Exhibit No.:	______________
Issue(s):	Rate of Return (ROR)/Capital Structure
Witness/Type of Exhibit:	Murray/Surrebuttal
Sponsoring Party:	Public Counsel
Case No.:	ER-2021-0312

SURREBUTTAL 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-2021-0312

** **

Denotes Highly Confidential and Confidential Information that has been Redacted

January 20, 2022

PUBLIC

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Request of The	)	
Empire District Electric Company d/b/a	)	
Liberty for Authority to File Tariffs	)	Case No. ER-2021-0312
Increasing Rates for Electric Service	)	
Provided to Customers in its Missouri	)	
Service Area	)	

AFFIDAVIT OF DAVID MURRAY

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

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

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

2. Attached hereto and made a part hereof for all purposes is my surrebuttal 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 14h day of January 2022.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI
TIFFANY HILDEBRAND
My Commission Expires
August 8, 2023
Cole County
Commission #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2023.

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SURREBUTTAL TESTIMONY

OF

DAVID MURRAY

THE EMPIRE DISTRICT ELECTRIC COMPANY

FILE NO. ER-2021-0312

Q. Please state your name and business address.

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

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

A. Yes.

Q. What it the purpose of your surrebuttal testimony?

A. The purpose of this testimony is to respond to the rebuttal testimonies of Todd Mooney, John J. Reed and Peter Chari as they relate to issues involving The Empire District Electric Company's ("Empire") rate of return ("ROR") and capital structure. Mr. Mooney specifically responds to my recommended ratemaking capital structure for purposes of setting Empire's authorized ROR. Mr. Reed mainly addresses my recommended return on common equity ("ROE"), but he also attests to the reasonableness of Empire's requested ratemaking capital structure. Mr. Chari addresses my recommended ROE and capital structure.

Q. Have their rebuttal testimonies caused you to change any of your positions?

A. No.

Q. What ROE, capital structure, and ROR are you recommending that the Commission use for Empire for setting its rates in this case?

A. A 9% ROE applied to my recommended common equity ratio of 48.25%. Because my capital structure recommendation is premised on Liberty Utilities Co.'s ("LUCo's") adjusted capital structure, I recommended LUCo's embedded cost of debt of 4.05% be applied to the 51.75% debt ratio. Applying my recommended return components to their respective weights, results in my overall recommended after-tax ROR of 6.44%.

Q. Before responding to each witnesses' arguments, is there anything that you would like to raise about what they did not do in their rebuttal testimonies?

A. Yes.

Q. What?

A. Neither Staff nor the Company provided their updated capital structure recommendations in their rebuttal testimonies. Each party communicated to me in responses to my data requests that they intend to update their capital structure recommendations in their surrebuttal testimony.[1] In response to OPC Data Request No. 3057, Mr. Mooney indicated that his updated capital structure recommendation would be substantially similar to the analysis he provided in response to Staff Data Request No. 0258. Waiting until surrebuttal to provide their updates effectively prevented me from responding to their updated recommendations under the current procedural schedule.

CAPITAL STRUCTURE

Q. What is the main dispute Empire and Staff have with your recommended capital structure?

A. Both Mr. Mooney and Mr. Chari assert that I did not properly consider the Financing Conditions (specifically Condition 5) in the Commission's Report and Order approving Algonquin Power & Utilities Corp.'s ("APUC") indirect purchase of Empire in Case No. EM-2016-0213. Mr. Mooney repeatedly testifies that I changed the approach I used in Empire's last general rate case, Case No. ER-2019-0374, because of personal bias that caused me to take a "results driven" approach.[2] Both Empire and Staff accuse me of being

[1] Staff's Response to EFIS DR No. 0399 and Empire's responses to OPC DR Nos. 3055, 3056 and 3057.
[2] Mooney Rebuttal, p. 10, lns. 9-10, p.

inconsistent in my approach in this case as compared to the last rate case as it relates to evaluating APUC's, LUCo's and Empire's capital structures.

Q. Is the appropriate capital structure to use for setting Empire's ROR prescribed by Financing Condition 5?

A. No. This condition requires Empire to provide certain evidence in the event its capital structure is different from the entity or entities on which Empire may rely for access to financing.

Q. What is the intent of Financing Condition 5?

A. Financing Condition 5 recognized that APUC had communicated to the parties that although Empire was a fully-functioning, stand-alone entity when APUC acquired it, APUC's long-term plan was to eventually consolidate Empire's financing needs and functions with its affiliates at a corporate level(s). I am not aware of APUC communicating a date certain as to when it planned to transition any or all of Empire's financing needs to a corporate level(s). In fact, during the period of Empire's last general rate case, APUC was still in the process of transitioning Empire's access to liquidity through the internal LUCo money pool. APUC fully transitioned Empire's participation in the affiliate money pool beginning September 2020.

Q. What is the intent of Financing Condition 4?

A. Financing Condition 4 is intended to protect Empire's ratepayers from a higher ROR caused by APUC's completion of the acquisition of Empire or a higher ROR caused by Empire's affiliation with APUC on a post-transaction basis. If APUC were to request a higher ROR than that which Empire had as a standalone entity, then APUC is to provide evidence supporting its position that Empire's higher cost of capital was due to factors specific to Empire's standalone business risks.

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Q. Did any other Financing Conditions in the Order approving APUC's acquisition of Empire anticipate a potential transition of Empire's direct financing access to a corporate level(s) within the APUC family of companies?

A. Yes. Financing Condition 6 highlighted the fact that parties expected the potential transition of Empire's financing access and functions to an affiliate. Therefore, Financing Condition 6 was included to remind APUC that any such action (whether on a per transaction basis or generally) shall comply with Missouri's Affiliate Transaction Rules.

Q. Were any of these conditions intended to be controlling for purposes of setting an appropriate ratemaking capital structure to determine Empire's ROR?

A. No. These conditions simply require Empire to provide evidence in certain circumstances. I performed extensive analysis addressing Condition 5 in Empire's 2019 rate case for the following reasons: (1) it was Empire's first rate case since it was indirectly acquired by APUC, (2) the Company and Staff did not provide a detailed comparison of the various capital structures in their testimonies, and (3) it had yet to be firmly established that Empire was no longer financed as an independent entity.

Q. Did you discuss the limits caused by Condition 4 in Empire's 2019 rate case?

A. Yes. Although I recommended Empire's ratemaking capital structure be set based on LUCo's common equity ratio of approximately 46%, I also discussed my position related to a 49% cap on Empire's common equity ratio. This position is supported by that in Empire's last rate case as an independent entity, Company witness Rob Sager had recommended a 49.01% common equity ratio to set Empire's ROR.[3]

Q. Why is it important to discuss these conditions as they relate to this case as compared to Empire's 2019 rate case?

A. Because at the time the parties entered into the acquisition case Stipulation and Agreement (S&A), there was no certainty and/or timeline as to the potential extent of the integration

[3] Case No. ER-2016-0023, Rob Sager Direct Testimony.

of Empire's financing functions and financing access with the rest of its affiliates. At the time of Empire's 2019 rate case, Empire had only one $90 million affiliate note outstanding to LUCo. Empire had also been accessing short-term debt independently by issuing its own commercial paper. At the time of this case, Empire had $515 million of affiliate notes outstanding to LUCo. Additionally, Empire now completely relies on LUCo's internal money pool program for access to liquidity. Although Empire no longer accesses capital markets independently, APUC still subscribes to S&P Ratings and Moody's Ratings for purposes of assigning a credit rating to Empire. As I indicated in my rebuttal testimony, the purpose of such ratings is not clear considering APUC's strategy of integrating Empire with its affiliates for purposes of accessing capital markets.

Q. Did these changes in circumstances cause you to approach this case differently as it relates to your consideration of Empire's capital structure, regardless of how it compares to LUCo's capital structure?

A. Yes. In the context of this case, it is abundantly clear that APUC has fully integrated Empire's access to all forms of capital at a corporate level(s). For example, despite the debate surrounding the interest rate assigned to the $90 million affiliate long-term note in the 2019 rate case, Empire did not seek competitive bidding for the $425 million note it issued to LUCo on June 16, 2021.

Q. Did you consider all of the Financing Conditions 4, 5 and 6 for purposes of your recommended ratemaking capital structure in this case?

A. Yes. Schedule DM-D-3-1 attached to my direct testimony shows the results of my analysis of APUC's, LUCo's and Empire's capital structures for the test year in this case, the 12-months ended September 30, 2020. As shown in this schedule, Empire's capital structure during the test year experienced dramatic swings in the common equity ratio, with a common equity ratio as low as 47.06% on March 31, 2020, and as high as 59.57% on September 30, 2020. Whereas, LUCo's capital structure was much steadier with a gradual increase in its common equity ratios for the quarterly periods March 31, 2020 through September 30, 2020. APUC's adjusted equity ratio remained fairly consistent, but my

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indicated APUC equity ratios mask the complexity of APUC's capital structure. Because no party is recommending the direct or indirect use of APUC's capital structure in this case, I will primarily focus on Mr. Mooney's and Mr. Chari's discussion of LUCo's and Empire's capital structures.

Q. Mr. Mooney criticizes your capital structure recommendation in your direct testimony because it did not reflect the financing of the Wind Projects. Why did it not?

A. I used the October 1, 2019 to September 30, 2020 test year the Commission ordered in the procedural schedule for this case. I was not directly involved in the selection of the test year in this case, but considering Empire filed direct testimony on May 28, 2021, I am not certain why the Company did not request the twelve months ended through March 31, 2021, be used as the test year in this case.

Q. At the time you filed your direct testimony, did you have possession of financial information through the update period in this case?

A. Yes. However, at the time I filed my direct testimony, I had not performed a more in-depth analysis of the concerns I had regarding Empire's most recent unaudited balance sheets. After performing additional discovery, I was able to sufficiently analyze financial information through the update period for purposes of my rebuttal testimony.

Q. What data concerns were you able to address in your rebuttal testimony as it relates to Empire's financial statements through the update period?

A. In addition to auditing the specifics of the financing related to the Wind Projects, I was also able to follow-up with Empire regarding some discrepancies I found in its allowance for funds used during construction ("AFUDC") calculations as compared to short-term debt reported on its quarterly balance sheets. After performing discovery for more detailed financial data, I found that affiliate money-pool borrowings were internally classified as accounts payable rather than short-term debt. Therefore, Empire's balance sheet did not

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provide a clear representation of the capital infused into it for purposes of funding capital needs.

Q. Why did you choose to recommend a capital structure based on your analysis of Empire's and LUCo's capital structures over a period of time rather than as of a specific date as you did in Empire's last rate case?

A. As demonstrated by Empire's and LUCo's capital structures at the end of the test year, September 30, 2020, they had changed significantly since Empire's last rate case. In Empire's last rate case, I discovered documents related to APUC's communications to debt investors and rating agencies which established that APUC considered a long-term debt ratio of up to 55% as consistent with the low business risk of LUCo's regulated utilities. Therefore, I considered it appropriate to attempt to address my following concerns: (1) are LUCo's higher common equity ratios consistent and sustained over time, and (2) do rating agencies' opinions of LUCo's credit quality reflect a shift to a more conservative capital structure.

