Exhibit No.:
Issues: Cost of Service/Revenue Allocation/Rate Design
Witness: Christopher C. Walters
Type of Exhibit: Surrebuttal Testimony
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: ER-2024-0319
Date Testimony Prepared: February 14, 2025

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**

Surrebuttal Testimony of

Christopher C. Walters

On behalf of

Missouri Industrial Energy Consumers

February 14, 2025

BRUBAKER & ASSOCIATES, INC.

Project 11700

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**

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

Affidavit of Christopher C. Walters

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

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

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2024-0319.

3. I hereby swear and affirm that the testimony is true and correct and that it shows the matters and things that it purports to show.

Christopher C. Walters

Subscribed and sworn to before me this 14th day of February, 2025.

TAMMY S. KLOSSNER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Charles County
My Commission Expires: Mar. 18, 2027
Commission # 15024862

Notary Public

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Surrebuttal Testimony of Christopher C. Walters

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

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

Q ARE YOU THE SAME CHRISTOPHER C. WALTERS WHO FILED BOTH DIRECT AND REBUTTAL TESTIMONIES IN THIS PROCEEDING?

A Yes, I am.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A This testimony is presented on behalf of the Missouri Industrial Energy Consumers ("MIEC"), an association that represents the interests of large consumers in Missouri rate matters.

I. INTRODUCTION AND SUMMARY

Q WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A The purpose of my Surrebuttal Testimony is to respond to the rebuttal testimony of Ameren Missouri witness Ms. Ann Bulkley. My silence with regard to any position taken

by Ameren Missouri in its testimony and filings in this proceeding, or that of any other party, does not indicate my endorsement of that position.

II. RESPONSE TO MS. BULKLEY

A. DCF Analyses

Q WHAT CONCERNS DOES MS. BULKLEY EXPRESS ABOUT YOUR DCF ANALYSES?

A She generally disagrees with the assumptions I used, and my use of the sustainable growth DCF and the multi-stage DCF models used in addition to a constant growth DCF. She takes issue with the implied weights I give to the sustainable growth and multi-stage growth DCF models. She also asserts that the results of my multi-stage DCF and sustainable growth rate DCF are in, or below, the low-end of the range of authorized ROEs for vertically integrated electric utilities in the last 50 years. Ms. Bulkley also takes issue with the economic principle that long-run earnings growth cannot exceed GDP growth. She refers to an analysis on electric utility Total Factor Productivity ("TFP"), which she argues provides empirical evidence that utility earnings growth can grow faster than GDP in the long run.

Q PLEASE RESPOND TO MS. BULKLEY'S CONCERNS ABOUT THE IMPLIED WEIGHTS YOU GAVE THE RESULTS OF THE SUSTAINABLE GROWTH RATE AND MULTI-STAGE GROWTH DCF MODELS.

A Ms. Bulkley would prefer it that I only considered the constant growth DCF model which relied on analyst three-to-five year growth rates, which averaged 6.90%, and assumed to last in perpetuity. Notably a growth rate of 6.90% is approximately 66.7% higher than the consensus long-term GDP growth rate for the United States economy. To

assume such growth will be sustained in perpetuity flies in the face of all the economic evidence I referred to in my Direct and Rebuttal testimonies, which I will not repeat here. Such an assumption necessitates the use of multiple approaches (i.e., the sustainable growth and multi-stage growth DCF models) and their results must be considered.

Analysts' EPS growth projections are often optimistic and fail to account for long-term sustainability. It would be irresponsible to overweight a single model that ignores fundamental economic constraints. My approach balances multiple perspectives ensuring that my ROE recommendation reflects a range of reasonable outcomes rather than a single, inflated projection. Ms. Bulkley's criticism essentially suggests that I should selectively ignore models that produce lower results, which is not an objective or defensible approach to cost of equity estimation.

Q SHE ARGUES THAT YOUR ROE RESULTS FROM THE MULTI-STAGE DCF AND SUSTAINABLE GROWTH DCF ARE UNREALISTICALLY LOW. DO YOU AGREE?

A No. My DCF results are entirely reasonable when placed in context. The multi-stage DCF and sustainable growth DCF are recognized and acceptable models which reflect fundamental financial realities, including interest rates, inflation expectations, and the long-run sustainability of dividend policies. The fact that these results are lower than some historical authorized ROEs does not mean they are invalid.

Q DOES MS. BULKLEY TAKE ISSUE WITH YOUR USE OF THE SUSTAINABLE GROWTH RATE DCF MODEL?

