Exhibit No.:
Issues: Rate of Return
Witness: Christopher C. Walters
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Missouri Industrial Energy Consumers
Case No.: ER-2024-0319
Date Testimony Prepared: January 17, 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**

Rebuttal Testimony of

Christopher C. Walters

On behalf of

Missouri Industrial Energy Consumers

January 17, 2025

BRUBAKER & ASSOCIATES, INC.

Project 11700

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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 rebuttal 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 17th day of January, 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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Rebuttal 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 THAT FILED DIRECT TESTIMONY IN THIS PROCEEDING ON DECEMBER 3, 2024?

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"), a non-profit corporation that represents the interests of large consumers in Missouri rate matters.

Q WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A The purpose of my Rebuttal testimony is to respond to the testimony and analysis of Ameren Missouri witness Ann Bulkley.

RESPONSE TO MS. ANN E. BULKLEY

Q WHAT RETURN ON COMMON EQUITY IS AMEREN MISSOURI PROPOSING FOR THIS PROCEEDING?

A Ms. Bulkley recommends a range of 10.25% to 11.25% based on her market-based model results. Ameren Missouri is requesting an ROE of 10.25% which is equal to the low-end of Ms. Bulkley's recommended range of 10.25% to 11.25%.[1]

Q ARE MS. BULKLEY'S RETURN ON EQUITY ESTIMATES REASONABLE?

A No. Ms. Bulkley's estimated return on equity is overstated and should be rejected. Specifically, Ms. Bulkley's analyses produce excessive results for various reasons, including the following:

1. Her constant growth DCF results are based on unsustainably high growth rates;
2. Her CAPM is based on inflated market risk premiums; and
3. Her Risk Premium model is predicated on an excessive estimated risk premium.

Q PLEASE SUMMARIZE MS. BULKLEY'S RETURN ON EQUITY ESTIMATES.

A Ms. Bulkley's return on equity estimates are summarized in Table CCW-1R below. With prudent and reasonable adjustments to Ms. Bulkley's DCF, CAPM, and Risk Premium return estimates, her studies show that my 9.50% recommended return on equity for Ameren Missouri is reasonable.

[1]Bulkley Direct at 10.

TABLE CCW-1R

Bulkley's Return on Equity Estimates

Description	Bulkley Results[1]		
Constant Growth DCF (Median)	Low	Mean	High
30-Day Average	9.93%	10.54%	11.22%
90-Day Average	10.14%	10.83%	11.44%
180-Day Average	10.14%	10.85%	11.59%
DCF Average	**10.07%**	**10.74%**	**11.42%**
	Beta		
CAPM DCF-Derived Results	Value Line	Bloomberg	LT Average
Current 30-Yr Treasury	12.05%	10.93%	10.67%
Near-Term Projected 30-Yr Treasury	12.04%	10.88%	10.61%
Long-Term Projected 30-Yr Treasury	12.03%	10.86%	10.59%
CAPM Average	**12.04%**	**10.89%**	**10.62%**
ECAPM	**11.1% - 12.16%**		
Risk Premium			
Current 30-Yr Treasury	10.62%		
Near-Term Projected 30-Yr Treasury	10.47%		
Long-Term Projected 30-Yr Treasury	10.41%		
Risk Premium Average	**10.50%**		
Recommended Range	10.25% -11.25%		
RMP Proposed ROE	**10.25%**		

Sources: [1]Schedule AEB-D2, Attachment 1.

Q DO YOU HAVE ANY INITIAL COMMENTS CONCERNING THE MODEL RESULTS OF MS. BULKLEY'S ANALYSIS?

A Yes. As shown in Table CCW-1R above, the averages of each of her analytical methods range from 10.07% (DCF – Low Growth) to 12.16% (ECAPM). Notably, with the exception of her Low-Growth DCF scenario, the averages of each analytical method are equal to or exceed the highest authorized ROE for any electric utility in 2024 (10.50%). As such, Ms. Bulkley's recommended range should not serve as a

basis to support the notion the Ameren Missouri's request is somehow conservative or reasonable.

A. Ms. Bulkley's Constant Growth DCF

Q PLEASE DESCRIBE MS. BULKLEY'S CONSTANT GROWTH DCF RETURN ESTIMATES.

