to have my Administration's support for any future rate requests, you must submit a description of your compliance with these practices to my Special Counsel for Energy Affordability alongside your rate case filings.

I appreciate your compliance with these practices and look forward to working together to control costs for ratepayers and build out the needed infrastructure for our Commonwealth.

Sincerely,



Governor Josh Shapiro

Cc: Honorable Stephen M. DeFrank, Chair, Pennsylvania Public Utility Commission
Honorable Kimberly M. Barrow, Vice Chair, Pennsylvania Public Utility Commission
Honorable Kathryn L. Zerfuss, Commissioner, Pennsylvania Public Utility Commission
Honorable John F. Coleman, Commissioner, Pennsylvania Public Utility Commission
Honorable Ralph V. Yanora, Commissioner, Pennsylvania Public Utility Commission
Mark Szybist, Special Counsel for Energy Affordability, Office of General Counsel

I&E Modified - S&P Rate Case History (Rate Cases 2025-2026)
Service Type: Electric Distribution

<i>State</i>	<i>Company</i>	<i>Parent Company Ticker</i>	<i>Docket</i>	<i>Electric Case Type</i>	<i>Requested ROE (%)</i>	<i>Requested Common Equity (%)</i>	<i>Authorized Date</i>	<i>Decision Type</i>	<i>Return on Equity (%)</i>	<i>Authorized Common Equity (%)</i>
Connecticut	The United Illuminating Co.	IBE	D-24-10-04	Distribution	10.50	54.00	10/28/2025	Fully Litigated	9.45	51.00
Massachusetts	Fitchburg Gas & Electric Light	UTL	DPU 25-25	Distribution	NA	NA	6/20/2025	Fully Litigated	NA	NA
Massachusetts	Massachusetts Electric Co.	NG.	DPU 25-73	Distribution	NA	NA	9/30/2025	Fully Litigated	NA	NA
Massachusetts	NSTAR Electric Co.	ES	DPU 25-136	Distribution	NA	NA	12/30/2025	Fully Litigated	NA	NA
Maine	Central Maine Power Co.	IBE	D-2025-00218	Distribution	9.80	50.00	11/18/2025	NA	NA	NA
Maine	Versant Power		D-2023-00336	Distribution	9.35	50.00	3/13/2025	Fully Litigated	9.35	50.00
New Hampshire	Liberty Utilities Granite St	AQN	D-DE-23-039	Distribution	8.32	55.00	3/25/2025	Settled	9.10	52.00
New Hampshire	Public Service Co. NH	ES	D-DE-24-070	Distribution	10.30	53.85	7/25/2025	Fully Litigated	9.50	50.00
New Hampshire	Unitil Energy Systems Inc.	UTL	D-DE-25-025	Distribution	10.50	52.67	4/27/2026	NA	9.45	52.67
New Jersey	Atlantic City Electric Co.	EXC	D-ER24110854	Distribution	10.70	50.24	11/21/2025	Settled	9.60	50.24
New York	Central Hudson Gas & Electric	FTS	24-E-0461	Distribution	10.00	48.00	8/14/2025	Settled	9.50	48.00
New York	Consolidated Edison Co.	ED	C-25-E-0072	Distribution	10.00	48.00	1/22/2026	Settled	9.40	48.00
New York	Niagara Mohawk Power	NG.	C-24-E-0322	Distribution	10.00	48.00	8/14/2025	Settled	9.50	48.00
New York	Orange & Rockland Utilts	ED	C-24-E-0060	Distribution	10.25	50.00	3/20/2025	Settled	9.75	48.00
Ohio	Ohio Edison Co.	FE	C-24-0468-EL-AIR (OE)	Distribution	10.80	53.89	11/19/2025	Fully Litigated	9.63	51.20
Ohio	Ohio Power Co.	AEP	C-25-0392-EL-AIR	Distribution	10.90	50.88	4/1/2026	Settled	9.84	50.88
Ohio	The Cleveland Electric Illumin	FE	C-24-0468-EL-AIR (CEI)	Distribution	10.80	55.80	11/19/2025	Fully Litigated	9.63	51.20
Ohio	The Dayton Power & Light	AES	C-24-1009-EL-AIR	Distribution	10.95	53.87	11/5/2025	Settled	10.00	53.87
Ohio	The Toledo Edison Co.	FE	C-24-0468-EL-AIR (TE)	Distribution	10.80	55.28	11/19/2025	Fully Litigated	9.63	51.20
Average					10.25	51.84		Average	9.56	50.42

Source:

<https://www.capitaliq.spglobal.com/apiv3/spg-webplatform-core/industry/pastRateCases?>

(accessed on May 27, 2026)

Proxy Group Long-term Debt Cost

	2025		
	Interest Charges	Long-Term Debt	Debt Cost
Alliant Energy Corporation	\$ 512.000	\$ 11,163.00	4.59%
Ameren Corporation	\$ 828.000	\$ 18,287.00	4.53%
American Electric Power Company, Inc.	\$ 2,180.000	\$ 44,818.00	4.86%
Consolidated Edison, Inc.	\$ 1,295.000	\$ 25,930.00	4.99%
Entergy Corporation	\$ 1,412.955	\$ 28,208.00	5.01%
Exelon Corporation	\$ 2,219.000	\$ 47,949.00	4.63%
FirstEnergy Corporation	\$ 1,217.000	\$ 25,735.00	4.73%
IDACORP, Inc.	\$ 204.402	\$ 3,547.73	5.76%
PPL Corporation	\$ 834.000	\$ 17,990.00	4.64%
Public Service Enterprise Group, Inc.	\$ 1,005.000	\$ 21,798.00	4.61%
TXNM Energy, Inc.	\$ 285.422	\$ 5,237.55	5.45%
Xcel Energy, Inc.	\$ 1,466.000	\$ 33,882.00	4.33%
	Range:	Low	4.33%
		High	5.76%
		Average	4.84%

Source:

Compustat (S&P Global Market Intelligence - Data Management Solutions)
Yearly data updates typically provided late April of each year
(data in millions)

Mergent Bond Record

A-Rated Public Utility Bond Yields	
Month	Yield
May 2025	6.05%
June 2025	5.93%
July 2025	5.88%
August 2025	5.77%
September 2025	5.61%
October 2025	5.51%
November 2025	5.62%
December 2025	5.68%
January 2026	5.68%
February 2026	5.61%
March 2026	5.81%
April 2026	5.81%
Average	5.75%

Source:

Mergent Bond Record
May 2026

Dividend Yields of Proxy Group

Company	Alliant Energy Corporation	Ameren Corporation	American Electric Power Company, Inc.	Consolidated Edison, Inc.	Entergy Corporation	Exelon Corporation
Symbol	LNT	AEE	AEP	ED	ETR	EXC
Div	2.28	3.20	4.08	3.80	2.68	1.77
52-wk low	59.62	93.50	100.72	94.96	80.11	42.11
52-wk high	75.76	115.59	139.44	116.23	118.45	50.65
Spot Price	73.68	111.03	130.90	107.70	111.97	46.03
Spot Div Yield	3.09%	2.88%	3.12%	3.53%	2.39%	3.85%
52-wk Div Yield	3.37%	3.06%	3.40%	3.60%	2.70%	3.82%
Average	3.23%	2.97%	3.26%	3.56%	2.55%	3.83%

Company	FirstEnergy Corporation	IDACORP, Inc.	PPL Corporation	Public Service Enterprise Group, Inc.	TXNM Energy, Inc.	Xcel Energy, Inc.
Symbol	FE	IDA	PPL	PEG	TXNM	XEL
Div	1.94	4.00	1.19	2.84	1.75	2.52
52-wk low	39.28	111.12	33.17	76.05	56.17	65.21
52-wk high	52.34	149.73	40.11	91.26	59.52	84.23
Spot Price	46.64	142.00	36.12	80.07	59.45	80.78
Spot Div Yield	4.16%	2.82%	3.29%	3.55%	2.94%	3.12%
52-wk Div Yield	4.23%	3.07%	3.25%	3.39%	3.03%	3.37%
Average	4.20%	2.94%	3.27%	3.47%	2.98%	3.25%

Average	
Spot Div Yield	3.23%
52-wk Div Yield	3.36%
Average	3.29%

Source: Barron's Value Line May 26, 2026 May 26, 2026

Five-Year Growth Estimate Forecast for Proxy Group (Actual)

Company	Symbol	S&P	Zacks	Value Line	Average
		Source			
Alliant Energy Corporation	LNT	8.17%	7.20%	6.00%	7.12%
Ameren Corporation	AEE	8.00%	9.30%	6.50%	7.93%
American Electric Power Company, Inc.	AEP	8.57%	7.90%	6.50%	7.66%
Consolidated Edison, Inc.	ED	6.29%	6.50%	6.50%	6.43%
Entergy Corporation	ETR	12.17%	13.30%	3.00%	9.49%
Exelon Corporation	EXC	6.39%	6.00%	7.00%	6.46%
FirstEnergy Corporation	FE	7.71%	7.60%	5.50%	6.94%
IDACORP, Inc.	IDA	8.38%	7.80%	5.00%	7.06%
PPL Corporation	PPL	7.91%	7.50%	8.00%	7.80%
Public Service Enterprise Group, Inc.	PEG	6.47%	6.10%	7.50%	6.69%
TXNM Energy, Inc.	TXNM	7.56%	7.60%	4.50%	6.55%
Xcel Energy, Inc.	XEL	9.62%	9.40%	8.00%	9.01%
Average:		8.10%	8.02%	6.17%	7.43%

Source:

(From Internet)
May 26, 2026

Standard Deviation	1.86%
1 Standard Deviation	9.29%
2 Standard Deviations	11.14%
3 Standard Deviations	13.00%
4 Standard Deviations	14.86%

Five-Year Growth Estimate Forecast for Proxy Group (I&E Adjusted)

Company	Symbol	S&P	Zacks	Value Line	Average
		Source			
Alliant Energy Corporation	LNT	8.17%	7.20%	6.00%	7.12%
Ameren Corporation	AEE	8.00%	9.30%	6.50%	7.93%
American Electric Power Company, Inc.	AEP	8.57%	7.90%	6.50%	7.66%
Consolidated Edison, Inc.	ED	6.29%	6.50%	6.50%	6.43%
Entergy Corporation	ETR	-	-	3.00%	3.00%
Exelon Corporation	EXC	6.39%	6.00%	7.00%	6.46%
FirstEnergy Corporation	FE	7.71%	7.60%	5.50%	6.94%
IDACORP, Inc.	IDA	8.38%	7.80%	5.00%	7.06%
PPL Corporation	PPL	7.91%	7.50%	8.00%	7.80%
Public Service Enterprise Group, Inc.	PEG	6.47%	6.10%	7.50%	6.69%
TXNM Energy, Inc.	TXNM	7.56%	7.60%	4.50%	6.55%
Xcel Energy, Inc.	XEL	9.62%	9.40%	8.00%	9.01%
Average:		7.73%	7.54%	6.17%	6.89%

Expected Market Cost Rate of Equity
Using Data for the Proxy Group of Electric Companies
5-Year Forecasted Growth Rates

