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Witness: *Christopher C. Walters*
Sponsoring Party: *MoPSC Staff*
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Case No.: *ER-2024-0261*
Date Testimony Prepared: *September 17, 2025*

MISSOURI PUBLIC SERVICE COMMISSION

FINANCIAL AND BUSINESS ANALYSIS DIVISION

FINANCIAL ANALYSIS DEPARTMENT

SURREBUTTAL TESTIMONY

OF

CHRISTOPHER C. WALTERS

THE EMPIRE DISTRICT ELECTRIC COMPANY, d/b/a Liberty

CASE NO. ER-2024-0261

Jefferson City, Missouri
September 2025

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I. INTRODUCTION

Q. Please state your name and business address.

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

Q. Are you the same Christopher C. Walters who previously filed Direct Testimony and Rebuttal Testimony on behalf of the Staff of the Missouri Public Service Commission ("Commission") on July 2, 2025, and August 18, 2025?

A. Yes, I am.

Q. What is the purpose of your Surrebuttal Testimony?

A. The purpose of my Surrebuttal Testimony is to respond to the Rebuttal Testimony of Empire District Electric Company ("Empire") witness Mr. Daniel Dane. My silence with regard to any position taken by Empire or any other party in this proceeding does not indicate my endorsement of that position.

II. RESPONSE TO MR. DANE

A. Summary of Mr. Dane's Rebuttal

Q. Please summarize the criticisms Mr. Dane offered on your testimony, analysis, and recommendations.

A. Mr. Dane's criticisms of my testimony, analyses, and recommendations are summarized as follows:

- Mr. Dane asserts I have failed to adequately consider Empire's elevated level of business risk compared to the proxy companies.
- Mr. Dane estimates that my recommended return on equity ("ROE") of 9.5% is 32 basis points below the average authorized ROE for vertically integrated electric utilities since 2024.
- Mr. Dane disagrees with my comparison of Empire's proposed equity ratio of 53.0% to the book value capital structures of the proxy group companies.
- Mr. Dane disagrees with certain assumptions and inputs to the sustainable growth and multi-stage Discounted Cash Flow ("DCF") model.
- Mr. Dane disagrees with the assumptions and methods underlying my Risk Premium ("RP") analysis.
- Mr. Dane disagrees with certain inputs and assumptions used in my Capital Asset Pricing Model ("CAPM"), including my alleged use of unadjusted beta coefficients from S&P as well as the recommended Market Risk Premium ("MRP") from Kroll.

B. Consideration of Empire's Business Risk Relative to the Proxy Group

Q. Why does Mr. Dane believe you failed to adequately consider Empire's elevated business risk compared to the proxy companies?

A. Mr. Dane contends that I did not evaluate Empire's business and financial risks relative to the proxy group companies I used to estimate the cost of equity. He argues that my analysis relied too heavily on S&P and Moody's ratings and commentary, without considering Empire's risk in comparison to the proxy group. Based on his own relative risk assessment,

Mr. Dane concludes that Empire faces above-average risk compared to the proxy group and, therefore, warrants a ROE above the midpoint of my recommended 9.00% to 10.00% range, closer to Empire's proposed 10.00%.

Q. How do you respond to Mr. Dane's contention that you failed to consider Empire's relative risk compared to the proxy group?

A. As an initial matter, I reviewed and considered Empire's total risk—meaning both its business and financial risks—through the independent assessments offered by credit rating agencies such as S&P and Moody's. These agencies provide an objective and comprehensive evaluation of a utility's overall risk profile, including its business risk, operating environment, and financial strength. Investors rely heavily upon these independent assessments when making investment decisions. By contrast, investors do not necessarily consider, or even have access to, the type of risk assessments performed by Mr. Dane.

In addition, I directly compared Empire's relative financial risk to the proxy group companies by reviewing their book value equity ratios. As noted in my Direct Testimony and shown on Schedule CCW-D2, the proxy group has average credit ratings of BBB+ and Baa2 from S&P and Moody's, respectively. The proxy group's average rating of BBB+ from S&P is one notch higher than Empire's rating of BBB, while the proxy group's average rating of Baa2 from Moody's is one notch lower than Empire's rating of Baa1. Thus, Empire's credit ratings are comparable to those of the proxy group.

