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MISSOURI PUBLIC SERVICE COMMISSION

FINANCIAL AND BUSINESS ANALYSIS DIVISION

FINANCIAL ANALYSIS DEPARTMENT

SURREBUTTAL / TRUE-UP DIRECT TESTIMONY

OF

SEOUNG JOUN WON, PhD

UNION ELECTRIC COMPANY,

d/b/a AMEREN MISSOURI

CASE NO. ER-2024-0319

Jefferson City, Missouri
February 14, 2025

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1 **SURREBUTTAL / TRUE-UP DIRECT TESTIMONY**

2 **OF**

3 **SEOUNG JOUN WON, PhD**

4 **UNION ELECTRIC COMPANY,**
5 **d/b/a AMEREN MISSOURI**

6 **CASE NO. ER-2024-0319**

7 Q. Please state your name and business address.

8 A. My name is Seoung Joun Won and my business address is P.O. Box 360,
9 Jefferson City, Missouri 65102.

10 Q. Who is your employer and what is your present position?

11 A. I am employed by the Missouri Public Service Commission (“Commission”) as
12 a member of the Commission’s Staff (“Staff”) and my title is Regulatory Compliance Manager
13 for the Financial Analysis Department, in the Financial and Business Analysis Division.

14 Q. Are you the same Seoung Joun Won who filed Direct Testimony on
15 December 3, 2024 and Rebuttal Testimony on January 17, 2025, in this proceeding?

16 A. Yes, I am.

17 **I. EXECUTIVE SUMMARY**

18 Q. What is the purpose of your surrebuttal / true-up direct testimony?

19 A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimonies
20 of Ann E. Bulkley and David Murray. Ms. Bulkley sponsored return on equity (“ROE”)
21 testimony on behalf of Union Electric Company, d/b/a Ameren Missouri (“Ameren Missouri”),
22 a subsidiary of Ameren Corporation (“Ameren Corp.”). Mr. Murray sponsored ROE, cost of
23 debt, capital structure and Rate of Return (“ROR”) testimony on behalf of the Missouri Office
24 of the Public Counsel (“OPC”). Within this testimony, Staff will address issues related to ROE,

1 cost of debt, and capital structure, which pertain to a just and reasonable ROR to be applied to
2 Ameren Missouri's electric utility rate base for ratemaking purposes in this proceeding.

3 The purpose of my true-up direct testimony is to present Staff's true-up
4 recommendations for Ameren Missouri's ratemaking capital structure and cost of debt in this
5 proceeding. Staff's analyses and conclusions are supported by the data presented in Staff's
6 surrebuttal / true-up direct schedules attached as Appendix 2.

7 Q. What is the overview of your response to the testimonies of Ms. Bulkley?

8 A. Staff's surrebuttal will address the rebuttal testimonies of Ms. Bulkley
9 concerning her proposed ROE for Ameren Missouri's electric utility operations. In her direct
10 testimony, Ms. Bulkley proposed an ROE of 10.25%, within a range of 10.25% to 11.25%.¹
11 In her rebuttal testimony, after updating her analysis based on market data through
12 November 30, 2024, and without correcting her inaccurate methods, Ms. Bulkley revised
13 her proposed ROE to 10.20%, within a range of 9.90% to 11.25%.² Ms. Bulkley did not
14 comment on Ameren Missouri's proposed ROR, capital structure, or cost of debt in her
15 rebuttal testimony.

16 For the authorized ROE issue, in her rebuttal testimony, Ms. Bulkley made incorrect
17 claims about Staff's estimation methodology based on misunderstandings and erroneous
18 assumptions, and presented numerous self-contradictory statements. In this testimony,
19 Staff will recount the reasons why Ms. Bulkley's unreasonable cost of equity ("COE")
20 estimates are still incorrect. Although there are many issues with Ms. Bulkley's rebuttal

¹ Page 10, lines 1-4, Bulkley's Direct Testimony.

² Page 4, lines 12-16, Bulkley's Rebuttal Testimony.

1 testimony, Staff will only address major issues related to Ms. Bulkley's disagreement with
2 Staff's COE estimation methods.

3 Q. What is the overview of your response to the testimony of Mr. Murray?

4 A. Mr. Murray did not revise any of his recommendations in his rebuttal testimony.
5 In his direct testimony, Mr. Murray recommended an ROE of 9.50% within a range of 9.00%
6 to 9.50% and a ROR of 6.38% based on his recommended use of Ameren Corp.'s capital
7 structure of 42.00% common equity, 0.60% preferred stock and 57.40% long-term debt and
8 applying Ameren Missouri's cost of preferred stock of 4.18% and embedded cost of long-term
9 debt of 4.12%.³ Staff will respond to Mr. Murray's argument about Staff's recommended ROE
10 and capital structure.

11 Q. Please summarize the results of the ROR analysis based on Staff's true-up
12 recommendations for Ameren Missouri's ratemaking capital structure and cost of debt in
13 this proceeding.

14 A. Staff recommends that the Commission use an actual capital structure as of the
15 true-up period, ending December 31, 2024, of 51.96% common equity, 0.54% preferred stock
16 and 47.50% long-term debt for the purposes of setting Ameren Missouri's ROR in this
17 proceeding.⁴ Consistent with Staff's capital structure recommendation and an ROE of 9.74%,
18 within the range of 9.49% to 9.99%,⁵ Staff also recommends that the Commission use Ameren
19 Missouri's embedded cost of preferred stock of 4.18% and embedded cost of debt of 4.30% as
20 of December 31, 2024,⁶ resulting in the overall midpoint ROR of 7.12%, taken from the
21 calculated range of 6.99% to 7.25%.⁷

³ Page 2, lines 3-4, and Schedule DM-D-8, Murray's Direct Testimony.

⁴ Staff's Data Request No. 0107.

⁵ Schedule SJW-d16, Won's Direct Testimony.

⁶ Staff's Data Request No. 0108.

⁷ Schedule SJW-s16, Won's Surrebuttal / True-up Direct Testimony.

1 **II. RESPONSE TO TESTIMONY OF AMEREN MISSOURI'S WITNESS**

2 Q. Please summarize Ms. Bulkley's rebuttal testimony.

3 A. Ms. Bulkley updated her COE analyses based on market data through
4 November 30, 2024, and revised a proposed ROE of 10.20%,⁸ down from her originally
5 proposed ROE of 10.25%.⁹ In her updated analysis presented in her rebuttal testimony,
6 Ms. Bulkley utilized the same estimation methods as in her direct testimony, including the
7 Constant Growth form of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing
8 Model ("CAPM"), the Empirical Capital Asset Pricing Model ("ECAPM"), and the Bond Yield
9 Risk Premium ("BYRP") analysis.¹⁰ Additionally, Ms. Bulkley discusses the changes in
10 capital market conditions since her direct testimony and their effect on the COE.¹¹ Ms. Bulkley
11 also responded to direct testimonies regarding the ROE issues, including those of
12 Christopher C. Walters on behalf of the Missouri Industrial Energy Consumers ("MIEC"),
13 Tyler Comings on behalf of the Sierra Club, as well as Mr. Murray and me. At this time, Staff
14 will not address the testimonies of the MIEC and the Sierra Club on ROE issues because it has
15 no major concerns.

16 Q. What are Staff's key issues with Ms. Bulkley's rebuttal testimony?

17 A. Staff's key issues with Ms. Bulkley's rebuttal testimony are the following:

18 1. Ms. Bulkley misunderstood Staff's analytical method for recommending
19 the authorized ROE in this proceeding and argued that Staff should not change its analytical
20 approach used in past rate proceedings. Based on her misunderstanding of Staff's analysis,

⁸ Page 4, lines 12-16, Bulkley's Rebuttal Testimony.

⁹ Page 10, lines 1-4, Bulkley's Direct Testimony.

¹⁰ Page 10, Figure 2, Bulkley's Rebuttal Testimony.

¹¹ Pages 14-15, and Page 29, lines 14-20, Bulkley's Rebuttal Testimony.

1 Ms. Bulkley proposed logical fallacies such as that Staff must use the exact same methods
2 and input values it used in The Empire District Electric Company's rate proceeding, Case No.
3 ER-2019-0374, ("2019 Empire Case").¹² At the beginning of each rate proceeding, Staff
4 conducts market and corporate analyses and selects the most appropriate method to recommend
5 an authorized ROE based on the characteristics of the available input data. Ms. Bulkley's
6 arguments overlook the fundamental principle and methodology of Staff's analysis;

7 2. Ms. Bulkley did not correctly apply basic financial concepts. For
8 example, due to her erroneous assumption that the market-data-derived COE equals the
9 authorized ROE,¹³ Ms. Bulkley mischaracterized the relationship between Staff's COE estimate
10 and its authorized ROE recommendation.¹⁴ An authorized ROE cannot be mechanically
11 determined by any COE analysis, such as DCF or CAPM.¹⁵ Instead, the results of such COE
12 analyses are used, not relied upon exclusively, to recommend a just and reasonable authorized
13 ROE.¹⁶ Although Staff clarified the difference between COE and authorized ROE in its direct
14 testimony,¹⁷ Ms. Bulkley made many incorrect arguments based on her confusion of the two
15 concepts. Due to her misunderstanding of this basic regulatory principle, Ms. Bulkley built a
16 baseless argument against Staff's analysis; and,

17 3. Ms. Bulkley did not correctly characterize Staff's methodology,
18 distorting the facts by mentioning only part of the truth rather than the whole truth, and without

¹² Page 31, lines 13-16, and Page 36, lines 10-13, Bulkley's Rebuttal Testimony.

¹³ Footnote No.1 (p. 4), Bulkley's Direct Testimony.

¹⁴ Page 6, lines 14-18, Bulkley's Rebuttal Testimony.

¹⁵ Page 28, Amended Report and Order, Case No. GR-2017-0215.

¹⁶ The end-result principle: The validity of an order of the Federal Power Commission fixing rates under the Natural Gas Act is to be determined on judicial review by whether the impact or total effect of the order is just and reasonable, rather than by the method of computing the rate base. P. 320 U. S. 602. FPC v. Hope Nat. Gas Co., 320 U.S. 591 (1944).

¹⁷ Page 3, Footnote No. 2, Won's Direct Testimony.

1 providing proper context. For example, referencing Paragraph 131 in *Entergy Arkansas, et al.*,
2 Opinion No. 575, 175 FERC ¶ 61,136 (2021), Ms. Bulkley stated, “As stated in Opinion
3 No. 575, the FERC has consistently relied solely on projected EPS growth rates as the
4 short-term growth rate.”¹⁸ The truth is that FERC¹⁹ never required solely using projected EPS²⁰
5 growth rates in the DCF model. Staff will provide a detailed explanation and further context
6 regarding Paragraph 131 of FERC’s Opinion No. 575 later in this testimony.

7 4. Ms. Bulkley did not apply a consistent standard when criticizing
8 Staff’s analytical procedures in comparison to her own. In addition, Ms. Bulkley offered
9 self-contradictory criticism and evidence. For example, Ms. Bulkley cited several statements
10 from Morningstar’s publications, now published by Kroll, to argue that Staff’s risk premium
11 of 5.63% is too low for use in its CAPM analysis compared to her average risk premium
12 of 8.06%.²¹ Interestingly, the most recent Kroll recommended U.S. equity risk premium
13 is 5.00%.²² Due to Ms. Bulkley’s inconsistent and self-contradictory statements in her
14 testimony, Staff recommends that the Commission cautiously consider the reasonableness of
15 her arguments.

16 Staff identified additional issues in Ms. Bulkley’s rebuttal testimony. However, due to
17 the numerous meritless arguments in Ms. Bulkley’s rebuttal testimony, Staff cannot address
18 everything in this testimony. Instead, Staff will explain some of the major problems in detail
19 and clarify why Ms. Bulkley’s assertions are unfounded in the sections below.

¹⁸ Page 36, lines 6-7, and Footnote No. 38, Bulkley’s Rebuttal Testimony.

¹⁹ Federal Energy Regulatory Commission (“FERC”).

²⁰ Earnings Per Share (“EPS”).

²¹ Schedule SJW-s13, Won’s Surrebuttal / True-up Direct Testimony, and Schedule AEB-D2, Attachment 4, Bulkley’s Direct Testimony.

²² Kroll Lowers its Recommended U.S. Equity Risk Premium to 5.0%, Effective June 5, 2024. Retrieved January 18, 2025. <https://media-cdn.kroll.com/jssmedia/kroll-images/pdfs/kroll-lowers-its-recommended-us-equity-risk-premium-effective-june-5-2024.pdf>.

1 Q. What are the specific areas in which Staff is responding to Ameren Missouri's
2 witnesses?

3 A. Staff is responding to the rebuttal testimonies of Ms. Bulkley. The areas in
4 which Staff addresses issues of Ms. Bulkley's rebuttal testimony include:

- 5 ▪ COE and Authorized ROE,
- 6 ▪ Comparable Return Standard,
- 7 ▪ Bulkley's Updated COE Analysis,
- 8 ▪ Updated Capital Market Conditions,
- 9 ▪ DCF and Growth Rates,
- 10 ▪ CAPM and Market Risk Premium, and
- 11 ▪ Staff's Bond Yield Plus Risk Premium ("BYPRP") vs BYRP.

12 Staff will discuss each in turn, below.

13 **1. COE and Authorized ROE**

14 Q. Do you agree with Ms. Bulkley that Staff did not rely on the results of its COE
15 estimation using DCF when recommending an authorized ROE?²³

16 A. No, I do not. On the contrary, Staff actively utilized its COE estimates to
17 assess a just and reasonable authorized ROE using its COE analysis. Staff relied on its
18 COE estimation results using both DCF and CAPM when it recommended an authorized
19 ROE of 9.74% within the range of 9.49% to 9.99%.²⁴ Staff clearly reports in its direct testimony
20 the range of DCF COE estimates from 7.49% to 9.70%,²⁵ and the range of CAPM COE
21 estimates from 9.06% to 10.42%.²⁶ Relying on this wide range of COE estimates, Staff

²³ Page 34, lines 6-7, Bulkley's Rebuttal Testimony.