A Yes. Specifically, she takes issue with the assumption that future earnings growth is inversely related to the dividend payout ratio. She cites studies performed by Zhou and

Ruland (2006) and Gwilym, et al. (2006), both of which cite the Arnott and Asness (2003) study, in support of her argument.

Q PLEASE RESPOND.

A As an initial matter, no one model is perfect, and at times can be more or less accurate than other models depending on various factors, such as economic conditions. As Ms. Bulkley asks in her Direct Testimony, "Why is it important to use more than one analytical approach to estimate the cost of equity?" to which she answers, "Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information." She continues on, stating, "Several models have been developed to estimate the cost of equity, and we use multiple approaches to estimate the cost of equity. As a practical matter, all the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints."[1] I agree. Using multiple methods provides a more comprehensive, and therefore, more reliable perspective on investors' return requirements. For this reason alone, it is important to perform a thorough analysis, and apply informed, reasoned judgment in the interpretation of the results. The use of multiple DCF models and considering those results is consistent with that approach and financial texts.

For example, using the retention growth methodology is a recognized reasonable method for estimating sustainable dividend growth and should not be ignored.

As noted by the CFA curriculum text:

> "We define the sustainable growth rate as the rate of dividend (and earnings) growth that can be sustained for a given level of return on equity, assuming that the capital structure is constant through time and that additional common stock is not issued. The reason for

[1]Bulkley Direct at 32.

> studying this concept is that it can help in estimating the stable growth rate in a Gordon growth model valuation, or the mature growth rate in a multistage DDM in which the Gordon growth formula is used to find the terminal value of the stock."

The expression to calculate the sustainable growth rate is: $g = b \times ROE$[2]

Notably, the same CFA text observes that in light of the Arnott and Asness (2003) study cited by Ms. Bulkley, "caution is appropriate in assuming that dividends displace earnings."[3] However, that same text concludes that "[n]evertheless, the equation can be useful as a simple expression for approximating the average rate at which dividends can grow over a long horizon."[4] Further, *Brigham and Houston* state that, "Companies that retain a high percentage of their earnings rather than paying them out as dividends generate more retained earnings and thus need less external capital."[5]

Q WHAT CONCERNS DOES MS. BULKLEY EXPRESS ABOUT YOUR MULTI-STAGE DCF ANALYSIS?

A Ms. Bulkley takes issue with my use of the consensus 10-year GDP growth rate of 4.14% from Blue Chip as the long-term GDP growth rate. She also takes issue with the economic principle that utilities cannot grow at a faster rate than the economy over the long run. She cites the results of an analysis of electric utility TFP provided by

[2]See CFA Program Curriculum, 2014, Level II, Volume 4, "Dividend Discount Valuation," at page 264.

[3]See CFA Program Curriculum, 2014, Level II, Volume 4, "Dividend Discount Valuation," at pages 265-266.

[4]*Ibid.* at 266.

[5]See *Fundamentals of Financial Management*, Eugene F. Brigham and Joel F. Houston, Eleventh Edition 2007, Thomson South-Western, a Division of Thomson Corporation at page 558.

expert witnesses in Alberta in 2012 as evidence utilities can grow earnings at a faster rate than U.S. GDP.

Q MS. BULKLEY ARGUES THAT YOUR USE OF A 10-YEAR GDP GROWTH RATE FROM BLUE CHIP ECONOMIC INDICATORS IS INAPPROPRIATE FOR A LONG-TERM DCF MODEL. WHAT IS HER CONCERN?

A Ms. Bulkley contends that the 10-year projected nominal GDP growth rate from Blue Chip is not suitable for use in perpetuity, as required by the multi-stage DCF model. She states that Blue Chip does not publish a GDP growth rate that extends indefinitely, but rather only provides a forecast for the next ten years. She further claims that my reliance on this measure inconsistently understates the long-term growth rate compared to the methodology recommended by Ibbotson (Morningstar), which derives long-term GDP growth as the sum of historical real GDP growth and expected inflation**.**

Q PLEASE RESPOND TO MS. BULKLEY'S CRITICISMS OF YOUR USE OF A 10-YEAR GROWTH RATE ESTIMATE AS THE LONG-TERM GROWTH RATE FOR U.S. GDP?