<u>Time Period</u>		<u>Adjusted Dividend Yield</u> (1)	<u>Growth Rate</u> (2)	<u>Expected Return on Equity</u> (3=1+2)
(1)	52-Week Average Ending: May 26, 2026	3.36%	6.89%	10.25%
(2)	Spot Price Ending: May 26, 2026	<u>3.23%</u>	<u>6.89%</u>	<u>10.12%</u>
(3)	Average:	<u>3.29%</u>	<u>6.89%</u>	<u>10.18%</u>

Sources: Value Line May 26, 2026
Barron's May 26, 2026

<u>Proxy Group Company</u>	<u>Beta</u>
Alliant Energy Corporation	0.80
Ameren Corporation	0.80
American Electric Power Company, Inc.	0.70
Consolidated Edison, Inc.	0.65
Entergy Corporation	0.80
Exelon Corporation	0.70
FirstEnergy Corporation	0.70
IDACORP, Inc.	0.65
PPL Corporation	0.80
Public Service Enterprise Group, Inc.	0.85
TXNM Energy, Inc.	0.65
Xcel Energy, Inc.	0.70
Average beta for CAPM	0.73

Source:
Value Line
May 26, 2026

Risk-Free Rate	
10-Year Treasury Note	Yield
3Q 2026	4.30
4Q 2026	4.30
1Q 2027	4.20
2Q 2027	4.20
3Q 2027	4.20
2027-2031	4.20
Average	4.23

Source:
Blue Chip
May 1, 2026

S&P 500 Historical Return

Year	Return (%)	Year	Return (%)
2025	17.88	1974	-26.47
2024	25.02	1973	-14.66
2023	26.29	1972	18.98
2022	-18.11	1971	14.31
2021	28.71	1970	4.01
2020	18.40	1969	-8.50
2019	31.49	1968	11.06
2018	-4.38	1967	23.98
2017	21.83	1966	-10.06
2016	11.96	1965	12.45
2015	1.38	1964	16.48
2014	13.69	1963	22.80
2013	32.39	1962	-8.73
2012	16.00	1961	26.89
2011	2.11	1960	0.47
2010	15.06	1959	11.96
2009	26.46	1958	43.36
2008	-37.00	1957	-10.78
2007	5.49	1956	6.56
2006	15.79	1955	31.56
2005	4.91	1954	52.62
2004	10.88	1953	-0.99
2003	28.68	1952	18.37
2002	-22.10	1951	24.02
2001	-11.89	1950	31.71
2000	-9.10	1949	18.79
1999	21.04	1948	5.50
1998	28.58	1947	5.71
1997	33.36	1946	-8.07
1996	22.96	1945	36.44
1995	37.58	1944	19.75
1994	1.32	1943	25.90
1993	10.08	1942	20.34
1992	7.62	1941	-11.59
1991	30.47	1940	-9.78
1990	-3.10	1939	-0.41
1989	31.69	1938	31.12
1988	16.61	1937	-35.03
1987	5.25	1936	33.92
1986	18.67	1935	47.67
1985	31.73	1934	-1.44
1984	6.27	1933	53.99
1983	22.56	1932	-8.19
1982	21.55	1931	-43.34
1981	-4.91	1930	-24.90
1980	32.42	1929	-8.42
1979	18.44	1928	43.61
1978	6.56	1927	37.49
1977	-7.18	1926	11.62
1976	23.84		
1975	37.20	Average	12.35

Source:

https://www.slickcharts.com/sp500/returns#google_vignette
(accessed on May 19, 2026)

Required Rate of Return on Market as a Whole Forecasted

	<u>Dividend</u> <u>Yield</u>	+	<u>Growth</u> <u>Rate</u>	=	<u>Expected</u> <u>Market</u> <u>Return</u>
Value Line Estimate	2.10%		9.73%	(a)	11.83%
S&P 500 Historical Return					12.35%
Average Expected Market Return				=	<u><u>12.09%</u></u>

(a) Value Line forecast for the 3 to 5 year index appreciation is 40%
 $((1+40\%)^{\wedge}.25)-1$

Sources:

S&P 500 Historical Rate	1926-2025	12.35%
Value Line Dividend Yield	5/22/2026	2.10%
Value Line Appreciation Potential	5/22/2026	45.00%

CAPM with Forecasted Return (in %)

Re Required return on individual equity security
Rf Risk-free rate
Rm Required return on the market as a whole
Be Beta on individual equity security

$$Re = Rf + Be(Rm - Rf)$$

$$Rf = 4.23$$

$$Rm = 12.09$$

$$Be = 0.73$$

$$Re = \underline{\underline{9.97}} \text{ (a)}$$

Sources: Value Line May 26, 2026
Blue Chip May 1, 2026

CAPM Using Kroll ERP & 20-Year U.S. Treasury

Re Required return on individual equity security
Rf Risk-free rate
ERP Equity Risk Premium
Be Beta on individual equity security

$$Re = Rf + Be(ERP)$$

$$Rf = 5.01$$

$$ERP = 5.00$$

$$Be = 0.73$$

$$Re = \underline{\underline{8.66}} \text{ (b)}$$

Sources: Value Line May 26, 2026
Kroll March 23, 2026
CNBC May 27, 2026

$$\text{Average CAPM Result} = \underline{\underline{9.32}} \text{ [(a+b)÷2]}$$



March 24, 2026

Impact of the Middle East Conflict on Cost of Capital Assumptions – March 2026 Update

Executive Summary

Kroll regularly reviews fluctuations in global economic and financial market conditions that may warrant changes to our equity risk premium (ERP) and accompanying risk-free rate recommendations. The risk-free rate and ERP are key inputs used to calculate the cost of equity capital in the context of the Capital Asset Pricing Model (CAPM) and other models used to develop discount rates. We also update country risk data on a quarterly basis for 175+ countries using various models.

As of March 23, 2026, the **Kroll Recommended U.S. ERP is being reaffirmed at 5.0%** when developing USD-denominated discount rates. This guidance originally became effective on September 2, 2025. Similarly, **the Kroll Recommended Eurozone ERP is being reaffirmed in the range of 5.0% to 5.5%**, and we still believe that a **5.5% ERP (i.e., toward the higher end of the range)** is more appropriate when developing EUR-denominated discount rates. This guidance was originally established on January 30, 2026. Both U.S. and Eurozone recommendations will remain in place until further guidance is issued.

Notwithstanding the current recommendations, we are closely monitoring geopolitical events and related economic and financial market conditions that may affect our guidance during the first half of 2026.

First, an escalation of the ongoing armed conflict in the Middle East and a rise in related geopolitical risks could cause us to increase our ERP recommendations in the next few months. The longer the conflict continues, the more likely that higher oil and gas prices (among other commodities) will create upward inflationary pressures that will reverberate throughout the global economy. While the impact will vary significantly by country and geographic region, certain major central banks may be compelled to either hike interest rates (e.g., European Central Bank, Bank of Canada, Bank of England) or keep policy rates at elevated levels (e.g., Federal Reserve), thereby tightening financial conditions globally. A protracted conflict in the Middle East, combined with the still uncertain trade and tariff environment, could push the global economy into stagflation (i.e., stagnant growth with high inflation). Despite the U.S. economy being less exposed to oil shocks, it is not fully immune to a prolonged period of higher gasoline, fertilizers and other commodity prices. U.S. consumers are already struggling with affordability issues and a resurgence in inflation would further dampen consumer confidence, potentially leading to a retrenchment in spending.

Second, there are additional factors that could contribute to financial market disruptions in the next few months. A U.S. stock market correction driven by AI-related stocks remains a risk for 2026. In particular, recent market selloffs have centered on certain software companies (e.g., SaaS, or software-as-a-service), whose business model could be upended by AI, and financial services entities lending to those businesses. Significant exposure by some semi-liquid and evergreen private credit funds to data center and software companies is also causing jitters in markets. Certain financial institutions and alternative asset managers have already seen a significant negative impact on their share prices. For now, these risks appear to be confined to certain segments of the market and do not appear to be systemic.

Nevertheless, the combination of the risks outlined above could cause upheaval in global financial markets and might lead to a “risk-off” investor sentiment, with a corresponding increase in ERP for certain geographies (i.e., investors may demand a higher premium over the risk-free rate to induce them to invest in those equity markets).

Background

On February 28, 2026, the U.S. and Israel initiated coordinated military operations against Iran. These actions prompted Iran to retaliate by attacking Israel and several neighboring countries, with targets including U.S. military installations and critical energy infrastructure. These developments led to the suspension of navigation through the Strait of Hormuz, a major chokepoint for the world’s transit of oil supply. According to the U.S. Energy Information Administration (EIA), the Strait of Hormuz accounted for 20% of the world’s total oil supply and 26% of the world’s maritime trade in the first half of 2025.¹ In addition, about 20% of liquefied natural gas (LNG) trade flows transited through the Strait of Hormuz in 2024.²

The disruption severely affected global energy supply chains and intensified commodity market volatility, particularly after Iran began targeting merchant vessels. Brent crude oil, the international oil benchmark, surged to \$106 per barrel (based on closing spot prices at the time of writing), representing a 46% increase since February 27, 2026.³ These prices are not quite as high as observed in June 2022, in the aftermath of Russia’s invasion of Ukraine. Member countries of the International Energy Agency (IEA) coordinated the release of 400 million barrels of oil to stabilize markets, but this action has not helped so far.

European natural gas prices increased sharply, further exacerbated when Qatar—the world’s second-largest exporter of LNG—declared “force majeure” following damage to its export facilities.⁴ Unlike the U.S., which is largely energy independent, Europe is a net importer of energy, making it especially vulnerable to supply disruptions.

¹ U.S. Energy Information Administration, “World Oil Transit Chokepoints”, March 3, 2026.

² U.S. Energy Information Administration, “About one-fifth of global liquefied natural gas trade flows through the Strait of Hormuz”, June 24, 2025.

³ Data through March 22, 2026. Source of underlying data: S&P Capital IQ. The West Texas Intermediate (WTI) was trading at approximately \$95/barrel at the time of writing, a 42% increase from the February 27, 2026 close.

⁴ Declaring force majeure enables Qatar to legally suspend its obligations to deliver LNG under long-term contracts. For additional details, see Qatar Energy press release titled “H.E. Minister Saad Sherida Al-Kaabi: The missile attacks reduced Qatar’s LNG export capacity by 17% and caused an estimated loss of \$20 billion in annual revenue”, March 19, 2026.

This shock to energy supplies may drive higher inflationary pressures, increase financial market uncertainty, and weaken investor sentiment—factors that tend to widen risk premia. Both the European Central Bank and the Bank of England are now considering whether interest rate hikes are needed to tame inflationary pressures. Nevertheless, natural gas prices in Europe are still much lower than in the aftermath of the Ukraine invasion in 2022. For perspective, the Title Transfer Facility (TTF), the primary price benchmark for European natural gas, surged 86% from €32 per megawatt-hour (MWh) on February 27 to €59/MWh on March 22, 2026.⁵ In contrast, at the height of the Russia-Ukraine conflict, TTF prices peaked at €349/MWh.