²⁴ Schedule SJW-d16, Won's Direct Testimony.

²⁵ Page 42, lines 18-19, Won's Direct Testimony.

²⁶ Page 45, lines 2-3, Won's Direct Testimony.

1 recommends an authorized ROE of 9.74%, based on its analysis of the BYPRP ROE estimate
2 range of 9.72% to 9.76%.²⁷

3 Interestingly, if it is true that Staff did not rely on the results of its COE estimation
4 using DCF, then Ms. Bulkley also did not rely on her own DCF COE estimations.
5 Ms. Bulkley disregarded the results of her own mean DCF COE estimates, which ranged from
6 8.99% to 9.35% for minimum growth rates that are closer to the perpetual dividend growth
7 rates used in the DCF model.²⁸ These ranges are significantly lower than her proposed ROE
8 of 10.20%. Therefore, if Staff did not rely on its COE estimation, it follows that Ms. Bulkley
9 also did not rely on hers.

10 In her rebuttal testimony, Ms. Bulkley revised her proposed ROE of 10.20%, within
11 a range of 9.90% to 11.25%,²⁹ relying on her updated COE analysis results such as the
12 range of mean DCF COE estimates 8.99% to 11.62%, the range of median DCF COE estimates
13 9.18% to 11.15%, the range of CAPM COE estimates from 10.24% to 11.65%, the range
14 of ECAPM COE estimates 10.69% to 11.75%, and the range of BYRP COE estimates
15 10.40% to 10.53% (*see* Table 2 on Page 10).³⁰ Despite this, it is unclear how Ms. Bulkley
16 gets her proposed ROE of 10.20% from her wide span of COE estimates ranging from
17 9.90% to 11.75%.³¹

18 In contrast, in my direct testimony using the second quarter of 2024 data, I clearly
19 explained how both the COE and ROE estimates support its recommendation of an authorized
20 ROE of 9.74%.³² As shown below in Figure 1, these ranges of COE estimates were used to

²⁷ Table 4 (p. 48), Won's Direct Testimony.

²⁸ Figure 2 (p. 10), Bulkley's Rebuttal Testimony.

²⁹ Page 4, lines 14-16, Bulkley's Rebuttal Testimony.

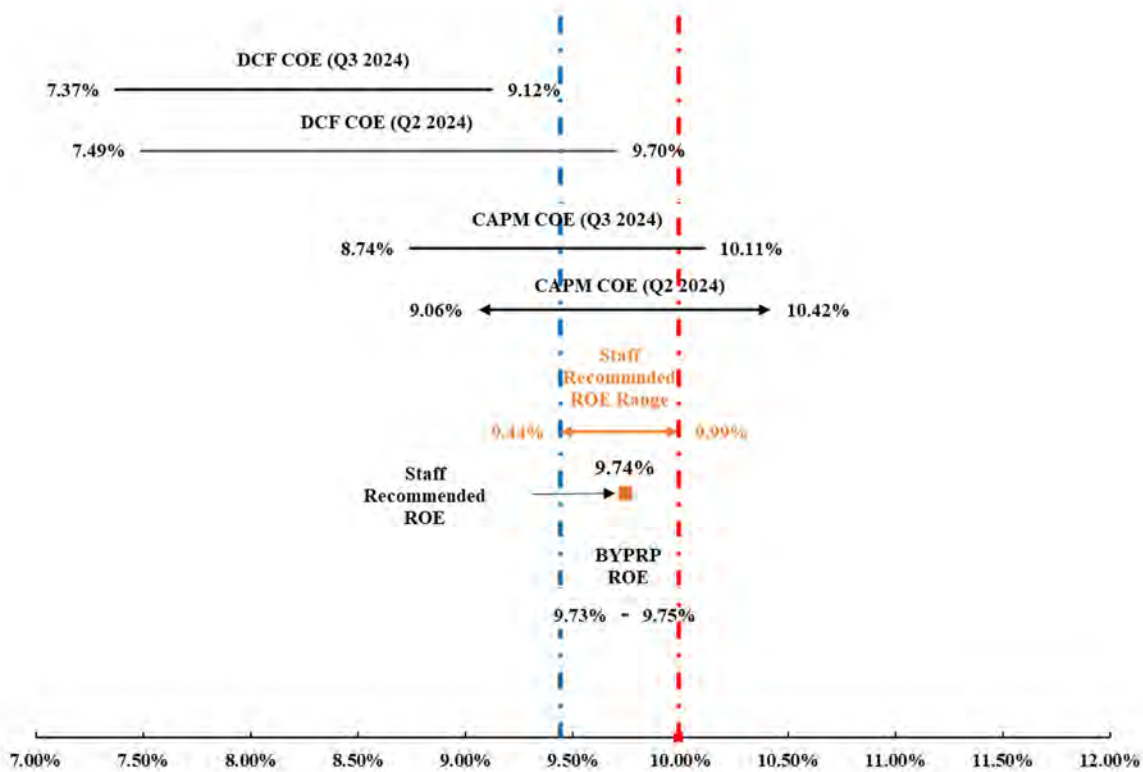
³⁰ Schedule AEB-R1, Attachment 1, Bulkley's Rebuttal Testimony.

³¹ 1 Summary, Won's Surrebuttal Workpaper.

³² Table 4 (p. 48), Won's Direct Testimony.

1 develop Staff’s recommendation of an authorized ROE of 9.74% with the range of
2 BYPRP ROE estimates from 9.72% to 9.76%. In addition, because Staff’s recommended ROE
3 of 9.74% is an estimated number that involves a margin of error, Staff applied a $\pm 2.5\%$ range,
4 resulting in a reasonable range of 9.49% to 9.99%.³³ In addition, Staff’s revised COE analysis
5 results, using third-quarter 2024 data, are presented and compared in Figure 1.

6 **Figure 1. Comparison of Staff’s COE and ROE Estimates**³⁴



Staff COE Analysis Comparison

COE Estimation Methods	Direct (Q2 2024)			Surrebuttal (Q3 2024)		
	Lower	Average	Upper	Lower	Average	Upper
Discounted Cash Flow	7.49%	8.60%	9.70%	7.37%	8.25%	9.12%
Capital Asset Pricing Model	9.06%	9.74%	10.42%	8.74%	9.42%	10.11%
	8.28%	9.17%	10.06%	8.05%	8.83%	9.62%

³³ Schedule SJW-d16, Won’s Direct Testimony.

³⁴ S8 Staff COE ROE, Staff’s Surrebuttal / True-up Workpaper.

1 As shown in the above table, both DCF and CAPM COE estimates decreased due to
2 changes in capital market conditions.

3 Q. Did Ms. Bulkley explain why she insists that Staff did not rely on the results of
4 its DCF COE estimation when it recommended an authorized ROE?

5 A. No, it is unclear why she insists on that. However, Staff noticed Ms. Bulkley's
6 misunderstanding of Staff's concepts regarding the relationship between COE and authorized
7 ROE, which could lead to such a conclusion. In my direct testimony, I clearly noted that COE
8 and authorized ROE do not need to be the same because they are different concepts.³⁵ However,
9 Ms. Bulkley has used COE and ROE interchangeably.³⁶ Although Ms. Bulkley stated that she
10 agrees there is a distinction between the COE and the ROE,³⁷ she inconsistently insists that
11 Staff's DCF analysis is not reasonable, stating: "The result of Dr. Won's DCF analysis is
12 significantly below the current average authorized ROE for vertically-integrated electric
13 utilities nationally, which as Dr. Won notes in Table 5 of his testimony was 9.69 percent for all
14 electric utilities in 2024."³⁸ As stated above, Staff presented a range of its DCF COE estimates
15 from 7.49% to 9.70%.³⁹ Considering the fact that the authorized ROE of 9.69% falls within
16 this range, Ms. Bulkley may not truly believe there is a distinction between COE estimates and
17 ROE estimates.

18 Staff's methodology is based on the following financial basics. First, a market COE
19 and an authorized ROE are different concepts. Second, an authorized ROE cannot be directly
20 calculated using a formula or some specific model. Third, a COE can be estimated using
21 financial models and appropriate input values from market data for a given time period.
22 However, based on her arguments in her testimonies, Ms. Bulkley seems to not fully understand

³⁵ Page 6, lines 13-18, and Footnote No. 2 (p. 3), Won's Direct Testimony.

³⁶ Footnote No.1 (p. 4), Bulkley's Direct Testimony.

³⁷ Page 62, lines 5-7, Bulkley's Rebuttal Testimony.

³⁸ Page 33, lines 14-17, Bulkley's Rebuttal Testimony.

³⁹ Page 42, lines 18-19, Won's Direct Testimony.

1 or may actually disagree with Staff’s fundamental postulation that a market COE and an
2 authorized ROE are different concepts.

3 Q. Why is the assumption that the market-based COE estimate equals the
4 authorized ROE incorrect?

5 A. The assumption that a market-based COE and a regulatory authorized ROE are
6 equal is not supported by theoretical or recent empirical evidence. First of all, COE is defined
7 as a stock market value-based concept.⁴⁰ In contrast, an authorized ROE is an accounting book
8 value-based concept.⁴¹ Therefore, a simple calculation of COE does not automatically produce
9 a just and reasonable authorized ROE.

10 Q. Why is the market value-based concept of COE not the same as the book
11 value-based concept of an authorized ROE?

12 A. COE is the return required by investors and an authorized ROE is the return set
13 by a regulatory utility commission. Although Ms. Bulkley contends that COE and ROE are
14 interchangeable, Staff’s position is that they are not. Observed utility COEs have been,
15 generally, significantly lower than ROEs in recent years.⁴² Because observed COEs have been
16 significantly lower lately, instead of directly recommending the estimated COEs, Staff had
17 recommended the authorized ROE be compared to the change in COE from one period to the
18 next period.

19 The easiest way to understand the difference between COE and authorized ROE is to
20 consider how the two return measures are used in practice. When investors buy common
21 equity stock of a company, they want to know the expected rate of return and compare it to

⁴⁰ Page 378, Chartered Financial Analyst (“CFA”) Program Curriculum, 2020, Level I, Volume 4.

⁴¹ Page 389, CFA Program Curriculum, 2020, Level I, Volume 4.

⁴² Steve Huntoon, Nice Work If You Can Get It, Public Utility Fortnightly, August 2016 (<http://energy-counsel.com/docs/Nice-Work-If-You-Can-Get-It-Fortnightly-August-2016.pdf>).

1 their required rate of return from their investment. The COE can be thought of as the
2 minimum expected rate of return that a company must offer its investors to induce the purchase
3 of its shares in the primary market and to maintain its share price in the secondary market.⁴³
4 The important point here is that investors pay their money based on the market value of
5 the common equity stock and not just based on the book value of the equity of a company.
6 To calculate the expected minimum rate of return of common equity, investors estimate COE
7 using the stock valuation of models such as the DCF or the CAPM.⁴⁴ Investors' expected return
8 from their common stock can be easily calculated by multiplying the COE by the market value
9 of a common stock.

10 In contrast, an authorized ROE has a very different financial context. The purpose
11 of an authorized ROE is to calculate just and reasonable rates for utility companies. In utility
12 rate proceedings, rates are decided by the revenue requirement determined by the Commission.
13 The revenue requirement is calculated, in part, by multiplying its rate base by the allowed ROR.
14 The allowed ROR is the weighted average cost of capital, which includes the authorized ROE
15 and cost of debt. The rate base calculation is based on the book value of the utility's regulatory
16 assets. The book value of equity is calculated by subtracting a company's total liabilities from
17 its total assets. Clearly, the two concepts, COE and ROE, are different; therefore, there is
18 no reason market COE estimates and recommended authorized ROEs should be the same.

19 Q. How do investors consider the Commission's authorized ROE differently from
20 the market value COE?

⁴³ Page 378, CFA Program Curriculum, 2020, Level I, Volume 4.

⁴⁴ Page 379, CFA Program Curriculum, 2020, Level I, Volume 4.

1 A. The book value of common equity is not as volatile as stock prices. Since COE
2 is associated with the market value of common stock, which can have a volatile value, if the
3 COE is directly used to set an authorized ROE value and to calculate the revenue requirement,
4 an authorized ROE would be as volatile as the stock market. With an authorized ROE as
5 volatile as the stock market, the overall revenue requirement would be just as volatile. Investors
6 of utility common stock expect and require a reliable revenue stream based on just and
7 reasonable utility rates. Investors know that utility rates higher or lower than just and
8 reasonable amounts are unsustainable and are eventually harmful to both ratepayers and
9 investors. Therefore, for ratemaking purposes, a reliable and stable earning multiplier
10 associated with the rate base, based on utility book value, needs to be produced. To properly
11 meet the expectations and requirements of investors when they choose to invest in or lend their
12 money to a utility company, rather than in some other investment opportunity, just and
13 reasonable rates are required.

14 Q. Does this mean that COE estimation procedures are useless in the ratemaking
15 process?

16 A. No, it does not. COE estimates provide valuable equity financial market
17 information including investors' expected minimum rates of return based on the market value
18 of stocks. Specifically, the comparison of COE estimates for two different rate proceedings
19 provides important information to calculate and recommend a just and reasonable authorized
20 ROE. In many rate proceedings, Staff found that the changes in the COE over time, such as
21 between rate proceeding periods, provide essential information on whether to increase or
22 decrease authorized ROE recommendations considering financial market changes. However,
23 simply equating COE estimates with ROE recommendations is not appropriate.

