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

DIRECT 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

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Denotes Confidential Information that has been redacted

July 2, 2025

PUBLIC

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OF

DAVID MURRAY

THE 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. By whom are you employed and in what capacity?

A. I am employed by the Missouri Office of the Public Counsel ("OPC") as a Utility Regulatory Manager.

Q. On whose behalf are you testifying?

A. I am testifying on the behalf of the OPC.

Q. What it the purpose of your testimony?

A. To recommend a fair and reasonable rate of return ("ROR") for purposes of setting The Empire District Electric Company's ("Empire") revenue requirement for its regulated electric utility operations.

Q. What experience, knowledge and education qualify you to sponsor ROR testimony in this case?

A. Please see the attached Schedule DM-D-1 for my qualifications as well as a summary of the cases in which I have sponsored testimony on ROR and other financial issues.

Q. What aspects of ROR will you address?

A. I will address the following components required to develop a fair and reasonable ROR: (1) an appropriate ratemaking capital structure, (2) an allowed return on the common equity ("ROE") in the capital structure, and (3) a cost of long-term debt to apply to the debt in the capital structure.

Q. What is your main conclusion after analyzing Empire's specific financial situation as well as the current state of capital markets?

A. Empire's allowed ROE should be set at 9.25%, based on my recommended authorized ROE range of 9.00% to 9.50%. My recommended range and point ROE recommendation reflects the following considerations:

- The electric utility industry's COE is in the range of 7.8% to 8.5%;
- The electric utility industry's current price-to-earnings ratios are trading similar to 2015 levels, when the Commission deemed 9.5% authorized ROEs as fair and reasonable for Ameren Missouri and Evergy Metro;
- The Commission authorized Empire an ROE of 9.25% in Empire's 2019 rate case, Case No. ER-2019-0374;
- Empire has serious operational and efficiency issues that justify it being awarded a lower ROR than I recently recommended for Missouri's other comparable utilities; and
- Under the Commission's typical zone of reasonableness ("ZOR") standard, a recommended ROE of 8.75% to 10.75% is generally considered reasonable.

My recommended ROE should be applied to a common equity ratio of 45%, which is the low-end of Algonquin Power & Utilities Corp.'s ("APUC") past communicated targeted common equity ratios of 45% to 50% for its regulated utility assets.

Q. Before you discuss the details supporting your analysis, would you summarize the rationales for your conclusions?

A. Yes. Although capital structure and the allowed ROE are interrelated as to the ultimate impact on Empire's revenue requirement, I will first briefly explain my rationale for each component, separately.

I recommend the Commission set Empire's allowed ROE for its electric utility operations at 9.25% based on a range of 9.00% to 9.50%. During most of 2020 to 2022, utility stocks did not trade consistent with their typical negative correlation to changes in long-term bond

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yields. Since the end of 2022, utility stock valuation levels resumed their typical negative correlation to interest rates with utilities significantly underperforming the S&P 500 through mid-2024. However, since July 2024, electric utility stocks have increased significantly, outperforming the S&P 500 by 11.04 percentage points. Because the increase in electric utility stock valuation levels over the past twelve months indicates a lower cost of equity compared to my estimates in early 2024 for the Evergy Missouri West ("EMW") rate case, Case No. ER-2024-0189, I lowered my recommended ROE range to 9% to 9.5% from 9.25% to 9.75%. My recommended ROE range in this case is the same as my recommended ROE range in Ameren Missouri's recently concluded electric utility rate case, Case No. ER-2024-0319. However, due to Empire's significant operational and customer service problems, my point ROE recommendation of 9.25% is lower than my 9.5%-point recommendation for Missouri's other electric utilities.

I also recommend that the Commission set Empire's authorized common equity ratio at 45% rather than APUC's consistent request of approximately 53% for its Missouri utility companies. APUC manages its operating utility subsidiaries' capital structures through affiliate financing transactions. Empire, as well as its Missouri sister subsidiaries, do not issue their own debt or equity to third parties. In past rate cases involving APUC's regulated Missouri utility subsidiaries, the Commission cited this fact[1] when deciding to authorize a capital structure consistent with the ratios APUC targeted and maintained for Liberty Utilities Co. ("LUCo"), which directly and indirectly issues debt on behalf of its United States' regulated utilities, including Empire.

While LUCo's average capital structures at the time of Empire's 2019 and 2021 rate cases were consistent with the low business risks of its wholly owned regulated utilities, this dynamic is no longer true. APUC's financial condition has been uncertain since its third quarter earnings conference call on November 11, 2022, after which its stock price declined by approximately 40% through the end of 2022. As a result, activist investors prodded APUC to undergo a strategic review, which resulted in APUC announcing its plan to divest its non-regulated generation assets directly owned by its subsidiary, Algonquin Power

[1] Case No. ER-2019-0374, Amended Report and Order, issued July 23, 2020, General Finding of Fact - 76 and Decision, p. 39.

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Company ("APCo"). APUC executed the sale of its non-regulated operations on January 8, 2025. APUC is now a holding company for predominately pure-play regulated utilities, which means its capital structure should be simpler and able to support a higher debt ratio due to APUC's lower business risk profile. Consequently, APUC's capital structure should be considered in determining a fair and reasonable ratemaking capital structure for Empire.

Q. Are there any other extraordinary circumstances the Commission should consider when deciding a fair and reasonable authorized ROR for Empire?

A. Yes. While OPC witness Dr. Geoffrey Marke is sponsoring more detailed testimony regarding the Empire's various customer service and operational issues, I have specific and intimate knowledge and experience as it relates to APUC's and LUCo's financing strategies since they acquired Empire in 2016.

Despite parties' best efforts in imposing financing conditions on LUCo when they agreed to recommend the Commission authorize APUC's indirect acquisition of Empire in 2016,[2] LUCo has either not taken the conditions seriously or has executed intentionally misleading financing transactions to attempt to skirt some of the financing conditions.

For example, when Empire and its Missouri affiliates filed an application with the Commission requesting it approve a money pool agreement,[3] OPC and Staff discovered that Empire and LUCo executed a $90 million affiliate long-term note to refinance Empire's third-party first mortgage bond it had issued on May 1, 2008. Despite the parties' emphasis on the affiliate transactions rule in the Financing Conditions imposed on LUCo when it acquired Empire, LUCo did not bother to establish that Empire's affiliate note was the cheapest option for Empire. Not only did LUCo not bother to price the potential of Empire issuing a bond directly to third parties, it charged Empire a higher rate on the affiliate note than LUCo had to pay to draw on the credit facility used to fund this affiliate financing transaction. Both actions showed a disregard for the Financing Condition 6, which stated the following:

[2] Case No. EM-2016-0213.
[3] Case No. AO-2018-0179.

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> The Joint Applicants will not obtain Empire financing services from an affiliate, unless such services comply with Missouri's Affiliate Transaction Rules.

Another condition imposed on LUCo to attempt to safeguard Empire's ratepayers was to require Empire to provide evidence in subsequent rate cases that its capital structure is the most economical as compared to Empire's parent companies. The parties imposed this condition because LUCo communicated it planned to consolidate Empire's access to third-party capital markets with at least LUCo's other regulated utility subsidiaries. Financing Condition 5 specifically stated the following:

> If Empire's per books capital structure is different from that of the entity or entities in which Empire relies for its financing needs, Empire shall be required to provide evidence in subsequent rate cases as to why Empire's per book capital structure is the most economical for purposes of determining a fair and reasonable allowed rate of return for purposes of determining Empire's revenue requirement.

Despite this condition, Empire did not provide this analysis with its testimony in the first rate case subsequent to APUC's indirect acquisition of Empire. Consequently, OPC performed this analysis and provided the analysis with its direct testimony. Again, based on LUCo's inaction related to this condition, it appears it agreed to many of the conditions in Case No. EM-2016-0213 simply to get the transaction approved rather than taking the conditions seriously.

Although Empire began to provide a comparative analysis of its, LUCo's and APUC's capital structures, LUCo's per books capital structure did not reflect the amount and proportion of debt LUCo actually supported. APUC created four intermediate holding companies between it and LUCo. To this day, I am still not entirely sure what the commercial purpose is for all four intermediate holding companies. However, in Liberty Midstates' 2018 rate case, Case No. GR-2018-0013, I discovered that LUCo's financing company, Liberty Utilities Finance GP1 ("LUF"), issued debt to third parties and executed intercompany affiliate loans to transfer the capital to LUCo. However, LUF did not loan all the third-party debt directly to LUCo. The proceeds from at least three debt issuances were loaned to one of the intermediate holding companies for the sole purpose of purchasing equity in LUCo. Additionally, APUC transferred a credit facility that had

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previously been maintained at LUCo to LUCo's immediate parent company, Liberty Utilities (America) Holdco Inc. ("American Holdco"). The effect of these various transactions gave the appearance that LUCo had a common equity ratio above 50%. APUC executed these financing transactions subsequent to the Commission adopting LUCo's capital structure to set the ratemaking capital structure for Liberty Midstates in Case No. GR-2014-0152. APUC's creative financing transactions certainly appeared to be an attempt to ensure that Empire's ratemaking capital structure would be set based on a higher per books common equity ratio than LUCo's effective common equity ratio.

Further, despite the parties communicating to LUCo that post APUC's indirect acquisition of Empire, they expected LUCo to be transparent and forthcoming with corporate records, LUCo has not been cooperative. During recent periods of company-specific and macro financial uncertainty, OPC requested APUC provide further access to corporate level documents, such as APUC's Board of Directors and committees' materials. APUC has not voluntarily allowed OPC to review many of these corporate-level documents. This has especially been concerning since 2022 when APUC's financial condition began to deteriorate. APUC's BODs and committees make most all substantive decisions that impact the financing costs charged to LUCo's utilities. For example, APUC's BOD and Audit Committee decide the amounts, types, timing, and entities that will issue debt to fund APUC's regulated utility companies. As I discovered and informed the Commission in the recent Liberty Midstates and Liberty Water rate cases, ** _____
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Finally, even if APUC's internal capital assignment process were deemed fair and reasonable for purposes of setting rates, it has been managed very poorly. APUC continues to recommend that its Missouri operating utility subsidiaries' ratemaking capital structures and costs of debt be determined based on its capital assignment process. However, I have regularly discovered that APUC has not executed long-term internal promissory notes until the subsidiaries are preparing rate case filings. Because the cost of long-term debt began

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to increase in 2022 to 2023, if APUC did not execute the internal promissory notes on a timely basis, the assigned cost of long-term debt was higher than reasonable. Although APUC has not been timely in managing its affiliate financing transactions, this mismanagement should not cost ratepayers so long as the Commission adopts a market-based capital structure and cost of capital for determining RORs.

It is my understanding that as part of APUC's new strategic direction, it plans to address its regulatory and customer service issues. Hopefully it will be successful in doing so, but until it does, in my opinion, Empire should not be awarded an authorized ROR as high as its peer utilities in Missouri.

CAPITAL STRUCTURE

Q. What is capital structure?

A. Capital structure represents how a company's assets are financed. A typical, simple capital structure consist of common equity, long-term debt, and short-term debt. Some utilities' capital structures may include a small portion of preferred stock. Although short-term debt is a typical component of a utility company's capital structure, if it is fully supporting construction work in progress ("CWIP"), then it is typically excluded from the rate making capital structure and, instead, is reflected in the allowance for funds used during construction ("AFUDC") rate.

Q. What is a market-based capital structure?

A. A capital structure in which third-parties directly purchase the securities which fund a company's assets.

Q. Does Empire have a market-based capital structure?

A. No. As I will explain in more detail, since APUC acquired Empire, Empire has been financed through affiliate financing transactions. Therefore, it no longer has an investable capital structure.

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Q. Is Empire owned by any companies that can be used as a proxy to estimate a fair and reasonable ratemaking capital structure for Empire?

A. Yes. In Empire's 2019 and 2021 rate cases, Case Nos. ER-2019-0374 and ER-2021-0312, I recommended that the Commission use a capital structure consistent with Empire's intermediate holding company, LUCo, for purposes of setting Empire's ROR. Although I still consider LUCo as a potential appropriate proxy, as I will explain, APUC has undergone significant changes in its business and financing strategies since 2021. APUC formed a Strategic Review Committee in May 2023 to explore the best path forward to stabilize APUC's financial condition, reduce its cost of capital, and to enhance shareholder value.[4] APUC decided the optimum path forward was to divest a majority of its non-regulated operations and transition to a pure-play regulated utility holding company. In conjunction with its decision to retain its regulated utilities and divest its non-regulated operations, APUC recapitalized its capital structure. While APUC's capital structure still includes legacy capital issued when APUC was a diversified utility holding company, APUC's regulated utilities are now the primary source of cash flow available to service APUC's holding company debt. APUC has communicated to investors that because it is transitioning to a pure-play regulated utility holding company, it can target a more leveraged capital structure, which includes the debt APUC previously issued at the holding company level, *i.e.*, debt APUC issued directly.