As the Middle East situation continues to evolve, global financial markets have begun to show signs of stress, as investors reassess the length of the conflict and the heightened geopolitical uncertainty. Equity markets have experienced substantial volatility, with major indices seeing a net decline since the conflict began. Since February 27, coincidentally a record high for the STOXX® Europe 600, the index fell by 9.0% through March 23, 2026. During the same period, the VSTOXX®, the volatility index for the Euro STOXX® 50, has hovered around 30.0, which is the highest level since April 2025 (after the so-called “Liberation Day”). In the U.S., the VIX index closed at 26.2 on March 23, while the S&P 500 index declined by 4.3% over the same period (and by 5.7% since its record high on January 27, 2026). The larger decline in Europe relative to the U.S. underscores the European economy’s heightened vulnerability to a potential energy crisis.

Thus far, given the ramifications of a potential global energy crisis, equity markets are reflecting weakening investor confidence, but not a sense of panic. The longer the conflict persists, however, the greater the likelihood that higher commodity prices and disrupted energy supplies will reshape negatively the expectations for economic growth and inflation. For now, elevated market volatility indicates increasingly cautious investor positioning, reinforced by a concurrent rise in long-term government yields.

Long-term yields in both the U.S. and Europe increased significantly following the beginning of hostilities, as investors priced higher inflation expectations. The 10-year U.S. Treasury yield increased from 4.0% on February 27 to 4.3% on March 23, 2026. Similarly, the 10-year German Bund yield rose from 2.7% to 3.0% over the same period. The UK has seen a sharper increase in long-term interest rates, with the 10-year government bond yield jumping from 4.3% to 5.0%, given its significant dependence on imported energy.⁶ The sharp rise in oil and natural gas prices has raised concerns that inflation may remain elevated for a longer period, eroding real returns and prompting investors to require higher yields on long-dated government securities. However, should transit through the Strait of Hormuz resume in the near term, energy prices would likely stabilize and appease some of investors’ concerns.

We are monitoring the situation closely, but at this time we believe current conditions do not warrant changes to our ERP recommendations for the U.S. or Eurozone. That said, circumstances can evolve quickly, and we will issue updated guidance should market conditions shift materially.

⁵ Source of underlying data: S&P Capital IQ.

⁶ Source of underlying data: S&P Capital IQ.

U.S. and Eurozone ERP Recommendations – Reaffirmed March 23, 2026

United States

The underlying economic conditions are still favorable for the U.S. economy. Based on recent economic indicators and financial market conditions, the **Kroll Recommended U.S. ERP remains at 5.0%**, matched with the higher of a U.S. normalized risk-free rate of 3.5% or the spot 20-year U.S. Treasury yield as of the valuation date until further notice. We last changed the Recommended U.S. ERP on September 2, 2025, and this recommendation was re-affirmed at year-end 2025.

Eurozone (From a German Investor Perspective)

Based on recent economic indicators and financial market conditions, the **Kroll Recommended Eurozone ERP remains in the range of 5.0% to 5.5%** to be used in conjunction with the higher of a German normalized risk-free rate of 2.5% or the spot 15-year German government bond yield as of the valuation date. We believe that an ERP toward the higher end of the range (i.e., closer to a 5.5% ERP) is still more appropriate. This guidance was originally established on January 30, 2026.

Incremental country risk adjustments for other Eurozone countries with a sovereign debt rating below AAA may be appropriate. Please note that this information does not supersede Germany's Institut der Wirtschaftsprüfer (IDW) guidance for projects that will be reviewed by German auditors or regulators.

We will continue to monitor economic and financial market conditions, as well as geopolitical events that may change our guidance in the coming months. Please contact our support team with any questions: costofcapital.support@kroll.com.

Kroll Cost of Capital Inputs

Data as of March 23, 2026					
	U.S. (in USD)	Eurozone ** (in EUR)	U.K. †† (in GBP)	Canada †† (in CAD)	Australia †† (in AUD)
Normalized Risk-Free Rate	Higher of 3.5% or Spot*	Higher of 2.5% or Spot†	Higher of 4.0% or Spot‡	Higher of 3.5% or Spot§	Higher of 3.5% or Spot¶
Kroll Recommended Equity Risk Premium	5.0% *	5.0% to 5.5% †	n/a	n/a	n/a

* We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022, and thereafter. Based on current economic indicators and financial market conditions, the Kroll Recommended U.S. ERP is 5.0% when developing USD-denominated discount rates as of September 02, 2025, and thereafter.

† We recommend using the spot 15-year German government bond yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our German normalized risk-free rate of 2.5%. This guidance is effective when developing EUR-denominated discount rates as of March 31, 2024, and thereafter. Based on current economic and financial market conditions, the Kroll Recommended Eurozone ERP has decreased to a range of 5.0% to 5.5%, but we believe that an ERP towards the higher end of the range (i.e., closer to 5.5%) is likely more appropriate when developing EUR-denominated discount rates as of January 30, 2026, and thereafter.

‡ We recommend using the spot 20-year U.K. Gilt yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our U.K. normalized risk-free rate of 4.0%. This guidance is effective when developing GBP-denominated discount rates as of October 18, 2022, and thereafter.

§ We recommend using the spot Government of Canada Benchmark Long-Term Bond yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our Canada normalized risk-free rate of 3.5%. This guidance is effective when developing CAD-denominated discount rates as of October 18, 2022, and thereafter.

¶ We recommend using the spot 10-year Australia Commonwealth Government bond yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our Australia normalized risk-free rate of 3.5%. This guidance is effective when developing AUD-denominated discount rates as of October 31, 2022, and thereafter.

** German normalized risk-free rate and Eurozone equity risk premium (ERP) for use in EUR-denominated discount rates from a German investor perspective. Additional country risk adjustments may be warranted when estimating discount rates for other countries in the Eurozone.

†† Although currently we do not have an official Kroll Recommended ERP for the U.K., Canada and Australia, historical and other forward-looking ERP information for these countries is available in the International Cost of Capital Inputs dataset within the Cost of Capital Navigator.



U.S. 20 Year Treasury

US20Y:Tradeweb

I&E Exhibit No. 2
Schedule 12
Page 5 of 6



LIVESTREAM

Squawk on the Street

RT Quote | Exchange

Yield | 11:43 AM EDT

5.014% ▼ -0.011

1D 5D 1M 3M 6M YTD 1Y 5Y ALL



Comparison

1D

Display

Studies

Yield Open	5.016%	Price	99.8281
Yield Day High	5.021%	Price Change	+0.1406
Yield Day Low	4.984%	Price Change %	+0.1411%
Yield Prev Close	5.025%	Price Prev Close	99.6875

LATEST ON U.S. 20 YEAR TREASURY

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Citi's Kaiser: Global bond yields are a risk that have been simmering in background for awhile

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Investors are piling into big, short Treasury bets alongside Warren Buffett

Wednesday's stock stories: What's likely to move the market in the next session
MAY 27, 2025CNBC.COM

KEY STATS

Price Day High	100.2031
Price Day Low	99.7344
Coupon	5.00%
Maturity	2046-05-15

I&E-RR-14

Request:

Reference UGI Electric Statement No. 8, p. 32, lines 683-686 (Table 9) and Schedule DWD-4, p. 1 concerning the RP analysis indicated cost of equity result range of 10.59% - 11.00%. State whether Mr. D'Ascendis is aware of any instances where the Commission specifically relied upon an RP analysis to determine an appropriate cost of equity in any Pennsylvania base rate proceeding in the last ten years. If so, identify the applicable cases, including the docket numbers.

Response:

In Docket No. R-2013-2360798, concerning Columbia Water Company, the Commission states in its disposition that:

In this case, the range of ROE recommendations presented by the Parties based on the DCF methodology is 8.25% to 11.35%. Based on our review of the testimony, data, and cost models presented, we believe that the evidence in this case supports an ROE finding in the reasonable range of 9.25% to 10.25% using the DCF method as the foundation. The equity-heavy capital structure of Columbia indicates that a slightly lower ROE is appropriate. However, the small size of the Company, its management effectiveness, and the results of ROE models other than DCF are all reasons to set a higher ROE. Therefore, within our indicated range of reasonableness, we conclude that a ROE of 9.75% is appropriate for our ratemaking determinations herein.

While not specifically stated, the RPM, the ECAPM, and the results of ROE models applied to a Non-Price Regulated Proxy Group were presented in that proceeding. Furthermore, in Docket No. R-2014-2402324, concerning Emporium Water Company, in the recommended decision, Administrative Law Judge Buckley states:

The Company witness, Dylan W. D'Ascendis, recommended that the Commission authorize Emporium the opportunity to earn an overall rate of return of 7.17% based upon a comparable industry group hypothetical capital structure which consists of 46.29% long-term debt and 53.71% common equity at an embedded or actual debt cost rate of 2.68%. He also recommended a common equity cost rate of 11.05%. Emporium Statement No. 2 at 2. While the Commission may see fit to adjust this, these recommendations are at least in the zone of reasonableness and fiscal reality.

I&E-RR-23

Request:

Reference UGI Electric Statement No. 8, p. 54, lines 1125-1127, where Mr. D'Ascendis states that the loss of revenues from a few larger customers would have a greater effect on a small company than on a bigger company with a larger and more diverse customer base:

- A. Identify all "large customer" accounts lost and gained by year for the fiscal years 2023, 2024, and 2025.
- B. Explain future electric distribution business growth potential in general and business opportunities for data center electric power demand in the service territories of UGI Electric.
- C. State whether Mr. D'Ascendis agrees that all jurisdictional regulated utilities in Pennsylvania, regardless of size have the opportunity to recover all prudent expenses necessary to provide safe & reliable service via base rate case filings.

Response:

- A. The statements made in the referenced passage are general in nature and were not specific to UGI Electric. That said, here are the UGI Electric Rate LP customers lost and gained for the years 2023 through 2025:

2023 = gain of 7 customers
2024 = loss of 8 customers
2025 = loss of 16 customers

- B. Mr. D'Ascendis has not evaluated this issue or incorporated it into his analysis.
- C. Yes.

**I&E Statement No. 2-SR
Witness: D. C. Patel**

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

UGI UTILITIES, INC. - ELECTRIC DIVISION

Docket No. R-2025-3059430

Surrebuttal Testimony

of

D. C. Patel

Bureau of Investigation & Enforcement

Concerning:

Rate of Return

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1 **INTRODUCTION OF WITNESS**

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

3 A. My name is D. C. Patel. My business address is Pennsylvania Public Utility
4 Commission, Commonwealth Keystone Building, 400 North Street, Harrisburg,
5 PA 17120.

6
7 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

8 A. I am employed by the Pennsylvania Public Utility Commission (Commission) in
9 the Bureau of Investigation & Enforcement (I&E) as a Fixed Utility Financial
10 Analyst.

11
12 **Q. ARE YOU THE SAME D. C. PATEL WHO SUBMITTED THE DIRECT**
13 **TESTIMONY CONTAINED IN I&E STATEMENT NO. 2 AND THE**
14 **SCHEDULES IN I&E EXHIBIT NO. 2?**

15 A. Yes.

16
17 **Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

18 A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony of
19 UGI Utilities, Inc. - Electric Division (UGI Electric or Company) witness Dylan
20 W. D'Ascendis¹ regarding rate of return topics including the proxy group, capital

¹ UGI Electric Statement No. 8-R.

