Exhibit No.:	______________
Issue(s):	Rate of Return/Capital Structure
Witness/Type of Exhibit:	Murray/Rebuttal
Sponsoring Party:	Public Counsel
Case No.:	ER-2024-0261

REBUTTAL TESTIMONY

OF

DAVID MURRAY

Submitted on Behalf of the Office of the Public Counsel

THE EMPIRE DISTRICT ELECTRIC COMPANY D/B/A LIBERTY

FILE NO. ER-2024-0261

*** ____ ***

Denotes Highly Confidential Information that has been redacted

Redacted highly confidential information is information Empire designated to be highly confidential in response to discovery (Rule 20 CSR 4240- 2.135(9))

** ______________________________________ **

Denotes Confidential Information that has been redacted

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August 18, 2025

PUBLIC

TABLE OF CONTENTS

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OF

DAVID MURRAY

EMPIRE DISTRICT ELECTRIC COMPANY

FILE NO. ER-2024-0261

Q. Please state your name and business address.

A. My name is David Murray and my business address is P.O. Box 2230, Jefferson City, Missouri 65102.

Q. Are you the same David Murray who previously filed Direct Testimony in this case?

A. Yes.

Q. Why are you testifying in rebuttal?

A. I am responding to the direct testimonies of witnesses who address the following issues: (1) the proposed ratemaking capital structure for The Empire District Electric Company ("Empire"), (2) the appropriate cost of debt to apply to the debt ratio in the capital structure, and (3) the proposed allowed return on common equity ("ROE") to apply to the equity ratio in the capital structure. Empire witness Daniel S. Dane provides the main supporting testimony for Empire's requested ROE, but he also attests that Empire's requested capital structure and cost of debt are reasonable. Staff witness Christopher C. Walters testimony provides his recommendation as to a fair and reasonable authorized ROE. As Mr. Walters adopted Empire's requested capital structure and cost of debt, his testimony did not provide a detailed analysis of these rate of return ("ROR") components.

Empire and Staff recommend adopting Empire's capital structure at September 30, 2023, after making a *pro forma* adjustment for $300 million of affiliate borrowings executed on June 12, 2024. I disagree with Empire's and Staff's recommended ratemaking capital structure. Empire's capital structure is not market based, cost efficient, or consequential for purposes of raising capital.

While Mr. Dane's proposed ROE of 10.00% is certainly more reasonable than the 10.25% to 10.75% range of ROEs other Missouri utilities have recently requested,[1] it is still too high, especially if it is applied to Empire's and Staff's recommended ratemaking common equity ratio of 53.1%.

Staff witness, Mr. Walters, recommends the Commission authorize Empire a ROE in the range of 9.00% to 10.00% with a point recommendation of 9.5%. Although Mr. Walters recommends a 9.5% authorized ROE, he suggests that a range of 9.0% to 9.5% is more reasonable considering Empire's higher requested ratemaking common equity ratio.[2] Although I appreciate Mr. Walters acknowledging that Empire's requested ratemaking common equity ratio is unreasonably high, Mr. Walters did not perform an in depth analysis of Empire's internally assigned capital structure as compared to the capital structures of its ultimate parent company, Algonquin Power & Utilities Corp. ("APUC"), or its holding company, Liberty Utilities Co. ("LUCo"). Considering APUC's significant and constantly changing financial and business strategies, determining a fair and reasonable authorized ratemaking capital structure to charge Empire's ratepayers deserves a deeper dive into APUC's corporate financing strategies.

Because of service quality issues Staff witness James A. Busch recommends a reduction to Empire's revenue requirement equivalent to a 100-basis point reduction to Mr. Walters' recommended authorized ROE of 9.5%, which Staff calculated to be $17,762,292.[3] Mr. Busch testifies that Staff chose the approach of making a specific dollar adjustment to the revenue requirement rather than adjusting Mr. Walter's ROE recommendation of 9.5% because of concerns about the principles of a fair and reasonable return as articulated in the *Hope* and *Bluefield* cases. I will explain why an authorized ROE of 8.5% does not violate the standards established in the *Hope* and *Bluefield* decisions.

[1] Case Nos. ER-2024-0319, GR-2024-0369, WR-2024-0104, GR-2024-01066, WR-2024-0320, ER-2024-0189, and GR-2025-0107.
[2] Walters Direct Testimony, p. 4, lns. 2-4.
[3] Busch Direct Testimony, p. 8, lns. 15-20.

COMMISSION MERGER CONDITIONS

Q. Mr. Dane asserts that consistent with Financing Condition 5 ordered in Case No. EM-2016-0213, Empire's requested ratemaking capital structure in this case is the most economical as compared to those of LUCo and APUC.[4] Do you agree?

A. No. Mr. Dane compared APUC's and LUCo's capital structures as of September 30, 2023, to that of Empire's requested ratemaking capital structure. Because they are almost two years old APUC's and LUCo's September 30, 2023, capital structures are no longer relevant. As I testified in my direct testimony, APUC recently underwent a major change in its business and financial strategies. APUC did not complete the sale of most of its non-regulated operations until January 8, 2025. In conjunction with the sale of its non-regulated operations, APUC recapitalized its balance sheet. Therefore, capital structure data prior to this date are no longer relevant for evaluating cost of capital differences between Empire and its parent and holding companies. In fact, when APUC announced its plans to create a Strategic Review Committee to evaluate strategic options, it stated that one of its primary goals was to reduce APUC's cost of capital.[5] APUC's higher cost of capital was not caused by its regulated utilities, but rather its riskier non-regulated operations, operations it recently sold. Therefore, for purposes of complying with merger Financing Condition 5, Empire's requested capital structure and cost of debt should be compared to APUC's and LUCo's capital structures ***after*** APUC recapitalized its capital structure following the sale of its non-regulated operations.

Additionally, Mr. Dane failed to specifically address Financing Condition 4 as it relates to APUC's request for Empire to be authorized a higher equity ratio than that which Empire requested (~49%) before it was acquired by APUC. A capital structure with a higher equity ratio is typically less economical than one with a lower equity ratio, other than in situations in which a company is in financial distress and has highly speculative credit ratings. Empire is not in financial distress. Consequently, due to lack of evidence that Empire's business risks in 2025 require a higher common equity cushion than it had in 2016, this

[4] Dane Direct Testimony, p. 47, lns. 9-17.
[5] Algonquin Power & Utilities Corp, Investor Presentation Q2 2023 Earnings Conference Call, August 10, 2023, p. 5.

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sets a cap on Empire's common equity ratio at 49%. In fact, due to significant Missouri statutory changes since 2016, which allow Empire to take advantage of investor-friendly cost recovery mechanisms, at least on a time series basis, Empire's reduced business risk justifies a lower common equity ratio, not a higher common equity ratio.

Q. Do APUC's financial problems and subsequent changes in business and financing strategies since Empire's 2021 rate case require a different approach for determining both a fair and reasonable capital structure and an appropriate cost of debt to determine Empire's revenue requirement?

A. Yes. While a comparison of APUC's, LUCo's and Empire's capital structures since APUC divested its non-regulated operations captures the relevant period related to APUC's transformation to a pure-play regulated utility holding company, other issues have evolved that were not apparent when the Commission imposed the Financing Conditions on its approval of APUC's acquisition of Empire on January 1, 2017.

Q. What other issues?

A. For example, while parties to the Stipulation & Agreement, which included the aforementioned Financing Conditions, understood that Empire's funding needs would eventually be financed at the corporate level, at the time APUC acquired Empire, it was not clear when the integration would start or how long it would take. It has now been almost ten years since APUC acquired Empire. Empire's funding needs are now fully consolidated at both LUCo and APUC. Empire completely ceased accessing the debt capital markets on October 1, 2020, when it stopped issuing commercial paper and began to rely on LUCo's money pool for its liquidity needs. Now Empire's capital structure is irrelevant for purposes of its access to capital markets; its access to those markets is through its affiliates LUCo and APUC. Empire's capital structure is primarily managed for purposes of ratemaking, as are those of its Missouri utility affiliates. Consequently, Empire's capital structure no longer directly impacts Empire's cost of debt. LUCo's and APUC's capital structures are currently the only capital structures relevant to third-party investors because they are the entities in the APUC enterprise who issue the debt those investors buy. Therefore, the primary focus should be whether APUC's and/or LUCo's

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capital structures and costs of debt are consistent with the low business risks of their regulated utility assets, including Empire.

Q. Are you suggesting that Empire's capital structure is no longer relevant for purposes of setting a fair and reasonable capital structure and cost of debt for determining Empire's revenue requirement?

A. Yes.

Q. Regardless, do you have issues with the methodologies Empire and Staff used for their capital structure and cost of debt recommendations?

A. Yes. I will provide detailed critiques of both Empire's and Staff's capital structure recommendations next.

CAPITAL STRUCTURE

Q. What is the basis for Empire's recommended ratemaking capital structure in this case?

A. Empire recommends its *pro forma* capital structure as of September 30, 2023. Mr. Dane provided his calculated capital structure ratios in Schedule DSD-11 attached to his direct testimony.

Q. What is the basis for Staff's recommended ratemaking capital structure for Empire in this case?

A. Staff witness Mr. Walters adopted Mr. Dane's recommended *pro forma* capital structure ratios for purposes of his recommendation.

Q. What *pro forma* adjustments did Mr. Dane make to Empire's September 30, 2023, capital structure?

A. Mr. Dane reduced Empire's affiliate short-term debt balance of \$613.36 million by \$300 million to capture Empire's issuance of an affiliate long-term note on June 12, 2024.

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Q. How does Mr. Dane's *pro forma* capital structure recommendation as of September 30, 2023, compare to Empire's actual capital structure on September 30, 2024, the update period in this case?

A. Mr. Dane's *pro forma* capital structure recommendation contains a lower common equity ratio percentage than Empire's actual capital structure as of September 30, 2024. After excluding tax equity and securitized debt from Empire's September 30, 2024, capital structure, its common equity ratio was 54.22%. If short-term debt is also excluded, then Empire's common equity ratio increases to 55.99%.

Q. Why is Mr. Dane's *pro forma* estimated common equity ratio lower than Empire's actual common equity ratio as of September 30, 2024?