Q. What capital structure ratios do you recommend for purposes of setting Empire's ROR?

A. I recommend the Commission use a capital structure for Empire consisting of 45% common equity and 55% long-term debt to set Empire's authorized ROR. This capital structure is consistent with the low-end of the proportion of leverage APUC had communicated to LUCo debt investors that it intended to target for purposes of financing its low-risk investments in its regulated utilities group, which includes the United States'

[4] Algonquin Power & Utilities Corp, Investor Presentation Q2 2023 Earnings Conference Call, August 10, 2023, p. 5.

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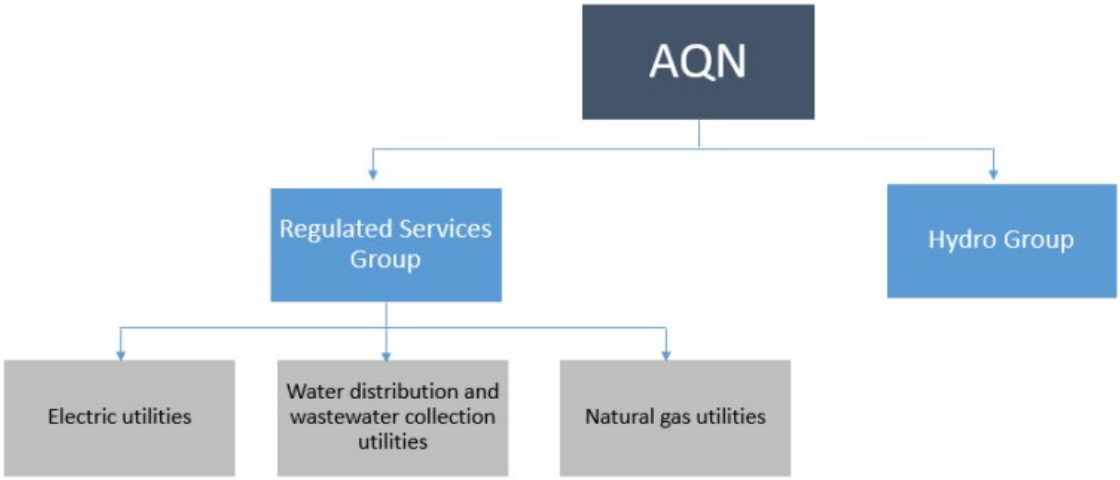
utilities LUCo directly owns. A 45% common equity ratio is also generally consistent with APUC's consolidated common equity ratio as of March 31, 2025.

Q. What is the current APUC corporate structure which includes Empire?

A. Empire is an electric utility in the following simplified version of the organizational structure APUC (AQN is the stock ticker symbol for APUC) provided in its 2024 Annual Report:



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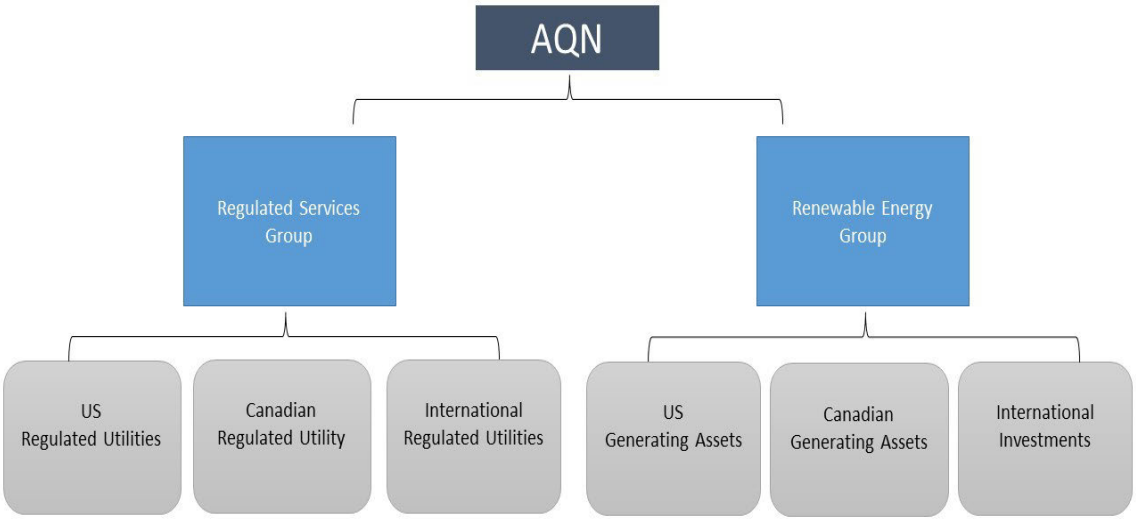
Q. How does APUC's current corporate structure compare to its corporate structure before it divested its non-regulated utility operations?

A. APUC provided the following organizational chart in its 2023 Annual Report:



Before APUC divested a majority of its non-regulated generating assets on January 8, 2025, APUC's Renewable Energy Group consisted of approximately 25% to 30% of APUC's operations, depending on the financial metric used to measure the concentration.

Q. Can you provide APUC's current detailed corporate structure?

A. Yes. Please see Scheduled DM-D-2 attached to my testimony. As shown in Chart A on page 2, LUCo is the main intermediate holding company for APUC's indirect ownership of its United States regulated utilities. Also, as shown in Chart A, there are four other holding companies between LUCo and APUC, which was the case before APUC divested its non-regulated operations. In a past rate case involving Empire's affiliate, Liberty Midstates, I discovered that APUC's financing subsidiary, Liberty Utilities Finance GP1 ("LUF"), made affiliate loans to some of these intermediate holding companies for the sole purpose of making equity contributions to LUCo, even though LUCo guaranteed the third-party debt issued for purposes of these equity infusions.[5]

[5] Case No. GR-2018-0013, Staff Cost of Service Report, Appendix 2, p. 24, ln. 19 – p. 26, ln. 6.

Also, as illustrated in Schedule DM-D-2, APUC is the ultimate parent company of Empire, as well as the ultimate parent of Empire's Missouri affiliates: The Empire District Gas Company ("Empire-Gas"), Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty Midstates") and Liberty Utilities (Missouri Water) LLC ("Liberty Water").

It is important to understand and consider APUC's corporate structure, business segments, and financing strategy for purposes of setting a fair and reasonable ROR for APUC's Missouri utilities. This context is especially important considering APUC's transition to a holding company of predominately pure-play regulated utility operating companies. APUC recently hired a new Chief Executive Officer ("CEO"), Rod West, and a new Chief Regulatory and External Affairs Officer, Noel Black, to guide APUC through this transition.

APUC's financial condition has been tenuous since it released and discussed its earnings for the third quarter of 2022 with investors during its earnings call on November 11, 2022. These financial concerns prompted several activist investor groups[6] to pressure APUC to undergo a strategic review to explore the optimum path forward to improve APUC's stock value. Consequently, APUC formed a Strategic Review Committee in May 2023 to evaluate various options related to its business and financing strategies. One of APUC's primary goals for establishing the Strategic Review Committee was to determine how to reduce APUC's cost of capital. Although in the Liberty Midstates rate case the Commission denied OPC's Motion to Compel Liberty Midstates to provide OPC access to APUC's Strategic Review Committee materials, OPC maintains discovery of these materials would likely provide relevant and meaningful information to the Commission for purposes of assessing a fair and reasonable capital structure and resulting cost of capital for purposes of setting Empire's authorized ROR.

After APUC's management and board of directors' ("BOD") analyzed and evaluated APUC's current operations and need to limit accessing third-party capital markets, APUC announced it would pursue a sale of its non-regulated generation operations held at APCo. On August 9, 2024, APUC announced it executed a purchase and sale agreement with LS

[6] Starboard Value, Corvex and Ancora.

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Power for APUC's non-regulated generation assets, except for its hydro generation facilities. APUC completed the sale of its non-regulated operations on January 8, 2025.

APUC has communicated to investors that it is committed to maintaining 'BBB' credit ratings. In conjunction with APUC's announced sale of its non-regulated operations, APUC reduced its dividend by another 40%, which when combined with its previous cut of 40%, amounts to a 64.05% aggregate reduction of APUC's dividend since its financial condition began to deteriorate. APUC has also communicated to investors that it intends to minimize capex to maintenance levels, at least through 2025, while it attempts to stabilize its financial condition by seeking recovery of approximately $1 billion of rate base investment it claims had not been captured in rates, causing it to underearn its average authorized ROE by approximately 300 basis points.

Because of the various moving parts impacting APUC and its credit ratings, the Commission should consider APUC's financial conflict of interest as it relates to the management of its various capital structures, including LUCo's capital structure.

APUC manages Empire's capital structure, as well as that of its Missouri affiliates, through affiliate company financing transactions. As it relates to affiliate promissory notes issued by Empire, APUC imputes a cost of long-term debt to Empire based on third-party debt issued by LUCo and its financing affiliate LUF. Although rating agencies did not downgrade LUCo's and/or LUF's investment-grade credit rating ('BBB') as APUC's stock price declined precipitously, this fact alone is not dispositive as to whether LUCo's cost of debt or capital structure have been impacted by APUC's financial difficulties.

Q. What is APUC's primary focus as it relates to managing Empire's capital structure?

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Q. Would you explain APUC's and LUCo's debt and treasury functions in more detail?

A. Yes. Liberty Utilities Services Corp. ("LUS") manages Empire's treasury needs along with those of APUC's other regulated utility companies, predominately at the LUCo level. LUCo has a $1 billion credit facility[7], which in part supports LUCo's $500 million commercial paper program.

Historically, LUCo relied on LUF for its long-term debt financing needs. LUF issued debt directly to third parties to raise capital for indirect investment in LUCo through affiliate loan agreements and equity infusions from Liberty Utilities (America) HoldCo Inc. LUCo guarantees all LUF debt, including debt issued solely to purchase equity in LUCo.[8] However, beginning in January 2024, LUCo began issuing bonds directly to third-party debt investors.

On a stand-alone basis (*i.e.* not consolidated) APUC had the following debt and hybrid securities outstanding as of March 31, 2025:

(1) $1 billion credit facility of which it had no amounts drawn;
(2) $1.361 billion of 60-year subordinated debt outstanding that matures in 2079 through 2082;
(3) $1.142 billion in senior unsecured notes related to Green Equity Units originally issued in June 2021; and
(4) $184.299 million of preferred stock.

APUC's remaining pureplay regulated utilities are in the United States, Canada, Bermuda, and Chile, and accounted for the following percentage of APUC's regulated revenues in 2024, respectively: 82.091%, 2.453%, 11.242% and 4.214%. APUC's regulated utilities are now the primary source of cash flows available to service APUC's holding company

[7] Algonquin Power & Utilities Corp. 2024 Annual Report, p. 40.
[8] Liberty Midstates response to Staff DR No. 117.3 in Case No. GR-2018-0013.

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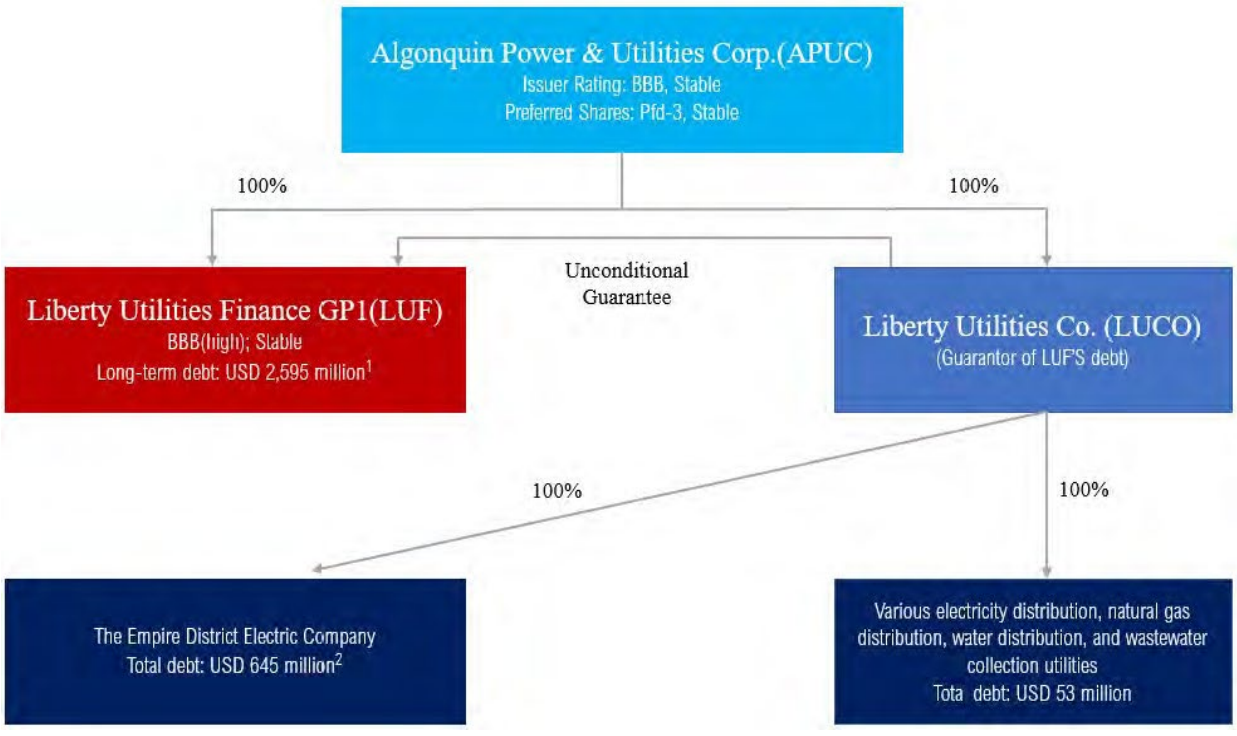
capital. Of course, the U.S. regulated utilities must service their own legacy debt issuances and LUCo's debt issuances before the regulated utilities' cash flows are available to service APUC holding company capital. Consequently, because APUC's holding company securities would receive less residual cash flow from it regulated utilities if LUCo issued additional debt to fund its investments, APUC has a conflict of interest in taking full advantage of its regulated utilities' debt capacity.