1 structure, cost of common equity methods and data inputs, flotation cost
2 adjustment, business risk adjustment, and the overall fair rate of return, as applied
3 to UGI Electric's rate base to determine the revenue requirement.

4 It should be noted that I do not intend my surrebuttal testimony to address
5 each and every topic or issue raised or otherwise discussed by the UGI Electric
6 and other parties' witnesses in rebuttal testimony as I discussed all the topics of
7 concern at length in my direct testimony. My lack of response to any specific
8 statement, assertion, or position of any witness in this surrebuttal testimony does
9 not imply my acceptance or support of their positions in this proceeding.

10
11 **Q. DOES YOUR SURREBUTTAL TESTIMONY INCLUDE AN EXHIBIT?**

12 A. Yes.² Additionally, I will refer to my direct testimony³ and schedules contained in
13 my exhibit⁴ where necessary.

14
15 **Q. WHAT WAS YOUR ORIGINAL OVERALL RATE OF RETURN**
16 **RECOMMENDATION IN DIRECT TESTIMONY?**

17 A. I recommended the following rate of return for UGI Electric:⁵

² I&E Exhibit No. 2-SR.

³ I&E Statement No. 2.

⁴ I&E Exhibit No. 2.

⁵ I&E Statement No. 2, p. 6 and I&E Exhibit No. 2, Schedule 1.

I&E Recommendation UGI Utilities, Inc. - Electric Division Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.00%	5.17%	2.59%
Common Equity	<u>50.00%</u>	9.69%	<u>4.85%</u>
Total	<u>100.00%</u>		<u>7.44%</u>

SUMMARY OF MR. D'ASCENDIS' REBUTTAL TESTIMONY

Q. SUMMARIZE MR. D'ASCENDIS' RESPONSE TO YOUR RATE OF RETURN RECOMMENDATION.

A. First, Mr. D'Ascendis provides an updated analysis from what he employed in his direct testimony. Mr. D'Ascendis disputes my recommendations regarding an overall fair rate of return including the hypothetical capital structure I employed. He takes issue with the forecasted growth rate I employed in my Discounted Cash Flow (DCF) analysis, criticizes my application of the Capital Asset Pricing Model (CAPM), claiming that I have incorrectly relied on the 10-year Treasury Bond for my risk-free rate, employed Kroll's Equity Risk Premium (ERP), and have not employed the Empirical CAPM (ECAPM). He questions the relevance of recent authorized returns from peers across the country that I presented. Mr. D'Ascendis also takes issue with my dismissal of his Non-Price Regulated Proxy Group and his application of the cost of equity analysis methods. Finally, he claims that I fail

1 to account for UGI Electric’s small size-specific business risk and disagrees with
2 my denial to his flotation cost adjustment to his proposed return on equity.

3
4 **MR. D’ASCENDIS’ UPDATED ANALYSIS**

5 **Q. DID THE COMPANY UPDATE ITS RATE OF RETURN CLAIM?**

6 A. Yes. Mr. D’Ascendis provides an updated cost of equity analysis⁶ including his
7 electric utility proxy group using data as of June 12, 2026, because his original
8 analysis was performed using data as of January 30, 2026. His updated analysis
9 excludes Portland General Electric Company from his proxy group because on
10 February 17, 2026, the company announced it entered into an agreement to acquire
11 generation, transmission, and electric utility operations from PacifiCorp for \$1.9
12 billion. This violates his third criterion that dictates a company “...had not
13 publicly announced that they were involved in any major merger or acquisition
14 activity...”⁷ While the results produced by his updated analysis indicate a
15 decreased common equity cost rate range (10.63% - 12.17%),⁸ Mr. D’Ascendis
16 continues to recommend a 10.85% return on equity (ROE)⁹ as he did in his direct
17 testimony. However, he did use the Company provided updated cost of debt in
18 calculating his overall updated rate of return recommendation as illustrated
19 below:¹⁰

⁶ UGI Electric Statement No. 8-R, pp. 3-5.

⁷ UGI Electric Statement No. 8, p. 13, lines 300-302.

⁸ UGI Electric Statement No. 8-R, p. 5 and Rebuttal Exhibit B, Schedule DWD 1-R, p. 2.

⁹ UGI Electric Statement No. 8-R, p. 5.

¹⁰ UGI Electric Rebuttal Exhibit B, Schedule DWD 1-R, p. 1.

UGI Utilities, Inc. - Electric Division Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	45.75%	5.22%	2.39%
Common Equity	<u>54.25%</u>	10.85%	<u>5.89%</u>
Total	<u>100.00%</u>		<u>8.28%</u>

Q. DO YOU HAVE ANY UPDATES TO YOUR RATE OF RETURN ANALYSIS AND RECOMMENDATION?

A. Yes. Though I have updated my overall rate of return recommendation to reflect the Company's updated cost of long-term debt, I am not updating or revising my analyses results because the data used in my analyses are through May 2026, which aligns with Mr. D'Ascendis' updated data. My recommended capital structure and cost of equity remain the same as presented in my direct testimony and shown below:

I&E Updated Recommendation UGI Utilities, Inc. - Electric Division Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.00%	5.22%	2.61%
Common Equity	<u>50.00%</u>	9.69%	<u>4.85%</u>
Total	<u>100.00%</u>		<u>7.46%</u>

1 **RATEMAKING CAPITAL STRUCTURE**

2 **Q. SUMMARIZE MR. D'ASCENDIS' CRITICISM OF YOUR**
3 **RECOMMENDED 50/50 RATEMAKING CAPITAL STRUCTURE FOR**
4 **UGI ELECTRIC.**

5 A. Mr. D'Ascendis states that I&E does not explain a change in approach in direct
6 testimony considering that I&E accepted the actual capital structure proposed in
7 the UGI Utilities - Gas Division rate case.¹¹ He claims that if the Company had a
8 capital structure with more leverage, the Company's cost of long-term debt would
9 be somewhat higher than UGI Electric's updated 5.22% debt cost rate.¹² He then
10 references David C. Parcell in "The Cost of Capital - A Practitioner's Guide"
11 (CRRA Guide) prepared for the Society of Utility and Regulatory Financial
12 Analysts (SURFA) and points to two circumstances when a hypothetical capital
13 structure is used as opposed to the actual or expected capital structure.¹³
14 Additionally, he also refers to Charles F. Phillips' book entitled "The Regulation
15 of Public Utilities - Theory and Practice".¹⁴ Finally, he concludes that as the
16 Company's capital structure is within the range of the Utility Proxy Group and its
17 operating subsidiaries, and within the range of equity ratios authorized by utility
18 regulatory commissions, a hypothetical capital structure should not be considered
19 for the Company at this time.¹⁵

¹¹ UGI Electric Statement No. 8-R, p. 6.

¹² UGI Electric Statement No. 8-R, p. 6.

¹³ UGI Electric Statement No. 8-R, pp. 6-7.

¹⁴ UGI Electric Statement No. 8-R, p. 7.

¹⁵ UGI Electric Statement No. 8-R, p. 8.

**Q. WHAT IS YOUR RESPONSE TO MR. D’ASCENDIS’ REBUTTAL
TESTIMONY REGARDING YOUR RECOMMENDED 50/50
RATEMAKING CAPITAL STRUCTURE FOR UGI ELECTRIC?**

A. First, I agree that I&E changed its approach to recommend a hypothetical capital structure as opposed to a utility’s actual capital structure for ratemaking purposes. As discussed in my direct testimony,¹⁶ I reiterate that a capital structure of 50% long-term debt and 50% common equity is reasonable when trying to balance the financial integrity of a utility as well as trying to control costs to ratepayers in this proceeding. Limiting a company’s capital structure from becoming too equity heavy is reasonable and necessary for a fair ratemaking process and is currently in the interest of ratepayers considering the increased cost of living and resultant financial challenges faced by ratepayers while utility rates are ballooning.¹⁷

Second, my recommended 50% equity capital ratio is above the overall five-year (2021-2025) average 42.48% equity ratio of my proxy group companies. Considering the rate impact of an equity heavy capital structure, it is inappropriate and unreasonable to allow the Company’s claimed 54.25% common equity ratio for ratemaking purposes, which is higher by 11.77% (54.25% - 42.48%) than my proxy group’s average equity ratio.¹⁸ Further, Vice Chair Barrow in her statement at the public meeting held on April 16, 2026, expressed concern regarding the

¹⁶ I&E Statement No. 2, p. 16.

¹⁷ I&E Statement No. 2, p. 16.

¹⁸ I&E Statement No. 2, p. 17.

1 Company's claimed overall rate of return and return on equity as well as the
2 capital structure and its financial impact on customers.¹⁹

3 Finally, as discussed in my direct testimony,²⁰ per Regulatory Research
4 Associates, a group within S&P Global Market Intelligence, the average
5 authorized equity ratio for electric distribution utilities was 50.42% in rate cases
6 from January 2025 through March 2026.

7
8 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' REFERENCE TO**
9 **DAVID C. PARCELL'S "CRRA GUIDE" AND CHARLES F. PHILLIPS'**
10 **BOOK, "THE REGULATION OF PUBLIC UTILITIES - THEORY AND**
11 **PRACTICE" REGARDING THE RATEMAKING CAPITAL**
12 **STRUCTURE?**

13 A. The CRRA Guide on p. 47 notes that there are two circumstances when a
14 hypothetical capital structure is used as opposed to a utility's actual or expected
15 capital structure:

- 16 (1) The utility's capital structure is deemed to be substantially different from
17 the typical or "proper" utility capital structure; or
18 (2) The utility is funded as part of a diversified organization whose overall
19 capital structure reflects its diversified nature rather than its utility
20 operations only.

¹⁹ I&E Statement No. 2, pp. 14-15.

²⁰ I&E Statement No. 2, p. 19.

In both these circumstances, a “reasonableness test” is generally applied in order to determine if the actual capital structure is unreasonable or produces an excessive cost of capital.²¹ Considering UGI Electric’s claimed equity ratio of 54.25%, in my opinion, UGI Electric’s equity heavy capital structure is deemed to be substantially different from a typical or proper utility capital structure based on the average capital structure of 42.48% equity and 57.52% long-term debt maintained by the proxy group companies as discussed above and the parent company’s (UGI Corporation) actual average capital structure comprised of 42.08% equity and 56.92% long-term debt for the fiscal years 2021-2025 as shown in the table below:²²

Year Ended September 30	Long-term Debt	Common Equity
2021	53.8%	44.3%
2022	52.2%	46.5%
2023	60.0%	38.4%
2024	60.5%	39.4%
2025	58.1%	41.8%
Average	56.92%	42.08%

Further, Mr. D’Ascendis refers to Charles F. Phillips’ notes in the book entitled “The Regulation of Public Utilities - Theory and Practice,”²³

²¹ David C. Parcell, The Cost of Capital - A Practitioner’s Guide, Prepared for the Society of Utility and Regulatory Financial Analysts, 2020 Edition, p. 47.