The increase in LUCo's September 30, 2020, common equity ratio was due to refinancing short-term debt with a greater proportion of equity infused from LUCo's parent company as compared to additional long-term debt. LUCo had a much larger proportion of short-term debt outstanding as of June 30, 2020 (12.83% of the capital structure) than usual. LUCo executed a second credit facility in April 2020 to allow it the ability to borrow $600 million of short-term debt in addition to its existing $500 million credit facility, which primarily served as LUCo's backstop to access an equal amount of commercial paper. LUCo secured access to the second credit facility in response to the capital market instability in the wake of the Covid-19 pandemic. Subsequently, in early 2021, LUCo secured additional short-term funds in order to cover costs related to Storm Uri, as well as for purchase of the Wind Projects. For the three-months ended March 31, 2021, Empire's money pool borrowings ($574.6 million) were over twice the amount of short-term debt issued by LUCo ($241 million). Therefore, LUCo had to obtain funds either from its parent companies and/or from Empire's affiliates to fund Storm Uri costs. As of June 30, 2021, Empire's money pool borrowings declined to an outstanding balance of $432.4 million,

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while LUCo's short-term borrowings increased to $742 million. As shown on my Schedule DM-R-2.2, these wide swings in short-term debt balances significantly impacted Empire's and LUCo's period-to-period capital structures. The circumstances impacting LUCo's capital structures over the last couple of years must be carefully analyzed in order to determine a fair and reasonable authorized capital structure for purposes of setting Empire's ROR.

Q. Did Mr. Mooney discuss any of these details in his direct or rebuttal testimonies?

A. No.

Q. After analyzing Empire's and LUCo's capital structures at June 30, 2021 (the update period), do you consider this date to be ideal for purposes of setting a fair and reasonable authorized capital structure for Empire in this case?

A. No. Both companies' capital structures are extraordinary as of this date as it relates to the high proportion of short-term debt funding their capital needs. Because Empire's short-term debt is a function of affiliate money-pool borrowings, APUC can simply reclassify these internal money-pool borrowings as affiliate long-term debt and common equity transactions to achieve its desired ratemaking capital structure for Empire of approximately 53% equity and 47% debt.

Q. Is the targeting of capital structures for ratemaking APUC's explicitly expressed goal for its management of LUCo's subsidiaries' books?

A. Yes. As I testified in my direct testimony, a memorandum was circulated during an April 24, 2019, Liberty Utilities Central board of director's meeting which stated the following about the management of LUCo's utility capital structures:

** ____
____ **

Apparently, APUC was not pleased with the capital structure the Commission authorized Empire in its 2019 rate case, otherwise I would have expected Empire's capital structure to be consistent with the capital structure the Commission authorized in that case.

Regardless, this fact again demonstrates that APUC manages Empire's capital structure to ratios it desires be used for ratemaking. Therefore, this reaffirms my rationale for recommending the Commission adopt a market-tested capital structure to set Empire's ROR. Only a market-tested capital structure can assure the authorization of a ROR consistent with the amount of debt APUC and investors consider appropriate for LUCo's low-risk regulated utilities. Using the market-tested capital structure also correctly matches the cost of debt required for investing in this capital structure, rather than Empire's internally managed capital structure.

Q. Is it appropriate to authorize Empire a ratemaking capital structure based solely on actual financial data at the end of the original test year, September 30, 2020?

A. No. While LUCo's adjusted capital structure as of September 30, 2020, approximates the high end of my recommended common equity ratio, 49%, LUCo had not completed all financing transactions required to close the purchase of the Wind Projects. However, Mr. Mooney claims that LUCo's $600 million bond issue on September 23, 2020, "pre-funded" LUCo's acquisition of the Wind Projects. I disagree with Mr. Mooney's categorization of this bond issue as a "pre-funding" of the Wind Projects because the proceeds were not reserved for the acquisition of the Wind Projects. Regardless, based on Mr. Mooney's logic, LUCo's and Empire's financial statements as of the test year already reflected much of the capital required to fund Empire's share of the purchase price of the wind projects (*** ____________ *** share of the total *** ____________ ***).[4]

Q. If LUCo had already used the proceeds from the $600 million bond issue for other needs, how did LUCo directly fund Empire's portion of the purchase price?

A. It did so primarily with short-term debt by issuing commercial paper ($258 million increase in commercial paper outstanding since March 31, 2021) and direct borrowings under its credit facility ($243 million). Although I disagree with Mr. Mooney's characterization of LUCo's $600 million bond issue as a "pre-funding" of the purchase of the Wind Projects, I do recognize that this bond issue at least partially refinanced LUCo's $614.5 million of

[4] Mooney Direct, p. 5, lns. 1-2.

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short-term debt outstanding at June 30, 2020, which then allowed LUCo's short-term debt capacity to directly fund its portion of the purchase price.

Q. Has LUCo refinanced the short-term debt it issued to fund Empire's portion of the purchase price of the Wind Projects?

A. Not as of September 30, 2021. In fact, LUCo's short-term debt balance increased by approximately $90 million to $833 million or 13.53% of LUCo's capital structure after eliminating tax equity capital invested directly in Empire Wind Holdings LLC ("Wind Holdco").

Q. Is there any reason to expect LUCo to fundamentally change the mix of capital it typically uses to support its regulated utility assets?

A. No. Therefore, it is reasonable to expect that most of this short-term debt will be refinanced with long-term debt, which would result in LUCo's common equity ratio remaining around 47%. However, if LUCo reduced the proportion of short-term debt to a level more consistent with ratios it carried prior to Covid-19, Storm Uri, and funding of the Wind Projects, then assuming this short-term debt is excluded from the total capital in the capital structure, LUCo's common equity ratio would approximate 49%.

Q. Are the ratings assigned to GP1 based on LUCo maintaining a common equity ratio above 50%?

A. No. DBRS Morningstar (a market leader in rating Canadian companies) indicated that it expects LUCo to maintain its capital structure at an approximate 50/50 mix of equity and debt.[5] This expectation supports the higher end of my recommended common equity ratio of 49%.

[5] Eric Eng, et. al, "Ratings Report: Liberty Utilities Finance GP1," Morningstar-DBRS, January 29, 2021, p. 2.

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Q. Did Mr. Mooney provide an updated capital structure recommendation in his rebuttal testimony?

A. No. I find this interesting considering Mr. Mooney's expressed concern that my direct testimony did not provide a recommended capital structure for the update period. I indicated in my direct testimony that I would provide evidence through the ordered update period in my rebuttal testimony.[6] I did so.

Q. Mr. Mooney alleges that you ignored Empire's capital structure as it relates to determining the most economical capital structure pursuant to Financing Condition 5.[7] According to this condition, what party is compelled to provide evidence if Empire's capital structure is less economical than the entity or entities on which Empire relies for its financing needs?

A. Empire.

Q. Regardless, did you ignore Empire's capital structure when evaluating what capital structure to recommend for setting Empire's ROR in this case?

A. No.

Q. Is Empire's capital structure more economical as of the test year in this case?

A. No. Empire's capital structure was much less economical than LUCo's as of the same date because Empire's indicated common equity ratio was 59.57% compared to LUCo's adjusted common equity ratio of 48.97%. This compares to Empire's requested common equity ratio of approximately 53% in Empire's last rate case and LUCo's approximate 46% common equity ratio as of the original and updated test year in Empire's last rate case. It would be professionally irresponsible of me not to investigate the cause for these changes since the last rate case. Part of determining the potential causes for changes in capital structures includes performing a time-series analysis over the period since the last rate case,

[6] Murray Direct, p. 4, lns. 26-27.
[7] Mooney Rebuttal, p. 10, lns. 19-21.

which is captured in the original test year in this case (12-months ended September 30, 2020).

Q. What happened that caused Empire's capital structure as of September 30, 2020 to become much more heavily weighted in common equity?

A. LUCo indirectly infused $100 million of proceeds as an equity investment in Empire.

Q. How did LUCo raise the $100 million of funds it used to infuse equity into Empire?

A. It received $600 million of proceeds from the GP1 bonds issued on September 23, 2020, at a coupon rate of 2.05%.

Q. Are there any implications from classifying the financing infusion into Empire as common equity rather than as debt through an intercompany affiliate note?

A. Yes. As demonstrated by the dramatic swing in Empire's common equity ratio from 50.65% as of June 30, 2020 to 59.57% as of September 30, 2020, Empire's internal capital structure is not managed to a consistent target for purposes of accessing external capital markets. To the extent the Commission sets Empire's ROR based on an internally-managed capital structure that is inconsistent with that which the owner itself (APUC) has stated is appropriate for its low-risk, regulated utility operations, then APUC would receive a higher revenue requirement due to its internal capital structure ratios. This supports setting Empire's authorized ROR based on a capital structure that is targeted and managed for purposes of raising third-party debt capital. This ensures proper matching between the cost of the debt charged by third-parties and the capital structure in which they invest.

Q. Does the $600 million of debt issued by GP1 reconcile to affiliate notes executed with GP1's affiliates?

A. No. In response to OPC Data Request No. 3016 (see attached Schedule DM-R-5 attached to my rebuttal testimony), Mr. Mooney accounted for $131.5 million of affiliate loans from the $600 million bond issue with the remaining proceeds distributed as equity investments in LUCo. The three affiliate notes identified in Mr. Mooney's response mature on

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September 15, 2030. Empire's $515 million ($90 million promissory note executed on June 1, 2018 and $425 million promissory note executed on June 16, 2021) of affiliate notes issued to LUCo are also assigned terms based on the $600 million bond issue. The total of all borrowings assigned terms similar to the $600 million bond issue is $646.5 million ($515 million + $131.5 million). This further demonstrates the unreliability of setting Empire's ROR based on APUC's internal bookkeeping.

Q. Why did LUCo's equity ratio improve from 45.24% as of June 30, 2020 to 48.97% as of September 30, 2020?

A. LUCo received an equity infusion from APUC. Although this equity infusion strengthened LUCo's balance sheet, I did not consider it appropriate to recommend this common equity ratio in my direct testimony due to my knowledge that this one-time infusion may not be representative of LUCo's typical equity-thickness on a going-forward basis. Therefore, I recommended the mid-point of APUC's targeted common equity ratio range for capitalizing its investment in its Regulated Services Group, which includes Empire.

Q. Could you have done something similar in Empire's last rate case?

A. Sure, but at the time, based on the financial information I had analyzed, it was clear that APUC was managing LUCo's capital structure toward the lower-end of its targeted common equity ratio range of 45% to 50%.

Q. If you accepted Mr. Mooney's suggestion that your analysis in this case should be limited to a point-in-time analysis as of the end of the original test year (September 30, 2020) and the update period (June 30, 2020), what conclusion would you have reached?

A. That there is conflicting information as to whether Empire's or LUCo's capital structure is more economical. As I already discussed, Empire's capital structure as of September 30, 2020, is clearly less economical than LUCo's as of the same date. However, the answer is less clear as of June 30, 2021. As I discussed in my rebuttal testimony, Empire has received significant amounts of capital indirectly from LUCo in the form of money-pool borrowings. Although a footnote in Schedule TM-3 of Mr. Mooney's direct testimony indicates Empire will refinance these money pool borrowings at the same proportion of Empire's targeted internal capital structure, he did not specifically identify the balances of these money-pool borrowings. As of June 30, 2021, Empire had $432.352 million outstanding on its money-pool borrowings (15.01% of the total internal capital supporting Empire's capital structure). After deducting $207 million for Storm Uri and approximately $105 million for CWIP, $120.311 million of short-term debt remains unaccounted for as it relates to Empire's funding needs.

Q. What ROR is implied by Empire's point-in-time capital structure as of June 30, 2021?

A. 6.24% on an after-tax basis and 7.67% on a pre-tax basis.

Q. What ROR is implied by LUCo's point-in-time capital structure as of June 30, 2021?

A. 6.43% on an after-tax basis and 7.88% on a pre-tax basis.

Q. What capital structure is more economical based on balance sheet data as of the end of the update period, June 30, 2021?

A. Empire's capital structure.

Q. Did you discuss this same financial information in your rebuttal testimony when you provided your updated capital structure recommendation?