1 Q. Why does a simple calculation of COE estimates not produce a just and
2 reasonable authorized ROE?

3 A. In its Amended Report and Order in the Spire Missouri rate proceedings, Case
4 Nos. GR-2017-0215 and GR-2017-0216, the Commission stated:

5 To determine a return on equity, the Commission must consider the
6 expectations and requirements of investors when they choose to invest
7 their money in Spire Missouri rather than in some other investment
8 opportunity. As a result, **the Commission cannot simply find a rate of**
9 **return on equity that is unassailably scientifically, mathematically,**
10 **or legally correct.** Such a “correct” rate does not exist. Instead, the
11 Commission must use its judgment to establish a rate of return on equity
12 attractive enough to investors to allow the utility to fairly compete for
13 the investors’ dollar in the capital market without permitting an
14 excessive rate of return on equity that would drive up rates for Spire’s
15 ratepayers. [Emphasis Added.]⁴⁵

16 As the Commission explained above, setting authorized ROEs is not a purely
17 mathematical exercise where the results of COE estimation models are simply accepted from
18 the results of a mathematical formula. If COE estimates determined by market value-based
19 methods such as the DCF and the CAPM are simply quoted for the authorized ROE, the result
20 would be neither just nor reasonable to investors or ratepayers. As explained earlier, the COE
21 and the authorized ROE are developed in different financial contexts. Setting fair and
22 reasonable ROEs involves judgment, which sometimes requires adjusting COE estimates to
23 reflect what is deemed just and fair, considering other authorized ROEs with comparable risk.

24 More importantly, finding a just and reasonable authorized ROE in utility rate
25 regulation is a long-term iterative procedure. After a utility rate proceeding, a set of new utility
26 rates go into effect based on an authorized ROE determined by the Commission. Under the
27 new rates, the utility company will soon have its performance results. If the new rates are

⁴⁵ Page 28, Amended Report and Order, Case No. GR-2017-0215.

1 overpriced, ratepayers will overpay and the company and its stock price will generally
2 outperform. If the new rates are underpriced, the company will have a lower net income than
3 the market expected. Because of the disappointing earnings report, investors would not be
4 attracted to the company's stock and its stock price will underperform the total stock market.
5 Therefore, a company may file its next rate proceeding sooner than originally expected based
6 upon the performance results of the current set of rates.

7 **2. Bulkley's Updated COE Analysis**

8 Q. In her rebuttal testimony, Ms. Bulkley stated, "Nothing in the direct testimonies
9 of Dr. Won, Mr. Murray, Mr. Walters, or Mr. Comings has caused me to change my conclusions
10 or recommendations."⁴⁶ Does this mean Ms. Bulkley did not change her proposed ROE?

11 A. No. As explained previously, Ms. Bulkley changed her proposed ROE.
12 She stated "I have prepared updated cost of equity analyses based on market data
13 through November 30, 2024, to rebut the cost of equity analyses of the other witnesses in
14 this proceeding."⁴⁷

15 Q. How did Ms. Bulkley change her recommended ROE and capital structure based
16 on her updated analysis using market data through November 30, 2024?

17 A. According to her direct testimony filed on June 28, 2024, Ms. Bulkley proposed
18 an ROE of 10.25%, within a range of 10.25% to 11.25%.⁴⁸ However, in her rebuttal testimony,
19 Ms. Bulkley revised her proposed ROE to 10.20%, within a range of 9.90% to 11.25%.⁴⁹

20 Q. What did Ms. Bulkley change in her updated COE analysis?

⁴⁶ Page 7, lines 7-8, Bulkley's Rebuttal Testimony.

⁴⁷ Page 4, lines 12-16, Bulkley's Rebuttal Testimony.

⁴⁸ Page 10, lines 1-4, Bulkley's Direct Testimony.

⁴⁹ Page 4, lines 14-16, Bulkley's Rebuttal Testimony.

1 A. Ms. Bulkley’s COE estimation models and input variables estimation methods
2 remained the same except for the time period of the data values.⁵⁰ Ms. Bulkley’s updated COE
3 analysis is now based on data as of November 30, 2024.⁵¹ Ms. Bulkley selected 17 electric
4 utility companies for her proxy group in her rebuttal testimony.⁵² Table 1 presents the list
5 of Ms. Bulkley’s updated electric utility proxy group and associated Ticker symbols and
6 Standard & Poor’s (“S&P”) credit ratings:

7 **Table 1. Bulkley Proxy Group and S&P Credit Rating**⁵³

	Company	Ticker	Credit Rating
1	Alliant Energy Corporation	LNT	A-
2	American Electric Power Company, Inc.	AEP	BBB+
3	Avista Corporation	AVA	BBB
4	CMS Energy Corporation	CMS	BBB+
5	DTE Energy Company	DTE	BBB+
6	Duke Energy Corporation	DUK	BBB+
7	Entergy Corporation	ETR	BBB+
8	Evergy, Inc.	EVRG	BBB+
9	IDACORP, Inc.	IDA	BBB
10	NextEra Energy, Inc.	NEE	A-
11	NorthWestern Corporation	NWE	BBB
12	OGE Energy Corporation	OGE	BBB+
13	Pinnacle West Capital Corporation	PNW	BBB+
14	Portland General Electric Company	POR	BBB+
15	PPL Corporation	PPL	A-
16	Southern Company	SO	A-
17	Xcel Energy Inc.	XEL	BBB+
	Union Electric Company, d/b/a Ameren Missouri		BBB+

8
⁵⁰ Pages 7- 8, and Schedule AEB-R1, Bulkley’s Rebuttal Testimony.

⁵¹ Page 8, lines 2-3, Bulkley’s Rebuttal Testimony.

⁵² Schedule AEB-R1, Attachment 2, Bulkley’s Rebuttal Testimony.

⁵³ Schedule AEB-R1, Attachment 2, Bulkley’s Rebuttal Testimony, and S&P Capital IQ, retrieved August 22, 2024.

1 In her updated COE analysis, Ms. Bulkley reported lower COE estimates for DCF,
2 CAPM, and BYPRP compared to those in her direct testimony. The summary of Ms. Bulkley's
3 updated COE estimates are presented in Table 2:

4 **Table 2. Bulkley's COE estimates Comparison⁵⁴**

	<u>Direct</u>			<u>Rebuttal</u>		
	<u>As of May 31, 2024</u>			<u>As of November 30, 2024</u>		
	<u>Low</u>	<u>Average</u>	<u>High</u>	<u>Low</u>	<u>Average</u>	<u>High</u>
DCF (Mean)				8.99%	10.32%	11.62%
DCF (Median)	9.93%	10.74%	11.59%	9.18%	10.16%	11.15%
CAPM	10.59%	11.19%	12.05%	10.24%	10.78%	11.65%
ECAPM	11.07%	11.52%	12.17%	10.69%	11.10%	11.75%
BYRP	10.40%	10.50%	10.62%	10.40%	10.47%	10.53%

5
6 Because Ms. Bulkley did not change her estimation models and input parameters,
7 Staff's concerns with her recommended COE remains the same as expressed in my rebuttal
8 testimony. Staff will not repeat its entire explanation of its concerns with Ms. Bulkley's
9 estimation models and input data, as explained in my rebuttal testimony. For a detailed
10 explanation of Staff's concerns with Ms. Bulkley's COE estimation models and input data,
11 please see my rebuttal testimony.

12 Q. Please summarize Staff's concerns with Ms. Bulkley's COE estimation models
13 and input data.

14 A. The list of flawed COE estimation procedures used by Ms. Bulkley, along with
15 brief summaries, updated analysis results, and the page numbers of the associated explanations
16 in my rebuttal testimony, is as follows:

⁵⁴ Schedule AEB-D2, Attachment 1, Bulkley Direct Testimony, and Schedule AEB-R1, Attachment 1, Bulkley Rebuttal Testimony.

1 **A. Overstated Proposed ROE** (Pages 5-68, Won’s Rebuttal Testimony)

2 Ms. Bulkley’s recommended ROE of 10.20% is significantly higher than the average
3 authorized ROE of 9.74% in U.S. electric utility rate proceedings completed in 2024.⁵⁵
4 Ms. Bulkley’s recommended ROE is based on overstated COE estimates that use
5 upwardly-biased input variables such as projected growth rates for the DCF model, market
6 return and market risk premium (“MRP”) for the CAPM method, and inappropriate variables
7 in the regression model for the BYRP analysis.

8 **B. Inadequate Proxy Group Selection** (Pages 8-11, Ibid)

9 Due to Ms. Bulkley’s unreasonable proxy group selection, her COE estimates are
10 excessively upwardly biased. In its direct testimony, Staff disagreed with Ms. Bulkley
11 including NextEra Energy, Inc. (“NEE”) in her proxy group because the Edison Electric
12 Institute (“EEI”) reported that NEE’s non-regulated assets are more than 20% of their total
13 assets.⁵⁶ Ms. Bulkley includes NEE in her updated proxy group for her rebuttal testimony.⁵⁷
14 Ms. Bulkley insisted that including NEE in her proxy group is reasonable because
15 approximately 77% of NEE’s total revenue and 88% of its total operating income come from
16 regulated operations.⁵⁸ However, Ms. Bulkley’s argument is baseless because the percentages
17 of operating income and revenue generally vary too much over time to serve as an appropriate
18 measure for comparing non-regulatory risk.

⁵⁵ S&P Global Market Intelligence, Retrieved in January 2, 2025.

⁵⁶ EEI, 2023 Financial Review: Annual Report of the U.S. Investor-Owned Electric Utility Industry.

⁵⁷ Schedule AEB-R1, Attachment 2 to Attachment 4, Bulkley’s Rebuttal Testimony.

⁵⁸ Page 31, lines 7-11, Bulkley’s Rebuttal Testimony.

1 **C. Excessive Growth Rate for DCF** (Pages 11-14, Ibid)

2 Ms. Bulkley used excessively high growth rates for her DCF COE estimates, by
3 exclusively using analysts' projected earnings growth rates, which she erroneously called
4 long-term growth rates.⁵⁹ Ms. Bulkley's DCF COE estimates would be reasonable if she used
5 a combination of commonly-used growth rates of EPS, dividend per share ("DPS"), book value
6 per share ("BVPS"), and gross domestic product ("GDP").⁶⁰ Analysts' projected growth rates
7 are for periods of three to five years,⁶¹ which is considered short-term given the infinite
8 investment horizon assumed in the DCF. Analysts are of the consensus that long-term growth
9 rates for utilities will eventually converge to the level of the long-term GDP growth rate.⁶²
10 Because of her overstated growth rates, Ms. Bulkley's DCF COE estimates are unreasonably
11 upwardly biased. If Ms. Bulkley had used more reasonable growth rates with a projected
12 GDP growth rate of 3.90% in the DCF model, her mean DCF COE estimate would have
13 been 9.59%.⁶³

14 **D. Inflated Market Risk Premium in the CAPM** (Pages 14-18, Ibid)

15 Ms. Bulkley employed the CAPM and the ECAPM using an updated total market return
16 of 12.05%,⁶⁴ resulting in three different MRPs of 7.54%, 7.63% and 7.75%.⁶⁵ Ms. Bulkley's
17 MRPs are much higher than the regular U.S. financial services industry's MRP estimates of
18 around 4.00% to 7.00%.⁶⁶ When she calculated her MRP, Ms. Bulkley included companies not

⁵⁹ Page 37, lines 8-12 and Schedule AEB-D2, Attachment 4, Bulkley's Direct Testimony.

⁶⁰ Howe, Keith M. and Eugene F. Rasmussen. Public Utility Economics and Finance, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1982.

⁶¹ Value Line, Value Line - Value Line University, retrieved in July 15, 2022.

⁶² Morin, R. A. (2006). New Regulatory Finance. Public Utilities Reports, page 302.

⁶³ 1 Summary, Won's Surrebuttal Workpaper.

⁶⁴ Schedule AEB-R1, Attachment 5, Bulkley's Rebuttal Testimony.

⁶⁵ Schedule AEB-R1, Attachment 3, Bulkley's Rebuttal Testimony.

⁶⁶ Figure 2. "MRP and corresponding COE" (p. 17), Won's Rebuttal Testimony.

1 having dividend payment information.⁶⁷ With more reasonable assumptions, such as a market
2 return of 10.05% and a current risk-free rate of 4.52%,⁶⁸ Ms. Bulkley's average CAPM COE
3 estimate would be 9.75%.⁶⁹

4 **E. Unreliable Empirical Capital Asset Pricing Model** (Pages 18-20, Ibid)

5 Ms. Bulkley's adjusted average ECAPM COE estimates of 11.10% is unreliable.⁷⁰
6 Ms. Bulkley used Dr. Roger Morin's adjustment factor of 25% in the ECAPM analysis.⁷¹
7 Dr. Morin's adjustment factor of 25% was estimated using data from 1926 to 1984 under the
8 assumption that CAPM underestimated COE.⁷² However, there is no evidence Dr. Morin's
9 finding would be consistent with data after 1984. Furthermore, Dr. Morin also cited other
10 studies that found that CAPM produced returns between – 9.61% and 13.56%, meaning that
11 the CAPM can actually overestimate COE in some instances.⁷³ Such variations in findings do
12 not lend credibility to Ms. Bulkley's use of the ECAPM.

13 **F. Inappropriate Bond Yield Risk Premium Analysis** (Pages 20-23, Ibid)

14 Ms. Bulkley's updated BYRP ROE estimates range from 10.40% to 10.53% with an
15 average of 10.47%.⁷⁴ Ms. Bulkley's BYRP using a regression analysis is different from the
16 conventional BYRP.⁷⁵ Because Ms. Bulkley's BYRP relies on a single independent input value
17 of 30-year treasury bonds yield,⁷⁶ it is unavoidable that her BYRP COE estimates are

⁶⁷ Schedule AEB-R1, Attachment 5, Bulkley's Rebuttal Testimony.