As further shown on the same schedule, the proxy group has an average common equity ratio of 38.8% (including short-term debt) and 43.1% (excluding short-term debt), as calculated by S&P Global Market Intelligence and Value Line, respectively. Both ratios are significantly lower than Empire's proposed 53.0% equity ratio.

Finally, I note that investors are not compensated for bearing incremental business risk. Modern portfolio theory establishes that business risk can be diversified away, which is particularly true for investors in regulated utility companies. These investors are predominantly institutional investors, who hold large, diversified portfolios.

Q. Mr. Dane also takes issue with your comparison of Empire's requested equity ratio to the book value equity ratios of the proxy companies. What are his concerns with that comparison?

A. Mr. Dane asserts that I incorrectly compare Empire's proposed capital structure to the holding company capital structures for the proxy group companies, which he asserts that is not the appropriate point of comparison. Mr. Dane argues that my comparison is flawed because I relied on proxy group data at the holding company level rather than at the operating utility company level. He contends that the authorized equity ratio should reflect the business and operating risks of the regulated utility itself, not its parent holding company. He notes that while cost of equity analyses often require using holding company data, capital structure data is available for the proxy group operating utilities and should be used instead. Mr. Dane further states that holding company capital structures can be distorted by additional debt associated with unregulated operations, making them less representative of how regulated utilities are capitalized.

Q. How do you respond?

A. Mr. Dane's concerns are unsupported and lack merit. As rate of return analysts, we must rely on the financial data of the publicly traded holding companies because those are the entities for which our cost of equity estimates are derived. Investors in the proxy group companies are purchasing securities of the holding companies, not the operating subsidiaries,

and, therefore, it is the holding company's risk profile and capitalization that are relevant to investor-required returns. Using holding company financial data ensures consistency between the risk and return inputs to the analysis.

While Mr. Dane argues that capital structure comparisons should be performed at the operating utility level, that approach divorces the capital structure from the very market data relied upon to estimate the cost of equity. Moreover, as I noted in my Direct Testimony, Empire's proposed equity ratio is materially higher than the proxy group averages, even when measured at the holding company level. The appropriate benchmark for assessing Empire's proposed capital structure is the same set of holding companies relied upon in estimating its cost of equity, and by that measure, Empire's proposal reflects an equity ratio well above its peers. I note that I did not make an adjustment to the ROE to account for Empire's significantly less financial risk compared to the proxy group. Mr. Dane's point is moot.

C. Authorized ROEs for Vertically Integrated Electric Utilities

Q. Does Mr. Dane compare your recommended ROE of 9.5% to vertically integrated electric utilities?

A. Yes. Mr. Dane asserts that my recommended ROE of 9.5% is 32 basis points below the national average authorized ROE of 9.82% for vertically integrated electric utilities since 2024.

Q. How do you respond?

A. Through August 2025, there have been 15 authorized ROEs for vertically integrated electric utilities. Of those 15 ROE decisions, only two of them have been 10.0% or higher (10.0% and 10.20%), while five of them have been 9.50% or lower. The year-to-date

average for vertically integrated electric utilities is 9.73%, which is marginally below the low-end of Mr. Dane's recommended range. Mr. Dane's concerns are misplaced.

D. Response to Mr. Dane's Concerns with my DCF Analyses

Q. What concerns does Mr. Dane express as it relates to your DCF analyses?

A. Mr. Dane argues that my Constant Growth DCF results, when using analyst consensus earnings growth rates, are much higher than my 9.50% ROE recommendation and instead align with his own recommended range of 9.75% to 11.00%. He disagrees with my view that analyst growth rates are unsustainable over the long term and should be capped at Gross Domestic Product ("GDP") growth, citing industry capital expenditures and consultant forecasts to suggest utilities can grow earnings above GDP for decades. He asserts that, notwithstanding his concerns with the Multi-Stage DCF model, a more appropriate GDP growth rate of 5.44%, based on the historical long-term average real GDP growth rate adjusted for projected inflation, should be used.