A. Mr. Dane's *pro forma* adjustment only accounted for APUC's reclassification of $300 million of money pool debt to a long-term promissory note. Mr. Dane's *pro forma* adjustment did not account for the approximate $189 million increase in Empire's common equity account from September 30, 2023, to September 30, 2024. Approximately $176 million of the increase in Empire's common equity balance was caused by Empire retaining 100% of its earnings rather than distributing a dividend to LUCo.

Q. Could APUC have ensured that Empire's actual common equity ratio as of September 30, 2024, was consistent with its 53.1% ratemaking target?

A. Yes, by distributing approximately $95 million of dividends to LUCo (equivalent to an approximate 54% dividend payout ratio) and upsizing its affiliate promissory note to $395 million.

Q. What was the percentage of short-term debt in Empire's actual capital structure as of September 30, 2023?

A. 17.9%.

Q. Is this short-term debt ratio unusual?

A. Yes, it is high.

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Q. Do you know why?

A. Yes, it is the result of how APUC assigns capital to its utility subsidiaries, including Empire.

Q. Would you explain how APUC assigns capital to its utility subsidiaries?

A. Yes. As I testified in recent rate cases involving Empire's affiliates, Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty Midstates") and Liberty Utilities (Missouri Water) LLC ("Liberty Water"), APUC initially advances capital to its operating utility subsidiaries through "money pool" transactions. Because APUC's operating utility subsidiaries no longer access third-party capital markets, the accumulation of high "short-term debt" balances is of no consequence to the operating utility company's financial condition, and ability to raise third-party capital.

As I discovered and testified to in the Liberty Midstates[6] and Liberty Water rate cases[7], APUC typically waits until immediately prior to a rate case to update an operating subsidiary's balance sheet for purposes of supporting its requested rate increase. Before a rate case, APUC reclassifies its affiliate "money pool" borrowings to an affiliate promissory note, affiliate common equity contribution, or both, to support its desired ratemaking capital structure target. At least for APUC's Missouri operating subsidiaries, the targeted ratemaking common equity ratio is typically around 53%.

Q. Has APUC contributed significant amounts of capital into Empire since 2021?

A. Yes. During February 2021, Empire incurred $210 million of extraordinary costs related to Winter Storm Uri. These costs accounted for 46.56% of the $451 million of Empire's increased money pool borrowings during the first quarter of 2021. Empire also closed on its acquisition of the North Fork Ridge wind project on January 27, 2021 (Empire's share of capital was approximately $165 million) and made other investments in plant that

[6] Case No. GR-2024-0106, Murray Rebuttal, p. 2, ln. 19 – p. 5, ln. 23; Murray Surrebuttal, p. 9, lns. 7-24, and p. 23, ln. 22 – p. 24, ln. 2.
[7] Case No. WR-2024-0104, Murray Rebuttal, p. 2, ln. 13 – p. 4, ln. 13 and Schedule DM-R-1; Murray Surrebuttal, p. 24, ln. 20 – p. 25, ln. 2.

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accounted for most of the remaining increase in capital infused into Empire through "money pool" borrowings.

During the second quarter of 2021 Empire closed on its two other wind projects, Neosho Ridge and Kings Point. In its 2021 rate case, Empire's witness Todd Mooney maintained that Empire's June 30, 2021, capital accounts – long-term debt and common equity – supported Empire's investment in all three wind projects. Based on my analysis of Empire's financial statements, Empire did reclassify the $165 million of money pool advances made to fund Empire's investment in North Fork and the additional $439 million invested in Neosho Ridge and Kings Point (total of approximately $604 million) as an affiliate long-term loan and an infusion of common equity. However, as of June 30, 2021, Empire still had a money pool balance of approximately $414 million, or 12.13% of Empire's capital structure.

Q. What about after 2021?

A. APUC contributed additional capital into Empire through further "money pool" transactions. Empire's money pool balances were over 10% of Empire's quarterly capital structures until December 31, 2023. As shown on Schedule DM-R-1, Empire's money pool balances gradually increased through March 31, 2023, peaking at 15.50%, and then remained at approximately 14% through the end of 2023. Empire's high money pool balances during this extended period cannot be fully attributed to Empire's extraordinary fuel and purchased power costs and CWIP balances, meaning that Empire transferred capital for long-term investments via its affiliate "money pool" transactions.

Q. What about after 2023?

A. APUC refinanced and reclassified "money pool" borrowings with other sources of capital. On January 30, 2024, Empire, through Empire District Bondco LLC ("EBC"), issued $305.5 billion of securitized debt, which provided Empire immediate recovery of the extraordinary costs related to Storm Uri (approximately $200 million) and costs related to the undepreciated asset value of the Asbury generating facility (approximately $83 million).[8] Based on the approximate \$287.2 million decrease in Empire's money pool balances, it appears the securitized bond proceeds refinanced the LUCo money pool advances to Empire.

On June 12, 2024, Empire executed a \$300 million affiliate long-term promissory note with LUCo, which resulted in the reclassification of Empire's "money pool" capital contribution to a long-term debt capital contribution.

Q. Could Empire have converted its short-term debt money pool borrowings to long-term debt earlier?

A. Yes. Based on my analysis of Empire's money pool balances as compared to its CWIP balances and extraordinary deferred fuel and purchased power costs ("F&PP"), it appears to me that APUC could have reclassified Empire's money pool advances to long-term capital amounts earlier than June 2024 because Empire's money pool balances exceeded CWIP and F&PP costs by \$150 million to \$200 million during 2023. Therefore, it would have been logical to reclassify at least a portion of the money pool balances as long-term capital before June 12, 2024.

Q. Why is it important when determining an appropriate ratemaking capital structure and cost of debt for Empire in this case to look at the timing of when APUC reclassified Empire's money pool borrowings to long-term debt and equity?

A. Because doing so demonstrates that APUC's internal bookkeeping policies and procedures are arbitrary, which illustrates the problems associated with Empire's non-market-based capital structure and assigned debt costs.

Q. Is the fact that Empire's capital structure is not market-based unique to Empire as compared to its Missouri utility affiliates?

A. No. As I testified in the Liberty Water rate case, its "money pool" balance reached as high as 78% of Liberty Water's capital structure on September 30, 2023.[9] Additionally, I testified in the Liberty Midstates rate case that its "money pool" balances reached as high

[8] Case No. EO-2022-0040, Nunc Pro Tunc Amended Report And Order, September 22, 2022, pgs. 13-17.
[9] Case No. WR-2024-0104, Murray Rebuttal, Schedule DM-R-3.

as 32.59% of Liberty Midstates' capital structure as of March 31, 2023. Neither were market-based capital structures, but rather capital structures internally assigned to justify APUC's requested ROR's for purposes of their applications for rate increases. Obviously, APUC has not kept its internal books and records up to date. APUC's internal financial statements highlight the fact that APUC and its regulated utilities only update their accounting records to support the capital structures and costs of debt they desire for purposes of the RORs the utilities pursue in their general rate cases.

Q. Did Empire witness Mr. Dane provide any details in his testimony about APUC's historical management of Empire's capital structure?

A. No. Mr. Dane simply indicates that if Empire's September 30, 2023, capital structure is adjusted for APUC's reclassification of $300 million of money pool borrowings to an affiliation long-term promissory note, Empire's per books long-term capital structure ratios would consist of 53.1% common equity.

Q. Did Staff?

A. No. Staff simply adopted the Company's recommended capital structure.

Q. Did Staff have access to Empire's actual capital structure information as of the update period, September 30, 2024, before it filed its direct testimony?

A. Yes. Empire provided Staff its September 30, 2024, balance sheet information in its December 9, 2024, response to Staff Data Request No. 0069.

Q. Did Staff use information through September 30, 2024, to determine its recommended revenue requirement?

A. Yes. Staff witness Matthew R. Young testified as follows:

> Staff's recommendation regarding the amount of the revenue requirement increase for The Empire District Electric Company, d/b/a Liberty ("Empire") is mostly based on the actual historical information through the update period ending September 30, 2024.[10]

[10] Young Direct Testimony, p. 1, lns. 19-22.

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Q. How does the common equity ratio Empire's witnesses recommend for Empire in this case compare to the common equity ratios Liberty Midstates and Liberty Water recommended in their most recent general rate cases?

A. Liberty Midstates requested a 52.9% ratemaking common equity ratio and Liberty Water requested a 52.6% ratemaking common equity ratio. APUC has been consistent in managing its Missouri utilities per books long-term capital ratios (common equity and long-term debt) to a targeted common equity ratio of approximately 53% as of test periods for rate cases. Because these capital ratios are the result of internal bookkeeping, APUC can simply reclassify money-pool borrowings to affiliate long-term loans and common equity infusions to achieve its desired targeted ratemaking capital structures. APUC's ability to adjust these internal capital balances provides additional support for setting Empire's ROR based on a current investable, market-tested capital structure.

Q. Did Staff, Liberty Midstates, or Liberty Water discuss the extreme fluctuations in "money pool" balances in those cases?

A. No.

Q. Do APUC's internal bookkeeping practices affect the reliability of its fuel adjustment clause ("FAC") financial surveillance reports?

A. Yes. Because it has a FAC Empire is required to file quarterly Financial Surveillance Monitoring Reports ("FSMR"). In Case No. ER-2019-0374, the Commission authorized Empire a rate-of-return based on a common equity ratio of 46%. However, the common equity ratio on Empire's books has ranged from **______ ** to **______ ** during the quarterly periods September 30, 2023, to March 31, 2025. Dividing Empire's net income by the higher book common equity ratios, instead of the 46% the Commission authorized, implies Empire earned a lower ROE than the ROE it achieved based on its authorized capital structure and cost of debt methodology.

Q. Based on your analysis of Empire's Financial Surveillance Monitoring Reports for the period September 30, 2023, to March 31, 2025, how much was Empire's earned ROE understated?

A. In a range of ** ________________________________ ** Please see Schedule DM-R-2 which shows Empire's reported earned ROE compared to my recalculation of Empire's earned ROE based on the common equity ratio the Commission authorized in Empire's 2019 rate case.

Q. Which of these quarterly reports reflected Empire's highest common equity ratio?

A. The March 31, 2024, report, which also corresponds to the largest understatement in the earned ROE.

Q. Do you know why Empire's implied common equity ratio was so high then?

A. Yes, because as of March 31, 2024, APUC had not reclassified $300 million of Empire's affiliate money pool payables to an affiliate long-term promissory note, and Empire's common equity balance included tax equity, which supports wind generation plant not in rate base because the tax equity partners receive returns through tax benefits, not a ROR on rate base.