⁶⁸ The assumption of the estimated MRP of 5.53% is the average of the seven MRP in 3 CAPM, Won's surrebuttal workpaper. The risk-free rate of 4.52% is an average of 30-year Treasury bond at yields of 30-day Bloomberg Professional, as of November 30, 2024. *See* Schedule AEB-R1, Attachment 3, Bulkley's Rebuttal Testimony.

⁶⁹ 3 CAPM, Won's Surrebuttal Workpaper.

⁷⁰ Schedule AEB-R1, Attachment 3, Bulkley's Rebuttal Testimony.

⁷¹ Page 43, lines 5-8, and Footnote 38, Bulkley's Direct Testimony.

⁷² Footnote No. 12 (p. 190), Morin, R. A. (2006). *New Regulatory Finance*. Public Utilities Reports.

⁷³ Table 6-2 (p. 190), Morin, R. A. (2006). *New Regulatory Finance*. Public Utilities Reports.

⁷⁴ Figure 2 (p. 10), Bulkley's Rebuttal Testimony.

⁷⁵ Pages 20-21, Won's Rebuttal Testimony.

⁷⁶ Page 41, lines 5-7, Won's Rebuttal Testimony.

1 unreasonably excessive under the current Federal Reserve (“Fed”) monetary policy, which was
2 recently increasing interest rates at an unusual speed.⁷⁷ For this reason, Staff recommends the
3 Commission not consider Ms. Bulkley’s BYRP COE estimate to determine a just and
4 reasonable authorized ROE.

5 **G. Mischaracterization of Regulatory and Business Risks** (Pages 25-28, Ibid)

6 Ms. Bulkley considered business risk and regulatory risk to determine where Ameren
7 Missouri’s required ROE falls within the range of her analytic results.⁷⁸ Ms. Bulkley continued
8 to insist that the risk level for Ameren Missouri is greater than her peer group companies
9 because of their capital expenditure requirements.⁷⁹ However, according to S&P, Missouri is
10 classified in the category of “Very Credit Supportive,” with a “Strong and Adequate” utility
11 regulatory environment in jurisdictions among U.S. states and Canadian provinces.⁸⁰

12 The credit ratings of Ameren Missouri are not lower than the average credit rating of
13 any proxy group companies considered in these proceedings.⁸¹ S&P has assigned the corporate
14 credit ratings of Ameren Missouri as ‘BBB+’, and Moody’s has assigned ‘Baa1’.⁸² It is a
15 well-known fact that the corporate credit rating is determined by credit agencies’ assessment
16 of corporate risks, including financial, business and regulatory risk profiles.⁸³ As shown
17 in Table 1, of the 17 electric utility proxy group companies, four have a higher credit rating
18 of 'A-' compared to Ameren Missouri's 'BBB+' rating, ten have the same credit rating as Ameren

⁷⁷ Page 21, lines 5-6, and Figure 5 (p. 21), Won’s Direct Testimony.

⁷⁸ Page 7, lines 2-6, Bulkley’s Direct Testimony.

⁷⁹ Page 59, lines 14-15, Bulkley’s Direct Testimony.

⁸⁰ S&P Global Ratings, North American Utility Regulatory Jurisdictions Update: Ontario Remains Unchanged, Notable Developments Elsewhere, published March 11, 2024.

⁸¹ Schedule SJW-d8, Won’s Direct Testimony.

⁸² S&P Rating Report.

⁸³ Page 15, Guide to Credit Rating Essentials - S&P Global, retrieved on July 17, 2022.

https://www.spglobal.com/ratings/division-assets/pdfs/guide_to_credit_rating_essentials_digital.pdf.

1 Missouri, and three have lower credit rating of 'BBB'. Therefore, Ms. Bulkley's assertion that
2 Staff did not "review the relative risks of the proxy group companies and the subject company
3 to determine how the subject company's risk profile compares with the group to determine the
4 appropriate placement of the ROE within the range of results established using the proxy group
5 companies"⁸⁴ is baseless.

6 **3. Updated Capital Market Conditions**

7 Q. Do you agree with Ms. Bulkley's assertion that you did not provide any support
8 for your conclusion that Staff's DCF and CAPM results are overstated due to current capital
9 market conditions?⁸⁵

10 A. No, I do not.

11 Q. What support did you provide for your conclusion that Staff's DCF and CAPM
12 results are overstated due to current capital market conditions?

13 A. In the market analysis section of my direct testimony, I provide a variety of
14 evidence showing how the input values of the DCF and CAPM analyses under current market
15 conditions overstated Staff's DCF and CAPM results.⁸⁶

16 As an example of the overstated DCF COE estimation compared to the overall market
17 COE, Staff provided evidence of a relatively higher dividend yield in its electric utility proxy
18 group due to underperforming electric utilities in the stock market.⁸⁷ Using Figure 3 in my
19 direct testimony, I explain that, as of April 1, 2024, the S&P 500, S&P 500 Utilities, and Staff's
20 proxy group had total returns of 73.88%, 17.99%, and 15.93%, respectively, relative to the

⁸⁴ Page 124, lines 4-9, Bulkley's Rebuttal Testimony.

⁸⁵ Page 13, lines 3-6, Bulkley's Rebuttal Testimony.

⁸⁶ Pages 8-22, Won's Direct Testimony.

⁸⁷ Pages 18-20, Won's Direct Testimony.

1 reference point on January 2, 2020.⁸⁸ Using Figure 4 in my direct testimony, I illustrated the
2 inverse relationship between total return and dividend yield.⁸⁹ As shown in the constant-growth
3 DCF formula in my direct testimony,⁹⁰

$$k = (1 + 0.5g)D / P + g.$$

4
5 where k is investors' required return from the stock,
6 D is the current dividend,
7 P is the common stock price, and
8 g is the expected growth rate in dividend,

9 a high dividend yield (represented as D/P in the formula) produces a high DCF COE estimate
10 (represented as k in the formula). Based on these aspects of current capital market conditions,
11 I concluded in my direct testimony that Staff's DCF COE estimates are overstated compared to
12 the overall market COE due to the relatively higher dividend yield of Staff's electric utility
13 proxy group.⁹¹

14 For the overstated CAPM COE estimation compared to the overall market COE,
15 Staff provided evidence of a relatively higher 30-year Treasury bond yield compared to
16 pre-COVID-19 levels in the bond market.⁹² Using Figure 5 in my direct testimony, I explained
17 how Fed monetary policy increased Fed fund rate impact 30-Year Treasury Bond yield.⁹³
18 As shown in the CAPM formula in my direct testimony,

⁸⁸ Page 19, lines 7-9, Won's Direct Testimony.

⁸⁹ Page 20, lines 3-10, Won's Direct Testimony.

⁹⁰ Pages 41-42, Won's Direct Testimony.

⁹¹ Page 20, lines 11-13, Won's Direct Testimony.

⁹² Page 17, lines 10-14, Won's Direct Testimony.

⁹³ Page 21, lines 7-13, Won's Direct Testimony.

1
$$k = R_f + \beta(R_m - R_f)$$

2 where, k is the expected return on equity for a security,
3 R_f is the risk-free rate,
4 R_m is the expected market return,
5 β is beta, and
6 $R_m - R_f$ is the market risk premium,

7 a high 30-Year Treasury Bond yield (represented as R_f in the formula) produces a high CAPM
8 COE estimate (represented as k in the formula).⁹⁴ In my direct testimony, I explained 30-year
9 Treasury yields were 4.53% on October 28, 2024; that is greater than 284 basis points compared
10 to 1.69% on December 3, 2021.⁹⁵ Due to the high bond yields in the current capital market
11 conditions, I concluded in my direct testimony that Staff's CAPM COE estimates are overstated
12 compared to the pre-COVID-19 electric utility COE estimates.⁹⁶

13 Q. Why does Ms. Bulkley insist that Staff's conclusion is invalid?

14 A. According to Ms. Bulkley, Staff's position that the results of the DCF and
15 CAPM are overstated under current capital market conditions is invalidated by the fact that
16 Staff's recommended ROE (i.e., 9.74%) is actually greater than the result of Staff's DCF
17 analysis (i.e., 8.60%) and is exactly the same as the result of my CAPM analysis.⁹⁷

18 Q. What is your response to Ms. Bulkley's reasoning that your conclusion is
19 invalid?

20 A. This is a good example of how Ms. Bulkley does not understand Staff's
21 methodology and misrepresents what the Staff actually did in its analysis. First, Ms. Bulkley

⁹⁴ Page 44, lines 1-8, Won's Direct Testimony.

⁹⁵ Page 17, lines 11-13, Won's Direct Testimony.

⁹⁶ Page 22, lines 17-23, Won's Direct Testimony.

⁹⁷ Page 13, lines 6-10, Bulkley's Rebuttal Testimony.

1 does not understand why I conclude that Staff's DCF and CAPM are overstated as a result
2 of the current market conditions. In the last Ameren Missouri rate proceeding, Case No.
3 ER-2022-0337, Staff recommended an authorized ROE of 9.59% and reported the estimated
4 range of its DCF and CAPM COE estimates as 7.30% to 8.79% and 7.23% to 9.04%,
5 respectively.⁹⁸ However, as explained in its direct testimony, the current COE, as estimated by
6 the DCF and CAPM methods (with ranges of 7.49% to 9.70% and 9.06% to 10.42%,
7 respectively),⁹⁹ is overstated when considering utility bond market conditions.¹⁰⁰

8 **Table 3. Comparison of Staff COE Analysis Results**

<u>Case No.</u>	<u>COE Analysis on Electric Utility</u>					
	<u>DCF</u>			<u>CAPM</u>		
	<u>Lower</u>	<u>Average</u>	<u>Upper</u>	<u>Lower</u>	<u>Average</u>	<u>Upper</u>
ER-2022-0337	7.30%	8.04%	8.79%	7.23%	6.14%	9.04%
ER-2024-0319	7.49%	8.60%	9.70%	9.06%	9.74%	10.42%
Difference	0.19%	0.56%	0.91%	1.83%	1.60%	1.38%

9 As shown in Table 3, COE estimates in the current rate proceeding are higher
10 compared to the last Ameren Missouri rate proceeding. Specifically, the average CAPM COE
11 estimates increased by more than 160 basis points, which does not explain why the quarterly
12 average authorized ROE has changed by less than 50 basis points, remaining within a range
13 of 9.34% to 9.75% since the 2022 Ameren Missouri rate proceeding.¹⁰¹ In this context,
14 Staff explained that the current DCF and CAPM COE estimates are 'overstated' and
15 recommended a proper authorized ROE.¹⁰²

⁹⁸ Schedules SJW-d13, SJW-d14, and SJW-d16, Won's Direct Testimony, ER-2022-0337.

⁹⁹ Schedule SJW-d15, Won's Direct Testimony.

¹⁰⁰ Page 21, Won's Direct Testimony.

¹⁰¹ S&P Capital IQ Pro: Regulatory Research Association, retrieved August 12, 2024.

¹⁰² Page 16, lines 6-8, Won's Direct Testimony.

1 Second, Ms. Bulkley’s assertion that Staff’s conclusion of its DCF and CAPM results
2 being overstated is invalidated, because the recommended ROE of 9.74% is greater than
3 Staff’s COE estimates, is based on her incorrect belief that ROE and COE are interchangeable.
4 Staff reemphasized that market COE and authorized ROE are different concepts, and market
5 COE cannot directly determine a just and reasonable authorized ROE. The fact that Staff’s
6 recommended ROEs are greater than Staff’s DCF estimates in both the last and current Ameren
7 Missouri rate proceedings is evidence of Ms. Bulkley’s incorrect belief that ROE and COE are
8 interchangeable.

9 Q. Do you agree with Ms. Bulkley that changes in capital market conditions since
10 Ameren Missouri’s last rate proceeding continue to indicate an increase in the COE?¹⁰³

11 A. No, I do not. Staff found no evidence of changes in capital market conditions,
12 since the filing of Ameren Missouri’s last rate proceeding and the direct testimony in this
13 proceeding, to indicate an increase in the COE. On the contrary, Staff found some evidence
14 that changes in current capital market conditions may suggest a decrease in the COE. One of
15 the major reasons for a higher COE estimate was the Fed’s monetary policy to maintain a
16 high interest rate to combat inflation.¹⁰⁴ Following the Fed’s intervention in March 2022, the
17 annual inflation rate in the U.S. fell to 2.7% in the fourth quarter of 2024, which still exceeded
18 the Fed’s target level of 2.0%.¹⁰⁵ In light of the progress on inflation and the balance of risks,
19 on September 18, 2024, the Federal Open Market Committee (“FOMC”) decided to lower
20 the target range for the federal funds rate by a half percentage point, from 5.25%–5.50%, as set

¹⁰³ Page 14, lines 8-11, Bulkley’s Rebuttal Testimony.

¹⁰⁴ Page 15, lines 3-11, Won’s Direct Testimony.

¹⁰⁵ FRED, Economic Data, Source: U.S. Bureau of Economic Analysis,
<https://fred.stlouisfed.org/series/BPCCRO1Q156NBEA>.

1 by the FOMC on July 26, 2023, to 4.75%–5.00%.¹⁰⁶ Additionally, the FOMC decided to lower
2 the target range for the federal funds rate by 0.25 percentage points twice, on November 7,
3 2024, and December 18, 2024, resulting in a range of 4.25%–4.50%.¹⁰⁷ Therefore,
4 Ms. Bulkley’s assertion that changes in capital market conditions since the Ameren Missouri’s
5 last rate proceeding continue to indicate an increase in the COE is no longer a sensible
6 interpretation of the capital market.