Therefore, while there are several potential approaches to determine an authorized ratemaking capital structure for Empire in this case, the primary focus should be whether the end-result is logical for a stable regulated utility which is not owned by a financially conflicted parent company.

Q. Would you illustrate LUCo's current relationship with LUF, its past long-term debt financing vehicle?

A. Yes. In its February 24, 2024, LUF ratings report, DBRS provided the following chart illustrating LUF's relationship within APUC's corporate structure:



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Q. What was the Commission's past basis for determining the ratemaking capital structures for APUC's Missouri utilities?

A. The Commission set the RORs it authorized for Liberty Water, Liberty Midstates, and Empire based on LUCo's adjusted capital structure. The Commission's decisions were consistent with recommendations made by Staff and/or OPC in those cases, which was to rely on LUCo's adjusted capital structure because it was the only capital structure in which third-party debt investors could directly invest to gain direct exposure to LUCo's regulated utility subsidiaries.

Q. Are LUCo's recent capital structures consistent with its past capital structures where it had targeted a 45% to 50% common equity ratio?

A. No. LUCo's capital structure recently has consisted of as much as 60% common equity since 2022. Despite having this high of a common equity ratio, LUCo's credit rating has not been upgraded from 'BBB'.

Q. Has APUC ever recognized that its regulated utilities had higher debt capacities than APUC on a consolidated basis?

A. Yes. In past presentations to fixed-income investors, when comparing the business risks of its regulated (*i.e.* the Regulated Services Group) and non-regulated utilities (*i.e.* the Renewable Energy Group) APUC indicated that it targeted a long-term debt to total capital ratio in the range of 50% to 55% (45% to 50% equity ratio) for its Regulated Utility Services Group and a long-term debt ratio of 40% to 50% (50% to 60% equity ratio) for its Renewable Energy Group. After consolidating the two segments of the company, APUC indicated it targeted a long-term debt ratio in the range of 48% to 52% (52% to 48% equity ratio).[9] These targeted capital structures are consistent with the fundamental principles of the interaction of business and financial risk.

The Regulated Services Group had the lowest business risk of all three entities—LUCo, APUC, and APCo—because it only owned price-regulated monopoly utilities, which

[9] Liberty Utilities Fixed Income Presentation, September 2017, p. 12 and Liberty Power Co. Fixed Income Update Presentation, September 2017, p. 12

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includes the utilities it owns in the United States. Therefore, these assets typically carried more leverage than the rest of APUC's assets and still carried a stable investment-grade credit rating. The Renewable Energy Group owned independent power projects, which were not protected by price-regulation. Therefore, the Renewable Energy Group's riskier assets (*i.e.* business risk) typically were offset by less leverage (*i.e.* financial risk).

Q. How did you approach your recommended ratemaking capital structures for Empire's affiliates, Liberty Midstates and Liberty Water, in their recent 2024 rate cases?[10]

A. I recommended a ratemaking capital structure based on the mid-point of APUC's past communications of its targeted capital structure for its regulated utilities.

Q. Why?

A. This approach matches the cost of debt with the typical financial risk inherent in LUCo's past capital structures. However, because the cost of LUCo's debt issuances in January 2024 were not consistent with a stable 'BBB' credit rating, if this capital structure approach were adopted for ratemaking now, then I would recommend a downward adjustment to the cost of these debt issuances.

Q. Did you consider other approaches?

A. Yes. Because, as of the first quarter of 2025 APUC is now predominately a pure-play regulated utility, I also analyzed APUC's current capital structure, which happens to coincide with the ordered true-up date in this case.

Q. Does APUC's consolidated capital structure include capital other than LUCo's debt issuances and APUC's securities issuances?

A. Yes. It also includes capital issued by the following APUC subsidiaries: LU Canada LP, Bermuda Electric Light Company Limited ("BELCO"), and Suralis S.A. ("Suralis").

[10] Case Nos. GR-2024-0106 and WR-2024-0104.

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Q. What type of utility operations do each of these companies own and where are those operations located?

A. LU Canada LP owns a natural gas utility distribution system in New Brunswick, Canada; BELCO owns an electric distribution, transmission and generation system in Bermuda; and Suralis owns a water and wastewater system in Chile.[11]

Q. Is APUC's credit quality, as measured by its credit ratings, impacted by all the capital it and its subsidiaries issue?

A. Yes. S&P assigns APUC a 'BBB' issuer credit rating based on its consolidated risk profile, which includes all debt issued by APUC and its subsidiaries.[12]

Q. What issuer credit rating has S&P assigned to Empire?

A. 'BBB'.

Q. What is the basis for the credit rating S&P assigned to Empire?

A. APUC's consolidated credit profile.

Q. What is S&P's stated outlook for Empire's credit rating?

A. In December 2024 S&P specifically stated the following in a report on Empire's credit rating:

> The stable outlook on EDE [Empire] mirrors our stable outlook on its ultimate parent, Algonquin Power & Utilities Corp. (APUC). The stable outlook on APUC and its regulated utility subsidiaries reflects our expectation that the company will sell its higher-risk renewable businesses, reducing business risk, and that FFO to debt will be 11%-13% through 2026.[13]

Q. Has S&P described its group ratings approach for Empire?

A. Yes. S&P specifically stated the following in a November 3, 2024, report it published on Empire:

[11] Algonquin Power & Utilities Corp. Annual Information Form For the Year Ended December 31, 2024, p. 5.
[12] Omar El Gamal, et. al., "Algonquin Power & Utilities Corp. Ratings Affirmed Following Sale of Algonquin Power Co; Outlook Stable; Ratings Withdrawn on Algonquin Power Co.," S&P Global Ratings – Rating Direct, January 30, 2025.
[13] Omar El Gamal, et. al., "Empire District Electric Co.," S&P Global Ratings – Rating Direct, November 13, 2024.

> Under our group rating methodology, we consider EDE a core subsidiary of its ultimate parent, APUC. This reflects our view that EDE is highly unlikely to be sold, is integral to the group's overall strategy, possesses a strong long-term commitment from senior management, and is closely linked to the parent's name and reputation. Accordingly, our issuer credit rating on EDE is in line with our 'bbb' group credit profile for APUC.[14]

Q. Why does S&P still assign Empire a credit rating given that Empire no longer directly accesses third-party debt markets?

A. Based on Empire's responses to OPC data requests in Empire's 2019 and 2021 rate cases[15], APUC believes it must maintain a S&P credit rating for Empire to comply with the Financing Conditions contained in the August 4, 2016, Stipulation and Agreement ("S&A") in Case No. EM-2016-0213. While the Financing Conditions approved by the Commission on September 7, 2016, did require certain actions based on potential downgrades in credit ratings, the Financing Conditions also contemplated APUC's intention to consolidate Empire's access to third-party debt capital at an intermediate holding company level. Consequently, the S&A included an "and/or" clause for the anticipated "Financing Affiliate," which initially was Liberty Utilities Finance GP1, but is now Liberty Utilities Co. Because the cost of debt capital provided to Empire is based on the credit profile of Liberty Utilities Co., its credit rating is the most relevant to the ordered Financing Conditions.

Q. Regardless, does the fact that S&P assigns Empire a credit rating based on APUC's consolidated credit risk profile mean that APUC's capital structure and financing strategies are relevant to developing a fair and reasonable authorize ROR for Empire?

A. Yes.

[14] Omar El Gamal, et. al., "Empire District Electric Co.," S&P Global Ratings – Rating Direct, November 2, 2023.
[15] Empire's response to OPC Data Request No. 3012 in Case No. ER-2019-0374 and Empire's response to OPC Data Request No. 3011 in Case No. ER-2021-0312.

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Q. Did you know whether any of the parties to the Stipulation &Agreement in Case No. EM-2016-0213 contemplated that APUC planned to consolidate debt financing at a holding company level above Empire?

A. Yes, they did. Because the parties were concerned about the impact this planned strategy may have on the ROR requested from Empire's ratepayers, the parties agreed to the following condition, which was extensively debated in Empire's 2019 rate case:

> 5. If Empire's per books capital structure is different from that of the entity or entities in which Empire relies for its financing needs, Empire shall be required to provide evidence in subsequent rate cases as to why Empire's per book capital structure is the most economical for purposes of determining a fair and reasonable allowed rate of return for purposes of determining Empire's revenue requirement.[16]

Q. Is that condition still important?

A. Yes.

Q. Why?

A. Because prior to APUC's acquisition of Empire, Empire accessed the capital markets directly based purely on its own risk profile. Before APUC acquired Empire, Empire managed its capital structure to balance the competing interests of accessing capital markets AND setting its ratemaking capital structure. Therefore, while maintaining a higher common equity may have allowed for a higher revenue requirement, it also caused dilution in EPS for current shareholders. Before APUC acquired Empire, Empire typically maintained a common equity ratio of around 50%. In fact, in the immediate rate case prior to Empire being acquired by APUC, Empire requested an authorized ROR based on an approximate 49% common equity ratio. [17]

While Empire is legally entitled to a fair and reasonable ROR, I do not believe the parties that supported APUC's conditional approval to acquire Empire anticipated the complexity and opaqueness related to APUC's management of its own capital structure and the capital structure of its intermediate holding company, LUCo. In my opinion, these issues in and

[16] Case No. EM-2016-0213, Stipulation and Agreement, August 4, 2016, pgs. 4-5.
[17] See Rob Sager's Direct Testimony in Case No. ER-2016-0016.

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of themselves have been detrimental to the ability to efficiently and effectively regulate Empire's rates to ensure they are fair and reasonable.

Q. What was APUC's capital structure as of March 31, 2025?

A. As shown on page 1 of Schedule DM-D-4, APUC's capital structure contains a variety of security issuances. After adjusting APUC's capital structure to remove short-term debt and the non-controlling interests related to Empire's tax equity agreement, APUC's capital structure consists of the following proportions of common equity, long-term debt and preferred equity: 42.95%, 56.49%, and 1.71%, respectively.

Q. Is your determination of APUC's capital structure ratios consistent with the determinations of equity analysts?

A. Yes. In a recent equity research report published by BMO Capital Markets, it estimated APUC's cost of capital using a 45% equity ratio.[18]

Q. Does APUC's long-term debt have a quantifiable cost that can be used to estimate APUC's weighted average cost of long-term debt?

A. Yes. Most of APUC's outstanding long-term debt is assigned fixed rates so the calculation of the cost of APUC's weighted fixed-rate long-term debt is relatively straightforward. However, approximately 3.25% of APUC's outstanding long-term debt has a floating interest rate. For purposes of my cost of capital estimate, I assigned this debt the 4.92% overall embedded cost of fixed-rate long-term debt. Another reasonable approach for the floating rate debt is to use an average of the floating rates for the now historical true-up period.

Q. Does APUC's preferred stock have a quantifiable cost that can be applied to the weight of preferred stock in APUC's capital structure?

A. Yes. The weighted cost of APUC's $184.3 million of outstanding preferred stock is 6.7%.

[18] Ben Pham, CFA, "New Guidance Points to Significant Upside Potential, Focus Shifts to Execution," BMO Capital Markets, June 3, 2025.

Q. What is APUC's implied weighted average cost-of-capital (WACC) if you apply a 9.25% ROE to the 42.95% of common equity in APUC's March 31, 2025, capital structure?