²² I&E Exhibit No. 2-SR.

²³ UGI Electric Statement No. 8-R, p. 7.

1 A hypothetical capital structure is used only where a utility's
2 actual capitalization is clearly out of line with those of other
3 utilities in its industry or where a utility is diversified.

4 Considering this notation, my recommended hypothetical capital structure is
5 appropriate and well supported because as discussed above, UGI Electric's actual
6 capitalization is clearly out of line as compared to the average capital structure
7 maintained by the proxy group companies and the parent company's (UGI
8 Corporation) actual average capital structure for the fiscal years 2021-2025.

9
10 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' DISPUTING YOUR**
11 **RELIANCE ON THE AVERAGE EQUITY RATIOS OF THE PROXY**
12 **GROUP AS A BENCHMARK FOR AN APPROPRIATE EQUITY RATIO**
13 **FOR THE COMPANY?**

14 A. Mr. D'Ascendis states that the cost of capital is an opportunity cost, where
15 investors decide between a basket of alternative investment options with
16 comparable risk. He admits that the utility proxy group represents alternative
17 investments. However, he rejects the proxy group average equity ratio as a
18 benchmark and favors the proxy group range of equity ratio as a benchmark for
19 determining a reasonable ratemaking capital structure,²⁴ which supports his
20 claimed equity ratio. I disagree with Mr. D'Ascendis' consideration of the proxy

²⁴ UGI Electric Statement No. 8-R, p. 9.

1 group range of equity ratio as benchmark for determining a ratemaking capital
2 structure for the reasons discussed above.

3
4 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' CHARACTERIZATION OF**
5 **YOUR RECOMMENDED HYPOTHETICAL CAPITAL STRUCTURE AS**
6 **THE OPTIMAL CAPITAL STRUCTURE?**

7 A. No. I have not opined that my recommended 50/50 capital structure is optimal for
8 UGI Electric. The Company can maintain whatever capital structure on its
9 Balance Sheet that it sees fit for running its business operations and meeting its
10 short-term and long-term funding requirements for capital investments. To be
11 clear, I am recommending a hypothetical capital structure for ratemaking purposes
12 only in order to reduce the impact of an equity heavy/rich capital structure on
13 ratepayers. The cost savings that could be achieved using the 50/50 capital
14 structure are demonstrated in my direct testimony.²⁵

15
16 **Q. DO YOU AGREE WITH MR. D'ASCENDIS' POSITION THAT THE**
17 **PARENT COMPANY'S CAPITAL STRUCTURE IS NOT RELEVANT?**

18 A. No. Mr. D'Ascendis asserts that there are numerous factors that a company must
19 consider before establishing an optimal financing plan and implementing an
20 optimal capital structure.²⁶ I agree that the Company must consider various

²⁵ I&E Statement No. 2, p. 20.

²⁶ UGI Electric Statement No. 8-R, pp. 11-12.

1 factors before establishing an optimal financing plan and implementing an optimal
2 capital structure.

3 He then states that UGI Corporation derives almost 70% of its net operating
4 income from non-regulated operations and is not a comparable-risk company to
5 UGI Electric. Therefore, he opines that UGI Corporation's capital structure is
6 irrelevant for evaluation of UGI Electric's capital structure.²⁷ I disagree with Mr.
7 D'Ascendis' notion that UGI Corporation's capital structure is irrelevant for the
8 evaluation of UGI Electric's capital structure because UGI Corporation is the
9 stock listed parent company of UGI Electric, which issues equity capital and
10 borrows funds from the capital market for financing utility subsidiaries'
11 operations. UGI Corporation has adequate access to the capital market for the
12 required funding for its subsidiaries with its current capital structure as discussed
13 above. Therefore, Mr. D'Ascendis' notion that UGI Corporation's capital
14 structure is irrelevant for evaluating the reasonableness of UGI Electric's capital
15 structure is inappropriate and unsupported.

16
17 **DISCOUNTED CASH FLOW**

18 **Q. SUMMARIZE MR. D'ASCENDIS' CRITICISM OF YOUR DCF**
19 **ANALYSIS.**

20 **A.** Mr. D'Ascendis takes issue with my elimination of Entergy Corporation's (ETR),

²⁷ UGI Electric Statement No. 8-R, p. 12.

1 two long-term earnings per share growth rates for being too high, while not
2 eliminating the third estimate for what he deems to be too low. He argues that
3 because I based my decision to remove the higher growth rate estimates on being
4 two standard deviations higher than the overall proxy group average, I should
5 similarly have removed the third for being two standard deviations below the
6 overall proxy group average.²⁸

7
8 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' REBUTTAL**
9 **TESTIMONY REGARDING YOUR FORECASTED GROWTH**
10 **ESTIMATES EMPLOYED IN YOUR DCF ANALYSIS?**

11 A. While the two standard deviation metric was certainly a consideration for making
12 my decision on whether to keep or discard a particular long-term growth estimate,
13 I also took into account the specific basis point difference between the growth
14 estimates. S&P and Zacks offered estimates for ETR of 12.17% and 13.30%,
15 respectively. These estimates are 474 basis points (12.17% - 7.43%) and 587 basis
16 points (13.30% - 7.43%), respectively, higher than the overall average growth rate
17 of 7.43%. The average of these estimates is 531 basis points $((12.17\% + 13.30\%$
18 $\div 2) - 7.43\%)$ higher than the overall average. Conversely, Value Line's estimate
19 of 3.00% is 443 basis points (7.43% - 3.00%) lower than the overall average
20 growth rate.²⁹ The difference in the variance between the higher estimates and

²⁸ UGI Electric Statement No. 8-R, p. 26.

²⁹ I&E Exhibit No. 2, Schedule 5.

1 lower estimates is 88 basis points (531 - 443) which I believe is significant. While
2 making the determination on whether to include or exclude a particular estimate
3 can be subjective, in my opinion, my analysis yields an appropriate 6.89% long-
4 term growth estimate for my DCF.

5
6 **CAPITAL ASSET PRICING MODEL**

7 **Q. SUMMARIZE MR. D'ASCENDIS' RESPONSE TO YOUR CAPM**
8 **ANALYSIS.**

9 A. Mr. D'Ascendis disputes my use of the 10-year U.S. Treasury Note as a proxy to
10 measure the risk-free rate that I use in my CAPM analysis. He also disagrees with
11 my use of Kroll's MRP (Market Risk Premium, also identified as the Equity Risk
12 Premium or ERP by Kroll and I&E) and my exclusion of the ECAPM method of
13 computing the Company's return on equity.³⁰

14
15 **RISK-FREE RATE**

16 **Q. WHAT IS MR. D'ASCENDIS' RESPONSE TO YOUR USE OF THE**
17 **YIELD ON THE 10-YEAR U.S. TREASURY NOTE?**

18 A. Mr. D'Ascendis claims his use of the yield on a 30-year U.S. Treasury Bond is
19 more appropriate than my use of the yield on a 10-year Treasury Note because it
20 better reflects the life of the underlying investment. He opines that long-term

³⁰ UGI Electric Statement No. 8-R, p. 27.

1 treasury notes are not subject to maturity risk as the cost of equity is a long-term
2 concept, and the investment horizon of an individual investor is irrelevant. He
3 also claims that not incorporating the longest projection available is inconsistent
4 with the DCF assumption of a constant rate of dividend growth and the Efficient
5 Market Hypothesis (EMH), which assumes that all available information is
6 considered by investors. Finally, he asserts that my use of yields on a medium-
7 term (10-year) Treasury Note does not match the life of the assets being valued.³¹
8

9 **Q. IS THE LIFE OF THE INVESTMENT THE ONLY FACTOR THAT**
10 **SHOULD BE CONSIDERED IN THE CHOICE OF A RISK-FREE RATE?**

11 A. No. The risk-free rate is the return that can be earned without accepting any risk,
12 and while the life of the investment can be considered in the choice of risk-free
13 rates, the most important consideration is that the rate be as risk-free as possible.
14 As explained in my direct testimony,³² I chose the 10-year Treasury Note as it
15 mitigates the shortcomings of the short-term Treasury Bill and the 30-year
16 Treasury Bond. Although long-term Treasury Bonds have less risk of being
17 influenced by federal policies, they have substantial maturity risk associated with
18 market risk. In addition, long-term Treasury Bonds bear the risk of unexpected
19 inflation and time value of money. As such, my choice of a 10-year Treasury
20 Note is appropriate. Further, as also pointed out in my direct testimony, the

³¹ UGI Electric Statement No. 8-R, pp. 27-30.

³² I&E Statement No. 2, pp. 33-34.

Commission has historically agreed with I&E that the 10-year Treasury Note is the superior measure of the risk-free rate of return.³³ Finally, I disagree with Mr. D'Ascendis' statement that the cost of equity is a long-term concept and that the investment horizon of an individual investor is irrelevant. I believe an investor does not invest funds in perpetuity. Rather, an investor is interested in total return on investment over a certain period. If an investor finds a better alternative investment opportunity or needs money for other purposes, they will change or redeem their equity investment.

Q. DO YOU AGREE WITH MR. D'ASCENDIS THAT LONG-TERM TREASURY BONDS DO NOT HAVE MATURITY RISK?

A. No. As discussed in my direct testimony, while long-term Treasury Bonds exhibit more stability, they are not risk-free. Long-term Treasury Bonds have substantial maturity risk associated with market risk and the risk of unexpected inflation and/or increasing interest rates resulting in reduced purchasing power of the initial investment. This is why long-term treasuries normally offer higher yields to compensate investors for these risks.

³³ *Pa. PUC v. UGI Utilities, Inc. - Electric Division*, Docket No. R-2017-2640058 (Order Entered October 25, 2018). *See generally* *Disposition of Capital Asset Pricing Model (CAPM)*, p. 99; *Pa. PUC v. Aqua - Pennsylvania, Inc.*, Docket Nos. R-2021-3027385 & R-2021-3027386, p. 154 (Order Entered May 16, 2022); *Pa. PUC v. Columbia Water Company*, Docket No. R-2023-3040258 (Order Entered January 18, 2024). *See generally* *Disposition of Cost of Common Equity*, pp. 107-108; *Pa. PUC v. Pennsylvania-American Water Company*, Docket Nos. R-2023-3043189 & R-2023-3043190 (Order Entered July 22, 2024). *See generally* *Disposition of Capital Asset Pricing Model (CAPM)*, pp. 171-172, and *Pa. PUC v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2025-3053499 (Order Entered December 9, 2025). *See generally* *Rate of Return on Common Equity - Disposition*, p. 234.