A Ms. Bulkley overlooks the fact that the estimates provided by Blue Chip are the responses of several economists, business executives, and other practitioners (i.e., a consensus). Ms. Bulkley cannot reasonably argue that the respondents to Blue Chip's survey did not take into consideration historical GDP growth in their estimates. Ms. Bulkley also overlooks the several other estimates of GDP growth provided in my Direct testimony which includes forecasts as far as 76 years into the future. The range of GDP growth estimates by the other sources reviewed in my Direct testimony is 3.8%

to 4.3%. My use of a 4.14% GDP growth rate is in the high-end of that total range and should be considered a reasonable estimate.

Q MS. BULKLEY CITES A STUDY ON TOTAL FACTOR PRODUCTIVITY (TFP) GROWTH IN UTILITIES TO ARGUE THAT UTILITIES' EARNINGS GROWTH CAN EXCEED GDP GROWTH OVER THE LONG TERM. HOW DO YOU RESPOND?

A Ms. Bulkley references a study filed in an Alberta Utilities Commission Performance Based Rates ("PBR") proceeding, which measured TFP growth for 72 U.S. electric and combination electric and natural gas utilities from 1972 to 2009. The study found that the TFP growth for the utility group averaged 0.96%, while the TFP growth for the U.S. economy was 0.91%, suggesting that utility productivity was approximately 5% higher than the overall economy.[6] However, there are several issues with her reliance on this study as a justification for assuming utility earnings growth can exceed GDP growth over the long term. For example, TFP measures efficiency gains in the use of labor and capital, not earnings growth per se. While improved productivity can contribute to earnings growth, it does not mean that utility earnings can or should outpace GDP indefinitely. A utility's ability to translate TFP growth into earnings growth is constrained by regulatory frameworks that limit the return on capital investment. Unlike competitive industries, utilities generally operate under cost-of-service regulation, where earnings are primarily determined by allowed ROEs set by regulators, rather than organic productivity growth.

I will note that the initial study provided by the authors estimated the TFP growth for electric utilities to be 0.87%, or approximately 4% lower than the TFP for the U.S. economy. In their revised study, they adopted a change proposed by an

[6] Bulkley Rebuttal at pp. 93-94.

intervenor in the proceeding, which increased the TFP growth to 0.96% from 0.87%.[7] It is possible that other corrections can be made to the study.

Q ARE YOU AWARE OF OTHER TFP STUDIES DONE THAT ARE IN STARK CONTRAST TO THE DATED STUDY CITED BY MS. BULKLEY?

A Yes. Recently, a co-author of the report Ms. Bulkley cited, Dr. Ros, co-authored testimony before the New Hampshire Public Utilities Commission in an Eversource Energy PBR proceeding discussing TFP. Dr. Ros's TFP study period covered the 2000-2022 time period and found that the electric industry's TFP growth averaged negative 0.26%. Specifically, that testimony states

> Q. What were your main findings?
> A. TFP growth is the difference between the rate of growth of a company's output and the rate of growth of its inputs. Our TFP model shows that electric-industry TFP growth averaged -0.26% during the period from 2000 to 2022. As part of its intermediate calculations, the TFP model includes the input price growth of each company. During the same period, electric-industry input price growth averaged 3.39%.
>
> Information on economy-wide TFP growth is readily available from the U.S. Department of Labor, and economy-wide input price growth can be calculated using economy-wide TFP growth and GDP-PI data from the U.S. Bureau of Economic Analysis. During the period from 2000 to 2022, economy-wide TFP growth averaged 0.77%, while economy-wide input price growth averaged 3.01%.[8]

[7] "Jeff Makholm, and Agustin Ros, "Update, Reply and PBR Plan Review for AUC Proceeding 566 – Rate Regulation Initiative", February 22, 2012, at 5.

[8] New Hampshire Public Utilities Commission, Docket No. DE 24-070, Public Service Company of New Hampshire d/b/a Eversource Energy, Testimony of Mark Kolesar and Agustin J. Ros, Ph.D., June 11, 2024 at p. 8.

The absolute difference in economy-wide TFP growth of 0.77% and -0.26% is 1.03% or 103 basis points, meaning the TFP growth economy-wide has far outpaced the electric utility sector.

Similarly, in a recent study provided in a 2022 testimony, expert witnesses in a Performance Based Rates proceeding before the Massachusetts Department of Public Utilities (DPU 22-22), on behalf of NSTAR Electric Company d/b/a Eversource Energy found that the TFP for the industry over this time period was 0.06% compared to 0.34% for the U.S. economy.[9] Not only is the study provided by Ms. Bulkley dated, but more recent evidence is also in stark contrast to the analytical results provided in the study she cited.

If TFP is to be relied upon to demonstrate that regulated utilities can or cannot grow faster than the economy over the long run, this analysis supports the economic principle that utilities cannot grow faster than the economy it provides service in in perpetuity. Ms. Bulkley's concerns should be ignored.