A Ms. Bulkley's constant growth DCF returns are developed on her Schedule AEB-2D, Attachment 3. Ms. Bulkley's constant growth DCF models are based on consensus growth rates published by *Yahoo! Finance and Zacks* and individual growth rate projections made by *Value Line*.

She relied on dividend yield calculations based on average stock prices over three different time periods: 30-day, 90-day and 180-day ending May 31, 2024. Ms. Bulkley's DCF analysis considers the low, mean, and high growth rates for each of her proxy companies. Her proxy group's low, mean, and high growth rates are 5.26%, 6.31%, and 7.23%, respectively.[2] The average of her median DCF results range from 10.07% to 11.42%.

Q ARE THE CONSTANT GROWTH DCF RESULTS PRODUCED BY MS. BULKLEY REASONABLE?

A No. Ms. Bulkley's results are overstated. As discussed in my own DCF study, her consensus analysts' growth rates are substantially higher than the long-term sustainable growth rate of 4.14% as described in my direct testimony. Specifically, Ms. Bulkley's constant growth DCF model is based on growth rates of 5.26%, 6.31%, and

[2]Schedule AEB-D2, Attachment 3.

7.23%. These growth rates are excessive, meaning even her low-growth rate scenario produces excessive results. As I discuss in greater detail in my direct testimony, growth rates that exceed the growth rate of GDP in the country in which the utility provides goods and services cannot be sustained. Therefore, her DCF model results should be considered as a high-end return estimates. Given the fact Ms. Bulkley's Low-Growth scenario assumes an average growth rate of 5.26%, which exceeds the consensus long-term growth rate of the U.S. economy by 112 basis points, it should be given little weight. Because of the economic infirmities with her assumed proxy company growth rate that exceeds the expected growth of the US economy in perpetuity, Ms. Bulkley should have considered the results of a multi-stage DCF.

As shown above in Table CCW-1R, the average of her median low growth rate constant growth DCF is approximately 10.07%. As shown on my Schedule CCW-8 filed with my direct testimony, the average and median multi-stage DCF ROEs for my proxy group using the 13-week average stock price are 8.67% and 8.43%. After considering the multi-stage model, a DCF-based ROE closer to 9.25% is reasonable.

B. Ms. Bulkley's CAPM Studies

Q PLEASE DESCRIBE MS. BULKLEY'S CAPM ANALYSIS.

A As indicated above, the CAPM analysis is based upon the theory that the market required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. The risk premium associated with the specific security is expressed mathematically as:

Bi x (Rm - Rf) where:

Bi = Beta - Measure of the risk for stock
Rm = Expected return for the market portfolio
Rf = Risk-free rate

Q PLEASE DESCRIBE THE ISSUES YOU HAVE WITH MS. BULKLEY'S CAPM STUDY.

A My primary concern with Ms. Bulkley's CAPM study is her sole reliance on a single DCF-derived expected market return ultimately used to estimate the market risk premiums inflates her results.

Q PLEASE DESCRIBE MS. BULKLEY'S MARKET RISK PREMIUMS.

A Ms. Bulkley derived her market risk premiums by conducting a DCF analysis for the market (S&P 500) and subtracting three estimates of the risk-free rate. Ms. Bulkley used three market risk premium estimates of 7.86%, 8.11%, and 8.21% based on a DCF market return of 12.51% less the current, near-term, and projected 30-year Treasury bond yields of 4.66%, 4.40%, and 4.30%, respectively.[3]

Q WHAT ISSUES DO YOU HAVE WITH MS. BULKLEY'S DCF-DERIVED MARKET RISK PREMIUM ESTIMATES?

A Ms. Bulkley's DCF-derived market risk premiums are based on a market return of approximately 12.51%, which consists of a weighted average growth rate component of 10.83% and weighted expected dividend yield of approximately 1.60%.[4] As discussed above with respect to my own DCF model, the DCF model requires a long-term sustainable growth rate. Ms. Bulkley's sustainable market growth rate of 10.83% is far too high to be a rational outlook for sustainable long-term market growth. This growth rate is nearly three times the growth rate of the U.S. GDP long-term growth outlook of 4.14%.

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[3]Schedule AEB-D2, Attachment 4.
[4]*Id*. (12.51% = 1.60% x (1+0.5 x 10.83%) + 10.83%).