Q. What did Empire report in its Financial Surveillance Monitoring Reports as its earned ROE for the 12-months ended March 31, 2024?

A. ** ______ **

Q. Is Empire's assumed cost of debt in its Financial Surveillance Monitoring Reports consistent with the Commission's decision in Case No. ER-2019-0374?

A. No. In its FSMR Empire used a cost of long-term debt (3.76%) which included affiliate promissory notes Empire issued to LUCo. Empire's cost of long-term debt is lower than the LUCo cost of long-term debt the Commission deemed appropriate in Empire's 2019 rate case.

Q. What do you consider to be the appropriate cost of long-term debt for Empire as of March 31, 2024?

A. LUCo's adjusted cost of long-term debt as of March 31, 2024, which I determined to be 4.29%.

Q. If you adjust Empire's common equity ratio to the 46% authorized in its 2019 rate case and use an adjusted cost of long-term debt of 4.29%, what is Empire's implied earned ROE for the 12-months ended March 31, 2024?

A. ** ______ **

Q. What did Empire report as its common equity ratio in its most recent Financial Surveillance Monitoring Report?

A. ** ______ ** as of March 31, 2025.

Q. Why is this reported common equity ratio so high?

A. For purposes of this report, Empire at least removed tax equity from its common equity balance. Therefore, this is not the cause. The main cause for Empire's higher common equity ratio is the fact that APUC had not rebalanced Empire's capital structure to reclassify affiliate money pool borrowings to affiliate long-term debt and the fact that Empire did not pay a dividend to APUC for the last twelve months. These examples support the fact that Empire's capital structure is not based on arms-length (market) transactions to ensure a consistently balanced capital structure.

Q. How would adjusting Empire's March 31, 2025, Financial Surveillance Monitoring Report to reflect Empire's Commission-authorized capital structure and your recommended adjusted LUCo cost of long-term debt impact Empire's implied earned ROE?

A. It increases Empire's implied earned ROE to ** _____ ** from ** ______ **

Q. Are there additional reasons for why the Commission should not use Empire's book capital structure for purposes of setting Empire's ROR?

A. Yes. As it relates to Missouri's other large utilities, such as Spire Missouri and Ameren Missouri, my position is that the Commission should consider the parent company's consolidated capital structure for purposes of determining a reasonable balance of debt and equity in the ratemaking capital structure. While I am taking a similar position in this case, the facts and circumstances specific to Empire make it even more compelling for the Commission not to use Empire's book capital structure for ratemaking. Empire's relationship to its intermediate and ultimate parent companies is different from those of Spire Missouri and Ameren Missouri to their parents. Spire Missouri and Ameren Missouri still issue their own long-term debt, whereas Empire does not. Empire relies entirely on APUC and LUCo for all of its financing needs. APUC directly accesses equity and debt markets and LUCo accesses debt markets on behalf of its operating utilities. Therefore, all funding provided to Empire is now a function of affiliate financing transactions.

Q. Is Staff's position to recommend use of Empire's capital structure for ratemaking consistent with its position for utility companies who are financed similarly?

A. No. In the recently concluded Missouri American Water Company ("MAWC") rate case, Case No. WR-2024-0320, Staff recommended a capital structure consistent with that of MAWC's parent company, American Water Works Company Inc., because MAWC does not issue its own long-term debt. Rather, like Empire, MAWC relies on affiliate financing transactions for its capital needs.[11]

Q. Do Empire's balance sheets clearly identify the funds it receives from LUCo through "money pool" advances?

A. No. Empire's quarterly balance sheets do not clearly identify its outstanding money pool borrowings. Instead, Empire's money pool borrowings are embedded in the general balance sheet account "Accounts Payable and Accrued Liabilities."

[11] Case No. WR-2024-0320, Kelli Malki Direct/Rebuttal Testimony, pgs. 23-32.

Q. Does the Commission need to delve into the nuances of APUC's financial management of its operating subsidiary balance sheets to determine a fair and reasonable authorized capital structure for Empire for purposes of determining Empire's revenue requirement in this case?

A. No. While it is important to understand the unique circumstances in this case, in the past APUC has communicated to LUCo's debt investors that it considers a common equity ratio of 45% to 50% to be appropriate for the lower business risk profile of its regulated utility investments. Additionally, in the Commission's Order where it approved APUC's acquisition of Empire, two parameters were set for a fair and reasonable ratemaking capital structure. Those parameters are that Empire shall not seek a higher cost of capital as a result of APUC's acquisition of Empire (Condition 4) AND if the entities on which Empire relies for financing have a more economical capital structure than Empire's capital structure, then APUC shall provide evidence as to why this is necessary (Condition 5). Because Empire's capital structure had a 49% common equity ratio before APUC acquired it (This was Empire's requested common equity ratio in its last rate case before it was acquired by APUC.), this sets the upper limit of an acceptable common equity ratio for setting Empire's ROR in this case. To the extent APUC and/or LUCo utilize more leverage to cause an equity ratio lower than 49%, then their lower equity ratios should be considered for purposes of setting Empire's ROR.

Q. What did the Commission use for determining Empire's authorized capital structure and cost of debt in Empire's 2019 rate case?

A. LUCo's capital structure and cost of debt.

Q. Why?

A. The Commission found that LUCo's adjusted capital structure was the most economical capital structure when compared to Empire's per books capital structure. The Commission also cited the fact that Empire no longer issues its own debt, but rather relies on its parent companies to provide its funding. Additionally, the Commission stated that adopting LUCo's adjusted capital structure was consistent with its past decisions for Empire's Missouri affiliates, Liberty Midstates and Liberty Water.

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Q. Have the facts and circumstances surrounding Empire's financing arrangements materially changed since Empire's 2019 rate case?

A. No. Empire continues to rely on LUCo for access to long-term debt and short-term debt and indirectly on APUC for access to equity and debt markets.

Q. Have the facts and circumstances surrounding LUCo's capital structure changed?

A. Yes. LUCo's capital structure has been impacted by the uncertainty related to APUC's merger and acquisition activity. APUC expected two major acquisitions in 2022. The first was the acquisition of New York American Water Company ("NYAWC") from American Water Works Company Inc. APUC closed on this approximately $610 million acquisition on January 3, 2022. On October 26, 2021, APUC announced its planned acquisition of Kentucky Power Company and AEP Kentucky Transmission Company, Inc. (together the "KY Assets") from American Electric Power Company Inc. ("AEP") for $2.846 billion.[12] APUC believed it would close on the acquisition of the KY Assets in mid-2022.

In order to fund these anticipated acquisitions, APUC needed to raise approximately $2.2 billion. On January 3, 2022, LUCo borrowed $610.386 million from its delayed draw term credit facility to fund the purchase of NYAWC.[13] For purposes of funding its planned acquisition of the KY Assets, APUC issued approximately $617 million of common equity in the fourth quarter of 2021 and approximately $1.07 billion of junior subordinated notes in January 2022. APUC then transferred approximately $1.24 billion of these proceeds to LUCo as common equity contributions. APUC's purchase agreement with AEP also included an assumption of $1.221 billion in debt.[14] Because of the early 2023 termination of the acquisition of the KY Assets, and of the anticipated assumption of long-term debt, LUCo's balance sheet had a disproportionate equity ratio of around 60%.

Based on this public information and my review of some of APUC's board of director materials, ***____

[12] Note 3 to Liberty Utilities Co.'s September 30, 2021 Financial Statements.
[13] Which APUC renamed Liberty Utilities (New York Water) Corp. ("Liberty NY Water").
[14] Eric Eng, "DBRS Morningstar Places Algonquin Power & Utilities Corp. Under Review with Developing Implications on the Announcement of the Agreement to Acquire Kentucky Power Company," Morningstar/DBRS, October 28, 2021.

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Q. Did anything else of significance occur during 2022 and 2023, which should be considered in determining a fair and reasonable ratemaking capital structure in this case?

A. Yes. As I previously testified in my direct testimony[15], APUC's non-regulated generation business segment significantly underperformed financial expectations in the third quarter of 2022, which caused APUC to create a Strategic Review committee in May 2023 to evaluate strategic options to attempt to stabilize APUC's financial condition and maximize shareholder value.

Q. Given APUC's highly uncertain financial and business strategy starting in at least mid-to-late 2022, does it make sense to place any weight on LUCo's capital structure ratios?

A. No, not at least through March 31, 2025. LUCo's debt issuances prior to this highly active and uncertain period occurred when LUCo's adjusted capital structure had a common equity ratio of 50% or less. LUCo's capital structure at that time was consistent with its assigned 'BBB' credit ratings. It's common equity ratio of around 60% during 2022 to 2023 is more consistent with a much stronger credit rating. However, LUCo's credit rating has not been upgraded because rating agencies recognized these events affecting its common equity ratio are transitory. Empire's ratepayers should not pay for a higher-cost capital structure or cost of debt due to higher risks associated with APUC's acquisition and divestment activities.

[15] Murray Direct, p. 11, lns. 12-24.

COST OF DEBT

Q. What it the basis for Empire's and Staff's recommended cost of long-term debt of 4.22%?

A. Empire's and Staff's recommended cost of debt of 4.22% is premised on $815 million of outstanding affiliate promissory notes and $645 million of outstanding legacy debt that Empire had directly issued prior to being acquired by APUC in January of 2017. The embedded cost of the affiliate promissory notes was 3.58% as of September 30, 2024. The embedded cost of Empire's legacy debt was 4.97% as of September 30, 2024.

Q. When did LUCo last issue long-term debt to third-party debt investors?

A. On January 12, 2024, LUCo issued $500 million of 5-year unsecured notes at a coupon rate of 5.58% and $350 million of 10-year unsecured notes at a coupon rate of 5.87%.

Q. How did APUC determine the interest rate to apply to LUCo's $300 million 10-year affiliate loan it executed with Empire on June 12, 2024?

A. It added a credit spread of 160 basis points to the 10-year United States Treasury ("UST") note yield on the "pricing date," which was the same day the loan was executed.[16] The 160-basis point spread was premised on the actual spread from LUCo's 5-year third-party notes it issued on January 12, 2024.[17] This resulted in an estimated coupon rate of 5.93% for the 10-year affiliate promissory note.

Q. Why did APUC add the credit spread from the 5-year third party note for purposes of estimating a rate to apply to a 10-year affiliate promissory note?