He further contends that my other DCF models produce unreasonably low results. He criticizes my Sustainable Growth DCF for relying on a retention growth calculation that academic research shows has an inverse relationship with earnings growth. Specifically, he 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 his argument. He also challenges my Multi-Stage DCF model, claiming my assumption that utility earnings cannot exceed GDP growth is unfounded, and that I used an overly low long-term GDP growth rate.

Mr. Dane concludes that only the Constant Growth DCF with analyst growth rates provides reliable results, and that my other DCF approaches are flawed and should be given

little or no weight. He argues that when properly applied, DCF models corroborate his 10.00% ROE recommendation rather than my lower 9.50% estimate.

Q. Please respond to Mr. Dane's concerns with your Sustainable Growth DCF model.

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 Mr. Dane states in his Direct Testimony, "[t]he range of results produced by the various ROE models, […] demonstrates the importance of considering multiple models when estimating the Company's ROE." 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 Chartered Financial Analyst ("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 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: $g = b$ x ROE[1]

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

Notably, the same CFA text observes that in light of the Arnott and Asness (2003) study cited by Mr. Dane, "caution is appropriate in assuming that dividends displace earnings."[2] 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."[3] 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."[4] The use of the sustainable growth rate model is supported by the financial literature and is a practical model that can be used in estimating the cost of equity.

Q. Please respond to Mr. Dane's concerns with your Multi-Stage DCF model.

A. Mr. Dane 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**.** He asserts that appropriate method for estimating long-run GDP growth would be to use the historical long-term average real GDP adjusted for expected inflation. He estimates this method produces an expected GDP growth rate of 5.44%.[5]

As an initial matter, Mr. Dane 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). Mr. Dane cannot reasonably argue that the respondents to Blue Chip's survey did not take into consideration historical GDP growth in their estimates. Mr. Dane also overlooks several other estimates of GDP growth provided in my Direct testimony in

[2] See CFA Program Curriculum, 2014, Level II, Volume 4, "Dividend Discount Valuation," at pages 265-266.
[3] *Ibid.* at 266.
[4] 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.
[5] Page 42, Line 13, Dane's Rebuttal Testimony.

Table CCW-6, which includes forecasts as far as 76 years into the future. Notably, these estimates are broken down by their projected real GDP growth and projected inflation forecasts. The real GDP forecasts, as shown on that table, range from 1.6% to 2.0%, while inflation projections range from 2.0% to 2.4%. Mr. Dane's estimate long-term real GDP level of 3.18% exceeds the long-term real GDP projections provided by several sources by a range of 118 to 158 basis points. The range of nominal GDP growth estimates by the other sources reviewed in my Direct Testimony is 3.7% to 4.1%. My use of a 4.14% GDP growth rate at the high-end of that total range and should be considered a reasonable estimate.

Q. Is there other evidence to show that Mr. Dane's estimate of long-term real GDP growth is excessive?

A. Yes. For the years 2000 through the first half of 2025, real GDP has grown by a compound annual growth rate of 2.14%, or 103 basis points below Mr. Dane's estimate of 3.18%, and the long-term real GDP growth rate is not as stable, or as high as Mr. Dane would like for us to believe. Notably, 2.14% is consistent with the long-term projections provided in my Direct Testimony. Mr. Dane's "projected" GDP growth rate estimate is unsupported and lacks merit.

E. Response to Mr. Dane's Concerns with My RP Analyses

Q. What concerns does Mr. Dane express as it relates to your RP analyses?

A. Mr. Dane's primary concern is rooted in his belief that there is an inverse relationship between the level of interest rates and the Equity Risk Premium ("ERP") that can

be accurately measured using a simple linear Ordinary Least Squares ("OLS") regression analysis. He concludes that my RP analysis likely understates the required return for Empire.[6]

Q. How do you respond to Mr. Dane's concerns with your RP analyses?

A. Mr. Dane's contention that the ERP method is best explained using a simple linear regression model misses the mark. I detailed the problems with the simple linear OLS model at length in my Rebuttal Testimony and will not repeat them here.