7 **4. Discounted Cash Flow Model**

8 Q. Do you agree with Ms. Bulkley that Staff’s DCF analysis results are not
9 reasonable because the result of its DCF is significantly below the current average authorized
10 ROE for vertically-integrated electric utilities nationally?¹⁰⁸

11 A. No, I do not. This is another example of Ms. Bulkley’s misunderstanding or
12 misrepresentation of Staff’s analysis. First, Staff never states that a specific COE estimate
13 should be the authorized ROE or that the two values must be similar. As explained previously,
14 the principles of Staff’s analysis are that market COE and authorized ROE are different
15 concepts, and no COE estimation method can mechanically produce an authorized ROE.¹⁰⁹
16 Therefore, the ranges of COE estimates are used to recommend a just and reasonable ROE in
17 comparison to other time periods. As explained above, Staff recommended an authorized ROE
18 of 9.59% in the last Ameren Missouri rate proceeding, Case No. ER-2022-0337, based on its

¹⁰⁶ Federal Reserve issues Federal Open Market Committee (FOMC) Statement, published September 18, 2024,
<https://www.federalreserve.gov/monetarypolicy/files/monetary20240918a1.pdf>.

¹⁰⁷ Federal Reserve issues Federal Open Market Committee (FOMC) Statement, published November 7, 2024,
<https://www.federalreserve.gov/monetarypolicy/files/monetary20241107a1.pdf>.

Federal Reserve issues Federal Open Market Committee (FOMC) Statement, published December 18, 2024,
<https://www.federalreserve.gov/monetarypolicy/files/monetary20241218a1.pdf>.

¹⁰⁸ Page 33, lines 14-17, Bulkley’s Rebuttal Testimony.

¹⁰⁹ Pages 6-7, Won’s Direct Testimony.

1 DCF COE estimates of 7.30% to 8.79%.¹¹⁰ Staff recommended an authorized ROE of 9.74%,
2 based on the approximate upper end of the DCF COE estimated range of 7.49% to 9.70%.¹¹¹

3 Second, as Staff mentioned, observed utility COEs have generally been significantly
4 lower than authorized ROEs in recent years.¹¹² In addition, the difference between COE
5 estimates and Staff's recommended ROE in this proceeding is smaller than previous
6 proceedings. For example, in the last Ameren Missouri rate proceeding, Staff recommended
7 an authorized ROE of 9.59% and reported the estimated range of its DCF COE estimates
8 as 7.30% to 8.79%.¹¹³

9 Q. Do you agree with Ms. Bulkley that Staff should solely use the EPS analysts'
10 projected growth rates and should not use the DPS or BVPS growth rate within its
11 DCF calculations?¹¹⁴

12 A. No, I do not. The projected EPS, DPS, and BVPS are all acceptable measures of
13 a company's growth rate, each of which Staff used in its DCF model.¹¹⁵ Analysts occasionally
14 use these measures of growth rates in the DCF model. Staff has previously considered
15 using only the EPS growth rate to calculate the perpetual growth rate for the DCF model in
16 past rate proceedings.

17 However, at the same time, Staff has found numerous publications supporting the use
18 of projected DPS and BVPS growth rates in a DCF model. First, Howe and Rasmussen stated
19 that the three most commonly-used financial indicators of growth are DPS, EPS, and BVPS.¹¹⁶

¹¹⁰ Schedules SJW-d13, and SJW-d16, Won's Direct Testimony, ER-2022-0337.

¹¹¹ Schedules SJW-d13, and SJW-d16, Won's Direct Testimony.

¹¹² Footnote No. 2 (p. 3), Won's Direct Testimony.

¹¹³ Schedules SJW-d13, and SJW-d15, Won's Direct Testimony, ER-2022-0337.

¹¹⁴ Page 36, lines 1-16, Bulkley's Rebuttal Testimony.

¹¹⁵ Page 139, *The Cost of Capital – A Practitioner's Guide*, David C. Parcell, 2020 Edition.

¹¹⁶ Howe, Keith M. and Eugene F. Rasmussen. *Public Utility Economics and Finance*, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1982.

1 Second, when Parcell introduced the DCF model in his *Cost of Capital Manual*, the training
2 manual for the Society of Utility and Regulatory Financial Analysts, he clearly stated multiple
3 times that the growth rate for DCF models is the “constant growth rate in DPS in the future.”¹¹⁷
4 I could cite additional publications, but the most important point is that using the DPS and
5 BVPS growth rates in DCF is an acceptable method.

6 Q. Do you agree with Ms. Bulkley that there is significant academic research
7 demonstrating that EPS growth rates are most relevant in stock price valuation?¹¹⁸

8 A. No. I do not. To justify her assertion, Ms. Bulkley referenced multiple articles
9 in her Footnote Nos. 56 and 59. However, these articles do not support Ms. Bulkley’s assertion
10 that the EPS growth rate should be used “solely” within the DCF model. Interestingly, some
11 of the referenced articles do not even include the key terms “earnings per share” or “EPS”
12 (such as Robert S. Harris, ‘Using Analysts’ Growth Forecasts to Estimate Shareholder Required
13 Rates of Return,’ and Robert S. Harris and Felicia C. Marston, ‘Estimating Shareholder Risk
14 Premia Using Analysts’ Growth Forecasts’). According to Ms. Bulkley’s response to Staff’s
15 data request, the relevant actual citations and summaries for the articles are the following:

16 (1) Brigham and Houston,¹¹⁹

17 Growth in dividends occurs primarily as a result of growth in earnings
18 per share (EPS). Earnings growth, in turn, results from a number of
19 factors, including (1) inflation, (2) the amount of earnings the company
20 retains and invests, and (3) the rate of return the company earns on its
21 equity (ROE);¹²⁰

¹¹⁷ Pages 130-134, *The Cost of Capital – A Practitioner’s Guide*, David C. Parcell, 2020 Edition.

¹¹⁸ Page 22, lines 1-2, Bulkley’s Rebuttal Testimony.

¹¹⁹ Footnote No. 56, (p. 37) Bulkley’s Rebuttal Testimony, Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, at 317 (Concise Fourth Edition, Thomson South-Western, 2004).

¹²⁰ Staff’s Data Request Nos. 0522 and 0525, ER-2022-0129 and ER-2022-0130, respectively.

1 (2) Jing Liu,¹²¹

2 “Forward earnings explained stock prices remarkably well” and were
3 generally superior to other value drivers analyzed;¹²²

4 (3) C.A. Gleason,¹²³

5 Sell-side analysts with the most accurate stock price targets were those
6 whom the researchers found to have more accurate earnings forecasts;¹²⁴
7 and

8 (4) Stanley Block,¹²⁵

9 The majority of the survey respondents ranked earnings as the most
10 important variable in valuing a security;¹²⁶

11 Staff completely agrees with all four referenced statements to the effect that EPS is
12 important and useful information in various financial analyses. Staff also used the EPS growth
13 rate in Staff’s DCF model.¹²⁷ However, there is no statement that only the EPS growth rate
14 should be used, and that DPS or BVPS growth rates should not be used for the DCF model.
15 Therefore, the articles Ms. Bulkley referenced do not support Ms. Bulkley’s arguments.

16 Q. Do you agree with Ms. Bulkley that Staff has previously relied solely on EPS
17 growth rates in prior cases for the short-term growth rate?

18 A. Yes. As Ms. Bulkley identified in the 2019 Empire District Electric (“Empire”)
19 rate proceeding, Staff witness Mr. Chari relied solely on historical and projected EPS growth
20 rates as short-term growth rates in the DCF, and did not rely on either DPS or BVPS growth

¹²¹ Footnote No. 58 (p. 38), Bulkley’s Rebuttal Testimony, Liu, Jing, et al., “Equity Valuation Using Multiples,”
Journal of Accounting Research, Vol. 40 No. 1, March 2002.

¹²² Staff’s Data Request Nos. 0533 and 0526, ER-2022-0129 and ER-2022-0130, respectively.

¹²³ Footnote No. 58 (p. 38), Bulkley’s Rebuttal Testimony, Gleason, C.A., et al., “Valuation Model Use and the
Price Target Performance of Sell-Side Equity Analysts,” Contemporary Accounting Research.

¹²⁴ Staff’s Data Request Nos. 0533 and 0526, ER-2022-0129 and ER-2022-0130, respectively.

¹²⁵ Footnote No. 59 (p. 38), Bulkley’s Rebuttal Testimony, Block, Stanley B., “A Study of Financial Analysts:
Practice and Theory,” Financial Analysts Journal (July/August 1999).

¹²⁶ Staff’s Data Request Nos. 0533 and 0526, ER-2022-0129 and ER-2022-0130, respectively.

¹²⁷ Page 42, lines 2-5, Won’s Direct Testimony.

1 rates.¹²⁸ However, this is not the whole story of Mr. Chari’s position on short-term growth rates
2 in the DCF. In the 2021 Empire rate proceeding, Mr. Chari relied on EPS, DPS, and BVPS for
3 estimating the growth rate in his DCF model.¹²⁹ Mr. Chari stated, “It is a common practice in
4 financial analysis to average the averages of the three growth measures, EPS, DPS, and BVPS,
5 to discern the appropriate growth rate for the DCF model.”¹³⁰

6 Q. Do you agree with Ms. Bulkley’s statement, “Similarly, in the Ameren Missouri
7 2021 rate proceeding, Staff witness Mr. Chari relied solely on projected EPS growth rates from
8 both Value Line and S&P Global Market Intelligence as short-term growth rates, and did not
9 rely on DPS or BVPS growth rates.”?¹³¹

10 A. No, I do not. Ms. Bulkley’s statement is not true. In his surrebuttal testimony
11 from the Ameren Missouri 2021 rate proceeding, Mr. Chari stated, “Staff reviewed historical
12 earnings per share (“EPS”), historical dividend per share (“DPS”), historical book value per
13 share (“BVPS”), analysts’ projected EPS growth rates, as well as long-term GDP growth rates
14 to arrive at an appropriate DCF growth rate to use in the DCF model.”¹³²

15 Q. Do you agree with Ms. Bulkley's concerns about Staff’s reliance on Value Line’s
16 projected DPS, BVPS, and EPS growth rates in its DCF COE estimation?¹³³

17 A. No, I do not. The Value Line EPS, DPS, and BVPS growth rates relied upon by
18 Staff in its COE analysis is one of the most reliable sources of financial information.
19 Ms. Bulkley also relied on the Value Line projected EPS growth rate in her DCF model. There
20 is no evidence the Value Line EPS, DPS, and BVPS growth rates introduced bias. Ms. Bulkley

¹²⁸ Page 14, Staff Report, filed January 15, 2020, No. ER-2019-0374.

¹²⁹ Schedule PC-7-1, Staff Report, filed October 29, 2021, No. ER-2021-0312.

¹³⁰ Page 21, Staff Report, filed October 29, 2021, No. ER-2021-0312.

¹³¹ Page 36, lines 13-16, Bulkley’s Rebuttal Testimony.

¹³² Page 7, lines 17-20, Chari’s Surrebuttal Testimony, ER-2021-0240.

¹³³ Page 36, lines 3-6, Bulkley’s Rebuttal Testimony.

1 also used sources in addition to Value Line, including Yahoo! Finance and Zacks Investment
2 Research (“Zacks”).¹³⁴

3 Q. Do you agree with the growth rates provided by Ms. Bulkley from Yahoo!
4 Finance and Zacks?¹³⁵

5 A. No, I do not. Staff found that the growth rates provided by Ms. Bulkley from
6 Yahoo! Finance and Zacks are inconsistent and unreliable for estimating COE using the DCF
7 analysis. For example, Ms. Bulkley did not include OGE Energy Corporation’s growth rate
8 reported by Yahoo! Finance because it was negative, nor did she include the growth rates of
9 Avista Corporation, IDACORP, Inc., NorthWestern Corporation, and Portland General Electric
10 Company reported by Zacks because those were not available.¹³⁶ This inconsistent growth rate
11 selection process may result in biased results. In contrast, Value Line consistently reported
12 growth rates for all of Ms. Bulkley’s proxy group.

13 Q. Do you agree with Ms. Bulkley that Staff’s DCF analysis is not consistent with
14 FERC’s current methodology for calculating DCF COE estimates?¹³⁷

15 A. Yes, I agree. Staff did not intend to be consistent with the FERC methodology.
16 Staff considers FERC’s decisions, but FERC’s decisions are changed very often, so Staff does
17 not rely on the FERC methodology. Following Karl Popper’s theory of falsification, there is
18 no guarantee that FERC’s specific procedure is perfectly correct, but, in many cases, FERC’s
19 decision to reject something is very useful information to consider in rate proceedings. It is
20 important to note that Staff never utilizes any methods in its COE analysis that FERC has
21 officially rejected, including the DCF growth rate choices. Staff used growth rates in its DCF

¹³⁴ Page 37, lines 10-12, Bulkley’s Direct Testimony.

¹³⁵ Schedule AEB-R1, Attachment 2, Bulkley’s Rebuttal Testimony.

¹³⁶ Exhibit AEB-R2, Bulkley’s Rebuttal Testimony. ER-2024-0189.

¹³⁷ Pages 24-27, Bulkley’s Rebuttal Testimony.

1 model estimated by combining analysts' short-term estimated growth rates and long-term GDP
2 growth rates at four-fifths and one-fifth weightings, respectively.¹³⁸ This is an approach that
3 FERC used before it was changed in its May 2020 order.¹³⁹ Staff is not bound to change its
4 approach simply because FERC's approach changed. Staff is under no obligation to follow
5 FERC's methodology on this point. There are no FERC orders against Staff's position
6 regarding the growth rate of DCF analysis.