A. 6.81% on an after-tax basis (*see* page 2 of Schedule DM-D-4).

Q. Did you make any adjustments to the cost of APUC's debt for estimating APUC's WACC?

A. No. Because APUC's capital structure contains capital other than debt issued directly or indirectly by LUCo, it is inappropriate to adjust the cost of long-term debt to attempt to eliminate the higher risk premiums investors required for investing in APUC's riskier subordinate securities and securities associated with APUC's other operations. APUC's cost of capital can at least be used to test the reasonableness of ROR recommendations in this case, as well as to test the reasonableness of recommended ratemaking common equity ratios.

Q. If you followed the same approach you recommended in the Liberty Midstates and Liberty Water rate cases, should LUCo's cost of long-term debt be adjusted?

A. Yes. The coupons assigned to LUCo's $850 million of long-term debt issued in January 2024 should be adjusted downward. As shown in the attached pricing information provided to APUC from its investment bankers (Schedule DM-D-5), ** _____
_____
_____
_____
_____
**

LUCo's 5.58%, 5-year senior unsecured notes were issued at a spread of 174 basis points over the 5-year UST yield of 3.84% on January 12, 2024. ** _____
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LUCo's 5.87%, 10-year senior unsecured notes were issued at a spread of 191 basis points over the 10-year UST yield of 3.96% on January 12, 2024. ** _____
_____
_____ by
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_____ **

Q. After making the aforementioned adjustments, what is LUCo's embedded cost of long-term debt as of March 31, 2025?

A. 4.30% as compared to its unadjusted, actual cost of long-term debt of 4.49%.

Q. After applying the 4.3% cost of long-term debt and a 9.25% ROE to your recommended capital structure of 45.0% common equity and 55.0% long-term debt, what it the resulting ROR?

A. 6.53%.

Q. How can you test your recommended approach for setting Empire's authorized ROR for reasonableness?

A. By evaluating the cost of long-term debt and recommended capital structures for its Missouri peer utilities and comparing the results to my results for Empire.

Q. What are Empire's Missouri peer utilities?

A. In my opinion, Ameren Missouri, Evergy Metro Inc., Evergy Missouri West, Spire Missouri and Missouri American Water Company ("MAWC").

Q. Are there variations in the similarity of these companies to Empire from an operations and financing perspective?

A. Yes. Ameren Missouri, Evergy Metro and Evergy Missouri West are more operationally similar to Empire because they are also vertically-integrated electric utility companies.

MAWC and Spire Missouri are not vertically-integrated electric utility companies. Spire Missouri is a local natural gas distribution company and MAWC is water and wastewater utility. However, MAWC does not issue its own long-term debt as do the other four companies. Because I am testing the reasonableness of an embedded cost of long-term debt to assign to Empire, I consider the market-based cost of long-term debt of companies that issue their own long-term debt to be better proxies.

Q. What are recent embedded costs of long-term debt for each of these peer companies?

A. Evergy Missouri West's ("EMW") embedded cost of long-term debt as of June 30, 2024, was 4.34%;[19] Evergy Metro's embedded cost of long-term debt as of the same date was approximately 4.45%; Ameren Missouri's embedded cost of long-term debt as of June 30, 2024, was 4.24%; and Spire Missouri's embedded cost of long-term debt as of June 30, 2024 was 4.55%.

Q. Can you provide more recent embedded cost of long-term debt for these companies?

A. Only for Spire Missouri because it currently has a rate case pending before the Commission. Spire Missouri's embedded cost of long-term debt as of March 31, 2025, was 4.29%.

Q. What are approximate embedded costs of long-term debt as of March 31, 2025, for the other companies?

A. Because Evergy Metro and EMW have not issued additional long-term debt since June 30, 2024, their embedded costs of long-term debt as of March 31, 2025, should not be much different. Ameren Missouri's embedded cost of long-term debt has increased from 4.24% on June 30, 2024, because it issued $450 million of 5.125% first mortgage bonds in October 2024.[20] I estimate this issuance increased Ameren Missouri's embedded cost of long-term debt to approximately 4.3%.

[19] Case No. ER-2024-0189, Ronald Klote True-up Rebuttal Testimony, p. 7, lns. 15-20.
[20] Ameren Corp SEC Form 10-K, December 31, 2024, p. 123.

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Q. What do the foregoing cost of long-term debt information for Empire's Missouri peer utilities demonstrate to you about the reasonableness of your estimate of an appropriate cost of long-term debt to charge Empire's ratepayers?

A. That an embedded cost of long-term debt in the range of 4.3% to 4.45% is reasonable based on companies that have issued long-term debt to third-party investors to organically fund their investments. That being said, Ameren Missouri and Evergy Metro are the only peer Missouri utility companies whose balance sheets reflect capital issued purely for organic growth (*i.e.* original investment in each company's infrastructure rather than capital deployed/retired due to merger and acquisition activity).

Q. Based on your analysis and consideration of the various foregoing capital structure and cost of debt scenarios, what is your primary recommendation for Empire's capital structure and cost-of-debt for ROR purposes in this case?

A. I recommend the Commission adopt a ratemaking common equity ratio of 45.0% and a long-term debt ratio of 55.0%. While APUC's capital structure is simpler and more transparent than before APUC divested much of its non-regulated operations, the cost of debt associated with it is still higher than reasonable for a pure-play regulated utility such as Empire. If Empire had continued to be financed on a stand-alone basis with legal protections that allowed Empire to be assigned a credit rating based on its standalone risk profile, the Commission would not have been put in the unfortunate position of not only making a subjective decision on an appropriate ROE, but also subjective decisions on a fair and reasonable capital structure and cost of long-term debt. Because APUC's other business interests and its financing strategies caused the increased subjectiveness in setting a fair and reasonable ROR for Empire in this case, the Commission should look to favor ratepayers when deciding a fair and reasonable ROR to authorize for purposes of setting Empire's revenue requirement.

FAIR RETURN ON COMMON EQUITY

Q. What is the most often cited basis for determining a fair and reasonable ROE for purposes of setting utility rates?

A. The following principles of the *Hope*[21] and *Bluefield*[22] Supreme Court of the United States cases are often cited as criteria when setting a fair and reasonable ROE for purposes of utility ratemaking:

1. Comparable returns for similar risk;
2. Financial integrity/maintain credit; and
3. Capital attraction.

The *Hope* (1943) and *Bluefield* (1923) principles were established well before the advent of modern cost of equity methods, such as the discounted cash flow ("DCF") method and the Capital Asset Pricing Model ("CAPM"). Therefore, while setting ROEs based on the COE has generally been considered consistent with the *Hope* and *Bluefield* principles, other factors, such as other jurisdictions' authorized ROEs have been cited by this Commission as a relevant factor it should consider. The authorized ROE is a regulatory ratemaking concept that quantifies the amount of net income allowed in the revenue requirement. The COE is a market-based concept that quantifies an investors' required return on his/her common equity investment. Because ROEs have generally been set in the 9%-10% range, while an overwhelming amount of evidence demonstrates that investors' required returns (*i.e.* COE) on utility equity investments have typically been much lower, I correctly differentiate between allowed ROEs and the COE in my ROE analysis and recommendation.

Q. How did you determine the approach you would take to estimate a fair and reasonable allowed ROE for purposes of this case?

A. I reconciled the principles established in *Hope* and *Bluefield* with modern financial models used to estimate the COE.

[21] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1943).
[22] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923).

Considering these principles, I first estimated Empire's current COE and then compared my current COE estimates to those I estimated in recent rate cases to determine if there has been a fundamental change in the cost of capital. My analysis also includes consideration of other recently authorized ROEs.

Q. What is your estimate of Empire's COE?

A. Based on my analysis, Empire's COE is in the range of 7.8% to 8.5%.

Q. What do you consider to be a fair and reasonable allowed ROE for Empire's electric utility operations?

A. Based on my analysis and awareness of capital market conditions, investor expectations and recent average allowed ROEs for electric utilities, I consider 9.00% to 9.50% to be a reasonable range with my point recommendation at 9.25%. My recommended allowed ROE is within the range of the Commission's typically defined ZOR range of 100 basis points above and below recent average authorized ROEs, which are approximately 9.75%[23] (*i.e.* 8.75% to 10.75%). After considering my COE estimates and the Commission's authorized ROE of approximately 9.5% for Missouri's electric utilities for rate cases decided in 2015, I recommend the Commission authorize Empire a 9.25% ROE for purposes of setting Empire's authorized ROR.

Q. Did the Commission specify a ROE or capital structure for Empire in its last rate case, Case No. ER-2021-0312?

A. No.

Q. What about Empire's rate case before that, Case No. ER-2019-0374?

A. Yes. The Commission authorized Empire a 9.25% ROE applied to a 46% common equity ratio in that case.

[23] RRA Major Rate Case Decisions Quarterly Updates, April 25, 2025.

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Q. How did you inform yourself for purposes of determining the best methods and approaches to use to estimate Empire's COE?

A. Because APUC's BOD is responsible for approving financing decisions, whether the securities are issued directly by APUC or by LUCo, APUC's BOD materials are likely to be insightful for purposes of testing the reasonableness of COE estimates for Empire, especially considering the significant changes that have occurred at APUC since 2022; therefore, I attempted to review APUC's and Empire's board of directors' ("BOD") materials and minutes since January 1, 2022. While Empire made additional APUC BOD materials available than its affiliates, Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty Midstates") and Liberty Utilities (Missouri Water) LLC ("Liberty Water"), in their respective rate cases in 2024, Empire still withheld a considerable amount of APUC BOD materials. While OPC appreciates that many materials may not directly address Empire's operations, APUC's financial condition since 2022 has been tenuous. After undergoing a strategic review in early to mid-2023, APUC decided to divest its non-regulated generation assets previously owned by APCo, a subsidiary of APUC, and sell its equity ownership interest in Atlantica Yield. APUC's strategic review necessarily would have required it to evaluate all options to determine the best path forward to stabilize APUC's financial condition and enhance shareholder value. APUC decided the best way to do so was to retain its regulated utility operations, with Empire being the largest of APUC's regulated utilities. APUC's strategic review would have involved an estimate of the intrinsic value of APUC's regulated utilities. A valuation of APUC's regulated utilities would have likely included a discounted cash flow ("DCF") analysis, which requires estimated cash flows and a reasonable cost of capital estimate to discount projected cash flows to a present value. This is the type of information that allows the Commission to assess the credibility of ROR witnesses' cost of capital estimates.

Additionally, considering that Empire and its Missouri affiliates are financed by APUC and LUCo through consolidated security issuances, OPC likely disagrees with Empire that the withheld APUC BOD information would not likely lead to the discovery of relevant and admissible evidence. In fact, in the Liberty Midstates and Liberty Water rate cases, those companies initially provided extremely limited access to APUC corporate records

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because they determined the information was not relevant. However, after emphasizing that corporate level strategic business and financing decisions necessarily impact APUC's Missouri utilities due to various affiliate financing activities, Liberty Midstates and Liberty Water made some additional information available. This information led me to discover that *** _____ _____ *** Of course, APUC's personnel are disincentivized to provide this type of information because it undermines the higher-cost debt and capital structures APUC assigns to its regulated utilities. APUC specifically assigned a 5.93% affiliate note to Empire for purposes of its requested ROR in this case. While I am not recommending Empire's cost of debt be used to set Empire's ROR, if the Commission were to do so, the cost assigned to this debt issuance should be adjusted downward. I plan to address this issue in more detail in my rebuttal testimony.

Public Counsel intends to continue to pursue broader access to APUC's BOD materials and its BOD committees' (especially its Strategic Committee and the Audit Committee) materials as this case progresses. Because APUC's BOD is responsible for approving financing decisions, whether the securities are issued directly by APUC or by LUCo, this material is likely to be insightful and relevant, especially considering APUC's significant changes since 2022.

I also reviewed investment-industry research covering APUC, APCo, and LUCo since the end of 2022. I mainly relied on reports Empire provided in its responses to Staff Data Request No. 85 and OPC Data Request No. 3015. I focused on reports published after September 30, 2022, because this coincided with the start of APUC's financial troubles, which prompted a 30% decline of APUC's stock price within two days of the 2022 third quarter earnings conference call. Because APUC's business and financial risks caused an increase to APUC's cost of capital, it is important to perform due diligence into investors' views/concerns about APUC's financial underperformance.

After performing research on the information that was made available to me, I decided the best approach for estimating Empire's COE was to perform a COE analysis on a proxy group of publicly-traded utility companies whose operations are comparable to Empire's electric utility operations.

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Q. What models did you use to estimate Empire's COE?