A. Yes.

Q. Did you review Mr. Mooney's rebuttal testimony before you filed your rebuttal testimony?

A. No. I did not read Mr. Mooney's rebuttal testimony until after I filed my rebuttal testimony. In fact, Mr. Mooney's rebuttal testimony was submitted in EFIS after my rebuttal testimony was submitted in EFIS.

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Q. Why is it important to establish this timeline?

A. Because of Mr. Mooney's numerous accusations in his rebuttal testimony regarding his view that I changed my approach because of "results-driven" bias. As I demonstrated in my rebuttal testimony and this further supporting testimony, the circumstances are different in this case. Quite frankly, I am not surprised Empire's internally managed capital structure, if short-term debt is not considered, has not changed from the last rate case, and LUCo's has moved closer to Empire's targeted common equity ratio. APUC has had time to adjust its management of LUCo's capital structure in order to attempt to convince the Commission that Empire should be authorized a common equity ratio of around 53%.

Q. Has APUC previously identified a targeted (*i.e.* "results-driven") capital structure appropriate for LUCo's low-risk regulated utilities?

A. Yes. As shown in Schedule DM-R-5 attached to my rebuttal testimony and Scheduled DM-S-2 attached to this testimony, APUC clearly indicates that it believed a 45% to 50% common equity ratio and a long-term debt ratio of up to 55% is a reasonable capital structure for purposes of investing in its regulated utilities.

Q. Do the circumstances in this case give rise to the need to analyze APUC's, LUCo's and Empire's capital structures over time rather than only at two points in time?

A. Yes. However, I consider it important to analyze capital structures over a time series even if I ultimately recommend the Commission adopt a capital structure as of a specific date. This process allows me to be informed as to how a company is "normally" capitalized as it relates to potential manipulation for purposes of ratemaking. In the recently concluded Spire Missouri rate case, Case No. GR-2021-0108, I presented the Commission with evidence related to Spire Missouri's timing of security issuances, which gave the appearance of a more costly capital structure than that which Spire Missouri typically maintains over a ratemaking cycle.

Q. How does your recommendation discredit Mr. Mooney's accusations about bias related to your analysis?[8]

A. I recognize that LUCo's adjusted capital structure is that which is considered by rating agencies and fixed-income investors to assess the amount of business and financial risk related to investing in the GP1 bonds. However, fixed-income investors in debt guaranteed by LUCo consider all third-party debt issued by GP1 and legacy operating subsidiary debt LUCo assumed when APUC indirectly acquired the subsidiaries. The cost of this third-party debt was 4.05% as of June 30, 2021, which is higher than the 3.76% cost assigned to Empire. If my analysis were results-driven, as Mr. Mooney accuses, I would have picked Empire's lower cost of long-term debt, as well as included short-term debt in my capital structure recommendation to achieve a lower ROR. I did not do so.

Q. What is your response to Mr. Mooney's concerns related to your analysis of APUC's capital structure?[9]

A. I made various adjustments to APUC's capital structure in Empire's 2019 rate case and this case in order to attempt to achieve some comparability of APUC's capital structure to both Empire's and LUCo's capital structures. As I demonstrated in the 2019 rate case, it is not appropriate to accept LUCo's per books capital structure at face value. Other than short-term debt issued directly by LUCo, the remaining debt shown on LUCo's books is a function of indirect affiliate loans from debt issued by GP1. However, not all of the debt guaranteed by LUCo is transferred to LUCo through affiliate loans. Rather, the proceeds are distributed to LU America Holdco through affiliate loan transactions (see Empire's response to OPC Data Request 3004.1 attached as Schedule DM-S-1). These transactions cause LUCo's per books capital structure to be misleading for purposes of assessing LUCo's financial risk. This scheme was complex in and of itself. While I am not implying APUC's capital structure is intentionally deceptive, it is very complex. APUC's Regulated Services Group is invested in Canada, United States, Chile, and Bermuda. APUC's Renewable Energy Group is mainly invested in projects in North America, but through its

[8] Mooney Rebuttal, p. 10, lns. 9-10, p. 12, lns. 3-9, p. 12, ln. 19 – p. 13, ln. 2
[9] Mooney Rebuttal, p. 11, ln. 3 – 12, ln. 2.

44.2% ownership interest in Atlantica Yield LLC, it is also indirectly invested throughout Europe, South America and Africa. APUC has the following forms of capital on its balance sheet: common equity, 60-year subordinated debt, short-term debt, mandatory convertible equity units, related-party equity, project level debt, redeemable non-controlling interests (project level tax equity), and non-redeemable non-controlling interests (project level tax equity). I find it quite likely that Mr. Mooney and I would have differing viewpoints on how this capital should be treated (equity vs. debt) for purposes of comparing APUC's financial risk to that of LUCo's financial risk. Because I am not recommending APUC's capital structure be used to guide the authorized ratemaking capital structure in this case, fortunately it is not necessary to debate the details of APUC's complex capital structure.

Q. Are there important reasons to be aware of APUC's financing strategies and exposure to higher business risks through its other investments?

A. Yes. The Commission's approval of APUC's indirect acquisition of Empire included safeguards to ensure Empire maintained access to reasonably priced capital. Financing Conditions 1 and 2 trigger certain requirements should Empire's or its Financing Affiliate's (now known to be GP1) S&P Corporate Credit Rating be downgraded to below 'BBB-'. Financing Condition 3 is triggered by **any** downgrade of Empire's S&P Corporate Credit Rating or GP1's credit rating. Empire currently has an S&P 'BBB' Corporate Credit Rating, which is based on S&P's rating of Empire's ultimate parent company, APUC. GP1 is rated 'BBB' by S&P, BBB(high) by DBRS Morningstar and 'BBB+' by Fitch Ratings. Subsequent to APUC's October 26, 2021, announcement of its proposed acquisition of Kentucky Power Company, S&P placed GP1's unsecured debt ratings on CreditWatch with negative implications.[10] The CreditWatch is due to the fact that GP1's debt will be subordinated to additional debt assumed in APUC's indirect acquisition of Kentucky Power Company. Regardless, the fact that GP1's credit rating may be impacted by APUC's financing and investment strategies causes the need to continuously evaluate if

[10] Mayur Deval, et. al, "Algonquin Power & Utilities Corp. And Subsidiaries Outlooks Revised to Negative From Stable," S&P Global Ratings – RatingsDirect, October 28, 2021.

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APUC's capital structure activities are impairing Empire's access to reasonably priced capital.

Q. Are there other aspects of APUC's capital structure activity that can provide helpful insight in analyzing various financing and cost of capital issues in this rate case?

A. Yes. Mr. Mooney testified in Case No. EO-2018-0092 that raising capital through tax equity agreements has been a fairly normal course of business for APUC's Renewable Power Unit's investments.[11] Obviously, the key difference being that such arrangements are not evaluated for purposes of developing a cost of service for utility ratemaking. It is Mr. Mooney's opinion that the required rate of return (internal rate of return or "IRR" as indicated the tax equity agreement) from the bank on its investment can be compared to the rate of return applied to a utility company's rate base.[12] Perhaps the more relevant issue at hand is whether the minority interest from the tax equity investor should be included in the allowed common equity ratio for ratemaking. Apparently Staff and the Company agree it should be excluded if the Commission adopts Empire's internal ratemaking capital structure, but it is not clear if they hold the same position as it relates to evaluating LUCo's capital structure. Mr. Mooney did not eliminate tax equity from his pro-forma adjustments to LUCo's capital structure through March 31, 2021. He also did not do so in his response to Staff Data Request 0258, which contained Mr. Mooney's analysis of each company's capital structures through June 30, 2021. In response to OPC DR Nos. 3055 to 3057, Mr. Mooney indicated he plans to sponsor an updated capital structure analysis in his surrebuttal testimony that will be substantially similar to the analysis he provided in response to Staff DR No. 0258.

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[11] Case No. EO-2018-0092, Mooney Direct, p. 17, l. 5 – p. 18, l. 7.
[12] Mooney's responses to OPC DR Nos. 3043 and 3044.

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Q. Mr. Mooney claims that you "selectively pick and choose what should and should not be included as common equity" as it relates to analyzing each company's capital structures.[13] Are you selectively choosing what should be classified as common equity for purposes of analyzing each company's capital structure?

A. No. In my analysis I attempt to decipher the impacts of APUC's various unique, opaque and complicated financial transactions and the economic impact of such transactions on each company's credit quality. This is no easy task as it relates to analyzing APUC's financial statements and its numerous intermediate holding companies and affiliate financing transactions. Based on Mr. Mooney's logic, in the 2019 rate case the Commission should have directed me to ignore APUC's financial gymnastics to make LUCo's "common equity" balance appear to be higher than LUCo's true leverage situation. In this case, with new forms of capital introduced and the unique tax equity issue, which the Commission has never had to address in setting a utility company's rates, I analyzed the economic consequences of the various capital infusions.

Q. Are LUCo's debt investors subordinated to the tax equity investors?

A. Yes. The tax equity investors own Class A membership interests in Wind Holdco, which is a direct subsidiary of Empire.[14] In return for contributing *** ______ *** of the capital to fund the purchase price of the wind projects, JP Morgan and Wells Fargo required an internal rate of return ("IRR") of *** ______ *** through the "Flip Date."

Q. What is the "Flip Date?"

A. It is the expected date at which the tax equity investors are expected to achieve their required IRR. At the time of the closing of the tax equity agreement, the Flip Date was expected to occur approximately 10 years after the date of the funding of the tax equity investors' capital contribution commitment.

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[13] Mooney Rebuttal, p. 13, lns. 13-15.
[14] Mooney Direct, p. 11, lns. 17-20

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Q. Are JP Morgan and Wells Fargo to receive the majority of the anticipated financial benefits from their investment in Wind Holdco before Empire?

A. Yes.[15] Because the tax equity investors bought shares with a direct financial interest in the Wind Projects, Empire's, LUCo's and APUC's debt and common equity investors are subordinated to the tax equity investors that have direct ownership in Wind Holdco.

Q. Is this type of situation different from other capital, such as preferred stock, that is typically classified as a minority or non-controlling equity interests at a corporate ownership level?

A. Yes. In my experience with Ameren Missouri and other utility companies, preferred stock issued to raise general corporate capital is often classified as non-controlling or minority interest because this capital has no voting rights and it is due dividends before the company can pay dividends to its common equity investors. However, this capital is normally invested in the corporation rather than at a project level.

Q. What does Mr. Mooney's consolidation of the tax equity with LUCo's common equity imply about the order of investor claims to cash flows produced by LUCo's regulated utilities?

A. That it is equally subordinated ("pari-passu") to LUCo's consolidated debt obligations.

Q. Is it?

A. No.

[15] Case No. EO-2018-0092, Mooney Direct, p. 8, l. 13 – p. 10, l. 2.

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Q. Have any other Company witnesses compared the Wind Projects to other generation projects Empire partially owns?

A. Yes. In Case No. EO-2018-0092, Company witness Kris Krygier indicated the ratemaking for the Wind Projects should be similar to ratemaking for Empire's partial ownership in Iatan and Plum Point.[16]

Q. How is Empire's ownership in Iatan and Plum Point accounted for on its consolidated balance sheet?

A. Only the amount of Empire's ownership interest in the plants are recorded on Empire's balance sheet as plant-in-service. Therefore, only the capital Empire issued to fund its purchase in these generation facilities are recorded on Empire's balance sheet.[17]

Q. If the Wind Projects were accounted for in the same fashion, how would this impact Empire's and LUCo's consolidated balance sheets?

A. The portion of the plant funded by the tax equity investor would not be recorded on Empire's or LUCo's consolidated balance sheets. The tax equity supporting this portion of the asset also would not be recorded on their balance sheets.