Q. Is there a better method of capturing the dynamic inverse relationship between the ERP and interest rates than Mr. Dane's proposed use of a simple linear OLS regression analysis?

A. Yes, there is. As I explained in my Rebuttal Testimony, the OLS regression model used by Mr. Dane assigns equal weight to all observations over the study period, implicitly assuming that the relationship between the ERP and bond yields has remained stable over that entire period. However, this approach may fail to capture structural changes in the regulatory landscape, investor expectations, and utility ratemaking practices that have occurred over time, particularly in more recent years. As a result, the model may give undue influence to outdated data and underrepresent the conditions currently driving authorized returns. If a regression model is applied to capture the relationship between interest rates and the ERP, a Weighted Least Squares ("WLS") regression model is more appropriate.

Q. What is WLS regression, and why do you believe it is more useful than an OLS regression?

A. WLS regression is a variation of the traditional OLS regression method. Like OLS, it is used to estimate the relationship between variables such as the ERP and interest

[6] Page 45, Lines 7-9, Dane's Rebuttal Testimony.

rates, but it improves on OLS by allowing certain observations to carry more influence than others based on their relevance or reliability.

OLS regression treats all data points equally, assigning the same weight to each observation regardless of when it occurred. This equal treatment can be problematic when analyzing long historical datasets, particularly when the relationship between variables (like bond yields and the ERP) has evolved over time due to changing market conditions or regulatory environments. For example, an ROE authorized by a state commission in 1988 may have been based on vastly different economic, policy, and risk considerations than one authorized in 2024 or 2025.

WLS regression addresses this by assigning greater weight to more recent data, which better reflects the current relationship between bond yields and the ERP. In this analysis, I used an exponential weighting function that gradually reduces the influence of older data while emphasizing more recent observations. This approach helps ensure the regression model reflects contemporary market conditions more accurately, which is especially important for estimating the current cost of equity.

By using WLS, the goal is to produce a more relevant estimate of the cost of equity for ratemaking purposes, one that better reflects today's utility environment rather than relying equally on data from decades ago that may no longer be representative.

Q. How are the data points weighted in your WLS regression, and what is the role of the weighting parameter lambda (λ)?

A. In my WLS regression, each historical observation is assigned a weight based on how recent it is. More recent data points are given more weight, while older data points are gradually given less influence. This approach reflects the view that recent authorized returns

and interest rate conditions are more relevant for determining today's cost of equity than decisions made decades ago. The weights are assigned using an exponential decay function. Specifically, each observation's weight is calculated using the formula:

$$\text{Weight} = \exp(-\lambda \times (T - t))$$

where T is the most recent period, t is the year of the observation, and λ (lambda) is a decay factor that controls how quickly the influence of older data declines.

In my analysis, I used a lambda (λ) of 0.20.

Q. Why did you select a lambda value of 0.20?

A. A lambda of 0.20 provides a reasonable balance. It places meaningful emphasis on the most recent five to ten years of data, when regulatory policy and investor expectations have been shaped by modern factors like affordability concerns, decarbonization mandates, and alternative ratemaking mechanisms, while still retaining some influence from earlier periods. With this lambda value, observations from over 20 years ago are not completely disregarded but are weighted substantially less than those from recent years. A smaller lambda (e.g., 0.05) would allow outdated data to continue exerting significant influence, potentially diluting the accuracy of the model in current conditions. A larger lambda (e.g., 0.8) would disregard too much historical information, increasing volatility. The 0.20 value was chosen based on this tradeoff and where it demonstrated a strong statistical fit to the data while still respecting the relationship from more dated years.

Q. Have you performed a comparative analysis of the results using OLS as advocated by Mr. Dane relative to the WLS regression method?

A. Yes, I have. The comparative analysis based on the OLS regression method as advocated by Mr. Dane and my WLS regression analysis for the Treasury Bond and Utility

Bond methods are summarized below in Table CCW-1SR. The ROE estimates of my RP analysis using the more robust WLS method under both the Treasury bond yields and A-rated Utility bond yields are 9.83% and 9.87%, respectively. I will note that the R-squared values using WLS range from 0.9418 to 0.9426, both of which are higher than the R-squared values produced by the simple OLS regression analysis advocated by Mr. Dane. In other words, the explanatory power of the WLS method is significantly higher than the OLS method advocated for by Mr. Dane.