A. I used a multi-stage discounted cash flow ("DCF") method, with a specific emphasis on consensus analysts' estimated dividends and the modeled growth of dividends. A DCF method that focuses on dividends as the proxy for cash flow is more precisely defined as the dividend discount model ("DDM"). I also applied the Capital Asset Pricing Model ("CAPM") to the proxy group. Finally, I performed simple and logical reasonableness checks of my COE estimates. These reasonableness checks recognize the basic characteristics of utility stocks, mainly that the investment community perceives them as yield/income investments. One such reasonableness check is a straight-forward bond-yield-plus-risk-premium ("BYPRP") method included in the Chartered Financial Analyst ("CFA") Program curriculum.[24]

Q. Did you perform a company-specific analysis of APUC's COE?

A. No.

Q. Why not?

A. APUC, a Canada-based company, had been a diversified utility holding company with domestic and international regulated and non-regulated utility investments. In mid-2023, APUC announced a major change to its business strategy in which it announced that it planned to divest its non-regulated utility operations, which mainly consisted of renewable generation assets throughout North America. APUC's exposure to these non-regulated generation operations through its APCo subsidiary always caused it to have a higher cost of capital than its regulated utility segment *(i.e.* business risk). Additionally, APUC's complex capital structure, which included significant holding company debt, project debt, tax equity, and significant variable interest rate debt (*i.e.* financial risk), caused additional uncertainty as to the potential impact of a decline in revenues on APUC's shareholders. These risks materialized when APUC surprised investors with unexpected financial underperformance at the end of 2022. These events also caused APUC to lower its forward earnings guidance and hint that APUC may lower its dividend, which it did by 40% in

[24] 2021 CFA Program – Level II Refresher Reading, Equity Valuation, p. 35.

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2023. It is wholly inappropriate to directly or indirectly charge utility ratepayers any increased costs caused by APUC's financial weakness.

Although APUC divested most of its non-regulated operations in early 2025, APUC is still in a state of transition. It has yet to regain investors' confidence in its financial stability and in its strategic focus. Additionally, although APUC is now predominately a regulated utility holding company, investors are still cautious about investing in APUC because of concerns about mismanagement of its regulated utility operations.[25] APUC is in the process of attempting to provide a more accurate and reliable representation of the financial performance of its regulated utilities.

Q. Is APUC irrelevant to ensuring Empire's authorized ROR is reasonable?

A. No. APUC's business and financing strategies impact Empire's cost of capital. Empire no longer performs its own independent financing functions and does not directly access the capital markets. Therefore, for purposes of evaluating the amount of debt Empire's assets support, it is important to evaluate APUC's financing activities. Also, because APUC has had more business risk than Empire, analyzing and understanding APUC's capitalization and cost of capital tests the credibility of whether Empire's requested ratemaking capital structure is consistent with APUC's current capital structure strategies.

Q. Can you describe current capital market conditions as it relates to the electric utility industry before you discuss the details of how you specifically estimated Empire's COE?

A. Yes. This information should help provide some context as to the current state of utility capital markets. Considering the rapid and steep increase in interest rates from 2022 to 2023, which caused utility debt costs to increase dramatically since 2020 to 2021, it is important to understand the context of authorized ROEs versus COE over a longer period than just the last couple of years. It is for this reason that I will analyze and compare utility

[25] Sean Steuart, et. al., "Increased Clarity on Timing of Rate Cases Aimed at Closing Earned Return Gap," TD Securities – Canada, November 8, 2024.

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stock valuations and interest rates for most of the period since the financial crises and recession around 2008/2009.

Q. What ROE have you recently recommended the Commission authorize for its large electric utilities?

A. I consistently recommended the Commission reduce its electric utility authorized ROE from around 9.5% to as low as 9.0% in electric utility rate cases since as recently as 2022. The Commission's last authorized ROE for Ameren Missouri was 9.53% in the 2014 rate case, Case No. ER-2014-0258. The Commission's last litigated authorized ROE for a Missouri electric utility was 9.25% for Empire in Case No. ER-2019-0374. Because the utility industries' stock prices declined considerably in 2023, I increased my recommended authorized ROE to a range of 9.25% to 9.75% (point recommendation of 9.5%) for Evergy Missouri West in my direct testimony filed on June 27, 2024, in Case No. ER-2024-0189. However, beginning around the middle of 2024, utility stock prices steadily increased, which implied a reduction to the COE for utilities. Therefore, although I still recommended a 9.5% authorized ROE for Ameren Missouri in my direct testimony filed on December 3, 2024, I reduced my recommended ROE range to 9.0% to 9.5%.

Q. Would you describe and illustrate changes in long-term bond yields?

A. Yes, long-term bond yields have increased dramatically over the last couple of years after declining to historically low levels during the Covid-19 pandemic (2020 – 2021). In fact, during the Fall of 2023, investment grade utility bond yields and long-term United States Treasury ("UST") bond yields increased to their highest levels since 2010.

The below graph shows long-term bond yields since January 1, 2010. Some considered the early stages of lower long-term interest rates in the first half of this decade to be anomalous because of the Federal Reserve Bank's ("Fed") quantitative easing ("QE") programs[26] through October 2014. However, for the last half of the past decade, long-term interest rates continued an overall declining trend, until they reached all-time lows in 2020

[26] QE involved three rounds of the Fed's direct intervention in bond markets beyond just lowering the Fed Funds rate. The Fed's QE programs had the express intent of reducing long-term interest rates.

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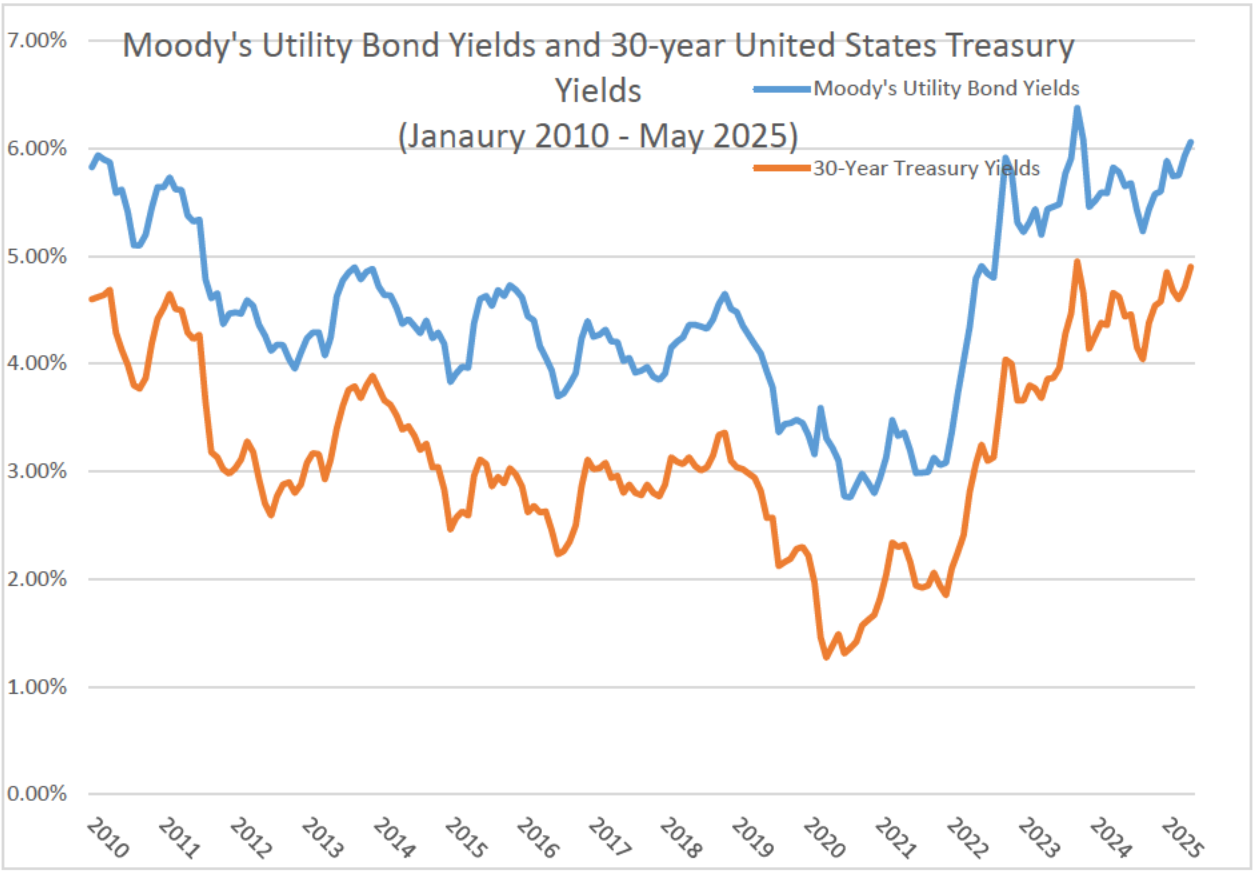
and 2021. However, as I previously described, long-term rates have since increased dramatically, peaking in October 2023.



As the graph shows, average utility long-term bond yields had dropped to modern all-time lows in the latter half of 2020 - levels not experienced since the late 1940s and early 1950s. Between early 2022 and October 2023, the average yield on the Moody's Public Utility Bond index approximately doubled, before declining to around 5.25% to 5.5% in the Fall of 2024. As of early 2025, UST and utility bond yields had increased to slightly below the higher levels experienced in the Fall of 2023.

Although more simplistic COE methods may imply that the COE for utilities whipsawed along with bond yields, utility valuation levels over this period do not support this notion. As I explain in more detail later in my testimony, the post Covid-19 economic and capital market conditions have been atypical, which is likely a consequence of both the Fed's and U.S. Congress's massive interventions through monetary and fiscal policies during the Covid-19 pandemic.

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Q. Why is it important to evaluate trends in long-term interest rates when evaluating the utility industry's COE?

A. The investment community typically regards utility stocks as bond proxies/pseudo bonds, meaning that if long-term bond yields are expected to decline, then this typically causes regulated utility stock prices to increase. Although investors' total returns in utility stock investments do include some capital gains, because of the slow, steady growth in earnings, utility companies have typically distributed approximately 2/3 of their earnings as dividends to shareholders, causing utility stocks to be characterized as yield investments. Therefore, changes in utility stock valuation levels have historically had a strong inverse correlation to changes in bond yields, *i.e.* as bond yields decline, utility stock prices increase.

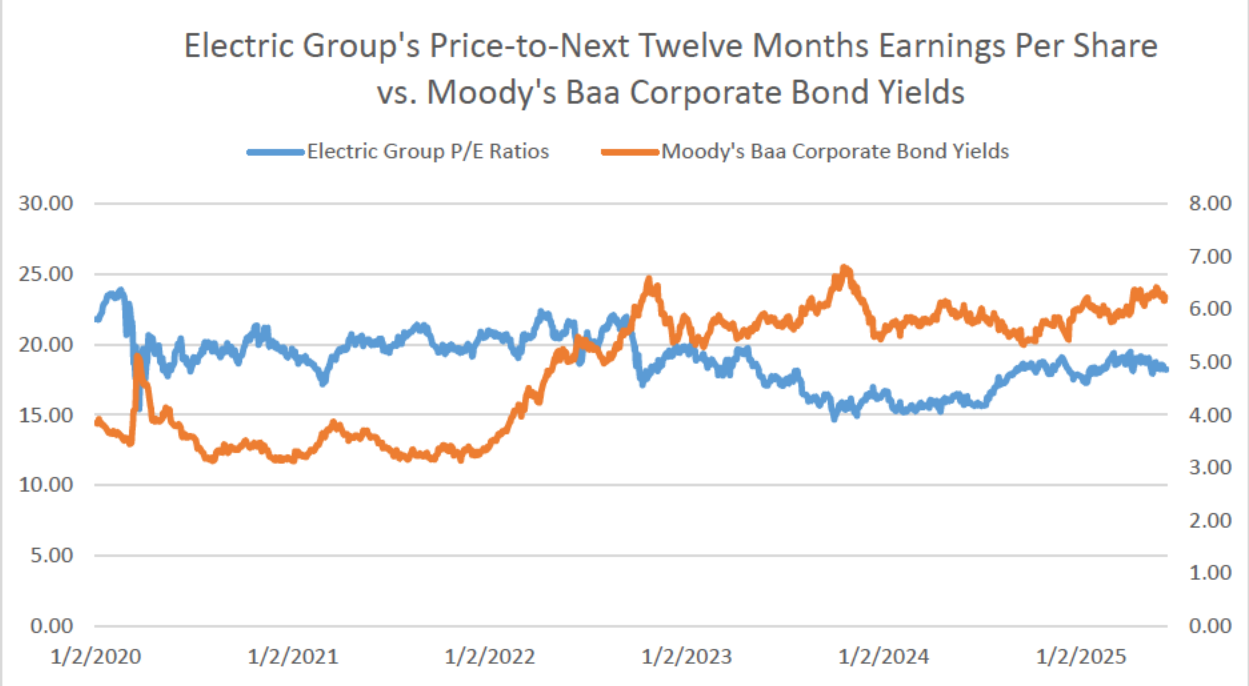
Q. From April 2020 through August 2022, did utility stock valuations and bond yields provide traditional and consistent signals about utilities' cost of capital?