1 **KROLL ERP**

2 **Q. SUMMARIZE MR. D'ASCENDIS' REBUTTAL TESTIMONY**
3 **REGARDING YOUR USE OF THE KROLL ERP IN YOUR CAPM**
4 **ANALYSIS.**

5 A. Mr. D'Ascendis opines that the Kroll ERP contains unpredictable forecasts and is,
6 therefore, of little value. He also argues that Kroll's calculated ERP lacks
7 transparency of data and contends that Kroll's ERP is a less effective method
8 when compared to other methods, stating that Kroll is a "simplistic and opaque
9 MRP forecast."³⁴

10
11 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' REBUTTAL**
12 **TESTIMONY CONCERNING THE KROLL ERP?**

13 A. As discussed in my direct testimony, I provided two CAPM analyses (one of
14 which includes the Kroll ERP) as the CAPM does provide some value and the
15 Commission has recently relied upon a combination of both the DCF and CAPM
16 models. My inclusion of the Kroll ERP in my CAPM analysis is to provide more
17 information to the Commission as it has recently expressed increasing interest in
18 the CAPM model. Kroll is a trusted and publicly available source that bases its
19 recommended ERP on current and forecasted economic and financial conditions.³⁵

³⁴ UGI Electric Statement No. 8-R, pp. 30-31.

³⁵ I&E Statement No. 2, pp. 36-37.

1 **EXCLUSION OF THE ECAPM**

2 **Q. PLEASE SUMMARIZE MR. D'ASCENDIS' RESPONSE TO YOUR**
3 **EXCLUSION OF THE ECAPM IN YOUR ANALYSIS.**

4 A. Mr. D'Ascendis asserts that the empirical Security Market Line (SML) described
5 by the traditional CAPM is not as steeply sloped as the CAPM model predicts, and
6 that tests of the CAPM have measured the extent to which security returns and
7 betas are related as predicted by the CAPM, confirming its validity. Thus, he
8 asserts the ECAPM should be part of the CAPM analysis.³⁶

9
10 **Q. WHY IS THE ECAPM EXCLUDED FROM YOUR ANALYSIS?**

11 A. The ECAPM is a modified version of the CAPM which attempts to address the
12 belief that the actual risk vs. return correlation is flatter than what is predicted by
13 the CAPM. The implication is that the CAPM underestimates returns with lower
14 levels of risk and overestimates the returns associated with higher levels of risk.
15 The model entails assigning a 25% weight to the market beta and a 75% weight to
16 the individual company or proxy group.³⁷

17 Additionally, use of the ECAPM in estimating the cost of capital does not
18 increase the validity of the result but merely adds another measure of subjectivity
19 to the CAPM in an attempt to make the SML more accurate. The ECAPM reduces

³⁶ UGI Electric Statement No. 8-R, pp. 33-37.

³⁷ David C. Parcell, "The Cost of Capital - A Practitioner's Guide," 2020 Edition, p. 106.

1 the purpose of the beta, which is the only company-specific variable in the CAPM
2 model.

3 Lastly, I am unaware of any cases where the Commission has specifically
4 recognized or relied upon ECAPM results in a cost of equity determination.
5

6 **Q. ARE YOU CHANGING YOUR CAPM ESTIMATES FOR YOUR RETURN**
7 **ON EQUITY RECOMMENDATION AS A RESULT OF MR.**
8 **D’ASCENDIS’ REBUTTAL TESTIMONY?**

9 A. No. I continue to recommend using my traditional CAPM result of 9.97% and the
10 CAPM result using Kroll’s ERP of 8.66% (with an average of both CAPM results
11 of 9.32%).³⁸
12

13 **NATIONAL AVERAGE AUTHORIZED ROE**

14 **Q. SUMMARIZE MR. D’ASCENDIS’ CRITICISM OF YOUR USE OF**
15 **NATIONAL AVERAGE AUTHORIZED ROEs IN DETERMINING YOUR**
16 **RECOMMENDED RETURN ON EQUITY FOR THE COMPANY.**

17 A. Mr. D’Ascendis claims that authorized ROEs are reasonable benchmarks of an
18 appropriate ROE in a static economy, but mis-specifies the returns required by
19 investors in a dynamic economic environment. He also states that “...historical
20 authorized returns do not completely reflect the investor required return because

³⁸ I&E Exhibit No. 2, Schedule 11.

1 the economic conditions in the past are not representative of economic conditions
2 now.”³⁹ Therefore, Mr. D’Ascendis argues that historically allowed ROEs are of
3 little value.⁴⁰

4
5 **Q. PLEASE RESPOND TO MR. D’ASCENDIS’ CRITICISM REGARDING**
6 **YOUR USE OF NATIONAL AVERAGE AUTHORIZED ROEs IN**
7 **DETERMINING AN APPROPRIATE ROE IN THIS PROCEEDING.**

8 A. While I agree with Mr. D’Ascendis that historical returns are not entirely
9 predictive of required future returns, I continue to believe it is reasonable and
10 logical to consider authorized returns of comparable companies in the electric
11 distribution industry from across the nation. Additionally, I believe the current
12 economic conditions are similar enough to the past approximate year and a half,
13 which is the period that encompasses the data I employed.⁴¹ Finally, as stated in
14 my direct testimony, this information complies with the principle derived from the
15 *Hope* and *Bluefield* cases,⁴² that a utility is entitled to a return similar to that being
16 earned by other enterprises with corresponding risks and uncertainties, but not as
17 high as those earned by highly profitable or speculative ventures.⁴³

³⁹ UGI Electric Statement No. 8-R, p. 37.

⁴⁰ UGI Electric Statement No. 8-R, pp. 37-38.

⁴¹ I&E Exhibit No. 2, Schedule 2, p. 16.

⁴² See *Bluefield Water Works & Improvements Co. v. Public Service Comm. of West Virginia*, 262 U.S. 679, 692-93 (1923) and *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

⁴³ I&E Statement No. 2, p. 4 and p. 38.

1 **NON-PRICE REGULATED PROXY GROUP**

2 **Q. WHAT WAS YOUR RECOMMENDATION IN DIRECT TESTIMONY**
3 **CONCERNING MR. D'ASCENDIS' USE OF A NON-PRICE REGULATED**
4 **PROXY GROUP?**

5 A. I recommended that the Commission reject all analyses performed using the non-
6 price regulated company proxy group as it is highly speculative and subjective.
7 Mr. D'Ascendis' non-price regulated proxy group in effect blends the CE
8 approach into the DCF, CAPM, and RP models. I also provided citations to
9 multiple Commission orders supporting my position that the CE method is highly
10 speculative and subjective.⁴⁴

11
12 **Q. SUMMARIZE MR. D'ASCENDIS' RESPONSE REGARDING YOUR**
13 **DISAGREEMENT WITH HIS USE OF A NON-PRICE REGULATED**
14 **PROXY GROUP.**

15 A. In rebuttal testimony, Mr. D'Ascendis attempts to justify the use of the companies
16 in his non-price regulated proxy group based on the unadjusted betas and standard
17 errors of the regression being similar to that of the companies in his electric
18 company proxy group.⁴⁵ Therefore, he opines that they are comparable to UGI
19 Electric in the context of total risks (business risk and financial risk). He admits
20 that business risk and financial risk may vary between companies and proxy

⁴⁴ I&E Statement No. 2, pp. 50-53.

⁴⁵ UGI Electric Statement No. 8-R, pp. 23-25.

1 groups. However, he claims that if the collective average betas and standard
2 errors of the regression of the proxy group are similar, the total non-diversifiable
3 market risks and diversifiable risks are similar as noted in an academic article
4 entitled, “Comparable Earnings - New Life for an Old Precept.”⁴⁶ Finally, he
5 concludes that the results of market models applied to the non-price regulated
6 proxy group are comparable in total risk to his electric utility proxy group, and
7 therefore, should be considered by the Commission.⁴⁷

8
9 **Q. HAS MR. D’ASCENDIS PROVEN THAT THE RISKS FACED BY HIS**
10 **NON-PRICE REGULATED PROXY GROUP ARE SIMILAR TO THOSE**
11 **FACED BY HIS ELECTRIC UTILITY PROXY GROUP?**

12 A. No. The risks faced in each industry by the companies used in Mr. D’Ascendis’
13 non-price regulated group differ from the risks faced by his electric utility group.
14 Specifically, the level of competition between non-price regulated companies and
15 monopolies such as utilities, is too difficult a factor to control. Although beta is an
16 indicator of a company’s investment risk in relation to the entire stock market,
17 beta is not a quantification of the total investment risk of a given company. Mr.
18 D’Ascendis’ unregulated proxy group may have a beta comparable to that of his
19 electric proxy group, but that does not mean the companies face sufficiently
20 similar risks and uncertainties to be used as a substitute for an industry’s market.

⁴⁶ UGI Electric Statement No. 8-R, p. 24.

⁴⁷ UGI Electric Statement No. 8-R, p. 25.

1 Both beta and the standard error of regression are measures of the past
2 performance of a stock and as such do not necessarily reflect where an industry is
3 going or what risks it is expected to face.

4 Additionally, the Commission made the following comments in the 2017
5 UGI Electric base rate proceeding regarding the CE method, specifically for the
6 use of non-utility (unregulated) companies as comparable groups:

7 With respect to the CE method, as noted above, this cost of
8 equity method utilizes data for non-regulated firms. Thus, by
9 its very nature, determining which companies are comparable
10 is entirely subjective. In addition, the record indicates that the
11 companies UGI utilized in its CE group results in the selection
12 of companies such as Coca-Cola Company, Kellogg Company,
13 and Walmart Stores, Inc.... Each of these companies operate in
14 industries that are very different from a utility company and
15 have significantly more competition, which would require a
16 higher return for the associated additional risk.⁴⁸

17 As discussed in my direct testimony,⁴⁹ I reiterate that non-price regulated or
18 non-utility companies with unrelated or entirely dissimilar business segments are
19 simply not comparable to regulated utilities in terms of business risk and financial
20 risk profiles. Regulated utility companies are monopolies that are subject to very
21 little, if any, competition. Due to this minimal competition, utilities in general
22 have very low business risk and can maintain higher financial risk profiles by
23 employing more leverage. Conversely, since the companies in Mr. D'Ascendis'

⁴⁸ *Pa. PUC v. UGI Utilities, Inc. - Electric Division*, Docket No. R-2017-2640058, p. 105 (Order Entered October 25, 2018). The Commission has also ruled “[t]he use of nonregulated companies as a comparable group for regulated firms requires numerous unsupportable assumptions which results in a highly speculative finding.” *Pa. PUC v. Philadelphia Electric Co.*, 33 PUR 4th 319, 341 (Pa PUC 1980).

⁴⁹ I&E Statement No. 2, pp. 50-53.

1 non-price regulated proxy group operate in an unregulated competitive
2 environment with a higher level of business risks and uncertainties, they must
3 maintain lower financial risk profiles by employing a smaller amount of leverage.

4 Finally, the use of a non-price regulated proxy group defies the principle set
5 forth in the *Hope* and *Bluefield* cases⁵⁰ that a utility is entitled to a return similar to
6 that being earned by companies with similar risks and uncertainties, but not as
7 high as those earned by highly profitable or speculative ventures.

8
9 **BUSINESS RISK (SIZE) ADJUSTMENT**

10 **Q. SUMMARIZE YOUR DIRECT TESTIMONY REGARDING MR.**
11 **D'ASCENDIS' CLAIM FOR THE COMPANY'S SIZE ADJUSTMENT.**

12 A. In my direct testimony,⁵¹ I discussed how Mr. D'Ascendis' 40-basis point
13 adjustment is unnecessary because none of the technical literature cited in his
14 direct testimony supporting an adjustment related to the size of a company is
15 specific to the utility industry. Additionally, I pointed to an article by Dr. Annie
16 Wong that demonstrated there is no need to make an adjustment for the size of a
17 company in utility rate regulation. Finally, I indicated that the Commission has
18 rejected the application of a size adjustment to the cost of equity calculation.