B. Risk Premium Analyses

Q WHAT CONCERNS DOES MS. BULKLEY EXPRESS ABOUT YOUR RISK PREMIUM ANALYSIS?

A Ms. Bulkley's claims my risk premium analysis does not adequately account for the inverse relationship between interest rates and the equity risk premium. For example, Ms. Bulkley asserts that my assumed equity risk premium over Treasury bonds (5.70%) is understated and should be closer to 6.13%.[10]

[9] Joint Direct Testimony of Mark E. Meitzen, Ph.D., and Nicholas A. Crowley MS, NSTAR Electric Company d/b/a Eversource Energy D.P.U. 22-22, January 14, 2022, at p. 24.

[10] Bulkley Rebuttal at pp. 98-99Schedule AEB-R1, Attachment 13 at p. 2.

Q PLEASE RESPOND.

A Ms. Bulkley's contention that the equity risk premium model is best explained using a simple linear regression model misses the mark. Simply looking at the year-to-date results and comparing them to last year's results show that her application of a linear regression model does not accurately measure today's equity risk premiums or the cost of equity. In a recent report published by Regulatory Research Associates ("RRA"), the average authorized ROE in general rate cases for electric utilities was 9.78% while the 30-year Treasury yield averaged 4.41%.[11] This produces an average equity risk premium of 5.37%, or approximately 76 basis points lower than the 6.13% equity risk premium over long-term Treasury bond yields Ms. Bulkley recommends using based on my data.[12] I note that even my assumed equity risk premium of 5.70% exceeds 2024 results and potentially overstates the cost of equity. Notably, the assumed Treasury yield in my analysis was 4.3%, or slightly lower than the year-to-date average of 4.41%. In that regard, my Risk Premium analysis is consistent with an inverse relationship.

This compares to the 2023 equity risk premium of 5.57% when the average 30-year Treasury yield averaged 4.09% and the authorized ROE in general rate cases for electric utilities averaged 9.66%. In order to be consistent with Ms. Bulkley's inverse relationship hypothesis, the current equity risk premium must be lower than 5.57% since interest rates have increased relative to 2023.

[11] S&P Global, Regulatory Research Associates, "Major energy rate case decisions in the US January-December 2024 Quarterly update on decided rate cases", February 4, 2025.

[12] Schedule AEB-R1, Attachment 13 at p. 2.

C. CAPM Analyses

Q PLEASE SUMMARIZE MS. BULKLEY'S CONCERNS WITH YOUR CAPITAL ASSET PRICING MODEL ("CAPM") ANALYSIS.

A Ms. Bulkley's primary concerns with my CAPM is my use of a market risk premium that is based on the real historical market risk premium adjusted for projected inflation and my use of the *Kroll* normalized market-risk premium.

Q PLEASE RESPOND TO MS. BULKLEY'S CONCERNS WITH YOUR USE OF A HISTORICAL REAL MARKET RETURN ADJUSTED FOR PROJECTED INFLATION.

A The use of historical data is perfectly acceptable in market risk premium estimation. For example, Dr. Morin states in his book, *New Regulatory Finance*:

> "Although realized returns for a particular time period can deviate substantially from what was expected, it is reasonable to believe that long-run average realized returns provide an unbiased estimate of what were expected returns. This is the fundamental rationale behind the historical risk premium approach. Analysts and regulators often assume that the average historical risk premium over lengthy periods is the best proxy for the future risk premium.
>
> *** * ***
>
> From a statistical viewpoint, to the extent that the historical equity risk premium estimated follows what is known in statistics as a random walk, one should expect the equity risk premium to remain at its historical mean. <u>The best estimate of the future risk premium is the historical mean.</u> Since, as discussed in Chapter 4, there is little evidence that the MRP has changed over time, it is reasonable to assume that these quantities will remain stable in the future.
>
> *** * ***
>
> There are two broad approaches to estimating the risk premium: retrospective and prospective. <u>Each has its own strengths and weaknesses, hence the need to utilize both methods</u>.
>
> *** * ***

> Therefore, a regulatory body should rely on the results of both historical and prospective studies in arriving at an appropriate risk premium, data permitting. Each proxy for the expected risk premium brings information to the judgment process from a different light.
>
> *** * ***
>
> Faced with this myriad, and often conflicting, evidence on the magnitude of the risk premium, a regulator might very well be confused about the correct market risk premium. The author's opinion is that a range of 5% to 8% is reasonable for the United States with a slight preference for the upper end of the range."[13]

As described above, my inclusion of a historical component in estimating the market risk premium is perfectly acceptable. If anything, Ms. Bulkley's analysis is biased by excluding a historical component in her market risk premium estimate.