7 Q. Do you agree with Ms. Bulkley regarding FERC Opinion No. 575?

8 A. No, I do not. Ms. Bulkley made a misrepresentation regarding FERC's Opinion
9 No. 575, Paragraph 131 in *Entergy Arkansas, et al*, 175 FERC ¶ 61,136 (2021).¹⁴⁰ Ms. Bulkley
10 stated, "As stated in Opinion No. 575, the FERC has consistently relied solely on projected EPS
11 growth rates as the short-term growth rate."¹⁴¹ However, in Paragraph 131 of Opinion No. 575,
12 FERC stated:

13 131. As the Commission stated in Opinion No. 569-A, short-term
14 growth rate projections for electric utilities have declined and are
15 now closer to the current GDP growth projection than those from
16 the 1990s when the Commission adopted the two-step DCF using
17 one-third weighting for GDP in the long-term growth rate for
18 natural gas and oil pipelines that was subsequently adopted for
19 public utilities. Additionally, the Commission noted that, when
20 IBES growth projections are only marginally higher than GDP
21 projections, investors are likely to view those rates as more
22 sustainable than the substantially higher natural gas pipeline
23 IBES growth projections when the Commission established its
24 two-thirds/one-third weighting policy. Accordingly, we find it
25 reasonable to give the IBES short-term growth projection 80%
26 weighting and the long-term growth rate 20% weighting
27 [Omitted Footnotes].¹⁴²

¹³⁸ FERC Opinion 575.

¹³⁹ FERC Opinion 569-A.

¹⁴⁰ Footnote No. 38 (p. 24), Bulkley's Rebuttal Testimony.

¹⁴¹ Page 36, lines 6-7, Bulkley's Rebuttal Testimony.

¹⁴² Paragraph 131, *Entergy Arkansas, et al.*, Opinion No. 575, 175 FERC ¶ 61,136 (2021).

1 In Opinion No. 575, the Staff reviewed all documents and could not find any FERC
2 comments regarding the exclusive use of the projected EPS growth rate for DCF analysis or the
3 rejection of other growth rates, such as DPS or BVPS. In addition, Staff wants to clarify two
4 points to prevent any confusion regarding Ms. Bulkley's statements. First, Staff did not use
5 historical DPS and BVPS growth rates for its DCF COE estimation but only monitored them to
6 ensure data consistency, using the average of projected EPS, DPS, and BVPS growth rates.¹⁴³
7 Second, Ms. Bulkley also relied on Value Line growth rates for her DCF analysis.¹⁴⁴

8 **5. CAPM and Market Risk Premium**

9 Q. Do you agree with Ms. Bulkley that Staff should use projected data forecasted
10 by analysts instead of Staff's data based on historical data for purposes of the CAPM
11 analysis?¹⁴⁵

12 A. No, I do not. For example, in CAPM applications, current 30-year Treasury
13 security yields are universally recognized as appropriate for use as the risk-free rate.¹⁴⁶
14 Dr. Morin stated the yield on very long-term government bonds, such as the yield on 30-year
15 Treasury bonds, is the best measure of the risk-free rate for use in the CAPM.¹⁴⁷ Ms. Bulkley's
16 insistence that the estimation of COE being a forward-looking analysis was for her own
17 convenience.¹⁴⁸

18 This assertion reveals that Ms. Bulkley may not fully understand the characteristics of
19 CAPM analysis. The major input variables of CAPM are a risk-free rate, Beta (risk measure),

¹⁴³ Schedules SJW-d10 and SJW-d12, Won's Direct Testimony.

¹⁴⁴ Schedule AEB-3, Bulkley's Direct Testimony.

¹⁴⁵ Pages 45-46, Bulkley's Rebuttal Testimony.

¹⁴⁶ Page 107, David C. Parcell, Cost of Capital Manual, Society of Utility and Regulatory Financial Analysts, 2010 Edition.

¹⁴⁷ Morin, R. A. (2006). New Regulatory Finance. Public Utilities Reports, page 151.

¹⁴⁸ Pages 44-47, Bulkley's Rebuttal Testimony.

1 and the MRP. In Staff's CAPM analysis, these three variables represent the current market
2 condition and should be used to produce a current market-required cost of equity. However,
3 Ms. Bulkley used historical and forecasted 30-year Treasury Bond yields and current
4 Value Line Beta as the risk measure in her direct testimony,¹⁴⁹ while insisting that
5 forward-looking market returns and MRP should be used in establishing the ROE in this
6 proceeding.¹⁵⁰ By doing so, Ms. Bulkley confessed she used inconsistent input variables in her
7 CAPM COE estimation. In other words, relying on a forward-looking value for one input while
8 using non-forward-looking values for other inputs is not appropriate because all input variables,
9 such as the risk-free rate, Beta, and MRP, need to be consistent with the same market
10 conditions.¹⁵¹ Financial analysis using data from mismatched time periods could produce
11 cherry-picked results.

12 Q. Do you agree with Ms. Bulkley that Staff's use of the historical MRP that is
13 unrelated to the current risk-free rate does not correctly reflect the inverse relationship between
14 interest rates and MRP?¹⁵²

15 A. No, I do not. Ms. Bulkley's argument is based on flawed logic. Ms. Bulkley
16 falsely assumed that because of the inverse relationship between interest rates and the MRP
17 and her false calculated MRPs (7.54% - 7.75%),¹⁵³ the current MRP should be well above the
18 long-term historical averages of 4.54% to 6.80% that Staff calculated.¹⁵⁴ This argument does

¹⁴⁹ Schedules AEB-D2, Attachment 4 and Attachment 5, Bulkley's Direct Testimony.

¹⁵⁰ Page 45, lines 4-6, Bulkley's Rebuttal Testimony.

¹⁵¹ Even though projected Beta and MRP are used, the problem is not resolved. First, to estimate projected Beta and MRP is not easy. Second, to use projected COE estimate for determining authorized ROE is a highly arguable issue.

¹⁵² Page 46, lines 7-9, Bulkley's Rebuttal Testimony.

¹⁵³ Page 46, lines 9-11, and Schedule AEB-R1, Attachment 3, Bulkley's Rebuttal Testimony.

¹⁵⁴ Page 46, lines 12-13, Bulkley's Rebuttal Testimony; and Schedule SJW-d13, Won's Direct Testimony.

1 not make sense because, if the inverse relationship between interest rates and the MRP is true,
2 then the MRP should be lower due to the current interest rate hikes.

3 In addition, the MRP estimate of 4.54% to 6.80% is not only the result of Staff's
4 calculations but is also supported by reliable sources, such as Kroll (formerly Duff & Phelps),
5 Dr. Damodaran, a professor of Finance at the Stern School of Business at New York University,
6 and many others.¹⁵⁵ A more fundamental problem is that Ms. Bulkley assumed the
7 market-based COE and the authorized ROE are the same concepts and that these estimated
8 values should be identical. Staff explained why this assumption is incorrect in Section 2,
9 'COE and Authorized ROE,' of this testimony.

10 Q. Do you agree with Ms. Bulkley that Staff inappropriately relied on the geometric
11 mean to estimate a historical market return for the CAPM?

12 A. No, I do not. The MRP, market risk premium, is the difference between the
13 expected return on a market portfolio and the risk-free rate. There are many theoretical and
14 empirical studies to support the use of geometric means to calculate MRP. A prominent MRP
15 expert and the Kerschner Family chair professor of Finance at the Stern School of Business at
16 New York University, Aswath Damodaran, stated that conventional wisdom argues for the
17 use of the arithmetic average to calculate MRP, but, in reality, the argument for geometric
18 average premiums is stronger.¹⁵⁶ Dr. Damodaran also stated that there are strong arguments
19 that can be made for the use of geometric average in both empirical studies and the asset pricing
20 model theory.¹⁵⁷

¹⁵⁵ Pages 12-15, Bulkley's Rebuttal Testimony.

¹⁵⁶ Damodaran, A. (1999). Estimating Equity Risk Premiums.

¹⁵⁷ Ibid.

1 In addition, research sponsored by the Society of Actuaries' Pension Section Research
2 Committee found that the geometric mean was superior to the arithmetic mean in predicting
3 long-term returns for calculating equity risk premium ("ERP"), and the arithmetic mean
4 produces forecasts much higher than actual returns over most time-periods.¹⁵⁸ Moreover, many
5 other theoretical and empirical studies support the use of geometric means to calculate MRP.¹⁵⁹

6 Q. Do you agree with Ms. Bulkley's insistence, using *Morningstar* (now published
7 by *Kroll*), that your historical MRP in the CAPM is inappropriate?¹⁶⁰

8 A. No, I do not. Ms. Bulkley did not properly understand *Morningstar* (*Kroll*)'s
9 risk premium used in the CAPM. The evidence shows that Ms. Bulkley's risk premium
10 (7.54%–7.75%)¹⁶¹ are more than 200 basis points higher than *Kroll*'s most recent
11 recommended risk premium of 5% for 2024,¹⁶² yet they fall within Staff's risk premium
12 range (4.54%–6.80%).¹⁶³

13 Q. What is Staff's method to calculate the MRP in the CAPM analysis?

14 A. Staff calculated MRP by subtracting the risk-free rate from the expected market
15 return. For the risk-free rate, Staff used the average yield on 30-year U.S. Treasury bonds for
16 the fourth quarter of 2023, which was 4.58%. For the MRP estimate, Staff used an average of
17 long-term geometric mean and arithmetic mean from two data sets: (1) the long-term historical
18 return differences between large company stocks and long-term government bonds from

¹⁵⁸ Modugno, V. (2012). Estimating Equity Risk Premiums.

¹⁵⁹ Sadler, R. (2017). Estimation of the Market Risk Premium: A review of weighting of arithmetic and geometric means, Report to the ERA on Gas Rate of Return Guidelines.

¹⁶⁰ Page 45, lines 1-20, and Page 52, lines 1-16, Bulkley's Rebuttal Testimony.

¹⁶¹ Page 46, lines 9-11, and Schedule AEB-R1, Attachment 3, Bulkley's Rebuttal Testimony.

¹⁶² *Kroll* Lowers its Recommended U.S. Equity Risk Premium to 5.0%, Effective June 5, 2024. Retrieved January 18, 2025. <https://media-cdn.kroll.com/jssmedia/kroll-images/pdfs/kroll-lowers-its-recommended-us-equity-risk-premium-effective-june-5-2024.pdf>.

¹⁶³ Page 46, lines 12-13, Bulkley's Rebuttal Testimony; and Schedule SJW-d13, Won's Direct Testimony.

1 1926-2023,¹⁶⁴ and (2) the long-term historical return differences between S&P 500 and
2 long-term government bonds from 1928-2023.¹⁶⁵

3 Q. Why do you use the averaging of both arithmetic and geometric means when
4 calculating the MRP in the CAPM analysis instead of just using geometric means?

5 A. Whether to use “arithmetic” or “geometric” mean returns when calculating the
6 average return for calculating the MRP in the CAPM analysis is one of many on-going
7 controversial research topics in financial analysis.¹⁶⁶ Many theoretical and empirical studies
8 and financial reports presented MRP estimates using both arithmetic means and geometric
9 means.¹⁶⁷ The geometric mean return is a multi-period rate of return so it should be used in the
10 CAPM together with the yield on a long-term government security. In contrast, the arithmetic
11 mean return is a single period rate of return and therefore it should be used in association with
12 a short-term risk-free rate in the CAPM.¹⁶⁸

13 For typical investment horizons, the proper compounding rate for forecasting returns is
14 in between the arithmetic and geometric means.¹⁶⁹ Many financial analysts use a compromise
15 of the two, a weighted average of arithmetic and geometric mean.¹⁷⁰ Therefore, Staff’s method
16 to consider both arithmetic and geometric means when calculating the MRP in the CAPM

¹⁶⁴ Duff & Phelps, the Stocks, Bonds, Bills, and Inflation (SBBI®) Monthly Dataset.

¹⁶⁵ Risk Premium, Damodaran Online, Stern School of Business, NYU.

¹⁶⁶ Sadler, R. (2017). Estimation of the Market Risk Premium: A review of weighting of arithmetic and geometric means, Report to the ERA on Gas Rate of Return Guidelines.

¹⁶⁷ Ibbotson, R. G. (2011). The equity risk premium. Rethinking the Equity Risk Premium, CFA Research Foundation Publications, 4, 18-26.

¹⁶⁸ Soenen, L., & Johnson, R. (2008). The equity market risk premium and the valuation of overseas investments. *Journal of Applied Corporate Finance*, 20(2), 113-121.

¹⁶⁹ Jacquier, E., Kane, A., & Marcus, A. J. (2003). Geometric or arithmetic mean: A reconsideration. *Financial Analysts Journal*, 59(6), 46-53.

¹⁷⁰ Blume, M. E. (1974). Unbiased estimators of long-run expected rates of return. *Journal of the American Statistical Association*, 69(347), 634-638.

1 analysis is a widely accepted approach in financial analysis.¹⁷¹ Using both methods and
2 determining the average of high and low bounds ensures a fair and reasonable result.

3 **6. BYPRP vs BYRP**

4 Q. Do you agree with Ms. Bulkley that Staff's BYPRP analysis is similar to the
5 BYRP analysis that she conducted?¹⁷²

6 A. No, I do not fully agree with Ms. Bulkley. Staff's BYPRP and Ms. Bulkley's
7 BYRP are superficially similar, but there are fundamental differences. First, the definitions of
8 'Bond Yield' are not the same. In Staff's BYPRP analysis, the definition of bond yield refers
9 specifically to public utility bond yields, ensuring that the yields used in the analysis reflect the
10 financial conditions of the utility sector financial market.¹⁷³ In contrast, the definition of bond
11 yield in Ms. Bulkley's BYRP refers to the 30-year Treasury bond yield, which is directly
12 affected by government monetary policy.¹⁷⁴

13 Second, the definitions of 'Risk Premium' differ. In Staff's BYPRP analysis, the risk
14 premium is defined as the difference between the authorized ROE for electric utilities and the
15 yield on public utility bonds, ensuring that the risk premium accurately measures the premium
16 of utility equity risk relative to utility bonds.¹⁷⁵ On the other hand, Ms. Bulkley defined her risk
17 premium as the difference between electric utility authorized ROEs and the yield on 30-year
18 Treasury bonds.¹⁷⁶ Because of this, her risk premium does not properly measure the electric
19 utility equity risk premium as defined by the Chartered Financial Analyst ("CFA").¹⁷⁷

¹⁷¹ Hammond, B., & Leibowitz, M. (2011). Rethinking the equity risk premium: An overview and some new ideas. Rethinking the Equity Risk Premium, 1-17.