⁵⁰ See *Bluefield Water Works & Improvements Co. v. Public Service Comm. of West Virginia*, 262 U.S. 679, 692-93 (1923) and *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944).

⁵¹ I&E Statement No. 2, pp. 53-58.

**Q. SUMMARIZE MR. D'ASCENDIS' RESPONSE IN REBUTTAL
TESTIMONY REGARDING A SIZE RISK FACTOR ADJUSTMENT.**

A. Mr. D'Ascendis opines that smaller companies are simply less able to cope with significant events that affect sales, revenues, and earnings. He argues that smaller companies face more exposure to business cycles and economic conditions, both nationally and locally.⁵² Additionally, he claims that the loss of revenues from a few large customers would have a far greater effect on a small company than on a larger company with a more diverse customer base.⁵³ He supports these statements by pointing to a study from Fama and French relating the size of a company to its return on equity, which indicates that small capitalization firms are more risky than large capitalization firms.⁵⁴ Mr. D'Ascendis also attempts to discredit a study performed by Dr. Wong, that I relied upon in rejecting his size adjustment, by citing a review of her study authored by Thomas M. Zepp.⁵⁵ Finally, Mr. D'Ascendis points to a 2019 Commission order in the Citizens' Electric base rate proceeding where he claims that the Commission considered a size adjustment.⁵⁶

⁵² UGI Electric Statement No. 8-R, p. 39.

⁵³ UGI Electric Statement No. 8-R, p. 39.

⁵⁴ UGI Electric Statement No. 8-R, p. 39.

⁵⁵ UGI Electric Statement No. 8-R, p. 40.

⁵⁶ UGI Electric Statement No. 8-R, p. 40.

1 **Q. ARE MR. D'ASCENDIS' ASSERTIONS REGARDING FIRMS OF**
2 **SMALLER SIZE RELEVANT TO THE REGULATED UTILITY**
3 **INDUSTRY?**

4 A. No. The study conducted by Dr. Wong provides empirical evidence that refutes
5 Mr. D'Ascendis' claim, which I will further elaborate on below. Furthermore,
6 regulated utility companies have the option to file base rate cases to address
7 declining revenues and to recover the increasing cost of doing business in addition
8 to emergency rate relief provisions for large unforeseen impacts. In contrast, non-
9 utility businesses that may be significantly impacted by events of this nature due
10 to small operating size do not have these opportunities. Further, while a smaller
11 utility may pay higher prices for services and materials simply due to low-volume
12 buying power, the actual costs are part of the revenue requirement presented by
13 that company. Thus, increasing the equity return to account for the potential size
14 disadvantage would only further unfairly burden ratepayers who are already likely
15 to pay higher utility bills to recover the higher operating costs.

16
17 **Q. WHAT ARE YOUR OBSERVATIONS REGARDING THE STUDIES MR.**
18 **D'ASCENDIS RELIES ON TO SUPPORT HIS CLAIM OF A SIZE**
19 **ADJUSTMENT?**

20 A. Most importantly, the Fama and French study is not specific to the utility industry.
21 Mr. D'Ascendis points out that I, as well as other I&E witnesses, have historically

1 relied upon the Fama and French study in the past.⁵⁷ However, for those cases, the
2 study was cited in order to empirically demonstrate the shortcomings of the
3 CAPM. Again, the Fama and French study is irrelevant for the determination of
4 the size risk factor because it is not specific to the utility industry.

5
6 **Q. PLEASE COMMENT ON THE REVIEW OF DR. WONG’S STUDY**
7 **PERFORMED BY DR. ZEPP.**

8 A. The article Mr. D’Ascendis references from Dr. Zepp does not recreate
9 Dr. Wong’s study; it simply speculates on other possible reasons for Dr. Wong’s
10 results and references the results of two other studies. The first study, completed
11 by the California Public Utilities Commission Staff in 1991, is not included in the
12 article, and, therefore, Dr. Zepp’s opinions cannot be properly evaluated.
13 Dr. Zepp also draws his conclusions about an entire industry based on the second
14 study, which examines the effects of size on only four water utility companies.
15 This article does not contain enough credible evidence to refute Dr. Wong’s
16 findings.

17
18 **Q. HAVE YOU FOUND FURTHER EVIDENCE TO SUPPORT YOUR**
19 **RECOMMENDATION REGARDING SIZE ADJUSTMENTS?**

20 A. Yes. The difficulty in predicting the risk effect of a company’s size is

⁵⁷ UGI Electric Statement No. 8-R, p. 39.

demonstrated in the variance from year to year of the measurement of difference between the annual returns on the large and small-capitalization stocks of the NYSE/AMEX/NASDAQ in the Ibbotson *Stocks, Bonds, Bills & Inflation: 2015 Yearbook*. As stated on page 100:

While the largest stocks actually declined in 2001, the smallest stocks rose more than 30%. A more extreme case occurred in the depression-recovery year of 1933, when the difference between the first and 10th decile returns was far more substantial. The divergence in the performance of small- and large-cap stocks is evident. In 30 of the 89 years since 1926, the difference between the total returns of the largest stocks (decile 1) and the smallest stocks (decile 10) has been greater than 25 percentage points.

Page 109 states:

In four of the last 10 years, large-capitalization stocks (deciles 1-2 of NYSE / AMEX / NASDAQ) have outperformed small-capitalization stocks (deciles 9-10). This has led some market observers to speculate that there is no size premium. But statistical evidence suggests that periods of underperformance should be expected.

Page 112 states:

Because investors cannot predict when small-cap returns will be higher than large-cap returns, it has been argued that they do not expect higher rates of return for small stocks.

Aswath Damodaran notes in his study “Equity Risk Premiums (ERP): Determinants, Estimation, and Implications” - The 2022 Edition on page 50:

In the four decades since 1980, the small cap premium has been non-existent, raising questions about whether it still persists or whether it was an artifact of the twentieth century.

1 Page 51 states:

2 Finally, a series of studies have argued that market
3 capitalization, by itself, is not the reason for excess returns but
4 that it is a proxy for other ignored risks such as illiquidity and
5 poor information. The argument that there is, in fact, no small
6 cap premium and that we have observed over time is just an
7 artifact of history that should be given credence.

8 Pages 53-54 state:

9 Even if you believe that small cap companies are more exposed
10 to market risk than large cap ones, this is a sloppy and lazy way
11 of dealing with that risk, since risk ultimately has to come from
12 something fundamental (and size is not a fundamental factor).
13

14 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' REBUTTAL**
15 **TESTIMONY REGARDING THE REFERENCED COMMISSION ORDER**
16 **FOR CITIZENS' ELECTRIC COMPANY?**

17 A. Mr. D'Ascendis admits that the Commission did not make an explicit size
18 adjustment in the Citizens' Electric proceeding, however, he states that the
19 Commission did acknowledge that size is a factor in assessing a company's ability
20 to attract capital. He then claims that the Commission adjusted the DCF result by
21 one standard deviation of the mean and median to account for size.⁵⁸

22 However, while the Commission in the Citizens' Electric proceeding
23 agreed that there is an inverse relationship between size and risk, the Commission
24 concluded that there is no substantial evidence that size is specifically a risk for
25 utilities as follows:

⁵⁸ UGI Electric Statement No. 8-R, p. 40.

1 At the same time, however, we echo the ALJs that the Parties
2 have presented offsetting arguments such that there is not
3 substantial evidence to determine whether size is specifically a
4 risk for utilities. As I&E and the OCA both noted, the technical
5 literature presented by Citizens' is not specific to the utility
6 industry and also may not definitively support a size
7 adjustment. Additionally, as I&E observed, the empirical study
8 undertaken by the Company's witness Mr. D'Ascendis
9 illustrates the difficulty in predicting the risk effect of a
10 company's size. More specifically, while Mr. D'Ascendis
11 used market information from the NYSE, the AMEX, and the
12 NASDAQ, we find that I&E offered evidence indicating that
13 for certain periods, large-capitalization stocks have
14 outperformed small-capitalization stocks such that there is not
15 sufficient correlation to prove that size is a specific risk for
16 utilities. I&E St. 2-SR at 23-24. Therefore, we are not
17 persuaded by the Company's argument that the ALJs erred by
18 not awarding Citizens' a greater size adjustment. For this
19 reason, we decline to award an explicit 100-basis point size
20 adjustment, as advocated by Citizens.⁵⁹

21 Finally, it is important to recognize that utilities, as regulated monopolies,
22 have actions available, such as requests for emergency rate relief, to counter
23 business impacts that would have more adverse results for smaller companies in
24 the private sector. Accordingly, analyses conducted on private sector businesses
25 do not directly translate to the regulated utility industry.

26
27 **Q. HAS YOUR RECOMMENDATION REGARDING MR. D'ASCENDIS'**
28 **SIZE ADJUSTMENT CHANGED SINCE YOUR DIRECT TESTIMONY?**

29 **A.** No. I continue to recommend that any adjustments in consideration of the

⁵⁹ *Pa. PUC v. Citizens' Electric Company of Lewisburg, PA*, Docket No. R-2019-3008212 (Order Entered April 29, 2020). See generally *Disposition of Cost of Common Equity*, pp. 103-104.

1 Company's size be disallowed for the reasons explained above and in my direct
2 testimony.

3
4 **FLOTATION COSTS ADJUSTMENT**

5 **Q. PLEASE SUMMARIZE MR. D'ASCENDIS' REBUTTAL TESTIMONY**
6 **REGARDING YOUR RECOMMENDATION TO REJECT HIS**
7 **FLOTATION COSTS ADJUSTMENT.**

8 A. First, it must be noted that Mr. D'Ascendis' flotation costs adjustment has
9 decreased from 13 basis points⁶⁰ in his direct position to 12 basis points⁶¹ in his
10 rebuttal position. He argues that denying recovery of flotation costs penalizes
11 investors that fund utility operations. He claims that if flotation costs are not
12 recovered, the growth rate and ultimately the ROE fall below the required return.
13 Finally, he cites a case where the Florida Public Service Commission agreed with
14 his methodology and awarded 9 basis points to the authorized ROE.⁶²

15
16 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' REBUTTAL**
17 **TESTIMONY REGARDING A FLOTATION COST ADJUSTMENT?**

18 A. As discussed in my direct testimony,⁶³ I reiterate that UGI Electric does not issue
19 stocks to the general public in the capital market. The parent company issues

⁶⁰ UGI Electric Exhibit B, Schedule DWD 1, p. 2, ln. 8.

⁶¹ UGI Electric Rebuttal Exhibit B, Schedule DWD 1-R, p. 2, ln. 8.

⁶² UGI Electric Statement No. 8-R, pp. 41-42.

⁶³ I&E Statement No. 2, pp. 58-61.