Q. Did you exclude from LUCO's balance sheet the portion of the plant funded by the tax equity investor and the tax equity supporting this portion of the asset when you analyzed LUCo's capital structure through the updated period, June 30, 2021 in your rebuttal testimony?

A. Yes.

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[16] Case No. EO-2018-0092, Kris Krygier Direct Testimony, p.?
[17] Note 10 to The Empire District Electric Company's 2020 Audited Financial Statements.

Q. Did you exclude from APUC's balance sheet the portion of the plant funded by the tax equity investor and the tax equity supporting this portion of the asset when you analyzed APUC's capital structure for purposes of the 2019 rate case and in your direct testimony in this case?

A. No. I knew APUC had a complex capital structure, but I had not taken these specific complexities into consideration as it related to the tax equity investments in APUC's non-regulated subsidiaries, Algonquin Power Company d/b/a Liberty Power Company's investments in renewable non-regulated power projects.

Q. Would adjusting APUC's consolidated capital structure to consider these project-level tax equity investments cause a lower equity ratio attributable to APUC's common shareholders?

A. Yes.

Q. In light of your discovery, are you changing your recommendation to use LUCo's adjusted capital structure ratios for Empire's ratemaking capital structure in this case?

A. No. However, as I previously indicated, as it relates to the Financing Conditions imposed to safeguard Empire's continued access to investment-grade debt capital it is important that APUC ensures LUCo's credit ratings and debt capacity remain consistent with its low-risk regulated utility subsidiaries.

Q. Mr. Mooney indicates that APUC's communications with debt investors in September 2017 regarding a reasonable targeted long-term debt ratio of up to 55% is outdated.[18] Did Mr. Mooney provide any recent company communications and/or documents that alter the earlier communications?

A. No. Considering Mr. Mooney's high-level position within APUC as detailed in his Direct Testimony, I imagine he would have such intervening information readily available to him.

[18] Mooney Rebuttal, p. 14, lns 17-24.

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On the other hand, I must rely on the Company to respond to specific discovery requests in order to attempt to gain access to such documents. For purposes of full context, I am attaching all company documents (that I am aware of and are in my possession) I had not already attached in previous rounds of testimony (see Schedule DM-R-4 attached to my rebuttal testimony), which communicates APUC's targeted capitalization policies for its Regulated Services Group, the Renewable Energy Group and APUC on a consolidated basis. Please see Schedule DM-S-2 attached.

Q. What is your response to Mr. Mooney's testimony as it relates to your concern about APUC's use of holding company debt?

A. I am not sure if Mr. Mooney is aware of my testimony addressing the use of holding company debt by other companies that own Missouri utilities, but I am by no means expressing a concern any different than I did in those other cases. In fact, in other situations, such as with Spire Missouri and Ameren Missouri, it is abundantly clear to me that the holding/parent companies, Spire Inc. and Ameren Corp., respectively, are using holding company debt at the expense of their regulated utility operating companies. I actually distinguish APUC from Spire Inc. and Ameren Corp in that it has offset the higher business risk from its non-regulated, Renewable Energy Group, with less financial risk, *i.e.*, use of debt, which is consistent with traditional risk and return principles. In fact, until Mr. Mooney attempted to diminish the messaging in the Company's own internal documents and communications with its debt investors, I had considered APUC's acknowledgement of its Regulated Services Group's higher debt capacity to be refreshing. This acknowledgement certainly assists with the often non-productive use of resources to debate this issue at length in setting a fair and reasonable ROR for low-risk regulated utilities. Instead of the Commission having to sort through the various technical nuances of the numerous affiliate financing transactions, the Commission could just adopt a common equity ratio consistent with that which the Company at least is willing to forthrightly communicate as reasonable to parties other than utility ratemaking bodies.

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Q. In Spire Missouri's most recently concluded rate case, Case No. GR-2021-0108, did the Commission adopt your recommendation to set Spire Missouri's ratemaking capital structure consistent with Spire Inc.'s consolidated capital structure?

A. No.

Q. Company witness Mr. Reed indicates that the Commission rejected your recommendations to use Spire Inc.'s capital structure to set Spire Missouri's authorized ROR in Spire Missouri's 2017 rate cases (Case Nos. GR-2017-0215 and GR-2017-0216).[19] Is this correct?

A. Yes.

Q. Mr. Reed claims that the Commission's decisions in these Spire Missouri rate cases support the Commission using Empire's capital structure for purposes of setting rates in this case. Do you agree?

A. No. There are key differences in facts and circumstances as to APUC's ownership and financing strategies for Empire compared to those of Spire Inc.'s ownership and financing strategies for Spire Missouri.

First, Spire Missouri does not completely rely on Spire Inc. for access to the debt markets. While Spire Missouri does access short-term debt markets through Spire Inc., it still issues its own long-term debt. Unlike Empire, Spire Missouri does not have any affiliate long-term debt in its capital structure.

Second, LUCo unconditionally guarantees all debt issued by its financing affiliate GP1, which includes debt loaned to LUCo's affiliates for the sole purpose of purchasing equity in LUCo. Spire Missouri does not guarantee Spire Inc.'s holding company debt. Fitch and DBRS-Morningstar specifically recognize the fact that LUCo guarantees this debt when assigning a credit rating to LUCo and its financing affiliate, GP1. LUCo's

[19] Reed Rebuttal, p. 58, l. 14 – p. 59, l. 9.

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unconditional guarantee of this debt causes all debt issued by GP1 to be rated based on LUCo's adjusted capital structure, not that implied by LUCo's per books balance sheet.

Third, APUC's corporate financing strategy is to consolidate Empire's and its North American regulated affiliates' debt financing needs at the LUCo level, and to issue debt through LUCo's financing subsidiary, GP1. In fact, although Empire's current financial profile warrants a secured debt rating as high as an 'A' rating, APUC did not perform competitive bidding for Empire's June 16, 2021 $425 million affiliate loan from LUCo.

Q. Have Commission decisions addressing Empire and its Missouri affiliates been consistent as it relates to considering LUCo's capital structure for purposes of setting a fair and reasonable ROR?

A. Yes, for many affiliates for many years. Not only did the Commission adopt LUCo's capital structure in Empire's 2019 rate case, but it has also done so for Liberty Utilities (Midstates Natural Gas) Corp. ("Liberty Midstates") and Liberty Utilities (Missouri Water) LLC ("Liberty Water"). In Case Nos. GR-2014-0083 and WR-2018-0170, the Commission used LUCo's capital structure to set the allowed ROR for Liberty Midstates and Liberty Water, respectively. The only difference in circumstances between Empire and its Missouri affiliates is that Liberty Midstates and Liberty Water do not have any legacy third-party debt. Based on APUC's current corporate financing strategy, all of these companies will access debt capital markets indirectly through LUCo's debt platform, with APUC being the conduit for accessing third-party equity markets.

Q. What is the last major issue Mr. Mooney had with your recommended capital structure in your direct testimony?

A. Mr. Mooney takes issue with my interpretation of Financing Condition 4, which restricts APUC from requesting a higher cost of capital for Empire either due to APUC's acquisition of Empire or risks due to the fact APUC's ownership of Empire would expose Empire to many affiliates within the APUC family. Prior to it being acquired by APUC, Empire was a stand-alone, publicly-traded entity with a capital structure and capital costs determined by arms-length (i.e. market-based) transactions. Empire required credit ratings because it

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accessed capital markets directly. Before APUC acquired Empire, its credit rating was 'BBB'. In Empire's last rate case as a stand-alone company, Company Witness Rob Sager requested the Commission apply the allowed ROE to a 49% common equity ratio, which was based on Empire's actual capital structure at the time. As was established in Empire's 2019 rate case, a capital structure with a higher common equity ratio is less economical. Staff has admitted to such in this case as well.[20] Therefore, APUC is requesting the Commission set Empire's ROR based on a less economical capital structure than Empire determined was reasonable for accessing capital markets directly and still maintaining a 'BBB' credit rating. Mr. Mooney has offered no credible evidence to justify why APUC needs a higher equity ratio. Mr. Mooney's testimony vigorously defending APUC's request for a higher authorized equity ratio for Empire, despite the conditions APUC and its affiliates agreed to when it received authority to acquire Empire, is discouraging.

Q. Did Mr. Mooney accurately summarize your interpretation of the Commission's conditions in Case No. EM-2016-0213 in his rebuttal testimony?

A. No. Mr. Mooney indicates in his testimony, with his own emphasis added, that my response to Empire's DR 19 was that the Commission's Order in Case No. EM-2016-0213 "***did not identify a specific common equity ratio and therefore there is not a 49% upper limit.***" Although Mr. Mooney took extreme liberties with his interpretation of my DR response, at least he attached my full response to his testimony as Schedule TM-1. My response is that no specific common equity ratio was identified, but I did not include the "therefore there is not a 49% upper limit" clause. For sake of convenience and context, my full answer to Empire's DR was as follows:

> The Commission's Order in Case No. EM-2016-2016 did not identify a specific common equity ratio. However, in Empire's last rate case, Case No. ER-2019-0374, Paragraph 59 of the Commission's Order indicated that an equity-rich capital structure is less economical than a capital structure with a lower equity ratio.1 Paragraph 71 of the Commission's Order found that LUCo's common equity ratio of 46% was more economical than the equity ratio implied by Empire's balance sheet. The Commission's Order in Case No. EM-2016-0216 specifically states that Empire shall not "seek an

[20] Staff's Cost of Service Report, p. 18, lns. 15-16.

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> increase to the cost of capital as a result of this Transaction [APUC's acquisition of Empire] or Empire's ongoing affiliation with Algonquin Power & Utilities Corp. and its affiliates other than Empire after the Transaction." Empire has not demonstrated that it needs a higher equity ratio as compared to that which it requested when it was a stand-alone company (~49%). As Mr. Murray has explained, Missouri' electric utility companies ability to elect PISA after the passage of SB564 supports a lower business risk profile, which supports a lower equity ratio compared to Empire's request in 2016, not a higher common equity ratio.

As is evident from my full response, I did not conclude that this Condition removed any potential upper limit on Empire's common equity ratio.

Q. Does Mr. Reed express concerns about your original recommended common equity ratio of 47.5%?

A. Yes. He considers my original recommended common equity ratio of 47.5% as "well below the average authorized equity ratio for the proxy group and would result in increased financial risk for the Company."[21] He indicates that if the Commission were to adopt my initial recommended common equity ratio of 47.5%, then "it would be necessary to authorize a significantly higher ROE than what I [Mr. Reed] have recommended to compensate investors for the higher financial risk of Empire relative to the proxy group."[22]

Q. What is your response?

A. His concerns are exaggerated.

Q. Why do you consider his concerns to be exaggerated?

A. Because a 47.5% common equity ratio is not an outlier as he suggests. In the past ten years, for its major electric and gas utility companies, this Commission has authorized common equity ratios in the range of 46.3% (Evergy Metro in Case No. ER-2010-0355) to 54.16% (Spire Missouri in Case No. GR-2017-0108). Other than Empire's 2019 rate case, Empire's ROR had not been litigated in the last ten years. However, in Empire's rate cases

[21] Reed Rebuttal, p. 62, lns. 4-5.
[22] *Id.,* lns. 6-8.

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since 2010, Empire's own witnesses recommended common equity ratios in the range of 48% (Case No. ER-2010-0130) to 51.45% (Case No. ER-2014-0351) with the most recent request as stand-alone company being 49.01% (Case No. ER-2016-0023).

Q. Were Evergy Metro's and Empire's authorized common equity ratios determined based on the publicly-traded parent company's actual capital structures?

A. Yes.

Q. Was Spire Missouri's authorized common equity ratio determined based on the publicly-traded parent company's actual capital structure?

A. No. As previously established in testimony in this case, the Commission relied on Spire Missouri's capital structure ratios.