In fact, in the Chartered Financial Analyst ("CFA") curriculum textbooks, the CFA Institute notes as follows regarding earnings growth rates for the companies within the composite indices (i.e., S&P 500):

> Earnings growth for the overall national economy can differ from the growth of earnings per share in a country's equity market composites. This is due to the presence of new businesses that are not yet included in the equity indices and are typically growing at a faster rate than the mature companies that make up the composites. **Thus, the earnings growth rate of companies making up the composites should be lower than the earnings growth rate for the overall economy.**[5]

Given the fact that Ms. Bulkley casts doubt on the DCF model and the optimistic long-term growth rates used to develop her DCF on the market, she should have supplemented her analysis with multiple approaches to estimating the market return, as I have done.

Q DO YOU HAVE ANY OTHER COMMENTS CONCERNING MS. BULKLEY'S CAPM ANALYSIS?

A Yes. I find it curious that Ms. Bulkley expresses how she has little faith in the DCF model as it applies to her proxy group,[6] yet it is the only method she relies on in estimating the expected return on the market. A more balanced approach would be to employ multiple methodologies as I have done. Ms. Bulkley's use of a single model to estimate the market return is biased and should be rejected.

[5]CFA Program Curriculum, 2014 Level II Vol.1, "Ethical and Professional Standards, Quantitative Methods, and Economics", Paul Kutasovic, Reading 15 – Economic Growth and the Investment Decision, p. 609, footnote 5 (emphasis added).
[6]Bulkley Direct at 9; 37-38.

C. Ms. Bulkley's Empirical CAPM ("ECAPM") Studies

Q PLEASE DESCRIBE MS. BULKLEY'S ECAPM ANALYSIS.

A Ms. Bulkley relies on empirical tests of the traditional CAPM model to modify it in such a way to attempt to *correct* the original CAPM for some deficiencies inherent in the original model. Empirical tests show that the expected return line, or security market line, predicted by the CAPM are not as steep as the model would have us believe. In other words, the traditional CAPM understates the expected return for securities with betas less than 1 and overstates the expected return for securities with betas greater than 1. In order to correct for this empirical finding, Ms. Bulkley modifies the traditional CAPM model as follows:

$$R_i = R_f + 0.75 \times B_i \times (R_m - R_f) + 0.25 \times B_m \times (R_m - R_f)$$ where:

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

Q WHAT ISSUES DO YOU TAKE WITH MS. BULKLEY'S ECAPM ANALYSIS?

A The biggest issue I have with Ms. Bulkley's ECAPM analysis is her use of an adjusted beta as published by *Value Line*. The impact of Ms. Bulkley's ECAPM adjustments increases her adjusted beta estimate range of 0.76-0.94 to a range of 0.82-0.96.[7] The weighting adjustments applied in the ECAPM are mathematically the same as adjusting beta since the inputs are all multiplicative as shown in the formula above. The result of both using adjusted betas and ECAPM is a flattening of the security market line.

[7] 75% x 0.76 + 25% x 1 = 0.82 and 75% x 0.94 + 25% x 1 = 0.95.