¹⁷² Page 58, lines 8-9, Bulkley's Rebuttal Testimony.

¹⁷³ Page 46, lines 4-5, Won's Direct Testimony.

¹⁷⁴ Page 47, line 14, Bulkley's Direct Testimony.

¹⁷⁵ Page 46, lines 4-5, Won's Direct Testimony.

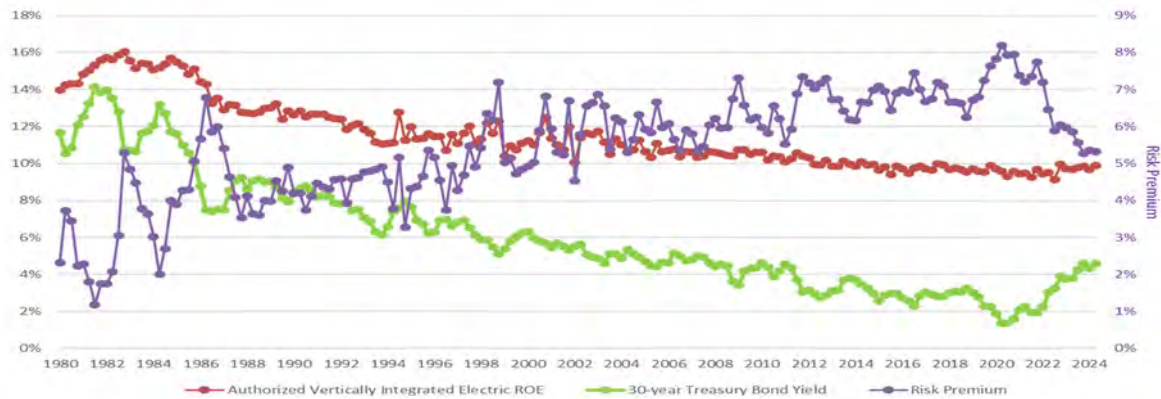
¹⁷⁶ Page 47, lines 10-11, Bulkley's Direct Testimony.

¹⁷⁷ Stowe, J. D., Robinson, T. R., Pinto, J. E., & McLeavey, D. W. (2002) Analysis of Equity Investment:

1 Q. Do you agree with Ms. Bulkley’s statement “Dr. Won only utilizes a 10-year
2 period of data for the analysis when a significantly longer period of utility bond yield and
3 authorized ROE data is available that incorporates a much broader set of market conditions than
4 has been considered in Dr. Won’s analysis and is more appropriate to be considered in setting
5 the return on equity.”?¹⁷⁸

6 A. No, I do not. Staff found no evidence that the relationship between utility bond
7 yields and authorized ROEs over a period longer than 10 years is statistically stable enough to
8 be used for calculating a reliable risk premium through a regression model. Both Staff’s
9 BYPRP and Ms. Bulkley’s BYRP utilized a regression analysis based on an inverse relationship
10 between authorized ROE and bond yield. If the inverse relationship is consistent over time, the
11 variation in authorized ROEs will be well explained by bond yields. However, the relationship
12 between the two financial variables keeps changing and is inconsistent over time.

13 **Figure 2. Ms. Bulkley’s 44-Year Quarterly Average Data of 30-year Treasury Bond**
14 **yields, Authorized Vertically Integrated Electric ROE, and Risk Premium.**



15

Valuation. Association for Investment Management and Research
¹⁷⁸ Page 58, line 20, and Page 59, line 3, Bulkley’s Rebuttal Testimony.

1 Staff found that Ms. Bulkley's regression model, which used 44 years of data,
2 from 1980 through May 2024, is inappropriate for her BYRP COE estimation. Because the
3 relationship between authorized ROEs and 30-year Treasury bond yields has been inconsistent
4 and statistically unstable over the past 44 years, Ms. Bulkley's BYRP, based on her regression
5 analysis using this data, is not reliable.¹⁷⁹ As shown in Figure 2, there has not been a consistent
6 relationship over the past 40 years among major variables such as 30-year Treasury bond yields,
7 authorized vertically integrated electric ROEs, and risk premiums. Therefore, Ms. Bulkley's
8 BYRP cannot reliably estimate an authorized ROE using her regression analysis.

9 In a regression analysis, the extent to which this variation is explained is measured by
10 the R-squared value of the regression model. The R-squared value of Staff's BYPRP regression
11 model, using 10 years of data, is 92%.¹⁸⁰ In contrast, in Ms. Bulkley's BYRP regression model,
12 using 40 years of data, the R-squared value is only 83.41%.¹⁸¹ These results indicate that the
13 variation in authorized ROEs is 92% explained by bond yields using Staff's regression model,
14 but only 83% explained by bond yields using Ms. Bulkley's model. In other words,
15 Ms. Bulkley's 40-year data shows less consistency over time in the inverse relationship between
16 authorized ROE and bond yield compared to Staff's 10-year data. Therefore, there is
17 no evidence that Staff's BYPRP ROE estimate would be considered more appropriate if Staff
18 used a period longer than 10 years.

19 Q. Do you agree with Ms. Bulkley's statement "Dr. Won has conducted a single
20 regression of the risk premium and bond yield for both A-rated and Baa-rated utility bond

¹⁷⁹ Schedule AEB-R1, Attachment 6, Bulkley's Rebuttal Testimony.

¹⁸⁰ Schedule SJW-d14-2, Won's Direct Testimony.

¹⁸¹ Schedule AEB-D2, Attachment 7 (p. 3), Bulkley's Direct Testimony.

1 yields, which he then uses to estimate a forward-looking market risk premium associated with
2 both current A-rated and Baa-rated utility bond yields.”?¹⁸²

3 A. Yes. Staff utilized a single regression of the risk premium and bond yield for
4 both A-rated and Baa-rated utility bond yields because the R-squared value (92%) of the
5 combined regression model is higher compared to the R-squared values (91%) of two separate
6 regressions, while there are no material differences in BYPRP ROE estimates.¹⁸³

7 **7. Bulkley’s Overall Rebuttal Testimony**

8 Q. What is Staff’s conclusion from reviewing Ms. Bulkley’s rebuttal testimony
9 regarding the appropriate authorized ROE and ratemaking capital structure for Ameren
10 Missouri in this proceeding?

11 A. Based on Staff’s review of Ms. Bulkley’s rebuttal testimony, nothing has caused
12 Staff to change its recommendations regarding the appropriate authorized ROE and ratemaking
13 capital structure for Ameren Missouri in this proceeding.

14 Q. Do you agree with Ms. Bulkley that her recalculation of Staff’s COE analysis
15 results in 10.53%?¹⁸⁴

16 A. No, I do not. In Figure 5 of her rebuttal testimony, Ms. Bulkley presented the
17 results of the recalculation of Staff’s COE and ROE analysis. Ms. Bulkley reported COE
18 estimates of 9.84% and 11.57% from her recalculation of Staff’s DCF and CAPM analysis and
19 BYPRP ROE estimate of 10.19%, using her overstated input values.¹⁸⁵ As Staff already
20 explained in this testimony, Ms. Bulkley’s input values used for her recalculation of Staff’s

¹⁸² Page 59, lines 4-12, Bulkley’s Rebuttal Testimony.

¹⁸³ 9 BYPRP, Won’s Surrebuttal / True-up Direct Workpaper.

¹⁸⁴ Page 60, lines 1-8, Bulkley’s Rebuttal Testimony.

¹⁸⁵ Figure 8 (p. 60), Bulkley’s Rebuttal Testimony.

COE analysis were produced based on her misunderstanding and misrepresentation of Staff's methodology. Staff updated its COE analysis using data of the third quarter 2024, 3-months ending September 30, 2024, and is presented in Table 4.

Table 4. COE and ROE Analysis (Q3 2024)¹⁸⁶

		<u>COE Analysis</u>		
		<u>Lower</u>	<u>Average</u>	<u>Upper</u>
COE Estimation	DCF	7.37%	8.25%	9.12%
	CAPM	8.74%	9.42%	10.11%
		8.05%	8.83%	9.62%
		<u>ROE Analysis</u>		
		<u>Lower</u>	<u>Estimate</u>	<u>Upper</u>
ROE Estimation	BYPRP	9.72%	9.74%	9.76%
ROE Recommendation		<u>9.74%</u>		

Q. Do you have any evidence that Staff's recommended ROE of 9.74% is more reasonable than Ms. Bulkley's proposed ROE of 10.50% when compared with electric utility companies of commensurate risk?

A. Yes. In 2024, recently authorized comparable ROEs ranged from 9.2% to 10.5%, with an average of 9.74% across all 54 electric utility cases and an average of 9.84% for the 31 vertically integrated electric utility cases.¹⁸⁷ Of the 43 electric rate case decisions in the U.S. in 2024 that determined authorized ROEs and equity ratios, only five decisions on ROEs (ranging from 9.90% to 9.97%) fall within Ms. Bulkley's revised reasonable ROE range of 9.90% to 11.25%.¹⁸⁸ In contrast, 38 of the 43 authorized ROEs fall within reasonable ROE

¹⁸⁶ Schedule SJW-s15, Won's Surrebuttal / True-up Testimony.

¹⁸⁷ S&P Global Market Intelligence, Retrieved in January 2, 2024.

¹⁸⁸ 7 ROE 2024, Won's Surrebuttal / True-up Direct Workpaper.

1 range of 9.49% to 9.99%.¹⁸⁹ Five exceptions outside Staff's zone of reasonableness are the
2 authorized ROEs of 9.20%, 9.26%, 9.34%, 9.35% and 9.40%. Therefore, Staff's recommended
3 ROE of 9.74% is more reasonable than Ms. Bulkley's proposed ROE of 10.20% when
4 compared with electric utility companies of commensurate risk.

5 Q. Does this conclude your response to the rebuttal testimony of Ameren Missouri's
6 witness?

7 A. Yes, it does.

8 *continued on next page*

¹⁸⁹ Schedule SJW-d16, Won's Direct Testimony.

1 **III. RESPONSE TO TESTIMONY OF OPC WITNESS**

2 Q. What are the specific areas in which Staff is responding to OPC's witness?

3 A. Staff is responding to the rebuttal testimony of Mr. Murray. The areas in which
4 Staff addresses issues of Mr. Murray's rebuttal testimony include:

- 5 ▪ Capital Structure, and
- 6 ▪ Recommended ROE.

7 Staff will discuss each in turn, below.

8 **1. Capital Structure**

9 Q. What capital structure did Mr. Murray support for Ameren Missouri in this
10 proceeding?

11 A. In his direct testimony, Mr. Murray recommended a capital structure consisting
12 of approximately 42% common equity, 0.60% preferred stock, and 57.40% long-term debt
13 based on his analysis of Ameren Corp.'s consolidated capital structures as of March 31, 2024,¹⁹⁰
14 and he did not revise it in his rebuttal testimony.

15 Q. What is Mr. Murray's response to your original recommended capital structure
16 in your direct testimony?

17 A. Mr. Murray disagreed with Staff's use of Ameren Missouri's standalone capital
18 structure for the ratemaking procedure in this proceeding. In his rebuttal testimony, Mr. Murray
19 presented a question and answer ("Q&A") as follows:¹⁹¹

20 Q. Fundamentally, why do you disagree with Dr. Won's and
21 Mr. Sagel's proposed capital structure ratios for Ameren Missouri

¹⁹⁰ Page 33, lines 20-23, Murray's Direct Testimony.

¹⁹¹ Page 3, lines 9-23, Murray's Rebuttal Testimony.

1 for purposes of determining Ameren Missouri's revenue requirement in
2 this case?

3 A. Because regardless of the various technical issues debated in this
4 case, it is clear from Ameren Corp's allocation of capital to Ameren
5 Missouri and its use of debt to leverage its returns from its equity
6 contributions into Ameren Missouri, that Ameren Corp recognizes it can
7 maximize shareholder wealth by investing in Ameren Missouri's electric
8 utility system. While Ameren Corp is entitled to a fair and reasonable
9 authorized ROE, the ratemaking common equity ratio to which it is
10 applied should be consistent with the business risk. Ameren Corp's
11 constant target of a 52% common equity ratio for Ameren Missouri, both
12 before and after the passage of Plant-in-Service-Accounting ("PISA"),
13 while Ameren Corp has consistently increased the amount of leverage in
14 its consolidated capital structure since PISA took effect, provides direct
15 insight into Ameren Corp's managements' views as to the true debt
16 capacity of Ameren Missouri's low-risk regulated utility investments.

17 Despite Mr. Murray's attestations in his testimony, the reasons he provided in this Q&A
18 for using Ameren Corp.'s capital structure are inaccurate. Many statements in the Q&A are
19 speculative or directly contradict information provided by Ameren Missouri. One of the
20 reasons Mr. Murray presented in this Q&A is that "[A]meren Corp. recognizes it can maximize
21 shareholder wealth by investing in Ameren Missouri's electric utility system." If this statement
22 is a valid reason to use a parent company's capital structure in a rate case, then the ratemaking
23 capital structure of any operating utility should always align with its parent company's capital
24 structure, as any company aims to maximize shareholder wealth.¹⁹²

25 The other reason Mr. Murray presented in this Q&A is "Ameren Corp's constant target
26 of a 52% common equity ratio for Ameren Missouri." However, in response to Staff' data
27 request regarding Ameren Missouri's target capital structure, Ameren Missouri stated:¹⁹³

¹⁹² S.P. Kothari, Richard Frankel, and Luo Zuo, "Why Shareholder Wealth Maximization Despite Other Objectives."