Q. Does Staff agree with your recommended capital structure?

A. No. Staff testifies that my "reason for recommending LUCo's capital structure for Empire's ratemaking is baseless."

Q. Did Staff perform its own independent analysis of APUC's, LUCo's and Empire's capital structures?

A. It does not appear so. Staff adopted Mr. Mooney's analysis presented in his direct testimony, despite the fact that Staff cited Mr. Mooney's response to Staff Data Request No. 0258 as support for its recommended capital structure. Mr. Mooney's response to Staff Data Request 0258 presented his analysis of APUC's, LUCo's and Empire's capital structures as of June 30, 2021. Because Staff did not provide any workpapers with its direct testimony to support its decision to adopt Mr. Mooney's recommended capital structure, I requested Staff's explanation for adopting Mr. Mooney's recommendation. Staff's reply follows:

> Staff relied on the data and explanation provided by Mr. Mooney in his direct testimony, as well as past financial statements of APUC, LUCo and Empire to verify the reasonableness, accuracy, and reliability of the pro forma capital structures presented by Mr. Mooney.[23]

Short of deposing Staff witness Mr. Chari, it is difficult for me to discern exactly what analysis Mr. Chari performed to accept the accuracy and reliability of Mr. Mooney's analysis.

Q. Mr. Chari claims that your recommended capital structure did not "properly consider the merger conditions 4 and 5 that the Commission ordered in its Report and Order in Case No. EM-2016-0213, where it approved APUC's acquisition of Empire.[24] Is he correct?

A. No. I did consider these conditions, although I disagree that any party other than Empire is obligated to address them. I addressed these conditions in detail in Empire's 2019 rate case because that was the first rate case Empire filed under its new ownership. At the time the parties entered into the S&A in Case No. EM-2016-0213, the timeline of APUCs planned and/or allowable integration of Empire's financing functions and access with the rest of its affiliates was uncertain. It is now abundantly clear that Empire's financing functions and access are fully integrated with the rest of its affiliates. Empire now has $515 million of affiliate notes on its balance sheet and at its peak, had received almost ** __________ ** of funds from LUCo's money pool. Because Empire no longer accesses capital markets directly in any fashion (in contrast to Spire Missouri, Ameren Missouri, Evergy Metro and Evergy Missouri West), there are only two remaining consequential market-based capital structures for consideration, LUCo's and APUC's.

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[23] Staff's response to EFIS Data Request No. 0375.
[24] Chari Rebuttal, p. 16, lns. 9-11.

RETURN ON COMMON EQUITY

Q. What are Staff's and the Company's concerns related to your ROE recommendation?

A. Both Mr. Chari and Mr. Reed believe I should recommend a higher ROE than that which the Commission authorized for Empire in its 2019 rate case. They maintain that because utility stock prices imply a higher COE now compared to those at the time of the 2019 rate case, this justifies the Commission awarding an ROE above 9.25%.

Q. How do you respond?

A. I agree that the COE increased since I performed my COE analysis for purposes of my direct testimony in Empire's last electric rate case. In fact, the acute disruption in the capital markets at the time of the onset of the Covid-19 pandemic occurred during the pendency of the 2019 rate case. The disruption in the capital markets at that time caused me to increase my recommended ROE to 9.5% in my Surrebuttal/True-Up Direct Testimony filed on March 27, 2020. However, subsequent to filing my Surrebuttal/True-Up Direct Testimony, I filed Supplemental Surrebuttal Testimony on April 17, 2020 to renew my initial ROE recommendation of 9.25% due to improvement in the capital markets caused by significant intervention by the Federal Reserve.[25] I provided the Commission with as current information as possible regarding capital market conditions at that time. This information was important due to the potential practical issues Empire may face with its access to capital at any cost, let alone potential increased cost. In fact, at the time, I had inquired with the Company as to how the disruption in capital markets may impact Empire's access to and its cost of capital, but Empire objected to these DRs because the events occurred after the updated test year (January 31, 2020).

[25] Case No. ER-2019-0374, Murray Supplemental Surrebuttal, April 17, 2020.

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Q. Although Empire did not provide information during its 2019 rate case as to how it could ensure continued access to capital through its owners, what did you later learn APUC did to ensure continued access to capital?

A. APUC procured additional credit facilities. APUC stated the following in its June 30, 2020, financial statements regarding these actions:

> Given the uncertainty caused by the COVID-19 pandemic, the Company secured additional liquidity as an additional margin of safety intended to ensure the Company can continue to move forward with its 2020 capital expenditure program and committed acquisitions independent of the state of the capital markets. The additional liquidity is in the form of three new senior unsecured delayed draw non-revolving credit facilities for a total of $1,600,000 maturing in April, 2021. As at June 30, 2020, there was $400,000 drawn on these facilities [dollars in thousands].[26]

Q. Have APUC and LUCo been able to access corporate debt markets at reasonable cost since April 2020?

A. Yes. In fact, as demonstrated by GP1's (LUCo's financing affiliate) $600 million bond offering at a coupon of 2.05% in June 2020, they have been able to access capital markets at lower costs than before the Covid-19 pandemic.

Q. What about their access to equity markets?

A. Yes. First, as a reminder, LUCo does not directly access third-party common equity capital. It relies on APUC to access these securities. APUC issued mandatory convertible equity units ("MCEU") on June 23, 2021. Holders of the MCEU are required to purchase APUC stock on June 15, 2024. The holders of the MCEU are contractually committed to purchase at a price no lower than $15 (the "reference price") and no higher than $18 (the threshold appreciation price). The reference price is based on APUC's closing stock price as of June 17, 2021. If APUC's stock price should be between $15 to $18 at closing, the amount of common shares issued to the MCEU holder will be determined by dividing the MCEU price of $50 by the price at closing. If APUC's common share price at closing is

[26] June 30, 2020, Unaudited Interim Consolidated Financial Statements of Algonquin Power & Utilities Corp., Note 7 to the Financial Statements.

below $15, then the MCEU holder does not receive additional common shares to compensate for this decline in value (MCEU holder is exposed to price declines below $15). If APUC's common share price at closing is above $18, then the MCEU holder does not receive fewer additional common shares (MCEU holder participates in the increase in share price over $18). Therefore, the investor is exposed to potential declines in APUC's stock price of $15 at the time of purchase of the MCEU, but only participates in stock price increases if APUC's price should increase more than 20% (CAGR of 6.27%) in the next three years. In return for incurring the risk of a decline in price and foregoing the stock price gain of up to 20% over the next three years, the investor in the MCEU requires compensation through a much higher yield than if the investor had simply purchased APUC's stock in the open market and received a return from APUC's dividends and anticipated capital gains over the next three years. This opportunity cost of investing in the MCEU rather than APUC's common stock gives rise to a breakeven analysis of issuing or purchasing one or the other. Because the value of this investment depends on the potential volatility and value of APUC's stock, the yield required on the MCEU can be used to test the reasonableness of various parties' COE estimates in this case. Based on APUC's willingness to pay a total yield of 7.75% to investors purchasing the MCEU, APUC must believe that its current COE is above 7.75%. APUC analyzed the breakeven point of the cost of issuing common equity or the MCEU (attached as Schedule DM-S-3). APUC's analysis shows that the breakeven CAGR in its stock price over the next three years is ** ________________________ ** As long as APUC's stock price increases by at least this amount then issuing the MCEU would be less costly than issuing traditional common equity. This implies that the break-even stock price at which APUC would be indifferent between issuing MCEU or traditional common equity is ** ____ **. If APUC did not have confidence that its stock price would increase by at least ** __ ** over the next three years, then issuing the MCEU rather than common equity would cause a higher cost of capital.

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Q. Does APUC's break-even analysis contradict Mr. Reed's opinion that the cost of capital will be higher during the period in which Empire's rates will be in effect?

A. Yes. If APUC thought its COE would increase rather than decrease over the next three years, then it would issue common equity to investors now rather than issue the MCEU, which locks in an issuance of common shares in three years. Mr. Reed's opinion is at direct odds with the owner (APUC) of the Company (Empire) that hired him to sponsor ROR testimony.

Q. What have the trends been for the United States' regulated electric utility industry's equity markets?

A. As I explained in Empire's 2019 electric rate case, electric utility stock valuation levels were at all-time highs immediately prior to the onset of the Covid-19 pandemic. Naturally, this translated into very low COE estimates at the time I sponsored direct testimony in Empire's 2019 rate case (I estimated a COE in 5.5% to 6.5% range). While it was certainly my opinion that this justified at least some consideration by the Commission for a lower ROE for Missouri's electric utilities at the time, I recognized authorized ROEs should be gradually reduced rather than in one fell swoop.

Q. Mr. Chari and Mr. Reed suggest that because your COE estimates have increased since that which you estimated in your direct testimony in Empire's 2019 rate case, this supports authorizing Empire an ROE higher than 9.25%. What is your response to their logic?

A. It fails to consider the longer-term trend in Empire's cost of capital both due to macro trends and more investor friendly ratemaking mechanisms, such as PISA, afforded to Empire. The cost of capital has been on a downward decline since 1980 with a more pronounced decline within the last decade after the Federal Reserve initiated substantial monetary stimulus programs subsequent to the financial crisis and recession in 2008/2009. The below chart shows the changes in the electric utility industry's P/E ratios since January 1, 2012:

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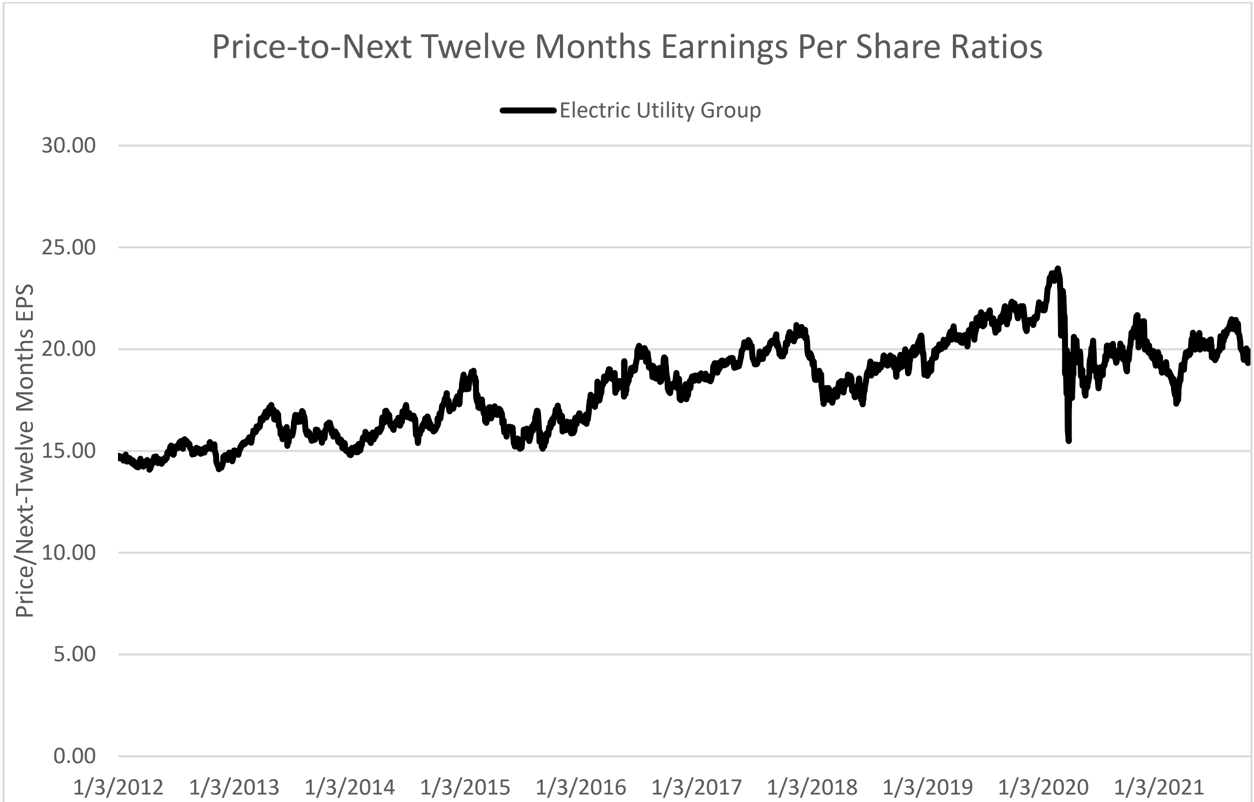
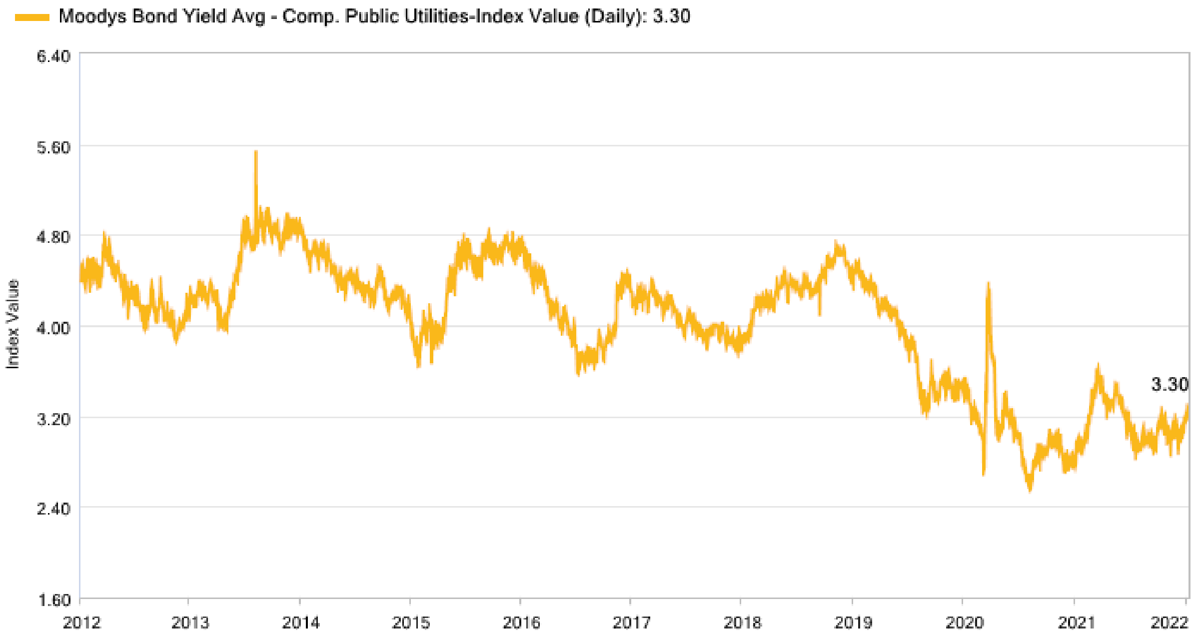


As shown in the above graph, around mid-decade, when the Commission had deemed approximate 9.5% authorized ROEs as appropriate for Missouri's large electric utilities,[27] electric utility stock P/E ratios regularly traded in the 15x to 17x area with a peak of around 18x in late 2014 to early 2015. Moody's composite utility bond yields at this time were in the 4% to 4.8% area. Now, electric utility stock P/E ratios regularly trade around 20x, even subsequent to Empire's last rate case. As is also evident from the above chart, electric utility stock P/E ratios reached an all-time high of around 23.5x right before the onset of the Covid-19 pandemic, which supported my very low COE estimates captured using the DCF method. Moody's composite utility bond yields have recently stabilized in the 2.9% to 3.3% range, as shown in the below chart:

[27] The Commission awarded Ameren Missouri an ROE of 9.53% in Case No. ER-2014-0258 and Kansas City Power & Light Company (renamed to Evergy Metro) an ROE of 9.5% in Case No. ER-2014-0370.



The above data clearly demonstrate that the current cost of capital is much lower than the middle of the last decade when the Commission deemed approximate 9.5% awarded ROEs to be fair and reasonable for Missouri's large electric utility companies.

Q. Mr. Reed concludes from his analysis of the pre- and post-Covid periods that investors no longer "perceive the electric utility sector as a safe haven during periods of economic weakness and volatility in financial markets."[28] Is Mr. Reed misinterpreting the fundamentals of market conditions since markets declined abruptly in March 2020?

A. Yes. While he is correct that utility betas converged with market betas for a very short period in the spring of 2020, this was true for betas in all industries. It is common for all securities, both higher-risk and lower-risk securities, to move in tandem during significant market corrections. Because betas measure the relative volatility of a company or a portfolio as it relates to the market, if all securities rapidly decline at the same time, this causes all betas to converge toward one. For example, companies in the semiconductor equipment industry typically have betas that significantly exceed one. However, when all

[28] Reed Rebuttal, p. 4, lns. 11-13.

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securities declined at the start of the pandemic, the semiconductor equipment industry companies' betas decreased towards one. After the stock market data associated with the synchronized decline of equity markets during March and April of 2020 began to drop off of 1-year beta calculations, the semiconductor equipment industry companies' betas started to increase back to their normal higher levels.

Q. Why have the broader markets significantly outperformed utilities since the spring of 2020?

A. Because of extremely loose monetary and fiscal policies. These policies were initiated in response to concerns of the impact of Covid-19, and corresponding measures taken to limit its spread, on the economy. These policies have also caused a significant increase in broader market valuation levels, with significant support for technology companies. Quite simply, investors' appetite for risk increased due to the very accommodating monetary and fiscal policies, which benefited broader capital markets and therefore, investors.

Q. Can you provide supporting market analysis to corroborate your view?

A. Yes. The following chart shows the fundamental shift in P/E ratios for the S&P 500 since the Fed and the United States Congress took aggressive and extraordinary actions to support the economy and capital markets:

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Data from Jan. 6, 2012, through Jan. 6, 2021.
Source: S&P Global Market Intelligence

A recent WSJ article also described recent market reactions to potential tightening of monetary policy as follows:

> The market fell Wednesday on news that the Fed might lift short-term interest rates as soon as March, and it extended its decline throughout the week. The S& P 500, which soared 27% in 2021, fell 1.9% in the first week of the new year. The tech-heavy Nasdaq Composite recorded its worst week since February. The yield on the 10-year U.S. Treasury note rose to 1.769%, its highest since January 2020.
>
> Low interest rates make investors more willing to pay rich valuations for stocks, and equity valuations shot higher in 2020 after the Fed slashed its benchmark rate to near zero. In 2021, price-to-earnings multiples remained higher than the long-term norm but started to edge lower…
>
> … The stakes are especially high for growth stocks, which trade at hefty multiples because they promise expanding future profits. Rising yields can hurt pricey stocks in particular because higher yields pressure the value of companies' future cash flows. Higher yields also give investors more options as to where to park their money for a profit, making them less willing to take a risk on stocks.[29]

[29] Langley, Karen, "Earnings Season Ushers in Test for Stocks," *The Wall Street Journal,* January 10, 2021, pgs. A1 and A2.

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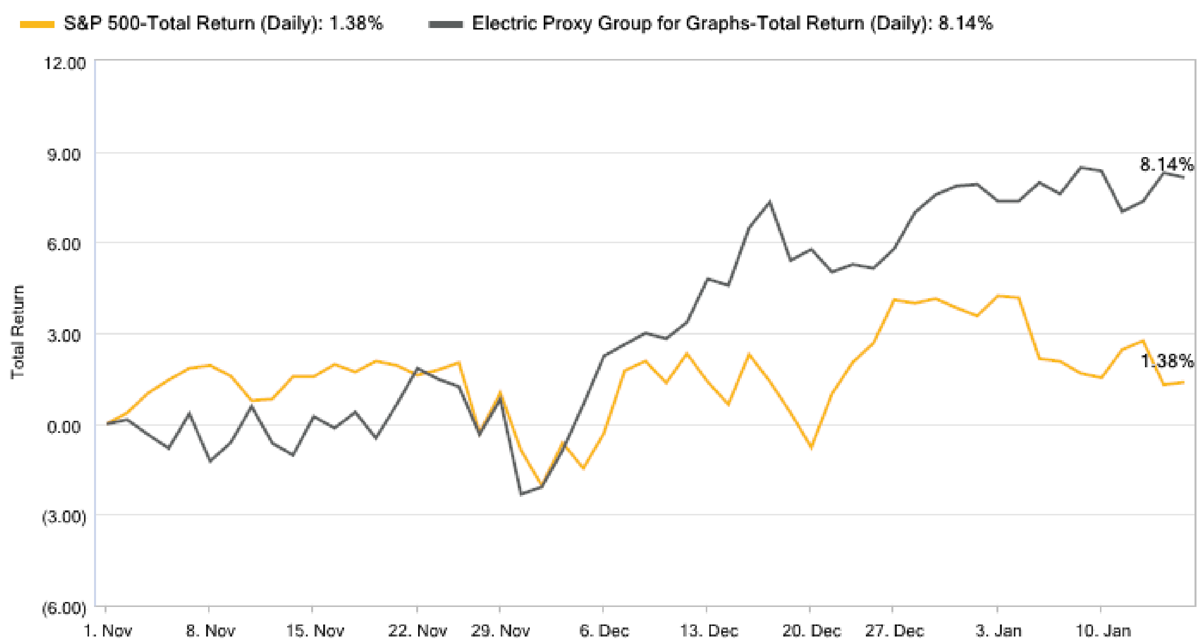
Therefore, the underperformance of utility stocks during the last couple of years is more a function of an increase in investors' appetites for riskier stocks with projected payouts much further in the future, rather than investors no longer perceiving utility stocks as a defensive safe-haven. In fact, since November 2, 2021, when the Fed announced its intention to taper its bond purchases, electric utility stocks outperformed the S&P 500 by 6.76%, as shown below:



As is also apparent from the chart, utility stocks' relative outperformance over the S&P 500 has been much more pronounced since the beginning of December 2021, when the Fed announced it would accelerate the unwinding of its monthly bond (mortgage and treasury) purchases by $30 billion/month rather than $15 billion/month. At the new faster pace of tapering of bond purchases, the Fed is on track to stop buying bonds by March 2022. . The market's reaction to recent events directly contradicts Mr. Reed's testimony that utility stocks are no longer considered a safe-haven during uncertain and tightening economic periods.

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Q. Mr. Reed claims that you abandoned/discarded your COE estimates for purposes of your recommended allowed ROE point recommendation of 9.0%.[30] Is this an accurate representation of your testimony?

A. No. My recommended authorized ROE of 9.0% takes into consideration many different factors. A fundamental principle of shareholder value creation is for a company to invest in projects that allow the company to at least earn its cost of capital. An allowed ROE of 9.0% allows for a margin of approximately 175 to 250 basis points over my estimate of Empire's COE in the range of 6.5% to 7.25%. Investors have become accustomed to regulators allowing utility companies returns that are higher than their cost of capital. In fact, some investors, such as Evercore ISI, use investment models that assume regulators currently allow an ROE to COE spread of approximately 440 basis points (9.75% ROE – 5.35% COE), but will eventually reduce the spread to a range of 225 to 285 basis points as either the COE increases, the allowed ROEs decrease or a combination of both.[31]

The fact that the COE for utilities is this low establishes the reasonableness of my recommended authorized ROE, which allows Empire to increase shareholder value above the classic economically efficient amount, which is theoretically supposed to be no greater than the value created from earning a return consistent with the cost of capital. Regardless, my determination that the COE is much lower than Empire's last authorized ROE of 9.25% provides support for reducing Empire's authorized ROE. However, I also understand from past Commission decisions that the Commission has relied on a zone of reasonableness ("ZOR") that has generally been 100 basis points (1%) above and below recent average authorized ROEs. Average authorized ROEs for vertically-integrated electric utilities were 9.39% for the first 9 months of 2021 and 9.46% for the last twelve months ended September 30, 2021.[32] Therefore, approximately 100 basis points below these average authorized ROEs established the low end of my recommended authorized ROE range.