A. I do not know. If APUC had assigned the 185-basis point spread it paid on LUCo's 10-year notes to the 10-year UST, it would have assigned a 6.18% interest rate to the 10-year affiliate note.

[16] Empire's response to OPC Data Request No. 3010 (*see* Schedule DM-R-3).
[17] *Id.*

Q. Although adding the credit spread from the 5-year third party note instead of the credit spread from the 10-year credit spread would be favorable to Empire's ratepayers if the Commission were to adopt Empire's and Staff's cost of debt recommendations, does this illustrate why the Commission should not rely on APUC's internal capital structure and cost of debt assignment process?

A. Yes. While I was able to discover this mismatch through my audit of the details of APUC's internal debt and cost assignment process, because imputing the costs of hypothetical debt issuances is an internal exercise, it increases the probability of errors—errors which may not be discovered.

Q. Are LUCo's affiliate promissory notes arms' length transactions?

A. No. Because the parties to them are affiliates, by definition the notes are not arms' length transactions.

Q. Are they market-based transactions?

A. Again, because they are not arms' length transactions they are not market-based transactions, although they can include terms that attempt to mimic market-based transactions by adopting terms—for example interest rates—from actual market transactions.

Q. Has APUC been consistent in how it assigns interest rates to its affiliate promissory notes?

A. No. APUC used different methodologies to assign interest rates to Liberty Midstates' and Liberty Water's affiliate promissory notes.

As I discovered in the recent Liberty Water rate case, an interest rate was assigned to Liberty Water's affiliate note with LUCo based on indicative pricing information APUC received from its investment bank, J.P. Morgan. The indicative pricing estimates were applicable to LUCo based on the assumption that it issued 10-year notes as of April 1, 2024, which was just two and a half months prior to the June 12, 2024, affiliate promissory notes Empire executed with LUCo. J.P. Morgan estimated that if LUCo issued 10-year

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notes on April 1, 2024, it would pay a credit spread of ** ___ ** basis points[18] over a 10-year UST yield. This compares to the 185-basis point spread LUCo actually paid on the debt it issued on January 12, 2024.

APUC also relied on J.P. Morgan's December 15, 2023, indicative pricing estimates for 10-year LUCo notes for purposes of assigning the 5.774% rate to the affiliate promissory note Liberty Midstates issued to LUCo on December 14, 2023. J.P. Morgan estimated LUCo would pay a spread of ** __________ ** basis points over the 10-year UST yield on December 15, 2023.

Q. Were the estimated and actual costs of LUCo's notes reasonable?

A. In my opinion they were not, if for no other reason, because of factors unrelated to the regulated utility operations of LUCo's subsidiaries.[19] As I explained in my Direct Testimony in this case,[20] LUCo's bonds have been priced more similar to the lowest investment grade credit rating (*i.e.* BBB-/Baa3) because of uncertainty related to LUCo's failed attempt to acquire Kentucky Power Company, which was pending at the same time APUC was experiencing financial strain related to APUC's previous non-regulated operations.

Q. Did APUC recognize that the yields on LUCo's bonds increased relative to stable investment grade utility bonds during the period of late 2022 through the end of 2023?

A. ** ____
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[18] 1% is 100 basis points.
[19] In APUC's holding company structure its utility subsidiaries, including Empire, are wholly owned by LUCo.
[20] Murray Direct, p. 21, ln. 14 – p. 22, ln. 8.

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Q. Were LUCo's higher bond rates assigned to the LUCo-Empire affiliate Promissory Notes?

A. Yes. The spreads assigned to Empire's affiliate Promissory Notes with LUCo were based on the debt LUCo issued on January 12, 2024.

Q. Does that mean that the affiliate debt assigned to Empire (the LUCo-Empire bonds) was influenced by APUC's recent financial instability and uncertainty related to its investments and divestments?

A. Yes. As I testified in my direct testimony, I made a 50 basis point downward adjustment to LUCo's 5.869% 10-year note and a 75 basis point downward adjustment to LUCo's 5.58% 5-year note. Although I do not recommend that the Commission adopt Empire's assigned debt cost for purposes of setting Empire's authorized ROR, if the Commission were to do so, I recommend the Commission reduce the 10-year spread to 135 basis points from 185 basis points, which results in a 5.68% coupon compared to the 6.18% coupon that would have been implied based on APUC's debt cost assignment methodology. Additionally, I recommend the Commission reduced the 5-year spread to 85 basis points from 160 basis points, which results in a 5.18% coupon as compared to the 5.93% coupon.

Q. After adjusting the coupon to reflect pricing more similar to 'BBB'-rated 5-year debt, what would Empire's embedded cost of long-term debt as of September 30, 2024, be?

A. 4.07%.

Q. Given that LUCo issued 5-year and 10-year notes to third party investors on January 12, 2024, why did APUC, LUCo, and Empire not use a weighted-average of the cost of the two debt issuances to assign debt costs to Empire?

A. I do not know.

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Q. If Empire intended to use a 10-year debt rate rather than 5-year debt rate for the 10-year third-party note as you mentioned before, do you agree that rate would be the appropriate rate to use for developing Empire's cost-of-debt for determining Empire's revenue requirement in this case?

A. No. As I indicated earlier, the cost of the 10-year affiliate promissory note would have been approximately 6.18% based on LUCo's pricing methodology (4.33% UST yield plus 185 basis point credit spread). However, based on the market pricing information I attached to my direct testimony, this rate should be reduced by 50 basis points to 5.68% (4.33 + 135 basis points) for the reasons I explain in that testimony.

Q. After adjusting the interest rate (coupon) to reflect pricing closer to that of 'BBB'-rated 10-year debt, what would Empire's embedded cost of long-term debt be as of September 30, 2024?

A. 4.17%.

Q. What would be the cost-of-debt assigned to Empire's affiliate note using a weighted-average interest rate based on both the 5-year and 10-year third party investor notes?

A. The 5-year notes consisted of $500 million of the $850 million of notes LUCo issued on January 12, 2024. Multiplying 58.82% (500/850) times the adjusted coupon of 5.18% and adding this result to weighted average rate for the $350 million ten-year notes (41.18% x 5.68%), results in a weighted-average coupon of 5.39%.

Q. What would be Empire's embedded cost of long-term debt if this weighted-average interest rate was assigned to the $300 million of Empire's affiliate debt?

A. 4.11%.

Q. If the Commission adopts Empire's internal debt cost assignment process, what cost of debt do you recommend?

A. While I do not recommend that the Commission adopt Empire's internal debt cost assignment process, if it were to do so then I would recommend that it use a cost of debt of 4.11%.

Q. Did you develop a weighted-average interest rate for purposes of the recent rate case of Empire's affiliate, Liberty Water?

A. Yes. After making the adjustments to LUCo's actual debt costs because they were priced more similarly to a 'BBB-' rating, the cost of the new debt assigned to Liberty Water should be 5.06% (350/850 x 5.375% + 500/850 x 4.84%).

Q. Why is the weighted average cost of debt you derived in this case different than what you derived in the Liberty Water rate case?

A. Because, as I indicated earlier in this testimony, for purposes of determining an implied price to apply to Empire's affiliate notes, APUC used the realized spreads LUCo paid for the $850 million in debt LUCo issued on January 12, 2024. However, for purposes of pricing Liberty Water's assigned debt cost, APUC used indicative pricing information under the hypothetical scenario that LUCo issued debt on April 1, 2024. JP Morgan estimated LUCo would pay a lower spread over UST yields on April 1, 2024, then it actually paid on January 12, 2024.

Q. Does APUC analyze and evaluate the capital markets for purposes of determining the most cost-efficient timing, types of capital, and tenors of capital to issue to independent third-party investors?

A. Yes. ** **

Q. Does APUC's internal promissory note assignment process follow this same careful consideration to reduce the cost of capital charged to its operating subsidiaries?

A. No.

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Q. Have the debt rates APUC assigned to its affiliates ever violated the Commission's affiliate transaction rule?

A. Yes. In Case No. ER-2019-0374, the OPC discovered that LUCo attempted to charge Empire a higher cost for credit facility borrowings by assigning a long-term interest rate to capital advances.[21] The Commission agreed with the OPC that this transaction violated the affiliate transaction rules.[22]

Q. How can the Commission ensure that Empire's customers are not charged for financing costs that are higher than either actual cost or market rates?

A. By using LUCo's adjusted cost of debt and a ratemaking capital structure consisting of 45% common equity and 55% long-term debt to set Empire's authorized ROR.

Q. Is Empire's recommended debt return of 4.22% unreasonable?

A. No, this rate itself is reasonable; however, because it is based on APUC's arbitrary capital structure and cost of debt assignment processes it is not rationally supported. Empire's requested debt return is actually lower than my recommended embedded cost of long-term debt of 4.30%.[23]

Q. Are you aware of any potential ramifications if the Commission were to adopt Empire's assigned cost of debt?

A. The most obvious is that if it were to do so the Commission's decision would be inconsistent with the methodology it adopted when faced with these arguments in Empire's 2019 rate case. Further, the Commission would be inconsistent with how it set the allowed debt return for Empire's Missouri affiliates in past general rate cases.[24] Considering the fact that all of APUC's Missouri utility companies receive affiliate notes from LUCo, it is not logical for each company to be assigned widely disparate costs of debt. However, this is the result if one relies on APUC's debt cost assignment methodology.

[21] Case No. ER-2019-0374, Direct Testimony of Robert E. Schallenberg, p. 11, ln. 12 – p. 16, ln. 14.
[22] *Id.,* Report and Order, July 1, 2020, pages 77-84 and 122.
[23] Murray Direct, Schedule DM-D-11.
[24] Case Nos. GR-2014-0152 (Liberty Midstates) and WR-2018-0170 Liberty Utilities (Missouri Water).

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Liberty Midstates requested a 5.58% debt return in its recent rate case. Liberty Water requested a 4.97% debt return in its recent rate case. In each of these cases, I recommended the authorized debt return be premised on LUCo's embedded cost of long-term debt as of the ordered test year and update periods. Therefore, assuming each company had the same updated test year, my recommended debt return would be the same for all of APUC's Missouri utilities. Because the parties to the Liberty Midstates and Liberty Water rate cases resolved the revenue requirement through a settlement, the Commission did not explicitly decide a fair and reasonable debt cost for these cases.