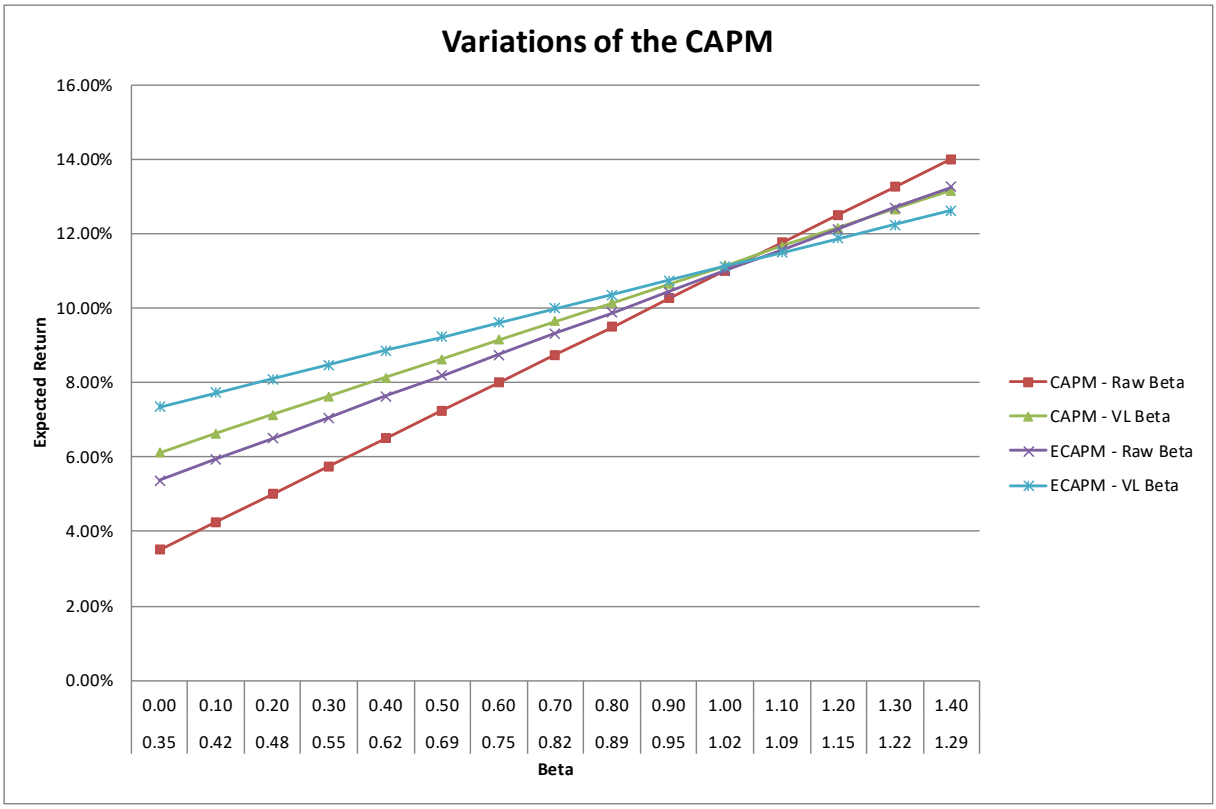
The end result of using adjusted betas in the ECAPM is an expected return line that has been flattened by two adjustments meaning the vertical intercept has been raised twice and the security market line has been flattened twice: once through the adjustments *Value Line* made to the raw beta and again by weighting the risk-adjusted market risk premium as Ms. Bulkley has done.

In addition to the many adjustments employed by Ms. Bulkley, she further increases the intercept and flattens the security market line by using projected long-term Treasury yields.

Q CAN YOU DEMONSTRATE THE EFFECT VARIOUS ADJUSTMENTS SUCH AS VALUE LINE BETAS AND THE ECAPM HAVE ON THE SECURITY MARKET LINE?

A Yes. The ECAPM with adjusted betas has the effect of increasing CAPM return estimates for companies with betas less than 1 and decreasing the CAPM return estimates for companies with betas greater than 1. I have modeled the expected return line resulting from the application of the various forms of the CAPM/ECAPM below in Figure CCW-1R.

FIGURE CCW-1R



Along the horizontal axis in Figure CCW-1R above, I have provided the raw unadjusted beta (top row) and the corresponding adjusted *Value Line* beta (bottom row). As shown in Figure CCW-1R above, the CAPM using a *Value Line* beta compared to the CAPM using an unadjusted beta shows that the *Value Line* beta raises the intercept point and flattens the slope of the security market line. As shown in the figure above, the two variations with the most similar slope are the CAPM with the *Value Line* beta, and the ECAPM with a raw beta.

This evidence shows that the ECAPM adjustment has a very similar impact on the expected return line as a *Value Line* beta. Another observation that can be made from the figure above is the magnifying effect that the ECAPM using a *Value Line* beta has on raising the vertical intercept and flattening the slope relative to all other variations. There is simply no legitimate basis to use an adjusted beta within an

ECAPM because it unjustifiably alters the security market line and materially inflates a CAPM return for a company with a beta less than 1.

Q IN YOUR EXPERIENCE, IS MS. BULKLEY'S PROPOSED USE OF AN ADJUSTED BETA IN AN ECAPM STUDY WIDELY ACCEPTED IN REGULATED UTILITY RATE PROCEEDINGS SUCH AS THIS?