¹⁹³ Staff's Data Request No. 0112.

1 Ameren Missouri has neither internally identified nor externally
2 communicated a targeted capital structure. Rather, and as specified in
3 Company witness Darryl Sagel's direct testimony, the Company
4 specifically and continuously maintains the balance of debt and equity in
5 its capital structure to minimize its overall cost of capital and, at the same
6 time, maintain financial strength and stability. Maintaining financial
7 strength and stability includes supporting strong credit metrics and
8 securing investment grade ratings that will allow the Company to attract
9 new capital at a reasonable cost and on reasonable terms and ensure that
10 Ameren Missouri has access to the capital markets under varying
11 economic conditions.

12 As presented in Mr. Murray's rebuttal testimony, Ameren Missouri's quarterly common
13 equity ratios ranged from 48.55% to 52.08% during the period from 2019 through 2024.¹⁹⁴
14 Mr. Murray did not provide any reliable evidence in his testimony that Ameren Missouri's
15 target capital structure is 52%. In addition, Staff has found no evidence that Ameren Missouri
16 provided any false information regarding its target capital structure. Therefore, in regards to
17 this Q&A, Staff found no fact-based arguments demonstrating that Staff's recommended
18 ratemaking structure, which uses Ameren Missouri's standalone capital structure, is
19 inappropriate for this proceeding.

20 Q. Do you think Ameren Corp.'s consolidated capital structure should be used for
21 Ameren Missouri's ratemaking capital structure because Ameren Missouri was able to elect
22 PISA, which improved the regulatory construct in Missouri, facilitated meaningful rate base
23 growth, and reduced regulatory lag?¹⁹⁵

24 A. No, I do not. While it is true that PISA improved Ameren Missouri's business
25 and regulatory risk profile and, as Mr. Murray acknowledged, has already been factored into

¹⁹⁴ Figure (p. 13), Ameren vs. Ameren Missouri Common Equity Ratios, Murray's Rebuttal Testimony.

¹⁹⁵ Page 4, lines 9-11, and Page 5, lines 1-2, Murray's Rebuttal Testimony.

1 Ameren Missouri's standalone credit rating,¹⁹⁶ the resulting credit rating change has been used
2 by Staff to develop and recommend a just and reasonable authorized ROE.¹⁹⁷

3 Q. Why does Mr. Murray disagree with you that Ameren Missouri operates
4 as an independent entity when considering its procurement of financing and the cost of
5 that financing?¹⁹⁸

6 A. Mr. Murray listed two reasons: (1) Ameren Services Company ("AMS")
7 provides financing and capital management services for Ameren Corp's subsidiaries, including
8 Ameren Missouri,¹⁹⁹ and (2) Ameren Missouri has been relying more heavily on long-term
9 capital rather than short-term debt.²⁰⁰

10 Q. Do you agree with Mr. Murray that these two facts are proper reasons to believe
11 Ameren Missouri does not operate as an independent entity when considering its procurement
12 of financing and the cost of that financing?

13 A. No, I do not. First, it is common for a holding company to provide financing
14 and capital management services for its subsidiaries, as these are standard financial procedures
15 in the industry for cost savings.²⁰¹ Second, the allocation of long-term versus short-term debt
16 financing depends on the company's strategy based on the matching principle and minimizing
17 financing costs. If these regular financial activities are considered criteria for determining a
18 subsidiary's financial independence, then there are no financially independent subsidiaries.
19 Staff's criterion for the financial independence of a subsidiary is clear: whether the long-term

¹⁹⁶ Page 14, lines 17-20, Murray's Rebuttal Testimony.

¹⁹⁷ Page 29, lines 4-7, Won's Direct Testimony.

¹⁹⁸ Page 8, lines 15-19, Murray's Rebuttal Testimony.

¹⁹⁹ Page 9, lines 4-5, Murray's Rebuttal Testimony.

²⁰⁰ Page 9, lines 6-9, Murray's Rebuttal Testimony.

²⁰¹ Hu, KH., Hsu, MF., Chen, FH. et al. Identifying the key factors of subsidiary supervision and management using an innovative hybrid architecture in a big data environment. *Financ Innov* 7, 10 (2021) <https://doi.org/10.1186/s40854-020-00219-9>.

1 debt is issued by the subsidiary. Ameren Missouri issues its own long-term debt in the public
2 bond market, not through Ameren Corp., ensuring its financial independence.

3 Q. Do you agree with Mr. Murray that there exists evidence of double-leverage
4 because (1) “Ameren Corp. attempted to legitimize Ameren Missouri’s per books common
5 equity balance by claiming that equity infusions in Ameren Missouri were sourced from
6 Ameren Corp.’s issuance of third-party common equity”,²⁰² and (2) “Ameren Corp appears to
7 have abandoned attempting to manage its inter-affiliate financing transactions to give the false
8 impression that Ameren Missouri’s per books common equity is not funded by debt
9 financing.”?²⁰³

10 A. No, I do not. Staff does not accept past unrealized attempts or speculation as
11 evidence of double leverage in the current rate proceeding. However, Staff will continue to
12 monitor the capital structure changes of both Ameren Corp. and Ameren Missouri.

13 Q. What is Staff’s concern with Mr. Murray’s capital structure recommendation?

14 A. Mr. Murray’s recommended capital structure was developed considering
15 Ameren Corp.’s consolidated capital structure, instead of the Ameren Missouri’s standalone
16 capital structure. Staff did not find any critical reason not to use Ameren Missouri’s standalone
17 capital structure for the purpose of ratemaking.²⁰⁴ More details regarding Staff’s issues with
18 Mr. Murray’s capital structure recommendation were explained in my rebuttal testimony.²⁰⁵

19 **2. Authorized ROE**

20 Q. What ROE did Mr. Murray support for Ameren Missouri in this proceeding?

²⁰² Page 11, lines 16-18, Murray’s Rebuttal Testimony.

²⁰³ Page 12, lines 4-6, Murray’s Rebuttal Testimony.

²⁰⁴ Pages 34-36, Won’s Direct Testimony.

²⁰⁵ Pages 35-40, Won’s Rebuttal Testimony.

1 A. Mr. Murray recommended 9.50% based on a range of 9.00% to 9.50% in his
2 direct testimony.²⁰⁶ In his rebuttal testimony Mr. Murray continued to support setting Ameren
3 Missouri's authorized ROE at 9.50%.

4 Q. What is Mr. Murray's response to Staff's recommended ROE?

5 A. Mr. Murray disagrees with Staff's recommended ROE of 9.74%, and stated that
6 the Commission should not set Ameren Missouri's authorized ROE above 9.50%.²⁰⁷

7 Q. What are Staff's concerns regarding Mr. Murray's response about an
8 authorized ROE?

9 A. While Staff does not agree with all of Mr. Murray's responses to Staff's
10 recommended ROE, it does not have any major concerns with his recommended ROE of 9.50%
11 since it falls within Staff's recommended range of 9.49% to 9.99%.²⁰⁸ As Staff reported, only
12 five authorized ROEs were less than 9.50%, compared to 44 authorized ROEs in the staff's
13 recommended range (9.49% to 9.99%) across all 54 electric utility cases in 2024.²⁰⁹

14 Q. Does this conclude your response to the rebuttal testimony of OPC's witness?

15 A. Yes, it does.

16 *continued on next page*

²⁰⁶ Page 5, lines 21-22, Murray's Direct Testimony.

²⁰⁷ Page 43, line 19, Murray's Rebuttal Testimony.

²⁰⁸ Schedule SJW-d16, Won's Direct Testimony.

²⁰⁹ S&P Global Market Intelligence, Retrieved in January 2, 2024.

1 **IV. TRUE-UP DIRECT TESTIMONY**

2 Q. In which specific areas does Staff want to update its recommendations in the
3 true-up direct testimony?

4 A. Staff wants to update its recommendations on the ratemaking capital structure
5 and the cost of debt for calculating the allowed ROR of Ameren Missouri in this proceeding.

6 Q. Did you perform a capital structure analysis as of December 31, 2024, which is
7 the end of the true-up period for this proceeding?

8 A. Yes, I did.

9 Q. What is the result of Staff's capital structure analysis for the true-up process?

10 A. As of December 31, 2024, the end of the true-up period, Ameren Missouri's
11 consolidated capital structure consisted of 51.96% common equity, 0.54% preferred stock and
12 47.50% long-term debt, Ameren Corp.'s consolidated capital structure consisted of 41.26%,
13 common equity, 0.44% preferred stock and 58.29% long-term debt.²¹⁰

14 Staff did not find any significant change in the financial relationship between Ameren
15 Corp. and Ameren Missouri during the true-up period. Ameren Missouri is financially
16 independent from Ameren Corp., and the overall financial relationship could be considered
17 normal within the regular relationship between a parent company and its subsidiary.²¹¹

18 Q. Based on its true-up capital structure analysis, what is Staff's recommended
19 ratemaking capital structure for Ameren Missouri in this proceeding?

²¹⁰ Staff's Data Request No. 0107.

²¹¹ Page 29, lines 4-14, Won's Direct Testimony.

1 A. Staff recommends that the standalone capital structure of Ameren Missouri's
2 regulated utility business unit which consists of 51.96% common equity, 0.54% preferred stock
3 and 47.50% long-term debt, as of December 31, 2024.

4 Q. Did you calculate a cost of long-term debt as of December 31, 2024, the end of
5 the true-up period for this proceeding?

6 A. Yes, I did.

7 Q. What is the result of Staff's calculation of Ameren Missouri's cost of long-term
8 debt for the true-up process?

9 A. The embedded cost of long-term debt for Ameren Missouri as of December 31,
10 2024, is 4.296%.²¹²

11 Q. What is Staff's recommendation for the allowed ROR of Ameren Missouri in
12 this proceeding based on the true-up results?

13 A. Staff's recommended ROE of 9.74% for Ameren Missouri, along with an
14 embedded cost of preferred stock of 4.18% and an embedded cost of debt of 4.30% applied to
15 a ratemaking capital structure of 51.96% common equity, 0.54% preferred stock and 47.50%
16 long-term debt, results in an allowed ROR of 7.12%.²¹³

17 Q. Does this conclude your true-up direct testimony?

18 A. Yes, it does.

19 *continued on next page*

²¹² Staff Data Request No. 0108.

²¹³ Schedule SJW-s16, Won' Surrebuttal / True-Up Direct Testimony.

1 **V. SUMMARY AND CONCLUSIONS**

2 Q. Please summarize the conclusions of your surrebuttal / true-up direct testimony.

3 A. Global financial market conditions, including the U.S. utility capital investment
4 market, have changed rapidly, especially following the COVID-19 pandemic. Some ROR
5 analysts have continued using familiar methods and data, even though these may no longer be
6 appropriate. Moreover, some experts have raised concerns about changes in Staff's methods
7 and data compared to past rate proceedings. Adhering to consistent principles and methodology,
8 Staff has evaluated and refined its methods and data, utilizing the best available resources at
9 each new rate proceeding to recommend a just and reasonable ratemaking cost of capital and
10 capital structure.

11 Ms. Bulkley and Staff disagree on the appropriate ROE for Ameren Missouri. Although
12 Ms. Bulkley reduced her proposed ROE from 10.25% to 10.20%, it remains unjust and
13 unreasonable due to her reliance on inappropriate and flawed inputs for her COE analyses.
14 Additionally, her assertion that the COE and the authorized ROE are equivalent contradicts
15 basic financial logic and market evidence. Staff does not have significant concerns with
16 Mr. Murray's recommended ROE of 9.50%, as it falls within Staff's recommended range
17 of 9.49% to 9.99%.²¹⁴ After reviewing the rebuttal testimonies of Ms. Bulkley and Mr. Murray,
18 Staff continues to recommend an authorized ROE of 9.74%.

19 Staff disagrees with Mr. Murray's proposed capital structure that consists of
20 approximately 42% common equity, 0.60% preferred stock and 57.40% long-term that
21 he insisted is Ameren Corp's recent targeted consolidated capital structure.²¹⁵ Based on its

²¹⁴ Schedule SJW-d16, Won's Direct Testimony.

²¹⁵ Page 33, lines 20-23, Murray's Direct Testimony.

1 true-up analysis, Staff recommends a cost of preferred stock of 4.18% and a cost of long-term
2 debt of 4.30% and a ratemaking capital structure of 51.96% common equity, 0.54% preferred
3 stock and 47.50% long-term debt. Along with Staff's recommended ROE of 9.74%, these
4 figures result in an allowed ROR of 7.12% for this proceeding.²¹⁶

5 Q. Does this conclude your Surrebuttal / True-up Direct testimony?

6 A. Yes, it does.

²¹⁶ Schedule SJW-s16, Won' Surrebuttal / True-Up Direct Testimony.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Union Electric Company)
d/b/a Ameren Missouri's Tariffs to Adjust)
Its Revenues for Electric Service) Case No. ER-2024-0319

AFFIDAVIT OF SEOUNG JOUN WON, PhD

STATE OF MISSOURI)
)
COUNTY OF COLE) ss.

COMES NOW SEOUNG JOUN WON, PhD and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Surrebuttal / True-Up Direct Testimony of Seoung Joun Won, PhD*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

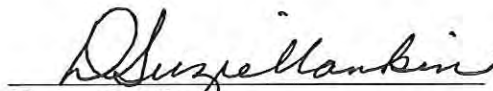


SEOUNG JOUN WON, PhD

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 4th day of February 2025.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070



Notary Public