RECOMMENDED ROE

DANIEL S. DANE'S RECOMMENDED ROE:

Q. Do you agree with Mr. Dane's recommended ROE of 10.0% based on a range of reasonableness of 9.75% to 11.00%?

A. No.

Q. Why not?

A. In short, Mr. Dane has overestimated Empire's COE as I will explain in more detail later in this testimony. Mr. Dane's recommended ROE range is premised on his opinion that this range is consistent with Empire's COE. As I will demonstrate in my critique of his COE methodologies, assumptions, and inputs, Empire's COE is lower than Mr. Dane's estimates.

Q. How did Mr. Dane estimate Empire's COE?

A. Mr. Dane used the following methods/models: (1) a constant-growth discounted cash flow ("DCF") method; (2) the Capital Asset Pricing Model ("CAPM"); (3) the bond-yield-plus-risk-premium ("BYPRP") method and (4) and an expected earnings analysis.

Q. Are these generally accepted methods ROE experts use for estimating a utility's COE for purposes of recommending ROEs to set rates for vertically integrated electric utilities?

A. Yes, with the exception of the expected earnings analysis. I am not aware of investors using the expected earnings analysis to estimate the COE for utilities.

Q. Do you have any concerns with Mr. Dane's proxy group?

A. Only to the extent that he doesn't recognize or discuss the fact that some of his comparable companies have or have had significant exposure to non-regulated operations. Cyclical industries, such as energy companies, with exposure to changes in commodity prices are impacted to a much greater extent by variations in economic/market conditions. This explains why companies in cyclical industries typically have stock betas closer to one, which indicates that the equity risk associated with these industries are higher than for regulated utilities. For example, the consumption of commodities, such as energy, are highly correlated with the expansion and contraction of the economy. This explains why utility companies with exposure to unregulated commodity prices typically have higher betas than pure-play regulated utilities. Mr. Dane should not have included NextEra Energy Inc. in his proxy group, which has significant (greater than 10%) non-regulated business exposure. While Entergy Corporation, OGE Energy Corporation, and PPL Corporation currently do not have significant non-regulated or international business exposure, they have had such exposure within the last five years, which causes higher stock betas if the analyst relies on historical 5-year beta calculations. Unfortunately, Mr. Dane focuses on his perception that supposed shortcomings in Missouri's regulatory ratemaking environment as compared to the proxy group, causes Empire to have a higher cost of capital than the cost of capital of his proxy companies.[25]

[25] Dane Direct., p. 35, ln. 18 – p. 43, ln. 12.

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Q. What were the Value Line betas for these companies?

A. As shown on page 1 of Mr. Dane's Schedule DSD-5.3, the Value Line betas for these companies were in the range of 1.0 to 1.15, which is higher than the average of the other companies in Mr. Dane's proxy group.

Q. Is Mr. Dane's proxy group the main factor that causes his higher COE estimates?

A. No.

Q. What is?

A. Mainly the unreasonable inputs he assumed in his COE methods.

Q. Can you address your concerns with his constant-growth DCF analysis?

A. Yes. I disagree with some of his constant-growth DCF assumptions. As it relates to his mean constant-growth DCF results, Mr. Dane assumes that his proxy groups' dividends per share ("DPS") will grow in perpetuity at a compound annual growth rate ("CAGR") of approximately 6.28%.[26] For purposes of his "high" constant-growth DCF results, Mr. Dane assumes that his proxy groups' DPS will grow in perpetuity at a CAGR of approximately 7.19%.[27] For purposes of his "low" constant-growth DCF results, Mr. Dane assumes that his proxy groups' DPS will grow in perpetuity at a CAGR of approximately 5.24%.[28] Mr. Dane's assumed constant-growth rates are simply equity analysts' projected CAGR in earnings per share ("EPS") for the next three-to-five years. Mr. Dane claims that because equity analysts projected CAGR in EPS are widely available and relied upon by investors, this supports the use of analysts' projected CAGR in EPS as a proxy for expected growth in DPS in perpetuity.[29] It do noes not. Mr. Dane's conclusion is not corroborated by actual investment analysts' practices. Investment analysts assume a much lower perpetual growth rate when applying a DCF analysis (in this case, the DCF is more specifically defined as a dividend discount model ("DDM")) to estimate a fair price to pay for utility stocks. Mr. Dane's assumed high short-term growth rates causes his COE

[26] Dane Direct, Schedule DSD-4.
[27] *Id*.
[28] *Id*.
[29] Dane Direct, p. 15, ln. 21 – p. 16, ln. 9.

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estimates to vary widely, which highlights his mis-specification of sustainable growth rates. As I demonstrated in my Direct Testimony, equity analysts do not expect DPS to grow at a rate consistent with these higher near-term forecasted growth rates in EPS. They assume DPS will grow in perpetuity at a rate consistent with long-term industry averages, which is in the range of 2.5% to 4.5%. They then discount these expected dividends by a cost of equity of around 8%.

Q. Do you agree with Mr. Dane's testimony that significant academic research supports his position that investors use equity analysts' near-term projected CAGR in EPS as a proxy for DPS in the constant-growth DCF?[30]

A. No. The studies simply show and conclude that equity analysts' recommendations influence stock prices.

Q. Is there authoritative support which often is cited for the proposition that investors use equity analysts' EPS CAGR estimates as a proxy for constant-growth in DPS?

A. Yes. The typical foundational study cited to support the use of equity analysts' estimated 3-to-5-year CAGR in EPS is that of Burton G. Malkiel and John G. Cragg, "*Expectations and the Structure of Share Prices*." Their conclusion in that academic study was that equity analysts' expectations had a greater influence on stock prices compared to simple extrapolations of historical financial data. This conclusion is logical considering the vast amount of resources dedicated to the discipline of securities analysis. However, I am not sure how subsequent studies leapt to the conclusion that the results of this study somehow translated into a proof that investors use analysts' projected 3-to-5-year CAGR in EPS as a constant growth rate in the single-stage DCF methodology. In fact, Cragg and Malkiel did not even use the DCF valuation model in their study when testing their hypothesis regarding the influence of analysts' projections on stock prices. It is more plausible to conclude that, because investors rely on equity analysts' expectations, they rely on these analysts' investment recommendations (*e.g.* buy, sell or hold). Equity analysts' investment recommendations are based on their assessment of the intrinsic value of a given stock.

[30] *Id.*.

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Analysts' methodologies for estimating a fair price varies, but most at least assess the current price-to-forward earnings ratios both on a consensus basis and on the analysts' own estimates.

Cragg and Malkiel stated the following in their study:

> We would not argue that these estimates necessarily give an accurate picture of general market expectations. It would, however, seem reasonable to suggest that they are representative of opinions of some of the largest professional investment institutions and that they may not be wholly unrepresentative of more general expectations. **Since investors consult professional investment institutions in forming their own expectations, individuals' expectations may be strongly influenced—and so reflect—those of their advisers**. That several of our participating firms find it worthwhile to publish these projections and provide them to their customers provides prima facie evidence that a certain segment of the market places some reliance on such information in forming its own expectations. Also, insofar as other security analysts and investors follow the same sorts of procedures as those used by our sample analysts in forming expectations, general investors' expectations would resemble those of the analysts. Consequently, these predictions may well serve as acceptable proxies for general expectations and surely seem worthy of detailed analysis.[31] (Emphasis added.)

Considering the above, where the foundational study concludes that investors rely and depend on investment advisors, and therefore, that stock prices reflect these expectations, it is much more reasonable to conclude that the COE assumptions underlying security analysts' recommendations are reflected in share prices. To assume that investors utilize the information provided by equity analysts in a way that is wholly inconsistent with how these analysts use the data in their own analyses, is not credible. Equity analysts often use a multi-stage DDM to estimate a fair price to pay for a stock. The DCF/DDM in utility ratemaking is simply solving for the required return/cost of equity variable. In valuation, the goal is to solve for the fair price of the stock. Consequently, if equity analysts are of value to investors, then stock prices will reflect their estimates of future DPS and the required return to receive the dividends. Consequently, if one accepts that security analysts' expectations influence investors, which is Malkiel and Cragg's conclusion, then this means

[31] Cragg and Malkiel, "Expectations and the Structure of Share Prices," National Bureau of Economic Research, Chicago: University of Chicago Press, 1982, pg. 6.

that stock prices reflect the cost of equity used by these very same analysts. The cost of equity used by investment analysts is significantly lower than Mr. Dane's cost of equity estimates.

However, equity analysts do not expect commissions to set ROEs equivalent to the market-implied cost of equity. If allowed ROEs were set equal to the cost of equity, this would cause downward pressure on the stock price of a company whose earnings rely primarily on its regulated utility operations. This downward pressure is because utility stock prices already reflect investors' expectations that regulators will continue to set authorized ROEs above the COE.

Consider further how one of the co-authors of the Cragg and Malkiel paper has estimated required returns on stocks in his past studies. In his May 1979 study, "*The Capital Formation Problem in the United States*," Malkiel estimated the required returns on the Dow Jones Industrial Average by using Value Line growth rates for the first five years. He then reduced this growth rate over time to that of the expected real growth rate of the economy, which was 3.6% at the time.

Investors' focus on earnings growth rates is understandable in the context of security analysts' stock price estimates derived from P/E multiples. Security analysts provide this information to evaluate potential P/E ratios as they compare to consensus P/E ratios. The ability of an analyst to accurately project future earnings and justified P/E ratios will determine whether that analyst is successful. Consequently, the focus on analysts' EPS projections is understandable in this context, but not in the context of absolute valuation methods such as a DCF analysis.

Q. Are you aware of COE estimates used by equity analysts that provide recommendations on APUC's stock?

A. Yes. BMO Capital Markets, which follows and provides recommendations regarding a fair price to pay for APUC's stock, used an 8.1% COE to discount APUC's expected cash

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flows.[32] National Bank of Canada – Financial Markets, used an 8.25% COE when discounting projected cash flows applying a long-term DCF method.[33]

Q. Which of Mr. Dane's COE approaches support his highest COE estimates?

A. His COE analysis using the Capital Asset Pricing Model ("CAPM").

Q. What are his COE estimates using the CAPM?

A. As shown in Figure 6 on page 23 of his direct testimony, Mr. Dane estimates Empire's COE to be in the range of 9.78% to 11.78% using the CAPM.