[30] Reed Rebuttal, p. 9, lns. 14-16, p. 13, lns. 17-19 and p. 51, lns. 7-9.
[31] Durgesh Chopra and Michael Lonegan, "Steady Growth – A Look at Q4 Electric Demand," Evercore ISI, January 9, 2022, p. 6.
[32] RRA Regulatory Focus – Major Rate Case Decisions, January – September 2021, S&P Global Market Intelligence, October 28, 2021.

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Q. Mr. Reed disagrees with your testimony that allowed ROEs are generally higher than the utility industry's COE.[33] Does this mean he disagrees with others?

A. Yes. Mr. Reed also disagrees with investors and APUC. I cited examples of investors using a discount rate (i.e. COE) lower than authorized ROEs in my direct and rebuttal testimony.[34] In my direct testimony, I provided the COE APUC used to determine the fair value of its regulated utility assets.[35] The COE estimate APUC used was provided by Scotia Capital, an investment research firm that publishes equity research reports covering APUC's stock.

Q. Did Mr. Reed provide any corroborating COE estimates from investor and/or APUC to support his position?

A. No.

Q. What is the basis for Mr. Reed's position?

A. Mr. Reed claims he understands how investors factor in projected compound annual growth rates ("CAGR") in earnings per share ("EPS") in absolute valuation approaches, such as the discounted cash flow ("DCF") method. Mr. Reed claims that the reason my DCF COE estimates are lower than allowed ROEs is because my assumptions do not reflect investors' expectations. However, he does not provide examples of practical investment analysis to corroborate his position. He simply claims that because investors rely on equity analysts' recommendations, this translates into proof that investors assume that utility companies' dividends per share ("DPS") will grow in perpetuity at the same rate as equity analysts' 3-5 year CAGR in EPS. This is incorrect. I discussed the fallacy of Mr. Reed's conclusion at length in my rebuttal testimony so I will not repeat it here.[36]

[33] Reed Rebuttal, p. 44, ll. 10-44.
[34] Murray Direct, p. 24, lns. 8-19 and Murray Rebuttal, p.34, lns. 1-10.
[35] Murray Direct, p. 24, lns. 14-19.
[36] Murray Rebuttal, pgs. 31-33.

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Q. How do investors utilize estimates for long-term compound annual growth rate ("CAGR ") in EPS for valuing utility stocks?

A. They use it to compare a company's justified P/E ratio as compared to a peer average P/E ratio. If a company has higher projected CAGR in EPS as compared to the average for the industry, then this may justify a higher P/E multiple, which an investor or analyst will apply to his/her projected EPS to determine a potential return relevant to the company's current stock price.

Q. Mr. Reed disagrees with your testimony that investors expect authorized ROEs to be at risk due to continued low long-term interest rates.[37] Did you support your position?

A. Yes. I provided corroborating information from Evercore ISI and Wells Fargo.

Q. Did Mr. Reed provide similar information to support his position?

A. No.

Q. What is the basis for his position?

A. He asserts that because long-term interest rates are projected to increase and because utility stocks are typically inversely correlated with changes in long-term rates, "as interest rates increase, the share prices of utility stocks **will** decline." (Emphasis added)[38] He surmises that because the average authorized ROE for "vertically-integrated electric utilities was 9.60 percent in 2020, during the low point of yields on the 30-year Treasury Bond,"[39] and "interest rates have increased since August 2020 and are expected to continue to increase over the near-term,"[40] investors do not expect authorized ROEs for vertically-integrated electric utilities to decline.

[37] Reed Rebuttal, p. 25, ln. 16 – p. 26, ln. 9.
[38] *Id.,* p. 44, ln.17
[39] *Id.,* p. 26, lns. 5-6.
[40] *Id.,* p. 26, lns. 6-7.

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Q. Do you agree with him that an expected increase in interest rates will cause utility stock prices to decline?

A. No. Although Mr. Reed and I agree that over the long-term, there is a high inverse correlation between changes in interest rates and utility stock valuation levels, this does not mean that current utility stock prices don't reflect investors' consensus expectations of changes in interest rates. I agree the current consensus is that long-term rates will increase, which explains why recent increases in interest rates have not caused a decline in utility stock prices (see chart comparing S&P 500 to the electric utility industry), just as the decline in interest rates in 2020 did not cause an increase in utility stock prices.

Q. Do you have supporting investor commentary for your position?

A. Yes. In a recent research report analyzing current utility stock valuation levels related to expected changes in interest rates JP Morgan indicated the following:

> **Valuation favorable within the context of expected rate increases.** Our regression analysis suggests the sector offers a compelling value proposition at its current -9% discount to the S&P 500, even with the potential headwind of rising interest rates. Our 20-year relative S&P 500 valuation regression versus the US 10-year implies that utilities should trade at a +3% premium to the S&P 500. This analysis incorporates a +75bp interest rate increase, from the 1.51% YE21 UST 10-year yield to the 2.25% YE22 forecast by J.P. Morgan's Interest Rates Strategy team (more detail below). Utilities moving toward our regression-implied valuation from the current -9% discount would deliver a +12% return in 2022 with a 75bp interest rate increase, or +15% return if rates remained flat. Conversely, this current discount implies an elevated 4.87% US Treasury 10-year yield under the same regression math, highlighting the group's relative discount as overdone in the current rate environment. Overall, we see ongoing generation transition, system resiliency and reliability, and environmental themes bolstering the sector's 2022 outlook.[41]

Utility stocks and interest rates are currently behaving fairly similar to the pattern they exhibited in 2018, when investors feared a recession may be on the horizon. During this

[41] Jeremy Tonet, CFA, et. al., "North American Utilities: Regression Reveals Relative Rate Risk More Than Compensated for at Current Valuations," J.P. Morgan, January 6, 2022, p. 1.

period, as is consistent with the last couple of months, utility stocks and interest rates had a positive correlation.

Q. Mr. Reed testifies that Moody's downgraded Central Hudson Electric and Gas Company ("Central Hudson") due in part to lowering its authorized common equity ratio to 48% from 50%.[42] Has Moody's been consistent in its concerns about authorized common equity ratios for Missouri's electric utility companies?

A. No.

Q. What was Evergy Metro's last Commission-authorized capital structure for purposes of setting its allowed ROR?

A. In Evergy Metro's (f/k/a Kansas City Power & Light Company) last fully litigated rate case, Case No. ER-2016-0285, the Commission authorized Evergy Metro a ratemaking capital structure consisting of 49.2% common equity and 50.8% long-term debt.

Q. Was Evergy Metro placed on a "negative watch" or "negative outlook" after the Commission Order?

A. No.

Q. Did Evergy Metro recommend an equity ratio similar to what the Commission authorized?

A. Yes. Evergy Metro recommended a common equity ratio of 49.72%.

Q. Mr. Reed says that you do not discuss inflation. Does your cost of capital estimate address inflation?

A. Yes. Security prices reflect investors' expectations, which includes an inflation risk premium. Although actual and potential price inflation has been a "hot topic" recently, the fact that there has not been extreme selling pressure on fixed-income securities, and utility

[42] Reed Rebuttal, p. 13, ln. 14 – p. 14, ln. 12.

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equities for that matter, provides the most objective insight on investors' reaction or non-reaction to price inflation. Based on recent spreads between yields on 30-year UST nominal bonds (~ 2.05%) and spreads on 30-year UST inflation-protected bonds ("TIPS") (~ -0.15%), investors currently factor in an inflation risk premium of 2.2%. Again, this inflation risk premium is already factored into security prices.

Q. Mr. Reed claims your CAPM analysis should have employed projected risk-free rates because of the "forward-looking nature of the analysis," which according to Mr. Reed captures the intent of estimating the COE "for the forward-looking period when the Company's rates will be in effect.[43] Do current security prices, whether they are stocks or bonds, reflect investors' expectations regarding future market conditions and a required risk premium to be compensated for this uncertainty?

A. Yes. This understanding forms the basis for Duff & Phelps' (an authoritative source that publishes information used to estimate the cost of capital) advisement to use only the income return on government bonds to determine the true "risk-free" required return. An investor buying a 30-year UST bond at today's prices, requires a risk-less return of approximately 2.05%. If long-term interest rates change from current rates, then investors would experience an unrealized gain or loss in the value of the bond. The investor only achieves a risk-less 2.05% return if he/she holds the bond until maturity.

Also, as I indicated previously, Mr. Reed's view on increasing costs of equity environment is contradicted by APUC's decision to issue mandatory convertible equity units rather than common equity.

Q. Has the typical negative correlation between interest rates and utility stocks held since the Covid-19 pandemic and the resulting massive Fed and United States Congress' interventions?

A. No. Utility stocks have significantly underperformed the S&P 500 over the last couple of years. This occurred despite the drastic decline in UST and corporate bond yields over this

[43] Reed Rebuttal, p. 48, ln. 15 – p. 49, ln. 9.

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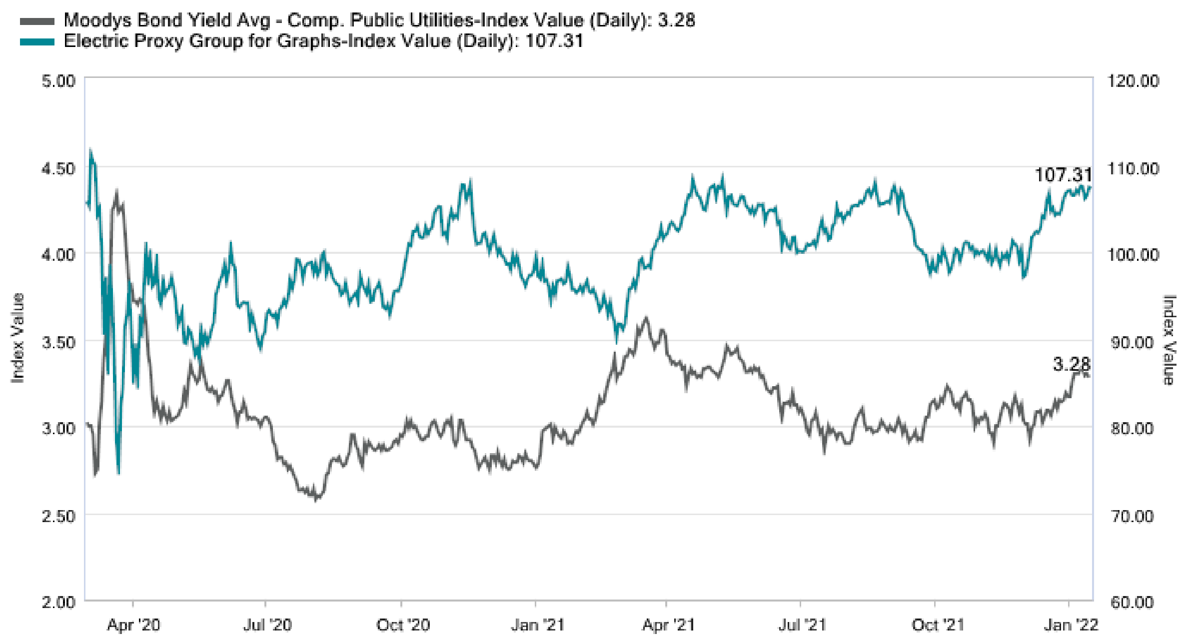
period. As demonstrated in the below graph, for the period since the Covid-19 pandemic, electric utility stock prices have only been slightly correlated with changes in bond yields (-17% correlated). For the period January 1, 2015 through February 8, 2020 (prior to the pandemic) utility stocks and bond yields held their typical high negative correlation of around -69%).