TABLE CCW-1SR

Risk Premium Analysis
Comparison of Results: OLS vs WLS Regressions

	OLS Regression		WLS Regression	
Description	Treasury	A-Rated Util.	Treasury	A-Rated Util.
Intercept (β0)	8.00	7.33	9.11	8.84
Slope (β1)	-0.4508	-0.4620	-0.8345	-0.8242
Bond Yield	4.40	5.79	4.40	5.79
Predicted ERP	6.02	4.65	5.43	4.08
ROE Estimate	10.42	10.44	9.83	9.87
R-Square	0.8255	0.8551	0.9418	0.9426

F. Response to Mr. Dane's Concerns with my CAPM Analyses

Q. What concerns does Mr. Dane express as it relates to your CAPM analyses?

A. Mr. Dane's primary concern is with my beta coefficients, especially the three-year unadjusted betas from S&P Global Market Intelligence. In addition, he does not agree with my use of the projected MRP from Kroll because it does not reflect the inverse relationship between interest rates and the ERP.

Q. Did Mr. Dane accurately describe the beta estimates relied on in your CAPM?

A. No, he did not. Specifically, his assertion that I relied on ***unadjusted*** three-year betas in my CAPM analysis is false. I present my various beta coefficients on my Schedule CCW-D14, and my CAPM results using those beta coefficients, among other inputs, on my Schedule CCW-D15. Mr. Dane seems to confuse the "Current S&P Global Market Intelligence Beta" as being an unadjusted three-year beta estimate. That is incorrect. As I explained at length, beginning on page 50 at line 10 through page 52, line 9, the Current S&P Global Market Intelligence Beta used in my CAPM analysis is adjusted using the Vasicek adjustment method in S&P's Beta Generator model. The merits of the Vasicek adjustment method are provided in the referenced text and will not be repeated here. None of the betas in my CAPM are raw, or unadjusted betas, as Mr. Dane has asserted. His criticisms of my beta estimates from S&P are unsupported, factually incorrect, and should be rejected. It is important that the Commission reject Mr. Dane's characterization because acceptance of his misstatement would undermine the integrity of my CAPM results.

Q. Please respond to Mr. Dane's criticisms of your use of *Kroll*'s recommended MRP of 5.50%.

A. *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 ERP 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.

Mr. Dane's concern with the *Kroll* MRP 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 *Kroll* updated is recommended MRP recently?

A. Yes, it has. On September 2, 2025, *Kroll* revised its recommended MRP downward from 5.50% to 5.00%. All else equal, this would reduce my CAPM results.[7]

Q. Has the Rebuttal Testimony of Mr. Dane caused you to change your recommendations at this time?

A. No. I continue to recommend an ROE of 9.50%. I do not take issue with Empire's updated equity ratio of 53.0% at this time.

Q. Does this conclude your Surrebuttal Testimony?

A. Yes, it does.

[7] Recommended U.S. Equity Risk Premium and Corresponding Risk-Free Rates.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Request of The Empire District Electric Company d/b/a Liberty for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in its Missouri Service Area	)))))	Case No. ER-2024-0261

AFFIDAVIT OF CHRISTOPHER C. WALTERS

STATE OF MISSOURI)
) ss.
COUNTY OF ST. LOUIS)

COMES NOW CHRISTOPHER C. WALTERS 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 Christopher C. Walters*; and that the same is true and correct according to his best knowledge and belief.

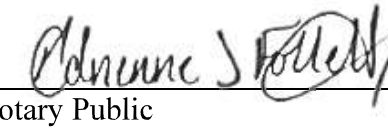
Further the Affiant sayeth not.

CHRISTOPHER C. WALTERS

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for St. Louis County, State of Missouri, at my office in Chesterfield, on this 15th day of September, 2025.

ADRIENNE J. FOLLETT
Notary Public - Notary Seal
STATE OF MISSOURI
Jefferson County
My Commission Expires: Mar. 22, 2029
Commission # 21989987



Notary Public