Q. Why are Mr. Dane's CAPM COE estimates higher?

A. He estimates that investors expect market returns in the range of 11.25% to 12.17% from investing in the S&P 500 over the long-term. Mr. Dane's market risk premium estimates are then determined by subtracting three different 30-year United States Treasury yields from his expected market return – a current 30-year UST yield, a near-term projected 30-year UST yield and a long-term projected 30-year UST yield. Although Mr. Dane uses risk-free rates that vary by as much as 18 basis points (0.18%), his COE estimates using the CAPM varied by less than 5 basis points (0.05%). This is a function of his use of the same risk-free rate to determine the market risk premium as well as the first variable in the CAPM formula. As a reminder, the CAPM formula follows:

$$K_e = Rf + \beta\ (RPm)$$

Where:
K_e = the cost of equity for a security;
Rf = the risk-free rate;
β = beta; and
RP_m = market risk premium.

The market risk premium (RP_m) is more specifically defined as the expected return on the market (*e.g.* the S&P 500) less the expected return on the risk-free investment (*e.g.* a 30-year UST bond). There are several different approaches to estimating the market-risk

[32] Ben Pham, CFA, et. al., "Algonquin Power & Utilities – New Guidance Points to Significant Upside Potential, Focus Shifts to Execution," June 3, 2025, BMO Capital Market.
[33] Rupert Merer, et. al., "Algonquin Power & Utilities Corp. – Investor Update Provides Visibility on Three-year Earnings Reset, Moving to Sector Perform," National Bank of Canada – Financial Markets, June 3, 2025.

premium, with some analysts using an historical earned return spread between a broad domestic stock index, such as the S&P 500, and a risk-free investment, such as a 30-year UST bond. In these circumstances, the RP_m is constant. If the RP_m is a constant, then using differing risk-free rates for the first variable has a much larger impact on COE estimates.

As an example of the relative insignificant impact of the assumed R_f rate using Mr. Dane's approach (using Value Line betas), an assumed 3% risk-free rate would result in a COE estimate of 11.71% whereas an assumed 6% risk-free rate would result in a COE estimate of 11.86%, a difference of only 15 basis points despite a 300 basis point difference in the risk-free rate.

Q. How did Mr. Dane derive his expected market return estimate of 11.25%?

A. He applies the constant-growth DCF to all companies in the S&P 500 that pay a dividend and have a projected near-term CAGR in EPS between 0% and 20%. Mr. Dane assumed the cap-weighted Value Line 3-5-year EPS growth rates for companies in the S&P 500 are consistent with investors expected perpetual growth in DPS for these companies. His assumption results in his view that investors assume that the S&P 500 will achieve a CAGR (*i.e.* growth in index value) of 9.67% forever into the future.

Q. Are you aware of any authoritative sources, academic or practical, that use Mr. Dane's approach for estimating market returns?

A. No. I know of no authoritative source that suggests this is a rational or reasonable approach for purposes of estimating market returns. In fact, I know of several authoritative sources that recommend against using a growth rate higher than GDP for purposes of determining the long-term expected return for a broad index, such as the S&P 500.

Q. What are those authoritative sources?

A. The 2010 curriculum for Level III of the Chartered Financial Analyst ("CFA") Program[34] discussed how analysts often use the Gordon growth model (synonymous with the constant

[34] The CFA charter is one of the most respected designations in finance and is widely considered to be the gold standard in the field of investment analysis. The designation is awarded by the CFA Institute, which is a global nonprofit professional organization of more than 200,000 charter holders, portfolio managers, and other financial professionals in 164 countries and 160 local member societies. The CFA's meaning concerns the stated mission of

growth DCF model used in utility ratemaking) to formulate the long-term expected return for the broader equity markets. In the case of a broad-based equity index, such as the S&P 500, it is reasonable to estimate the long-term potential capital gains for the index by using estimated nominal GDP over a long-term period. The curriculum specifically provides the following formula for estimating the constant growth rate and explanation that follows:

> Earnings growth rate = GDP growth rate + Excess corporate growth (for the index companies)
>
> where the term *excess corporate growth* may be positive or negative depending on whether the sectoral composition of the index companies is viewed as higher or lower growth than that of the overall economy. If the analyst has chosen a broad-based equity index, the excess corporate growth adjustment, if any, should be small.[35]

Considering that Mr. Dane's estimate of the S&P 500's dividend yield is approximately 1.5% and projected long-term growth in U.S. nominal GDP is around 4.0%, it seems that investment professionals' forecasts of long-term returns for the S&P 500 of around 7%[36] are more consistent with reasonable expectations than the approach used by Mr. Dane.

Q. Are you aware of any common valuation metrics that illustrate the unreasonableness of Mr. Dane's market growth rate assumption?

A. Yes. The comparison of a broad equity market capitalization amount to that of the total size of the U.S. economy. This valuation metric provides a sanity check on potential growth for capital markets. Warren Buffett made it popular when he provided insight on how high the market, as measured by the Wilshire 5000, became valued as compared to U.S. GDP at the time of the "dot com" bubble around March 2000. At that time, the Wilshire 5000 was around 1.4x that of GDP. As of March 31, 2025, it was 1.87x, which demonstrates investors are currently requiring lower market risk premiums than usual.

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the CFA Institute, which is to develop and promote a high level of educational, ethical, and professional standards in the investment industry. For more information, please see https://www.cfainstitute.org and https://www.investopedia.com/terms/c/cfa.asp.

[35] 2010 CFA® Program Curriculum, Level III, Volume 3, p. 34.

[36] First Quarter 2025 Survey of Professional Forecasters, Philadelphia Federal Reserve Board (February 15, 2025), https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/spf-q1-2025.

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Q. What would this ratio be in 50 years if the market grew at the 9.67% compound annual growth rate Mr. Dane suggests is consistent with investor expectations?

A. The Wilshire 5000 index would be approximately 26.5x times the GDP level. Based on the market capitalization of the Wilshire 5000 of approximately $55.93 trillion as of March 31, 2025, the Wilshire 5000 would have a market capitalization of $5.65 quadrillion in 50 years. U.S. GDP was $29.96 trillion as of the same date. Based on a 4.0% long-term growth rate for the U.S. economy, GDP would be approximately $212.93 trillion in 50 years. It is not rational to assume corporate wealth will become much larger than the economy in which it operates, let alone 26.5x the size of the economy. This explains why the CFA Program advises not using a perpetual growth rate much, if any, higher than the GDP growth rate of the economy(ies) in which a company operates.

Q. Are there other sanity checks for the reasonableness of Mr. Dane's assumptions?

A. Mr. Dane's expected perpetual growth rate for S&P 500 stocks implies capital gains will approximate 86% of investors' total returns in the market going forward (9.67%/11.25%). Over the period from 1926 through 2024, the return attribution for the market was approximately 65.5% capital gains based on arithmetic average returns and 60.5% capital gains based on geometric average returns. It is illogical to expect a significant departure from these return attributes, especially considering the lower expected growth in the United States economy going forward compared to higher historical growth rates.

Q. Are there any other problems with the inputs Mr. Dane applied to his CAPM analysis?

A. Yes. Mr. Dane relied on Value Line's published betas from June to August 2024. These betas are higher than reasonable because they are skewed by the synchronized contraction of all stocks at the beginning of the Covid-19 pandemic. The mean Value Line beta for Mr. Dane's proxy group was 0.95. The mean of recently published Value Line betas for Mr. Dane's proxy group are now 0.76.

Q. What does the lower updated beta imply about investors' required risk premiums to invest in electric utility stocks?

A. That investors require a 20% reduced risk premium to invest in utility stocks today as compared to last year.

Q. Is this implication accurate?

A. No.

Q. Why not?

A. Investors' required risk premiums to invest in utility stocks did not suddenly decrease due to Value Line publishing updated betas that now exclude the atypical market data that occurred at the onset of Covid-19. Value Line's published betas are calculated based on five years of historical market data. While investors may analyze historical data to project future required risk premiums to invest in utility stocks, they also recognize abnormal occurrences that do not reflect "normal" market conditions over most market environments.

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Q. What do you conclude based on the foregoing?

A. Mr. Dane's use of published Value Line betas that capture the anomalous period at the onset of the Covid-19 pandemic cause his utility risk premium estimates to be approximately 20% higher than a reasonable estimate. Because Mr. Dane's market risk premium estimates are skewed higher, a 20% reduction to the adjusted utility risk premium has a larger impact on his final COE estimates using the CAPM. After I updated Mr. Dane's betas to reflect Value Line's updated betas that no longer include the anomalous period at the beginning of the Covid-19 pandemic, I determined Mr. Dane's CAPM COE estimates would have been in the range of 9.55% to 11.85%, as compared to Mr. Dane's estimate of 10.9% to 13.7%. This shows that even before adjusting Mr. Dane's market risk premiums to more reasonable estimates, his CAPM COE estimates using Value Line betas is skewed higher by 135 to 185 basis points.

Q. Does Mr. Dane use more reasonable 10-year Bloomberg betas in his CAPM analysis?

A. Yes. Mr. Dane's use of 10-year betas of approximately 0.79 smooths out the anomaly associated with the synchronized market contraction at the onset of Covid-19. However, a beta of 0.79 is still *** ____ ***

Q. If you adjust Mr. Dane's Value Line betas and use a more reasonable market risk premium of approximately 5.5%, what COE would be implied from the CAPM analysis?

A. A range of approximately 8.3% to 8.7%.

Q. If a reasonable COE estimate for utilities is in this range, then why do regulators set the ROEs they authorize higher than the actual COE?

A. Because as is evident from Mr. Dane's and Mr. Walters' recommendations, ROR witnesses systematically overestimate the COE for purposes of recommending an authorized ROE. The adoption of the higher authorized ROEs is reflected in average authorized ROE data for recently decided cases. Commissions typically review recent average authorized ROE data to test the reasonableness of various ROE recommendations. Because of this circular decision-making process, authorized ROEs typically have remained well above the COE.

Q. Does Mr. Dane's Bond-Yield-Plus Risk Premium approach perpetuate this authorized ROE higher than COE dynamic?

A. Yes. Mr. Dane's Bond-Yield-Plus Risk Premium is a regression analysis of allowed ROEs to interest rates. Mr. Dane concludes from his analysis that because allowed ROEs do not fall as much as interest rates, an offsetting adjustment needs to be made to smooth out the reduction in allowed ROEs for this convexity. This approach does not allow sufficient compression of allowed ROEs versus the utility industry's COE. It only serves to support current utility stock valuation levels.