Of particular interest is that since November 2021, despite the fact interest rates have been increasing, utility stock prices have also increased. This is likely due to the fact that investors in utility stocks had already factored in higher long-term rates and the attractiveness of the utility sector if the economy slows due to Fed tightening of monetary policy.

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Q. Mr. Reed testifies that instead of relying on Value Line betas as you have in the past, you "recalculated" betas for purposes of your CAPM analysis.[44] When is the last time you directly relied on Value Line's published betas to estimate the COE for electric utilities?

A. Approximately ten years ago. At around that time, Staff and many other parties covering/involved in the utility industry began to use SNL extensively for access to market, financial and industry data as it relates to utilities. SNL was later acquired by S&P Global and is now commonly referred to as S&P Global Market Intelligence's Capital IQ platform. S&P Capital IQ also owns Regulatory Research Associates ("RRA") which publishes information related to utility regulatory proceedings throughout the United States. As part of this service, S&P Capital IQ provides various tools that allow for more efficient analysis of financial and market data.

Q. Does Mr. Reed rely on market vendors other than Value Line to evaluate betas?

A. Yes. He apparently has access to a Bloomberg terminal because he provides betas derived from the Bloomberg database. Bloomberg terminals are typically used by institutional investors because the high cost (around $24k/year) buys users access to extensive market data and various tools the user can customize for specific needs. Bloomberg terminals allows users to specify various time periods to calculate betas. However, the statistical methods Bloomberg and Value Line uses are based on standard statistical methods.

Q. Is S&P Capital IQ's template that you used based on standard statistical methods?

A. Yes.

Q. Is the formula for beta calculations proprietary?

A. No. While the various market vendors may publish betas based on a variety of time periods (e.g. 1 year, 2 years, 5 years, etc.), varying return intervals (e.g. daily, weekly, monthly, etc.), and against differing market indexes (e.g. S&P 500, NYSE, Wilshire 500), beta can

[44] Reed Rebuttal, p. 49, ln. 15 – p. 50, ln. 3

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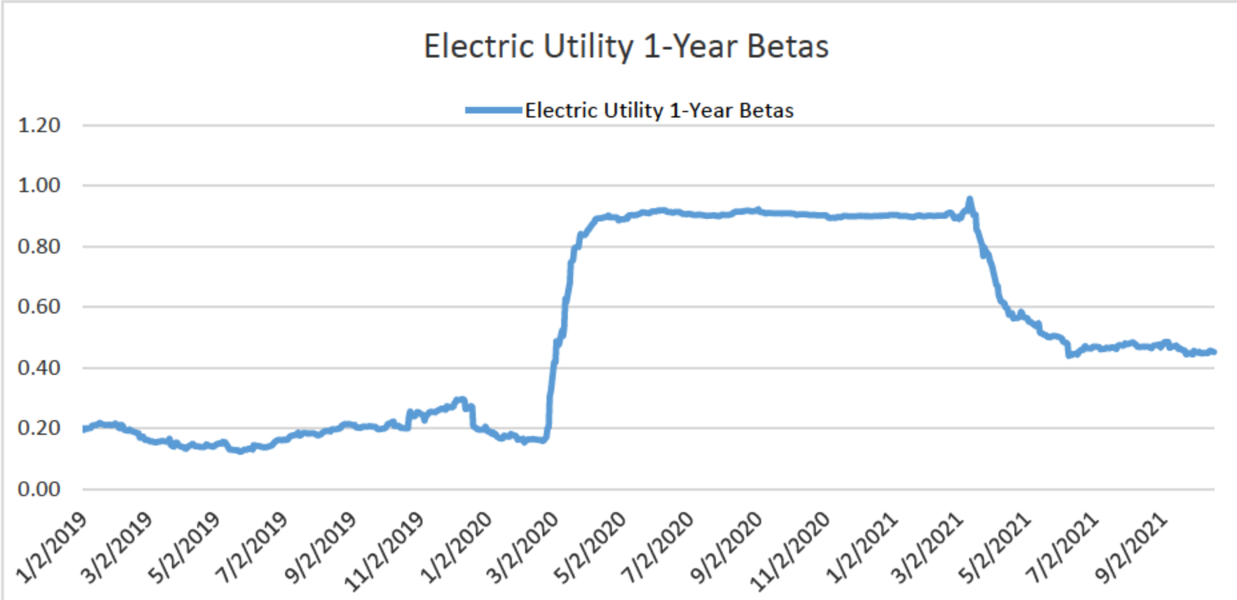
be calculated using statistical formulas available in Microsoft Excel. However, some data providers may make further adjustments to the raw beta, such as Value Line's use of the Blume adjustment, which is a standard adjustment to raw betas to consider potential movement towards the market beta of 1.0. The formula for the Blume adjustment is: 0.35 + .67x raw beta.

Q. If formulas for calculating betas are not proprietary, what is the purpose of using third-party vendors such as Value Line, Bloomberg, Duff & Phelps, S&P Global Market Intelligence, etc.?

A. Because calculating betas requires access to extensive market databases, such as those provided through a Bloomberg terminal, and computing formulas. These sources provide users an efficient and a potentially more interactive ability to analyze trends related to certain capital market changes. S&P Global Market Intelligence has become a leading provider of access to market databases, analytical tools and industry research. While Value Line is still a tool used predominately by retail investors, institutional investors subscribe to much more timely services and databases, such as Bloomberg, S&P Global, FactSet, etc.

Q. Considering what you just testified to about betas, what does more recent beta information indicate about the risk profile of utility stocks compared to the market?

A. As demonstrated in the below chart, since around May 2021, 1-year betas show that the covariance of electric utility stock returns and S&P 500 returns have returned to slightly above their pre-pandemic levels. This is due to the fact that 1-year beta calculations from May 2021 to current do not include the extraordinary market contraction that occurred from later February 2020 through mid-April 2020. This period skewed utility betas toward one, which may cause one to conclude that utility stocks are as volatile as the market. Because Value Line calculates betas based on 5-year look-back period, Value Line's betas capture this period. It is wrong to conclude that utility stocks are no longer a defensive investment based on brief two-month period in which utility stocks declined as rapidly as the S&P 500.



Q. What is your response to Mr. Reed's use of market returns for the period 2015 through 2020 to refute the 8% implied market returns in your CAPM analysis?

A. This is a glaring example of why using a short-period of achieved returns to predict future expected returns is misguided. For example, when the market plummeted in 2008, the market's 5-year compound annual return for the most recent six years was 2.32%. An arithmetic average of the annual returns implied an expected annual return of 4.79% going forward. The returns are shown in the following chart:

Year	Large Company Stock
2003	28.68%
2004	10.88%
2005	4.91%
2006	15.79%
2007	5.49%
2008	-37.00%
Arithmetic Average	4.79%
Variance	4.95%
Geometric Average	2.32%

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Using actual realized returns for the longer period 1926 through 2008 would cause counterintuitive COE estimates during a period in which there was much uncertainty in the in the markets caused by the financial crisis and the recession. For the period 1926 through 2008, large company stocks had realized a geometric return of 9.6% and an arithmetic return of 11.7%. Using data from just a year prior would imply that investors required a return of 10.4% on large company stocks on a geometric basis and 12.3% on an arithmetic basis. Using past achieved returns, especially over short-term periods heavily influenced by monetary policies, may lead to counterintuitive COE estimates. Mr. Reed's use of 5-years of achieved stock market returns to refute my estimate of a more reasonable long-term required return should be dismissed.

Q. What is your response to Mr. Reed's criticisms of the bond yield plus risk premium method you used to test the reasonableness of your COE estimates?

A. Mr. Reed claims that this method does not reflect the observed relationship that as interest rates have declined, awarded ROEs have lagged these declines. I agree that this method does not reflect this relationship because the curriculum in the Chartered Financial Analyst ("CFA") Program is targeted towards estimating the cost of capital for purposes of making investment decisions, internal capital budgeting analysis, and valuation assessments. The CFA Program curriculum simply provides a means by which to determine if a COE estimate is within the realm of reason. Because a company's own bond yield already reflects a required return for potential default and/or bond downgrade risk, this bond yield will reflect at least some similar business risks, which are also incurred by the equity investor. Based on experience in the United States markets, the CFA Program suggests a 3% to 4% risk premium over a company's current bond yield provides a reasonable estimate of the COE. This simple and straightforward method illustrates that Mr. Reed's double-digit COE estimates are well outside any reasonable COE estimate in the current low-cost of capital environment.

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SUMMARY AND CONCLUSIONS

Q. What are your primary conclusions in response to Empire's and Staff's rebuttal testimony addressing capital structure?

A. While I appreciate the fact that Empire at least proffered evidence in this case showing its analysis of APUC's, LUCo's and Empire's capital structures, the analysis of a fair and reasonable capital structure to set Empire's ROR does not stop here. As demonstrated by my discussion of all of the Financing Conditions and the changes in Empire's circumstances, Empire's capital structure and assigned capital costs are managed through several internal financing transactions. Empire's situation is not the same as Spire Missouri, as Mr. Reed alludes. Although I disagree with the Commission's decision to adopt Spire Missouri's subsidiary capital structure to set its ROR, at least third-party debt investors are still investing directly in Spire Missouri's capital structure. The more appropriate analogy for the Empire rate case is to compare LUCo to Spire Missouri. LUCo guarantees all debt issued by GP1 and other intermediated holding companies between APUC and LUCo. While LUCo does receive capital from its ultimate parent company, APUC, similar to Spire Missouri receiving capital from Spire Inc., LUCo does not guarantee APUC's debt. This is similar to the relationship between Spire Inc. and Spire Missouri.

Even though LUCo's capital structure as of certain points-in-time has over a 50% common equity ratio, this is not consistent with the capitalization strategy APUC has communicated is consistent with its low-risk regulated utilities. Additionally, it is not consistent with Empire's capitalization strategy when it was a stand-alone company. For these reasons, I recommend the Commission authorize Empire a 48.25% common equity ratio, which is the mid-point of the upper half of the targeted range for LUCo.

Q. What are your conclusions as it relates to the appropriate ROE for Empire in this case?

A. The broader capital markets have benefited from extensive and dramatic interventions by the Federal Reserve and U.S. Congress since the onset of Covid-19. These interventions have caused investors to favor higher-growth and cyclical sectors of the market. However, due to inflationary pressures, the Fed has announced its intention to tighten monetary policy. While the Fed's tightening will directly impact short-term rates, the effect on long-term interest rates will be less certain. For example, at the end of 2018, when the Fed had been raising the Fed Funds rate, the yield curve (short-term rates compared to long-term rates) began to flatten due to fear that the Fed may cause a recession. Utility stocks actually had a positive correlation with interest rates at that time, which is similar to the current market environment. Of course, as we discovered after those events, utility stocks reached all-time high valuation levels at the end of 2019 into early 2020. While I am not a market prognosticator, I do urge the Commission to reject Mr. Reed's suggestion that Empire's authorized ROE should be raised due to potential increases in long-term interest rates. This has been a very familiar theme over the last decade, which has yet to come to fruition on a sustained basis.

Q. Does this conclude your testimony?

A. Yes.