A. No. Following drastic and significant intervention by the Fed in monetary policy and the UST in fiscal policy, in reaction to Covid-19 and its associated mitigation measures, the yield-to-maturity ("YTM") on utility and corporate bonds traded at 70-to-80-year lows. However, at the same time, broader utility stocks (mainly local natural gas distribution companies ("LDC") and electric utility stocks) underperformed the S&P 500. The same atypical trading pattern occurred as long-term bond yields began a dramatic increase in 2022. Utility stocks significantly outperformed the S&P 500 on a relative basis, despite long-term yields increasing through much of 2022. The increase in yields caused the S&P 500 to contract significantly, while causing only a slight decline in utility stock prices, allowing them to maintain similar P/E ratios as before the rapid increase in long-term interest rates.

Consequently, while the utility industry's debt costs fluctuated along with the macro changes in interest rates, the same was not true for the utility industry's cost of equity.

Q. What about since August 2022?

A. Starting around mid-September 2022, electric utility P/E ratios resumed their more typical inverse correlation with long-term yields, as illustrated in the following chart:



During the all-time low bond yield environment, the utility industry was able to take advantage of these extremely low debt capital costs. For example, on September 23, 2020, LUCo, through its financing entity LUF, issued 10-year, $600 million bonds at an annual coupon rate of only 2.05%. However, during this period, utility equity valuation levels did not increase in response to the decline in bond yields, which implied investors did not expect extremely low interest rates to be sustained. Similarly, as bond yields increased significantly in 2022, utility equity valuation levels did not contract as typically expected – perhaps because investors understood that the extremely low cost of debt during 2020 to 2021 was not sustainable.

To illustrate the significant increase in utility bond yields, on January 12, 2024, LUCo issued 10-year, $350 million bonds at an annual coupon rate of 5.87%, which is higher than the coupons on other 10-year bonds issued in 2024 by Missouri's major utilities. As I

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testified earlier, the cost of this debt issuance was approximately ** _____ _____ **

Q. Would you provide a graph that shows the price-to-next-twelve-months-earnings (P/E) ratios since January 1, 2012, of a representative electric utility industry proxy group[27]?

A. Yes. See the below graph:

Q. What is significant about this graph?

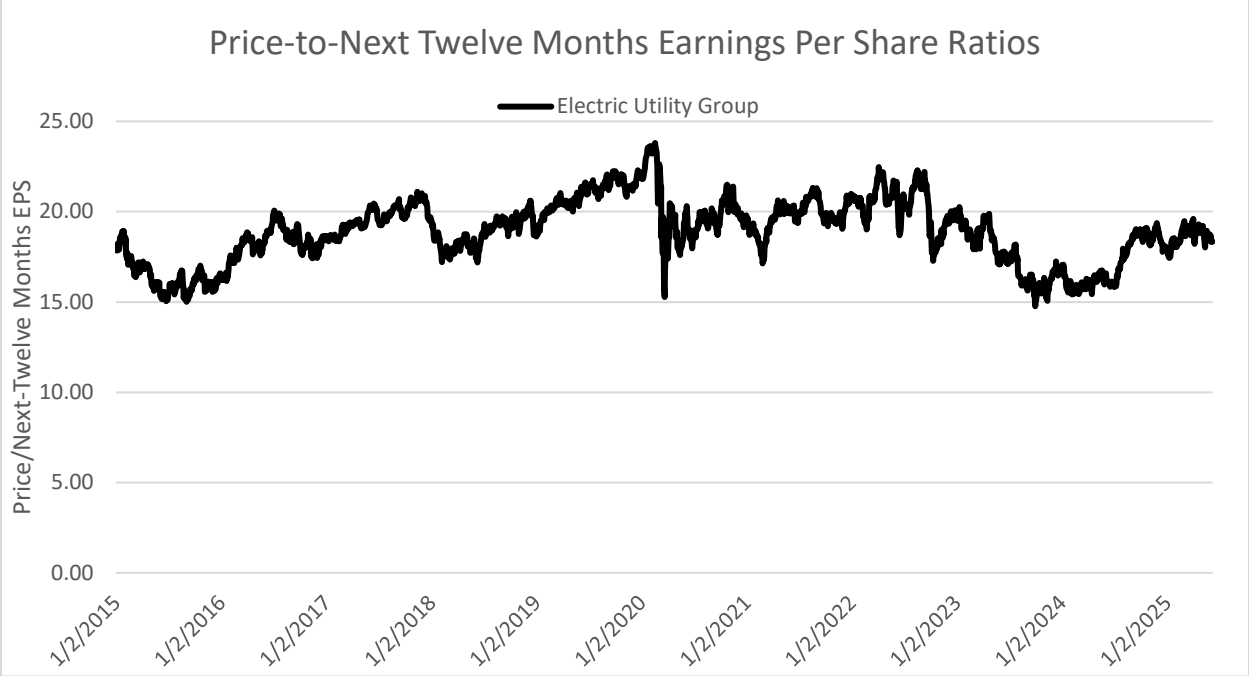
A. As can be seen in the above graph, since the beginning of the fourth quarter of 2024, electric utilities' P/E ratios have been trading in the range of 17.5x to 19.0x. While the expansion in electric utilities' P/E ratios starting around mid-2024 coincided with a decline in long-term bond yields, it also coincided with investors' optimism for higher load growth for

[27] Unless otherwise specified, the proxy group I use to represent the electric utility industry are the following companies: Alliant Energy Corporation, American Electric Power Company, CMS Energy Corporation, DTE Energy Company, IDACORP, OGE Energy Corp, Pinnacle West Capital Corporation, Portland General Electric Company, The Southern Company, WEC Energy Group, and Xcel Energy Inc. These companies met screening criteria I used in Ameren Missouri's 2012 or 2014 rate cases, Case Nos. ER-2012-0166 and ER-2014-0258, respectively.

electric utilities because of the projected build-out of data centers for data storage needs related to artificial intelligence and cloud computing. Regardless, electric utilities' P/E ratios are generally trading higher than in 2015 when the Commission deemed 9.5% authorized ROEs as fair and reasonable for Missouri's large electric utility companies.

Q. What is significant about the period since 2015?

A. This is the year in which the Commission first lowered the authorized ROE for its large electric utilities to around 9.5%. Therefore, I have extracted the 2015 to most current date period below to make it easier to follow my answer to this question.



As is evident from the above chart, during 2015, the electric utility industry generally traded at a P/E ratio in the 15x to 17x range with a brief period at the beginning of 2015 at close to 19x. Prior to the market disruptions coinciding with the onset of the Covid-19 pandemic, the electric utility industry's P/E ratios hit all-time highs of ~24x. At that time, which was consistent with the period of Empire's 2019 rate case, Case No. ER-2019-0374, I estimated Empire's COE to be as low as in the 5.5% to 6.5% range, which is logically consistent with the extremely high valuation ratios of that time. Because of the extremely low COE, I urged the Commission to reduce its previous authorized ROEs for Missouri's

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electric utilities by at least 25 basis points. The Commission authorized Empire an ROE of 9.25% in Case No. ER-2019-0374.

Although the electric utility industries' P/E ratios are not as high as they were immediately prior to Covid-19, they are generally higher than they were in 2015. Consequently, current valuation ratios support an authorized ROE of no higher than 9.5%, which is the high-end of my recommended authorized ROE range.

Q. What are utility equity investors' reactions to the recent interest rate environment?

A. Until 2022, most utility equity analysts had projected that low interest rates justified a continued reduction of authorized ROEs. However, given the fact that long-term bond yields have remained higher since late 2022, investors now expect regulators to at least hold the line on—not increase—awarded ROEs.

Q. Why would investors expect utility commissions to not increase authorized ROEs if the cost of capital has increased?

A. Because investors recognize that utility commissions did not reduce authorized ROEs as much as was justified when the cost of capital was declining. Barclays indicated the following about authorized returns while the cost of capital was declining from 2010 to the early 2020s:

> **High Returns Unlikely as ROEs Sticky While Rates Were at Decade Lows**
>
> Simplistically, from 2010 to early 2020s long term risk free yields have only declined, while utility ROEs remained steady at an average 9.8% authorized rate on the electric side. Utilities were arguably over-earning during this timeframe in our view. We believe over a long term (10yr+) time horizon there should be a case for higher ROEs if risk free yields remain elevated or move higher, but we see it unlikely that regulated ROEs return to 12%+ levels anytime soon. This likely leads to an extended CoC [cost of capital] crunch for the utility industry, which will pressure management teams' abilities to raise capex budgets materially in the five-year

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> window. Please see our additional work below highlighting the CoC crunch.[28]

Q. What COE have equity analysts been using to estimate a fair price to pay for electric utility holding companies that own utilities in Missouri?

A. Wells Fargo applies an 8.0% COE to Ameren Corp's and Evergy's estimated dividends in its muti-stage dividend discount model ("DDM") analysis (a DDM is the same model as the DCF in utility ROR analysis).[29]

Q. What COE have equity analysts recently been using to estimate a fair price for APUC's stock?

A. 8.1% to 8.25%.[30]

Q. Can utilities still create value for their shareholders at a narrower spread between the COE and allowed ROEs?

A. Yes. Even at a narrower spread, as long as a company has the opportunity to earn more than its cost of capital, it will create value above the initial book value investment (*i.e.* investment in rate base for utility companies). The ratemaking principle of setting an authorized ROE at or near parity with the COE is that utility companies will only invest in projects that are expected to be economically efficient based on the merits of the projects rather than simply being authorized a return higher than the cost of capital. Morningstar's discounted cash flow analysis recognizes this principle should at least hold over the long-term. Specifically, as it relates to estimating growth in cash flows in the perpetuity stage, Morningstar states the following:

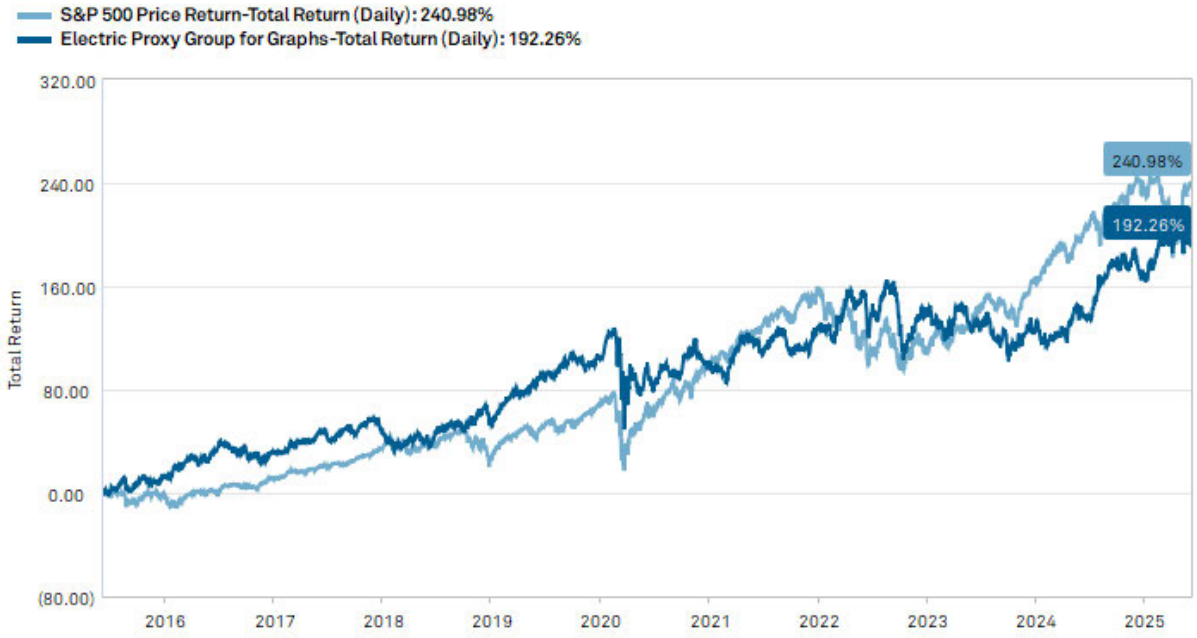
> Once a company's marginal ROIC [Return on Invested Capital] hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys

[28] Nicholas Campanella, et. al., "U.S. Power & Utilities: Initiating Coverage: Down but Not Out," Barclays, August 22, 2023, p. 23.
[29] 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.
[30] Ben Pham, CFA, "New Guidance Points to Significant Upside Potential, Focus Shifts to Execution," BMO Capital Markets, June 3, 2025; and Rupert Merer, et. al., "Investor update provides visibility on three-year earnings reset, moving to Sector Perform," National Bank of Canada Financial Markets, June 3, 2025.

value and that any new investment provides a return in line with estimated WACC.[31]

Q. How have electric utility shareholder returns compared to the S&P 500 over the last ten years?

A. See the below chart:



The key takeaways from the above chart are the fact that until the pandemic, the electric utility industry achieved higher total returns than the S&P 500 despite the fact that they typically do not achieve as high a proportion of their total returns from capital gains as compared to growth stocks.