Q PLEASE RESPOND TO MS. BULKLEY'S CONCERNS WITH YOUR USE OF THE NORMALIZED MARKET RISK PREMIUM OFFERED BY *KROLL*.

A Ms. Bulkley is concerned that I used a "normalized" risk-free rate of 4.53% with the "normalized" market risk premium of 5.00% published by *Kroll*.[14] She asserts that concern because I rely on a market risk premium that is substantially lower than 7.17%, meaning my market risk premium in these CAPM scenarios does not reflect the inverse relationship between interest rates and the market risk premium and is understated.

In her inaccurate criticism of the "normalized" risk-free rate recommended by *Kroll*, Ms. Bulkley overlooks the prescribed use of the greater of the "normalized" risk-free rate of 3.5% or the current 20-year yield when using its "normalized" market risk premium of 5.0%. Because the current 20-year yield was higher than the published

[13]See Roger A. Morin, *New Regulatory Finance*, Pub. Util. Reports, Inc. (2006) at pages 156-157 and pages 162-163. (emphasis added)

[14]Bulkley Rebuttal at pg. 103.

"normalized" risk-free rate of 3.5%, I relied on the 20-year yield of 4.30%. Her concerns here should be disregarded.

In addition, Ms. Bulkley seems to ignore the significant support from *Kroll* describing their recommended normalized, or conditional market risk premium. Specifically, *Kroll*'s recommended risk premium is not explicitly based on any particular set of returns, but rather it is a conditional risk premium based on observations of relevant factors including, but not limited to fluctuations in global economic and financial market conditions. *Kroll* explains its equity risk premium methodology on its Cost of Capital Navigator site as follows:

> There is no single universally accepted methodology for estimating the ERP; consequently, there is wide diversity in practice among academics and financial advisors regarding ERP estimates. In estimating the conditional ERP, valuation analysts cannot simply use the long-term historical ERP, whether as reported or adjusted as we discussed above. A better alternative would be to examine approaches that are sensitive to the current economic conditions.
>
> Kroll employs a multi-faceted analysis to estimate the conditional ERP that takes into account a broad range of economic information and multiple ERP estimation methodologies to arrive at its recommendation.
>
> First, a reasonable range of normal or unconditional ERP is established.
>
> Second, based on current economic conditions, Kroll estimates where in the range the true ERP likely lies (top, bottom, or middle) by examining the current state of the economy (both by examining economic indicators and forecasts, as well as by analyzing the level and trends of stock market indices as forward indicators), in conjunction with the implied equity volatility and corporate spreads as indicators of perceived risk.

Ms. Bulkley's concern with the *Kroll* market risk premium is clearly misplaced. *Kroll* is one of the most often cited names in valuation and cost of capital matters, particularly regarding cost of capital testimony offered in regulated utility proceedings such as this one.

Q HAS THE REBUTTAL TESTIMONY OF MS. BULKLEY CAUSED YOU TO CHANGE YOUR RECOMMENDATIONS?

A No. I continue to recommend that Ameren Missouri's authorized ROE be set at 9.5%.

D. Ms. Bulkley's Updated Cost of Equity Analyses

Q DID MS. BULKLEY PERFORM AN UPDATED COST OF EQUITY ANALYSIS?

A Yes, she did. She provided an updated analysis that considers data through November 30, 2024. She relied on the same models that were provided in her Direct testimony. Her DCF results range from 9.14% to 11.41%. Her CAPM/ECAPM results range from 10.27% to 11.15%. Her Bond Yield Risk Premium results range from 10.4% to 10.53%.

Q DO YOU HAVE ANY COMMENTS ON MS. BULKLEY'S UPDATED COST OF EQUITY ANALYSIS?

A Yes. As an initial matter, her updated analyses contain the same flaws identified in my Direct testimony. I will not repeat my criticisms here. In addition, with the only exception being her constant growth DCF model average and median results of 9.14% and 9.38%, respectively, the lowest of Ms. Bulkley's model results are 10.21% (median of her average growth DCF model) all exceed any recent measure of authorized ROEs for electric utilities. This speaks to the unreasonableness of Ms. Bulkley's analysis and recommendations. I recommend the Commission give little weight to Ms. Bulkley's unreasonable results and recommendations.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A Yes, it does.