1 stocks for a variety of reasons and uses, and they are not entirely issued and used
2 for the benefit of UGI Electric. Further, there is no indication that UGI Electric's
3 parent company will issue new stocks during the fully projected future test year
4 (FPFTY) when the new rates will be effective. Additionally, it is important to
5 note that UGI Utilities, Inc. has announced a definitive agreement to sell the
6 Electric Division to a fund managed by Argo Infrastructure Partners LP (Argo) for
7 a price of \$470 million with working capital adjustments.⁶⁴ Therefore, Argo's
8 future capital funding plan for UGI Electric is unknown at this time. Finally, Mr.
9 D'Ascendis' claim for the potential flotation costs' impact of 0.12% in
10 recommending an ROE of 10.85% for the FPFTY is improper and unsupported,
11 when the implied claim for such cost is based on the historical flotation costs of
12 the parent company, which could be characterized as retroactive cost recovery.
13 There is no instance, to the best of my knowledge, where the Commission has
14 approved a flotation cost adjustment to the cost of equity analysis results to
15 provide recovery of a parent or holding company's equity issuance expense in a
16 base rate proceeding for a regulated utility in Pennsylvania.

17 As a result, I continue to recommend that the Commission reject UGI
18 Electric's claim for a flotation cost adjustment of 0.12% in determining an
19 appropriate cost of equity.

⁶⁴ <https://www.businesswire.com/news/home/20260427814373/en/UGI-Utilities-and-Argo-Infrastructure-Partners-Reach-Agreement-on-Purchase-and-Sale-of-UGIs-PA-Electric-Utility> (accessed on July 23, 2026).

1 **PREDICTIVE RISK PREMIUM MODEL**

2 **Q. PLEASE SUMMARIZE MR. D'ASCENDIS' REBUTTAL TESTIMONY**
3 **REGARDING YOUR RECOMMENDATION TO REJECT HIS**
4 **PREDICTIVE RISK PREMIUM MODEL (PRPM).**

5 A. Mr. D'Ascendis continues to emphasize that the PRPM is based on the research of
6 Robert F. Engle dating back to early 1980 and states that he uses the Generalized
7 Autoregressive Conditional Heteroskedasticity (GARCH) model to estimate
8 PRPM using a standard commercial and relatively inexpensive statistical package,
9 Eviews©, to develop a means to estimate a predicted equity risk premium, which,
10 when added to a bond yield, results in a cost of common equity.⁶⁵ He cites the
11 Commission order in the 2013 Columbia Water Company rate case at Docket Nos.
12 R-2013-2360798, et al. and the Administrative Law Judge's (ALJ) recommended
13 decision in the 2024 Emporium Water Company's rate case at Docket No. R-
14 2014-2402324 to establish support for his PRPM analysis.⁶⁶

15
16 **Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS' REBUTTAL**
17 **TESTIMONY REGARDING THE PRPM?**

18 A. As discussed in my direct testimony,⁶⁷ I continue to assert that: (1) Mr.
19 D'Ascendis' PRPM is not a commonly used method and cannot be evaluated or
20 recreated without the specialized software; and (2) the PRPM does not solve the

⁶⁵ UGI Electric Statement No. 8-R, pp. 42-44.

⁶⁶ UGI Electric Statement No. 8-R, pp. 44-45.

⁶⁷ I&E Statement No. 2, pp. 42-43.

1 problem of the RP method because it is still an indirect measure of the cost of
2 equity. Rather, the PRPM complicates the RP method with the introduction of a
3 measurement that requires the use of specialized software.

4 Regarding the Commission order in the 2013 Columbia Water base rate
5 proceeding, Mr. D'Ascendis states that the Commission did not specifically
6 recognize the PRPM though it was presented by a Columbia Water witness in that
7 proceeding. In fact, the Commission order states,⁶⁸

8 Based on our review of the testimony, data, and cost models
9 presented, we believe that the evidence in this case supports an
10 ROE finding in the reasonable range of 9.25% to 10.25% using
11 the DCF method as the foundation. The equity heavy capital
12 structure of Columbia indicates that a slightly lower ROE is
13 appropriate.

14 Similarly, the ALJ's recommended decision in the 2024 Emporium Water base
15 rate proceeding did not specifically endorse the PRPM or any other model for
16 determining the cost of equity, but the ALJ let the Commission decide the
17 appropriate cost of equity.⁶⁹

18 19 **OVERALL RATE OF RETURN**

20 **Q. HAS YOUR OVERALL RATE OF RETURN RECOMMENDATION**
21 **CHANGED FROM YOUR DIRECT TESTIMONY?**

22 **A.** Yes. As explained above, while my return on equity and capital structure

⁶⁸ UGI Electric Statement No. 8-R, p. 45.

⁶⁹ UGI Electric Statement No. 8-R, p. 45.

recommendations are unchanged, I have updated my overall rate of return recommendation to incorporate the Company's updated cost of long-term debt.

Q. PLEASE SUMMARIZE YOUR UPDATED RATE OF RETURN RECOMMENDATION?

A. I recommend the following updated rate of return for the Company:

I&E Updated Recommendation UGI Utilities, Inc. - Electric Division Summary of Cost of Capital			
Type of Capital	Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.00%	5.22%	2.61%
Common Equity	<u>50.00%</u>	9.69%	<u>4.85%</u>
Total	<u>100.00%</u>		<u>7.46%</u>

Q. DO YOU HAVE ANY FINAL COMMENTS REGARDING YOUR RETURN ON EQUITY AND OVERALL RATE OF RETURN ANALYSIS?

A. Yes. There have been current concerns regarding utility bill affordability as addressed in various statements by Vice Chair Barrow and concerns raised by Governor Shapiro in a recently issued letter to Pennsylvania Utility Leaders regarding higher utility costs and enormous profits earned by utilities in 2024.⁷⁰ These concerns highlight the importance of ratepayers only being required to pay

⁷⁰ I&E Exhibit No. 2, Schedule 2, pp. 8-15.

1 rates to fund costs that are necessary for the provision of safe and reliable electric
2 distribution service. My recommendations allow the Company to earn a fair
3 return while considering the cost to ratepayers. Given the current economic
4 climate, it is important that ratepayers only be required to pay rates to fund costs
5 that are necessary to provide safe and reliable service.

6
7 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

8 **A. Yes.**

I&E Exhibit No. 2-SR
Witness: D. C. Patel

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

UGI UTILITIES, INC. - ELECTRIC DIVISION

Docket No. R-2025-3059430

Exhibit to Accompany

the

Surrebuttal Testimony

of

D. C. Patel

Bureau of Investigation and Enforcement

Concerning:

Rate of Return

I&E-RR-7

Request:

Reference UGI Electric Statement No. 8, p. 15, lines 316-317 concerning the use of an equity capital ratio of 54.25% and a long-term ratio of 45.75% for UGI Electric:

- A. Provide a breakdown of actual common equity and long-term debt dollar amounts and the percentage of total permanent capital by fiscal year for 2021, 2022, 2023, 2024, HTY-2025, and forecasted for the FTY 2026 and FPFTY 2027 for the UGI Electric and UGI Corporation.
- B. Provide the basis and rationale for determining UGI Electric's ratemaking equity ratio of 54.25% when (1) the Electric Utility Proxy Group's five-year average equity ratio is 41.25%; (2) the 2024 equity ratio range is 26.94% - 52.01% (Schedule DWD-2, pp. 2-3); and (3) the operating subsidiary companies of Electric Utility Proxy Group's five-year average equity ratio is 51.66% (Schedule DWD-2, p. 4).

Response:

- A. Please see Attachment I&E-RR-7. UGI Electric is not a stand-alone legal entity; therefore, UGI Electric uses the capital structure of its legal entity, UGI Utilities, Inc. Projected capital structures are not available for UGI Corporation.
- B. UGI Electric's ratemaking equity ratio is based on its projected capital structure at the end of its fully projected future test year (September 30, 2027).

I&E Exhibit No. 2-SR

Page 2 of 2

Attachment I&E-RR-7
V. K. Ressler
Page 1 of 1

UGI UTILITIES, INC. - ELECTRIC DIVISION
Capitalization Ratios for UGI Corporation and UGI Utilities, Inc.
For the Years Ended September 30, 2021 - 2027
\$\$ in millions

Consolidated - UGI Corporation - Without Short-Term Debt

	<u>9/30/2021</u>		<u>9/30/2022</u>		<u>9/30/2023</u>		<u>9/30/2024</u>		<u>9/30/2025</u>		<u>9/30/2026</u>		<u>9/30/2027</u>	
	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>
Common Equity	\$5,309.0	44.3	\$5,904.0	46.5	\$4,219.0	38.4	\$4,345.0	39.4	\$4,777.0	41.8				
Preferred Stock	213.0	1.8	162.0	1.3	167.0	1.5	0.0	0.0	0.0	0.0				
Minority Interests	9.0	0.1	8.0	0.1	8.0	0.1	9.0	0.1	9.0	0.1				
Long-Term Debt	<u>6,449.0</u>	<u>53.8</u>	<u>6,632.0</u>	<u>52.2</u>	<u>6,600.0</u>	<u>60.0</u>	<u>6,678.0</u>	<u>60.5</u>	<u>6,648.0</u>	<u>58.1</u>				
Total Capitalization	<u>\$11,980.0</u>	<u>100.0</u>	<u>\$12,706.0</u>	<u>100.1</u>	<u>\$10,994.0</u>	<u>100.0</u>	<u>\$11,032.0</u>	<u>100.0</u>	<u>\$11,434.0</u>	<u>100.0</u>	<u>\$0.0</u>	<u>0.0</u>	<u>\$0.0</u>	<u>0.0</u>

Company Only - UGI Utilities, Inc. - Without Short-Term Debt

	<u>9/30/2021</u>		<u>9/30/2022</u>		<u>9/30/2023</u>		<u>9/30/2024</u>		<u>9/30/2025</u>		<u>9/30/2026</u>		<u>9/30/2027</u>	
	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>	<u>Actual</u>	<u>%</u>
Common Equity	\$ 1,424.9	52.5	\$ 1,654.8	53.1	\$ 1,861.3	56.1	\$ 1,945.2	53.4	\$ 2,094.6	52.9	\$ 2,305.9	54.4	\$ 2,524.7	54.3
Preferred Stock	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long-Term Debt	<u>1,291.6</u>	<u>47.5</u>	<u>1,460.3</u>	<u>46.9</u>	<u>1,454.1</u>	<u>43.9</u>	<u>1,697.8</u>	<u>46.6</u>	<u>1,866.6</u>	<u>47.1</u>	<u>1,935.3</u>	<u>45.6</u>	<u>2,129.1</u>	<u>45.7</u>
Total Capitalization	<u>\$ 2,716.5</u>	<u>100.0</u>	<u>\$ 3,115.1</u>	<u>100.0</u>	<u>\$ 3,315.4</u>	<u>100.0</u>	<u>\$ 3,643.0</u>	<u>100.0</u>	<u>\$ 3,961.2</u>	<u>100.0</u>	<u>\$ 4,241.2</u>	<u>100.0</u>	<u>\$ 4,653.8</u>	<u>100.0</u>