Q. What is your opinion of Mr. Dane's expected earnings analysis?

A. Mr. Dane's expected earnings analysis should be rejected because it is also circular. Investors' projections for earned ROEs are heavily dependent on expected rate case outcomes. If investors believe commissions will change authorized ROEs, then these changes will be reflected in their expected ROEs.

Not only is Mr. Dane using projected ROEs that are already circular in nature, but he is making a further upward adjustment to Value Line's ROE projections because he believes the book value of the equity is overstated in Value Line's projections. Mr. Dane makes an adjustment to Value Line's projected equity amount for the period 2027 to 2029 in order to provide his own projection of lower common equity balance in this period. Mr. Dane already uses projected figures that are based on a 3-year average for the years 2027 through 2029. Mr. Dane's additional adjustment to Value Line's projected ROE causes him to increase the projected ROE for his proxy group by another 26 basis points from 10.68% to 10.93%.

<u>EMPIRE'S COMPANY-SPECIFIC RISKS/CONSIDERATIONS</u>

Q. Does Mr. Dane claim that Empire has characteristics not shared by his proxy group which affect an appropriate authorized ROE?

A. Yes. Mr. Dane testifies that the Commission should give consideration to the following issues in setting Empire's authorized ROE: (1) small size risk, (2) capital expenditures, (3) regulatory risk, and (4) flotation costs.

Q. Do you agree with Mr. Dane that Empire's smaller size than the members of his proxy group warrant an upward adjustment to a ROE authorized for Empire based on that proxy group?

A. No.

Q. Does Mr. Dane testify that "academic literature" supports an upward adjustment to an estimated COE for a company's smaller size?[37]

A. He does, but he does not identify that "academic literature," and I am not aware of any such literature specific to the utility industry.

Q. What is your understanding of the cost of equity methodologies that are the subject of small size risk premium studies?

A. Cost of equity methodologies that utilize risk premium estimates, such as the Capital Asset Pricing Model ("CAPM"). The small size risk premium studies are based on observing CAPM predicted returns to actual returns for companies of various sizes (most studies group companies in 10 deciles with some deciles being divided into even more refined sub-categories within the decile).

Q. Is it necessary to consider small size risk premium adjustments when performing a DCF analysis on smaller companies?

A. No.

Q. Why not?

A. Subject companies' stock prices are a direct input in the DCF method. If investors require a higher risk premium because of a company's smaller size, then the company's stock price will be discounted for this additional risk premium.

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[37] Dane Direct, p. 35, ln. 24 – p. 36, ln. 2.

Q. Do Mr. Dane's DCF COE estimates corroborate the theory of the need for a generic small-size risk premium adjustment for regulated utility companies?

A. No. Mr. Dane's DCF COE estimates for three of the four smallest companies in his proxy group (IDACORP, NorthWestern Corporation, and TXNM Energy) are the lowest of his entire proxy group. Additionally, his DCF COE estimates for some of the largest companies in his proxy group (NextEra Energy, Southern and American Electric Power) are some of his highest COE estimates.

Q. Should Mr. Dane's DCF COE estimates be relied upon for purposes of testing the applicability of a small size risk premium for the electric utility industry?

A. No. The mere fact that Mr. Dane's 90-day constant-growth mean DCF COE estimates range from 7.89% to 14.09% for a relatively homogeneous proxy group, illustrates the fact that Mr. Dane misapplied the DCF method to estimate the electric utility industry's COE. This wide dispersion is caused by Mr. Dane's assumption that electric utility stock prices will increase in perpetuity at a CAGR consistent with equity analysts' short-term projected CAGR in each company's EPS.

Q. What do your multi-stage DCF COE estimates imply about investors requiring a higher risk premium for smaller electric utility companies' stocks?

A. The average of my multi-stage DCF COE estimates for the same three smaller companies in Mr. Dane's proxy group is 8.06%, which approximates the average for the other companies in my proxy group. Therefore, this information also does not support Mr. Dane's suggestion for consideration for Empire's small size.

Q. Does Empire have any affiliate companies that would be considered small in size, which raises third-party capital based primarily on its stand-alone risk profile?

A. Yes. APUC owns Liberty Utilities Gas New Brunswick LP ("LUNB") through its holding company Liberty Utilities (Canada) LP ("LUCA"). LUNB is a rate-regulated pure-play natural gas distribution company in Canada. It has 12,400 customers as compared to

Empire's 184,399 customers.[38] LUNB had a rate base of approximately $200 million United States Dollars ($272.6 million Canadian dollars) as of December 31, 2022. Empire's rate base of at least $2.5 billion.

Q. What is LUNB's authorized ROE?

A. 9.8%.

Q. What was the authorized common equity ratio?

A. 45%.

Q. What cost of debt is charged to LUNB ratepayers?

A. 3.315%.

Q. When does this debt mature?

A. February 14, 2050.

Q. What entity issued the debt?

A. LUCA, which receives "substantially all cash flow" from LUNB.

Q. Should the Commission adopt Mr. Dane's suggestion that the Commission should give consideration to Empire's authorized ROE because of its higher capital expenditures as compared to his proxy group?

A. No. Empire has elected plant-in-service accounting ("PISA"), which allows it to defer a return on and return of plant that goes into service in between rate case. PISA has sufficiently incentivized Missouri's electric utilities to make additional capital expenditures. In fact, if anything, the consideration given to Empire's ROE for its higher capital expenditures should be a reduction to the authorized ROE.

[38] Wilson Direct, p. 5, lns. 1-2.

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Q. Do you agree with Mr. Dane that Empire is exposed to more regulatory risk than his proxy group and, therefore, it deserves a higher authorized ROE?

A. No. As I already discussed as it relates to Mr. Dane's proxy group, several companies have non-regulated business risk that is higher than the risk of their regulated utility operations. Mr. Dane is limiting his comparison to only the regulated utility operations of his proxy companies. Also, Mr. Dane's view is at odds with the investment community, who consider Missouri's legislative activity since 2018 to be quite favorable to Missouri's investor-owned utility companies.

Q. Mr. Dane recommends consideration be given to Empire's authorized ROE for flotation costs. How does he define flotation costs?

A. Mr. Dane defines flotation costs as explicit/hard costs for issuing common equity such as underwriting discounts, legal expenses, other direct issuance expenses, etc. (hereinafter referred to as "issuance costs" rather than "flotation" costs).[39]

Q. How have Missouri's utility companies traditionally recovered common equity issuance costs?

A. If common equity proceeds can be specifically reconciled to beneficial investments in their Missouri utility systems, then assuming the common equity was issued within the test year, or any updates to the test year, then issuance costs are allowed to be recovered through an amortization over a reasonable period. Empire relies on APUC for indirect access to equity markets.

Q. Has APUC recently issued common equity to fund investments?

A. No. APUC has not issued a sizeable amount of common equity since 2021. APUC does not plan to issue common equity through at least 2027.

Q. Should the Commission reject Mr. Dane's suggested consideration for flotation costs?

A. Yes.

[39] Dane Direct, p. 43, lns. 14-23.

STAFF'S RECOMMENDED ROE/REVENUE REQUIREMENT ADJUSTMENT:

Q. What is Staff's recommended authorized ROE in this case?

A. Mr. Walter's recommends an authorized ROE in the range of 9% to 10%, with a point ROE recommendation of 9.5%. However, Mr. Walters' suggests the lower half of his range (9% to 9.5%) is more appropriate if the Commission adopts Empire's requested ratemaking capital structure of 53.1% common equity and 46.9% long-term debt.

Q. What is Staff's effective authorized ROE recommendation if the Staff's $17,726,292 revenue requirement reduction is expressed in ROE terms?

A. 8.5%.

Q. What is the basis for Mr. Walter's recommended authorized ROE range?

A. His estimate of Empire's COE.

Q. Does Mr. Walters consider a ROE at parity with the COE to be consistent with the principles outlined in the *Hope* and *Bluefield* decisions?

A. Yes.[40]

Q. Does Mr. Dane also consider an authorized ROE set equal to the COE to be consistent with *Hope* and *Bluefield*?

A. Yes. While Mr. Dane does not explicitly differentiate a ROE and the COE in his testimony, he refers to his application of COE methods as "ROE estimation models."[41] He also provides a figure of his "Cost of Equity" estimates in Figure 2 on page 6 of his direct testimony. Additionally, he explicitly testifies that "[c]onsistent with the *Hope* and *Bluefield* decisions, the authorized ROE for a public utility should be commensurate with the **equity return required** on investments of similar risk."[42] An investors' **required** equity return is synonymous with the COE.

[40] Walters Direct, p. 26, ln. 1 – p. 28, ln. 20.
[41] Dane Direct, p. 29, lns. 15-17.
[42] *Id.,* p. 11, lns. 4-6.

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Q. Why are these important considerations for deliberating on a fair and reasonable authorized ROE for Empire?

A. Because, while the ROR witnesses in this case agree that setting the authorized ROE based on the COE complies with the *Hope* and *Bluefield* principles, as is often the case, their COE estimates are out of line as compared to the COE used by investors to estimate the value of utility stock and the *** ____ ______________________________ ***

Q. Assuming Empire's COE is closer to the 8% you estimate in your direct testimony, would an 8.5% authorized ROE be consistent with the principles identified in the *Hope* and *Bluefield* cases?

A. Yes.

Q. Would you provide an example to support your position?

A. Yes. The South Carolina Supreme Court affirmed a decision by the Public Service Commission of South Carolina ("SCPSC") to authorize Blue Granite Water Service Company ("Blue Granite") a 7.46% ROE in a 2020 rate case.[43] Despite no ROR witness recommending an authorized ROE less than 8.65%, the SCPSC decided to authorize Blue Granite a 7.46% ROE based on the low-end of the South Carolina Department of Consumer Affairs' ("SCCA") witness Aaron L. Rothschild's COE estimated range of 7.46% to 8.75%. Mr. Rothchild's recommended ROE of 8.65% was the lowest ROE recommendation in the case as compared to the South Carolina Office of Regulatory Staff ("SCORS") witness David Parcell's recommended ROE of 10% and Blue Granite's witness Dylan D'Ascendis' recommended ROE range of 9.75% to 10.25%.[44]

The SCPSC decided to adopt the low-end of Mr. Rothchild's ROE range because of "quality of service issues known to exist with Blue Granite and the setting of just and

[43] The State of South Carolina In The Supreme Court, "In re Application of Blue Granite Water Company for Approval to Adjust Rate Schedules and Increase Rates, Appellant," Appellate Case No. 2020-001283, Opinion No. 28055.