The electric utilities' high total returns over this period coincided with the sustained long-term decline in interest rates, which also caused higher capital gains for bond investments. Being that bond coupons are typically fixed, this clearly demonstrated that yield investments achieved capital gains mainly due to a decline in the cost of capital. However, post the pandemic, and, more importantly, post the response of the Federal Reserve and the U.S. Congress to support the economy during the pandemic, aggressive stimulus

[31] "Morningstar Equity Research Methodology," Morningstar Equity Research, September 2022, p. 4.

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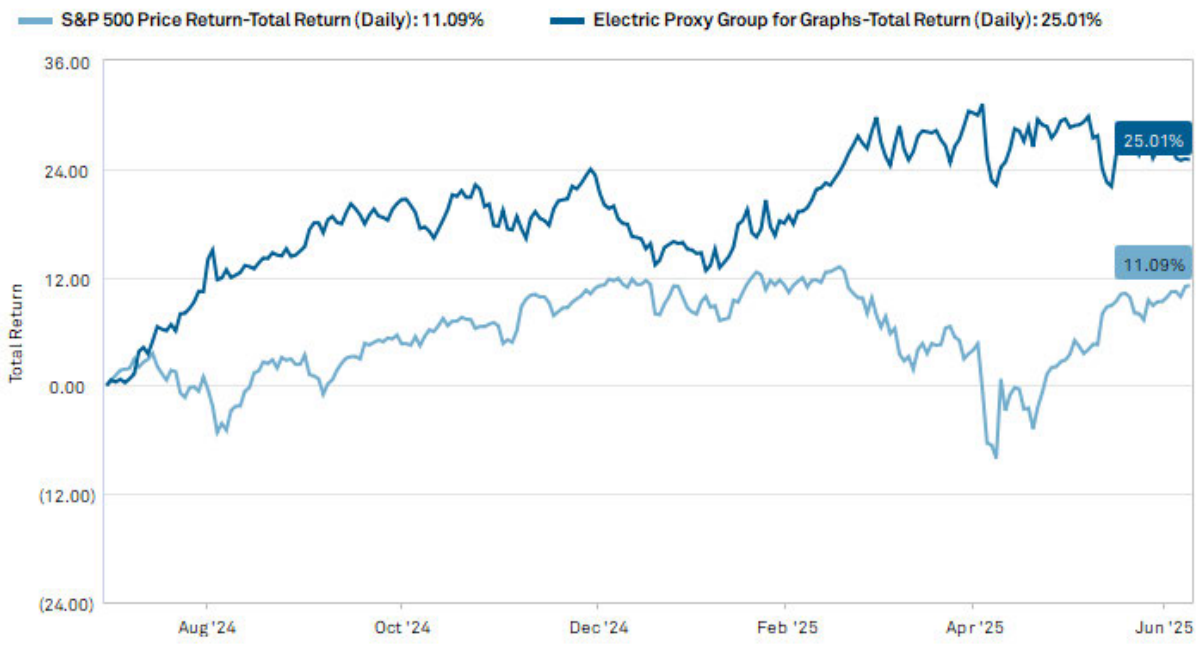
measures caused the S&P 500 to significantly outperform the electric utility industry. This is largely attributed to the Fed providing a tremendous amount of capital market support, which caused negative real bond yields during much of this period. The fiscal and monetary support had the impact of reducing the discount rates (*i.e.* COE) for the broader markets, which made potential future profits worth more in present value terms. However, becoming concerned about sustained inflationary pressures, the Fed began to aggressively tighten monetary policy, which caused investors to fear a recession in 2023. This fear explains utility stocks' stronger performance relative to the S&P 500 for much of 2022, despite increases in long-term bond yields.

After a recession did not materialize in 2023, the S&P 500 resumed rapid gains through early April 2025 when the U.S. administration announced intended "reciprocal" tariffs on various countries. Perhaps more pertinent to assessing the reasonableness of estimates of the electric utility industry's COE, it is worth noting that since July 1, 2024, the electric utility industry and the S&P 500 have achieved total returns of 25.01% and 11.09%, respectively. This is illustrated in the following chart:



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COST OF EQUITY METHODS

Q. Now that you have provided some context on changes in the utility capital markets, would you explain how you decided to approach estimating Empire's COE?

A. Yes. I performed a multi-stage DCF analysis and a CAPM analysis on a broad proxy group of electric utility companies. Then, I tested the reasonableness of my estimates by using simple reasonableness checks, such as the straightforward bond-yield-plus-risk-premium ("BYPRP") method discussed in the CFA Program curriculum.

Q. What research have you performed to make informed decisions as to rational and reasonable inputs for your COE analyses?

A. The objective of a ROR witness is to emulate investors' fundamental approaches to analyzing and making investment recommendations as it relates to investing in utility stocks. Therefore, I have made it a priority to review, analyze, and understand how equity research analysts estimate fair prices for utility stocks. My analysis has allowed me to test the theory of cost of capital estimation in utility ROR testimony, as it compares to practice. I have discovered investment analysts use multi-stage DCF approaches to estimate fundamental values of utility stocks, and/or they use relative valuation techniques that compare a company's P/E ratios to averages for the industry and/or potentially a more tailored subset of peer companies.

In my experience, professional equity ("Wall Street") analysts project long-term compound annual growth rate ("CAGR") in EPS to determine whether a company's P/E ratio deserves a premium or a discount to its peers. Wall Street analysts do not use these estimated long-term CAGRs in EPS for purposes of projecting a perpetual dividend growth rate, as some ROR witnesses suggest. When performing an absolute valuation analysis, such as a DCF/DDM, Wall Street analysts assume rational perpetual growth rates in the 2.5% to 4.5% range for electric utility companies. Finally, and most relevant to the task at hand, they estimate electric utilities' COE to be around 8%.[32]

[32] *Id.*

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Q. What equity research firms cover Empire's ultimate parent company, APUC?

A. According to APUC's website, the following firms cover its stock: BMO Capital Markets, CIBC, Desjardins Securities, J.P. Morgan, Janney Montgomery Scott, Morgan Stanley, National Bank, Raymond James, RBC Capital Markets, Scotia Capital, TD, and Wells Fargo.[33]

Q. Is it important to analyze the information these equity research firms rely on to determine a fair and reasonable ROE for Empire?

A. Yes.

Q. Why?

A. Analyzing this information is important because these Wall Street analysts are the very individuals that underlie various consensus estimates widely considered by investors. ROR witnesses recognize the influence Wall Street analysts have on utility stock prices by the very fact that they use consensus earnings per share ("EPS") forecasts for purposes of estimating the COE.

Q. Did you review research by any of these firms for purposes of performing your cost of equity analysis?

A. Yes. I mainly relied on reports Empire provided in response to Staff Data Request No. 0085 and OPC Data Request No. 3015. However, over my career I have established relationships with equity investment firms/analysts who have distributed this material to me directly through their email distribution lists. These relationships were borne from my role as a regulator in which many of these analysts seek information related to general and specific Missouri regulatory issues. I have also interacted with these analysts through my participation in organizations, such as the Society of Utility and Regulatory Financial Analysts ("SURFA").

[33] https://investors.algonquinpower.com/news-market-information/analyst-coverage/default.aspx

Q. Are the equity research firms that follow APUC the same firms that typically follow publicly traded, United States' utility companies?

A. Not entirely. I am familiar with the following firms' coverage of publicly traded, United States' utility companies: Morgan Stanley, Wells Fargo, and JP Morgan.

Q. Do firms perform capital market analyses for Canadian utility companies similarly to how they perform them for United States utility companies?

A. Yes. The fundamentals of valuation analyses do not vary by country, even if the strategies of Canada-based utilities may be a bit different from those of their U.S. counterparts. For example, I discovered many of these investment analysts perform DCF analyses to estimate a fundamental value for the companies they cover. They also compare the P/E ratios of their covered companies to their peers in Canada and to their peers in the United States. Of course, to perform a DCF analysis an investor must estimate his/her own COE.

Q. What does industry data suggest is a sustainable growth rate for a predominately regulated electric utility company, such as Empire?

A. I reviewed past actual historical industry growth rate data from the Moody's electric utility index,[34] a sample group of electric utility companies in which data was available from Value Line,[35] and commentary/analysis available from institutional investors/analysts.[36] This information supports a perpetual growth rate in the range of 2.5% to 3.5%. A perpetual growth rate within this range is also consistent with the "sustainable growth model," which estimates EPS growth by multiplying an average long-term industry retention rate by an expected book ROE. Assuming the utility industry reverts to its long-term earnings retention rate of approximately 30% and average allowed ROEs are maintained around 9.75%, this supports a 2.93% perpetual growth rate if investment opportunities are available (9.75% allowed ROE multiplied by 30%).

[34] Staff Cost of Service Report, Case No. ER-2011-0028, p. 18.
[35] *Id.*
[36] Discussed throughout this testimony.

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Q. What is your basis for an assumed terminal ROE of 9.75%?

A. Until the recent Ameren Missouri rate case, I had assumed a terminal ROE of 9.25%, which was generally consistent with terminal ROE assumptions used by Wells Fargo (9.0%) and Evercore ISI (9.25%). I increased the terminal ROE to 9.5% in the recent Ameren Missouri rate case because of recent sustained higher long-term interest rates. For purposes of this case, I decided to increase the terminal ROE to the recent average authorized ROE of 9.75%. Because it is difficult to predict the future path of average authorized ROEs, a recent average is logical for modeling purposes.

Q. How does this compare to perpetual growth rates used by equity analysts to estimate fair prices for utility stocks?

A. They are consistent with the perpetual growth rates used for purposes of estimating utility stock prices. For example, Evercore ISI uses a perpetual growth rate of 2.5% to 4.5% in its 3-stage DDM analyses of electric utility stocks.[37] Wells Fargo uses an average perpetual growth rate of around 3%.[38]

MULTI-STAGE DCF/DDM

Q. How did you select a proxy group for purposes of estimating Empire's COE?

A. I decided to analyze a broad proxy group of utilities classified as "regulated" and "mostly regulated" utilities by the Edison Electric Institute ("EEI").[39] A complete list of these companies is on page 1 of Schedule DM-D-6. Although I estimated a COE based on this broad group, I also reviewed the companies EEI classifies as "regulated," but even these companies typically have non-regulated operations that contribute to volatility in earnings and/or cash flows. Therefore, I reviewed the various business segments of each of these companies to determine which generally have had less than 10% of their operations exposed to competitive and international markets, which amounted to 18 companies.[40] I

[37] Durgesh Chopra, et. al., "Top Ten Touches – Q1 Investor Activity," Evercore ISI, May 18, 2025.
[38] Neil Kalton, Sarah Akers, and Jonathan Reeder, "DDM Analysis Supports Sector Valuation & Quality/Growth Trade," August 19, 2019, Wells Fargo.
[39] EEI classifies companies as "Regulated" if at least 80% of their assets are dedicated to regulated utility operations.
[40] Consists of the following companies: Alliant Energy Corporation, Ameren Corporation, American Electric Power Company, Avista Corporation, Black Hills Corporation, CenterPoint Energy, CMS Energy Corporation, Duke

also analyzed a subset of the EEI companies I have consistently followed in electric rate cases since 2012—the same group I used as the electric utility industry proxy for creating the charts which I included in this testimony.[41]

Q. Did you perform multi-stage DCF analyses on each of the proxy companies listed in Schedule DM-D-6?

A. I did for companies that had sufficient and meaningful financial data. For the first stage (June 30, 2025 through June 30, 2029) I used Wall Street analysts' consensus DPS estimates to the extent they were available. For the second stage (June 30, 2029 through June 30, 2039), I allowed for a gradual decline from Wall Street analysts' projected 5-year CAGR in EPS to a sustainable perpetual growth rate of 3% starting on June 30, 2039. In order to estimate investors' anticipated annual DPS over the second stage, I determined consensus analysts' estimated dividend payout ratios as of 2029. I then allowed the dividend payout ratios to gradually converge to a sustainable payout ratio of 69.23% starting in 2039, which assumes reinvestment of retained earnings achieve a 9.75% book ROE. This payout ratio is consistent with the constant/sustainable-growth DCF theory that requires DPS, EPS and book value per share ("BVPS") to grow in perpetuity at the same rate.

As it relates to my assumed timing of investors' receipt of dividends, I assumed investors receive the entire annual DPS estimate at the middle of the year. This discounting convention mitigates the potential under- or over-estimating of the COE based on either end-of-year or beginning-of-year discounting conventions.