A No. In my experience, regulatory commissions generally disregard the use of the ECAPM, particularly when an adjusted beta is used in the model. For example, the Illinois Commerce Commission has stated the following regarding the ECAPM:

> The Commission cannot recall a proceeding in which it relied upon the ECAPM in establishing the cost of common equity for a utility. In the instant proceeding, the record supports a finding that use of adjusted betas in the ECAPM is inappropriate. As Staff witness Ms. Freetly explained, by using adjusted betas she already effectively transformed her Traditional CAPM into an ECAPM. Therefore, including an additional beta adjustment in the ECAPM model would result in inflated estimates of the samples' cost of common equity.[8]

Similarly, the California Public Utilities Commission has stated "We are not persuaded that ECAPM produces a result that should be considered. Electric utilities in general have low betas. Adjusting betas upward guarantees a higher ROE."[9]

Therefore, the Commission should reject Ms. Bulkley's ECAPM, which as described above is based on adjusted beta estimates.

[8]Illinois-American Water Company, ICC Order Docket No. 11-0767, at 109 September 19, 2012).
[9]https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M344/K961/344961040.PDF

D. Ms. Bulkley's Bond Yield Risk Premium ("BYRP")

Q PLEASE DESCRIBE MS. BULKLEY'S BYRP METHODOLOGY.

A As shown on her Schedule AEB-D2, Attachment 7, Ms. Bulkley constructs a risk premium return on equity estimate based on the premise that equity risk premiums are inversely related to interest rates. She estimates the average electric equity risk premiums of approximately 5.38% over the period January 1980 through June 2024. She performs a linear regression using the 30-Year Treasury yield as the independent variable (x-axis) and the risk premium as the dependent variable (y-axis). This model produces a regression formula, which she applies by inputting the current, near-term, and long-term projected 30-year Treasury bond yields of 4.66%, 4.40%, and 4.30%, respectively. The resulting expected equity risk premiums based on these inputs are 5.96%, 6.07%, and 6.11%, respectively. She then adds these estimated risk premiums to their corresponding levels of interest rates to produce electric return on equity estimates of 10.62%, 10.47%, and 10.41%, respectively.

Q IS MS. BULKLEY'S BYRP METHODOLOGY REASONABLE?

A No. As an initial matter, even though her analysis is predicated on the authorized ROEs for electric utilities as the starting point, the results exceed the highest ROE awarded to any electric utility in early 2024. Notwithstanding that observation, my main concern with Ms. Bulkley's BYRP analysis is that her estimated equity risk premium is significantly overstated. For example, I incorporated the long-term average equity risk premium of 5.70% over long-term Treasury yields. This compares to the 2023 equity risk premium of 5.50%. In a report issued in 2024, Regulatory Research Associates (a division of S&P Global) discussed the equity risk premium, as measured by the authorized ROE spread over bond yields as follows:

> However, with the uptick in interest rates since 2020, the spread has begun to narrow, falling to around 550 basis points in 2023. With the myriad factors putting upward pressure on customer bills, the spread may continue to narrow as regulators may become more reluctant to raise authorized returns.[10]

As indicated on Schedule CCW-12 attached to my direct testimony, the average Treasury yield in 2023 was 4.09%. As discussed in my direct testimony, and shown on my Schedule CCW-13, a recent six month 30-year Treasury yield was 4.22%. Ms. Bulkley assumed 30-year Treasury yields in the range of 4.30% to 4.50%. In order to be consistent with Ms. Bulkley's inverse relationship hypothesis, the current equity risk premium must be lower than 5.50% since interest rates have increased relative to 2023. However, Ms. Bulkley's estimated equity risk premiums range from 5.96% to 6.11%, representing an increase 46 to 61 basis points relative to the 2023 equity risk premium noted Regulatory Research Associates. Therefore, Ms. Bulkley's BYRP analysis should be given little weight.

Q HAVE YOU REVIEWED THE 2024 EQUITY RISK PREMIUM FOR ELECTRIC UTILITIES?

A Yes, I have. In 2024 the average authorized ROE for electric utilities was approximately 9.78% while the average 30-year Treasury bond yield was 4.41%. This indicates that the realized equity risk premium for 2024 is approximately 5.37%, or 59 basis points lower than Ms. Bulkley's lowest equity risk premium estimate and 74 basis points lower than her highest equity risk premium estimate. Notably, despite her analysis being based on authorized ROE levels for electric utilities, the average of her BYRP analysis is equal to the highest authorized ROE in all of 2024.

[10]RRA, Major energy rate case decisions in the US January-December 2023 Quarterly update on decided rate cases, February 6, 2024. (emphasis added).

Q DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A Yes, it does.