[44] The Public Service Commission of South Carolina, Docket No. 2019-290-WS, "Application of Blue Granite Water Company for Approval to Adjust Rate Schedules and Increase Rates," Order Ruling On Application For Adjustment in Rates, April 9, 2020.

reasonable rates and all of the evidence, including the analysis and methodologies used by the three ROE witnesses in this proceeding…"[45] The low-end of Mr. Rothchild's range was based on an average of low-end results from two versions (constant and non-constant growth) of DCF COE estimates and two versions (3-month Treasury Bill Risk-free rate and 30-year Treasury Bond Risk-free rate) of CAPM COE estimates.[46]

Q. What were the quality-of-service issues the South Carolina PSC was referring to in the language from its order that you just quoted?

A. The SCPSC specifically stated in its order the following regarding customer testimony at public hearings on Blue Granite's rate increase application:

> Customers also reported numerous incidents of poor water quality, unresponsive customer service, inaccurate meter readings, billing errors, and unwarranted cut-offs, among other problems…[47]
>
> …While we find the customer testimony at the public night hearings in this case to be very compelling and indicative of persistent, widespread, and pervasive problems consistent with those which have frustrated customers of this utility for many years, the Supreme Court of South Carolina has made amply clear that these problems are insufficient justification for an outright denial of the Company's application for a rate increase.[48]

Q. Did the South Carolina PSC consider rejecting Blue Granite's rate increase request in its entirety?

A. Yes. The SCPSC stated the following in its order:

> While the applicable law set out by the South Carolina Supreme Court will not permit us to deny outright Blue Granite's application for a rate increase in this case, we are entitled to consider the night hearing testimony in creating incentives for the utility to improve its business practices, cut costs, improve efficiency, and enhance quality of service.[49]

[45] *Id.*, pg. 3.
[46] Docket No. 2019-290-WS, Rothschild Direct, p. 7.
[47] *Id.*, p. 27.
[48] *Id.*
[49] *Id.,* p. 15.

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Q. Did a court review the South Carolina PSC's decision on ROE?

A. Yes, Blue Granite appealed the South Carolina PSC's decision on several issues, including the ROE, **to the Supreme Court of South Carolina**. The Supreme Court of South Carolina ("SC Supreme Court") stated the following about Blue Granite's appeal of the 7.46% ROE:

> Blue Granite now argues an ROE of 7.46% is unsupported by the evidence in the record because Parcell and Rothschild both recommended a higher ROE. We disagree with the suggestion that the PSC was foreclosed as a matter of law from selecting an ROE within the range provided by the evidence. While the PSC was, of course, empowered to select a higher ROE in accordance with the witnesses' precise recommendations, the question before us is whether the ROE actually selected (7.46%) is supported by substantial evidence…
>
> …Blue Granite contends the PSC had no authority to select an ROE other than the ones specifically recommended by either Rothschild (8.65%) or Parcell (9.45%). However, the precise number selected by the PSC need not come from a witness's specific recommendation, but may instead be determined from the totality of the evidence in the record before the agency. Here, the record supports the 7.46% ROE determination, as it is within the stated range calculated by Rothschild. Moreover, Rothschild testified selecting an ROE is not a precise exercise. Given the fact that, regardless of which model was used, Rothschild and Parcell calculated an ROE range rather than a precise number, and those numbers did not always overlap even when both experts used the same model, we see no reason to doubt Rothschild's testimony that selecting an ROE is not an exercise in precision [Case cite omitted].
>
> Finally, the PSC specifically stated it set the ROE at the low end of the proffered ranges in an effort to incentivize Blue Granite to improve its admittedly-poor business practices, evidenced by the extensive customer complaints at the PSC hearings. As we previously stated in *Utilities Services of South Carolina*, the PSC is empowered to do so in appropriate circumstances, and there is nothing inherently wrong or punitive in the PSC choosing to follow that path here. [Cite omitted]. Rather, a utility's business practices and reputation are two of a number of factors the PSC may consider in selecting an appropriate ROE. [footnote omitted].
>
> As a result, because there is a basis on which a reasonable person could find a 7.46% ROE appropriate, the PSC's decision is supported by substantial evidence in the record, and we therefore affirm…[50]

[50] *Id*.

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Q. Based on the foregoing example where the South Carolina PSC decided to adopt a ROE which was lower than any of the ROR witnesses' specific ROE recommendations, would it be reasonable for this Commission to specifically adopt a ROE of 8.5% or less for purposes of setting Empire's rates in this case?

A. Yes.

Q. Why would it be reasonable for the Commission to authorize a ROE even lower than 8.5%?

A. Because the COE for electric utilities is in the 7.8% to 8.5% range.

Q. Is it possible that your estimates of Empire's COE are too low?

A. It is possible, but not likely. It is also possible that they are too high. However, my COE estimates are not only corroborated by investment analysts who estimate and recommend to investors a fair price to pay for utility stocks, but they are also consistent with ** ____ **

Q. Would you please repeat the corroborating evidence that supports the reliability of your COE estimates?

A. Yes. Wells Fargo recently applied an 8% COE to Ameren Corp's and Evergy Inc.'s estimated dividends to determine a fair price to pay for their stocks;[51] BMO Capital Markets, used an 8.1% COE to discount APUC's expected cash flows;[52] and National Bank of Canada – Financial Markets, used an 8.25% COE to discount APUC's expected cash flows.[53]

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[51] Neil Kalton, et. al., "Positive Momentum on Several Fronts—Reiterate OW," Wells Fargo, May 13, 2025; and Sarah Akers, et. al., "Utility and Infrastructure Daily—Comments on EVRG," Wells Fargo, June 9, 2025.
[52] Ben Pham, CFA, et. al., "Algonquin Power & Utilities – New Guidance Points to Significant Upside Potential, Focus Shifts to Execution," June 3, 2025, BMO Capital Market; Ben Pham, CFA, et. al., "Algonquin Power & Utilities – Q2 – EPS Beat Supports 2021 Guidance and 5-Year Capex Plan Intact," August 13, 2021, BMO Capital Market.
[53] Rupert Merer, et. al., "Algonquin Power & Utilities Corp. – Investor Update Provides Visibility on Three-year Earnings Reset, Moving to Sector Perform," National Bank of Canada – Financial Markets, June 3, 2025.

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Q. In your opinion, does the totality of the evidence support that a ROE as low as 7.8% would be fair and reasonable?

A. Yes. Witnesses Mr. Dane's and Mr. Walters' expert testimony recognize that a ROE set at parity with the COE is consistent with the principles identified in the *Bluefield* and *Hope* decisions. However, their COE estimates are not corroborated by investors or by **
______ ____
____
____
______________________________________ ** These are the individuals/entities that influence security values and prices.

SUMMARY AND CONCLUSIONS

Q. Would you summarize your main conclusions?

A. Yes. While a fair and reasonable ratemaking capital structure for Empire has been an area of consistent dispute since APUC indirectly acquired Empire, changes in APUC's business and financing strategies introduced a new complication to analyzing and determining not only a fair and reasonable ratemaking capital structure, but also in determining an appropriate cost of debt to allow in Empire's authorized ROR. Fortunately, as of March 31, 2025, APUC is now predominately a pure-play regulated utility holding company, which at least provides a transparent view into APUC's strategy as to the proportion of debt it believes is consistent with its lower-risk regulated utilities. Because APUC's consolidated business risk is lower after its transformation to a pure-play regulated utility, its market-based capital structure provides an objective measure of the amount of financial risk (*i.e.* debt in the capital structure) APUC believes its regulated utilities can support and still maintain a 'BBB' credit rating. APUC's common equity ratio is slightly below 45%,

[54] Murray Direct, p. 52, lns. 15-17.

which is consistent with APUC's past communications as to a targeted capital structure for its regulated utility business segment. Neither Mr. Dane nor Mr. Walters addressed these matters in their direct testimonies. They both recommend a capital structure and cost of debt internally assigned to Empire. This internally assigned capital structure is not a function of market transactions, but rather a capital structure that is a result of affiliate bookkeeping transactions.

As it relates to the authorized ROE, while my technical arguments regarding Mr. Dane's methodologies are fairly consistent with most utility rate cases, the unique issue in this case is whether the Commission should authorize Empire a lower ROE due to quality-of-service issues. Staff recommends the Commission make a revenue requirement reduction based on an amount consistent with a 100-basis point reduction from Mr. Walters' recommended ROE of 9.5%. Staff chose not to recommend a lower ROE of 8.5%, which has the same impact on revenue requirement, due to concerns about complying with the principles established in *Hope* and *Bluefield.* Because an overwhelming amount of evidence establishes that Empire's COE is around 8%, I do not share these concerns. As illustrated by the SC Supreme Court decision, the Commission has the flexibility to authorize an ROE that is even lower than the parties' recommendations as long as the totality of the evidence supports its decision.

Q. Has your review of the other parties' direct testimonies caused you to amend your recommended ROR?

A. No. Staff's recommended revenue requirement adjustment results in an effective authorized ROE of 8.5%, but Staff's estimate of the impact of a 100-basis point reduction is premised on a 53.1% common equity ratio. While I recommend a 9.25% authorized ROE, I recommend this ROE be applied to a 45% common equity ratio. Taken together, the impact of my recommended ROR on Empire's revenue requirement is similar to an 8.5% ROE applied to the 53.1% common equity ratio. If the Commission were to authorize Empire a lower ROE due to its quality-of-service issues, I recommend the Commission apply the lower ROE to my recommended common equity ratio.

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Q. Does this conclude your rebuttal testimony?

A. Yes.

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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	)	Case No. ER-2024-0261
Increasing Rates for Electric Service	)	
Provided to Customers in Its Missouri	)	
Service Area	)	

AFFIDAVIT OF DAVID MURRAY

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

David Murray, of lawful age and being first duly sworn, deposes and states:

1. My name is David Murray. I am a Utility Regulatory Manager for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

David Murray
David Murray
Utility Regulatory Manager

Subscribed and sworn to me this 14th day of August 2025.

TIFFANY HILDEBRAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES AUGUST 8, 2027
COLE COUNTY
COMMISSION #15637121

Tiffany Hildebrand
Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.