Using a 3-month average of electric utility stock prices, my industry COE estimate based on application of the multi-stage DCF to the proxy group indicates a COE in the range of approximately 7.8% to 8.1%, which is approximately 55 to 110 basis points higher than

Energy Corporation, Evergy Inc., IDACORP, NiSource Inc., NorthWestern Energy Group, Pinnacle West Capital Corporation, Portland General Electric Company, TXNM Energy, Until Corp, WEC Energy Group, and Xxcel Energy Inc.

[41] *Id.*

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my COE estimates of 7.0% to 7.25% in Empire's 2022 rate case (*see* Schedule DM-D-6, p. 1).

Q. Did you analyze any other scenarios using the multi-stage DCF?

A. Yes. In early 2025, Evercore ISI increased its assumed perpetual growth rates to a range of 2.5% to 4.5% from 1.25% to 3.5%. Evercore ISI also increased its assumed terminal earned ROE to 9.85% from 9.25%. Following the same approach as I explained in my first scenario, I calculated COE estimates using these assumptions. My COE estimates were approximately 20 basis points higher under this higher terminal growth and ROE scenario (*see* Schedule DM-D-7).

CAPM

Q. Are there any other models that investors typically use to estimate the utility industries' COE?

A. Yes. In my experience, many Wall Street analysts use the CAPM to determine a discount rate, *i.e.*, the COE, to apply to expected cash flows to the equity investor. The CAPM shows the specific impact of lower interest rates on the cost of capital. Although CAPM COE estimates can be manipulated by using unreasonable market risk premium estimates, there are a variety of authoritative sources that provide market-risk premium estimates that can form the basis for a consensus view on reasonable risk premium based on current capital-market conditions.

Q. What is the underlying theory that supports the use of the CAPM to estimate the cost of equity for utilities?

A. The CAPM is based on capital market theory in which it is recognized that although the total risk of a company and/or industry consists of market ("systematic") risk and asset/business-specific ("unsystematic") risk, investors are only compensated for systematic risk because holding a diversified portfolio allows the investor to avoid unsystematic risk. Systematic risks are unanticipated events in the economy, such as economic growth, changes in interest rates, demographic changes, etc., that affect almost

all assets to some degree. The required risk premium for incurring the market risk as it relates to the investment/portfolio is determined by adjusting the market risk premium by the beta of the stock or portfolio. The adjusted risk premium is then added to a risk-free rate to determine the cost of equity. The CAPM is typically expressed in equation form as follows:

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

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

For purposes of my CAPM analysis, I relied on Kroll's recommended equity risk premium of 5.5% provided as of April 15, 2025[42] and a range of realized historical equity risk premiums of 5.42% (geometric historical mean for 1926 through 2024) to 6.83% (arithmetic historical annual mean for the period 1926 through 2024) derived from data provided by Ibbotson Associates' Stocks, Bonds, Bills and Inflation database.

Although each of these equity risk premium estimates use various methods and risk-free rates to arrive at their final estimates, I do not consider any estimate outside these to be consistent with the investment community's "consensus." I specifically used a market risk premium range of 5% to 6% to estimate the COE for the electric utility industry. One of the primary drivers of using a higher market risk premium versus a lower market risk premium is due to whether this market risk premium is applied to a normalized risk-free rate or a current risk-free rate (higher market risk premiums applied to lower current low risk-free rates).

Q. What does the beta represent in a CAPM analysis?

A. Beta is statistically defined as the covariance of the returns on an asset (in this case an individual stock or group of stocks) with the return on the S&P 500 divided by the variance of the returns on the S&P 500. This statistical measure is intended to provide investors

[42] https://media-cdn.kroll.com/jssmedia/cost-of-capital/kroll-cost-of-capital-inputs-updated-to-reflect-heightened-uncertainty-in-global-economy.pdf

with insight regarding expected volatility of a security (or portfolio of securities) as it relates to market volatility. A beta of less than one implies less expected volatility than the market with the trade-off of a lower expected return than the market. The reverse is expected for a beta greater than one.

Q. Are stock betas calculated based on historical market prices and relationships?

A. Yes. For example, Value Line's published betas are based on a regression of five years of historical weekly returns of a stock or portfolio of stocks as compared to the weekly returns of the market.

Q. What beta do you consider appropriate for purposes of estimating the electric utility proxy groups' COE?

A. 0.70.

Q. Based on your CAPM analysis, what is your estimated COE for the proxy groups?

A. My CAPM COE analysis indicates that the electric utility industry currently has a COE generally in the 7.8% to 9% range based on market risk premium estimates in the 5% to 6% range. (*see* Schedule DM-D-8).

SIMPLE TESTS OF REASONABLENESS

Q. Are there any other reasonableness tests to show your COE estimates are rational and logical?

A. Yes. First, as I indicated earlier in my testimony, a simple rule of thumb the Chartered Financial Analyst ("CFA") suggests in its curriculum is to estimate the COE by adding a 3% to 4% risk premium to a company's bond yield to provide a fairly simple, but objective cost of equity. Being that the investment community views utility stocks as bond surrogates/substitutes, it is logical and reasonable to not add a risk premium any higher than 3% to the bond. Simply adding a 3% risk premium to the May 2025 average Moody's 'Baa' bond yield of 6.23% implies a 9.23% COE.

Second, one just needs to think about the basic characteristics of utility stocks, which is that investors typically view them as yield investments. An analysis performed by Alliance Bernstein (an equity research firm) showed that between 1974 to 2010, approximately 68% of returns from utility stocks were from the income received through dividends, with the remaining from capital gains.[43] However, with some electric utility companies targeting lower dividend payout ratios, at least in the near-term, in order to fund higher capital expenditure programs related to grid modernization and generation projects, it is reasonable to expect a larger share of returns may be in the form of capital gains. But a fundamental change in the basic characteristics of electric utility stocks is highly unlikely. Even if assuming electric utility stocks generated 50% of returns from capital gains over the long-term, this translates into a 7.10% to 7.85% required return based on the current average electric utility dividend yield of approximately 3.55% to 3.93%, depending on the proxy group analyzed.

RECORDS AND ANALYSIS DEMONSTRATING REASONABLENESS

Q. Do you know of any financial criteria companies typically use for evaluating whether to undertake a capital project?

A. Yes. Since companies are profit driven, one criterion they typically use is a "hurdle rate"—a company-defined minimum required rate-of-return that a project/investment is expected to exceed before the company commits capital to the project/investment. While a company may be willing to invest in projects that achieve an internal rate-of-return ("IRR") that is as low as its estimated cost-of-capital, it may set a hurdle rate that is higher than that estimated cost-of-capital to provide a greater assurance that a potential project will create shareholder value above the initial investment.

Q. Would you expect a hurdle rate to at least be no lower than a company's weighted average cost-of-capital?

A. Yes.

[43] Hugh Wynne, Francois D. Broquin, and Saurabh Singh, "U.S. Utilities: Our Dividend Growth Model Identified Utilities Poised to Pay More," May 20, 2011, Bernstein Research.

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Q. Why?

A. Because investing in projects that do not earn the cost of capital consistent with the risk of the project destroys shareholder value. A company may set its hurdle rate at a margin over its cost of capital to allow for a cushion due to cost and revenue uncertainty.

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Q. What do you mean by "permitted me to review?"

A. As part of discovery, OPC requested access to APUC's BOD materials. Empire provided selected materials without a full privilege log. Empire provided Finance and Treasury Updates from APUC's BOD materials for the period 2022 through early 2025. It is the analysis and information within these materials that I cite to and attach to my direct

[44] Shannon P. Pratt and Roger J. Grabowski, "Cost of Capital – Applications and Examples," Fifth Edition, John Wiley & Sons, 2014, pgs. 247-248.

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testimony in this case. Although these specific materials provided relevant and meaningful information as to APUC's managements' views on *** _____ _____ *** these company records are only a minor portion of APUC's BOD materials. For example, based on APUC's BOD agendas and Audit Committee agendas, APUC's BOD also receives annual budgets, long-term investment/business outlooks, long-term strategy considerations, dividend policy considerations, etc. As is evident from my lengthy analysis and discussion of APUC's Finance and Treasury updates, these internal records are highly relevant and important to consider for purposes of evaluating the credibility of a utility company's requested ROR from its ratepayers. Material and substantive decisions are made at the APUC level, not the utility operating subsidiary level, especially as it relates to financing strategies for a company that centralizes and consolidates its financial management.

Q. Had you pursued this APUC-level information in past rate cases involving Liberty's Missouri utilities?

A. Not as assertively until the recent Liberty Midstates and Liberty Water rate cases.

Q. Why not?

A. Because I was not as concerned about the potential impact APUC's financial performance was having on the cost of capital supplied to Missouri's utilities. Additionally, considering the amount of time and effort I had to expend on deciphering APUC's and LUCo's misleading financing arrangements in past Liberty Missouri rate cases, I believed reviewing APUC's internal records and decision-making processes and procedures would likely lead to discovery of relevant information. It is my opinion that utility regulators should not have to jump through hoops to be afforded the opportunity to review and understand how parent companies manage their monopoly utility subsidiaries. In fact, during negotiations in Case No. EM-2016-0213, when I was working for the Commission's Staff, the parties emphasized that they considered attempts to restrict regulators' ability to review corporate-level documents to be a detriment because Empire, as a fully functioning standalone entity, had typically been transparent and cooperative in providing corporate-level records.

Q. Has OPC had the same difficulties in reviewing parent-company level information for other utilities operating in Missouri?

A. Not to the extent we have experienced with APUC. While in its 2022 rate case, Missouri-American Water Company had hesitated to facilitate Staff and OPC requests to access American Water Works Company Inc's corporate documents, Ameren Missouri, Evergy Missouri West, Evergy Metro and Spire Missouri have cooperated with such requests.

RECOMMENDED AUTHORIZED ROR

Q. Based on your analysis and understanding of the electric utility industry's COE, investor expectations on allowed ROEs, average electric utility authorized ROEs, and Empire's customer service and billing issues, what is a fair and reasonable allowed ROE range in this case?

A. 9.00% to 9.50% with 9.25% being my point ROE recommendation to set Empire's authorized ROR.

Q. Considering you estimate Empire's COE to be in the 7.8% to 8.5% range, why do you consider a 9.25% authorized ROE reasonable?

A. While it certainly may be a worthwhile debate to quantify the amount of "premium," if any, over the COE that is fair and reasonable to allow a utility, the Commission has repeatedly communicated in its orders that it needs to consider average authorized ROEs in setting a fair and reasonable ROE for its Missouri utilities. As it relates to this instant case, I believe the fact that although the cost of capital has increased over the last couple of years, an authorized ROE of 9.25% still allows Empire to create shareholder value simply by investing in rate base because a 9.25% ROE is higher than the Company's COE.

Q. After applying your recommended ROE of 9.25% to your recommended capital structure, what is your overall ROR recommendation?

A. As shown on Schedule DM-D-11, my ROR recommendation is 6.53%.

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SUMMARY AND CONCLUSIONS

Q. Can you summarize your main conclusions and views as it relates to an allowed ROR for Empire in this case?

A. Yes. The cost of equity for utilities has increased since the end of 2022, but it is still below average authorized ROEs. A fair and reasonable authorized ROE for Empire must consider the current context of utility stock valuation levels compared to past historical valuation levels and its quality-of-service issues.

Starting around 2015, the Commission generally considered a 9.5% ROE to be fair and reasonable for Ameren Missouri and Evergy Metro. The fact that Ameren Missouri and Evergy Metro, two companies which directly access third-party debt markets, were still able to attract reasonably-priced capital after being authorized approximately 9.5% ROEs during the same period, provides the Commission with assurance that an authorized ROE no higher than 9.5% is fair and reasonable. Additionally, considering that authorized ROEs in Missouri did not decline much since 2015, despite the continued decline in the cost of capital until 2022, this fact supports not increasing authorized ROEs due to the recent increase in the cost of equity. Consequently, I recommend the Commission set Empire's utility rates based on a 9.25% ROE.

The Commission has set APUC's Missouri utilities ratemaking capital structures premised on the proportion of common equity and long-term debt APUC had typically targeted for its regulated utility segment. While APUC's non-regulated operations and associated capital structure issues caused APUC to become less financially stable, the same has not been true for APUC's regulated utility segment. Therefore, although LUCo's actual capital structures have consistently contained around 60% common equity in recent quarters, this capital structure is not logical, considering these regulated utility operations are still considered low-risk. Therefore, the Commission should still authorize a common equity ratio for Empire based on the common equity ratios APUC had considered consistent with the lower business risk of its regulated utility segment.

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

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 direct 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
Utility Regulatory Manager

Subscribed and sworn to me this 1st day of July 2025.

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

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.