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Witness:	**Adam Woodard**
Type of Exhibit:	**Rebuttal Testimony**
Sponsoring Party:	**Spire Missouri Inc.**
Case Nos.	**GR-2022-0179**
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SPIRE MISSOURI INC.

CASE NO. GR-2022-0179

REBUTTAL TESTIMONY

OF

ADAM WOODARD

OCTOBER 2022

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SCHEDULES

REBUTTAL TESTIMONY OF ADAM WOODARD

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Adam Woodard, and my business address is 700 Market, St. Louis, MO 63101.

Q. ARE YOU THE SAME ADAM WOODARD THAT SUBMITTED DIRECT TESTIMONY IN THIS CASE?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to address various issues and positions taken by Staff witness Won and OPC witness Murray relating to Spire Missouri, Inc.'s ("Spire Missouri" or the "Company") capital structure for ratemaking purposes, Spire Missouri's cost of equity, and the rate of return upon which rates should be established in this proceeding.

II. SUMMARY OF REBUTTAL TESTIMONY

Q. PLEASE PROVIDE A SUMMARY OF YOUR REBUTTAL TESTIMONY.

A. Spire Missouri sought to develop common ground with Staff and support a more consistent approach to ratemaking in its cost of capital testimony by taking the somewhat unusual step of using the exact model used by Staff in the Company's prior general rate proceeding which specifically supported the Commission's 9.37% authorized return on equity ("ROE"). While it is appreciated that Won's direct testimony supports a higher ROE one might expect that Staff's ROE would approximate the 10.50% offered by Spire Missouri if the same model was being utilized. Spire Missouri provides a bridge to the Commission's 2017 rate case while Staff attempts to bridge from the 2021 rate case. The methodology is the same. However, Staff's use of the 2021 rate case as a bridge should imply a much higher return on equity (as was proposed by Spire Missouri) based on the methodology accepted by the Commission and used as support for its 2021 rate and order. My rebuttal testimony explains this discrepancy.

Spire Missouri agrees with the findings of Staff witness Bolin's direct testimony, which properly recommends the exclusion of short-term debt from the capital structure but remains concerned with the state of precedent on this matter. A substantial amount of information has been provided in the record through direct testimony and in responses to data requests around deferred costs (short-term assets) that are being carried on the balance sheet through short-term debt which will never be part of rate base. It is therefore disappointing that neither Staff or OPC addresses this substantial support for Spire Missouri's short-term debt balances. Spire Missouri will provide further clarification as to what costs its short-term debt is funding and propose an updated evaluation for the Commission to consider in its treatment of these obligations in relation to long-term capital structure. The treatment of Spire Missouri's December 2021 three-year note issuance within the capital structure, in particular, was also not addressed by intervenors in their capital structure testimony. This is also disappointing since this offering was structured around the three-year deferral and recovery of excess gas costs proposed by Spire Missouri and accepted by the Commission in the Company's last PGA filing in October of 2021. This was well-known to intervenors when it was undertaken and thoroughly described in direct testimony.

Spire Missouri continues to disagree with the Office of Public Counsel in its approach to establishing cost of capital. OPC Witness Murray offers some observations of current market conditions and a return on equity recommendation that purport to be based on a multi-stage DCF (or dividend discount model) that is populated with unrealistic and unsubstantiated inputs that serve to suppress his calculated cost of equity ranges. It remains unclear how the ranges he produces with his models are connected to his ROE recommendation which has remained remarkably the same throughout his time at the Office of Public Counsel across varying utilities and dramatically different market conditions. Similarly, Mr. Murray once again proposes his version of Spire Inc.'s capital structure as the regulatory capital structure for Spire Missouri under a convoluted "debt capacity" concept. The imputation of the holding company capital structure on the operating utility is an antiquated theory offered by Murray with little if any support and has been routinely rejected by the Commission.

III. MARKET AND ECONOMIC CONDITIONS

Q. STAFF WITNESS WON DISCUSSES CURRENT MARKET AND ECONOMIC CONDITIONS. DO YOU HAVE ANY DISAGREEMENTS WITH HIS ASSESSMENT OF CURRENT MARKET AND ECONOMIC CONDITIONS?

A. I would like to clarify the current market conditions as presented by Staff Witness Won to minimize confusion. Dr. Won states early in his testimony that "current utility COE [Cost of Equity] estimates are unusually and unsustainably high due to the effects of the coronavirus pandemic" (p.3, lines 17-18) but does not offer any support for this statement, and in fact later states that "it is reasonable to expect utilities' COEs to remain elevated in the near future" (p.13, lines 1-3). I disagree; my takeaway is that current COEs are a product of current market conditions which may or may not persist into the future. Elevated volatility, high inflation and rising interest rates, which are all characteristics of current conditions, are not desirable but also not that unusual. Dr. Won provides no context of the "unsustainability" of current conditions but the use of the term suggests companies exposed to such conditions are under duress or some sort of existential crisis which would suggest a much higher COE than Staff currently recommends.

Dr. Won goes on to suggest "the price investors are willing to pay for a share of stock includes the expectations that high inflation and potential increase to the federal funds rate has already been factored in *since the beginning of 2021*" (*emphasis added*) and that lower real returns are already factored in implying that higher inflation does not necessarily mean a higher cost of capital (page 10, lines 1-5). This conjecture is then footnoted to a Forbes article that is over 18 months old (January 2021) and not supportive of his statement. In fact, this "efficient market" assertion offered by Dr. Won is unreasonable. The market reflects all public information that is readily available. While the distribution and availability of certain relevant information can be debated at any given point in time, the market does not reflect information that does not yet exist. Dr. Won himself testified in 2021 that inflationary conditions were transitory.[1] This turned out not to be true as inflation has continued to rise and persist through a longer period of time. Dr. Won was offering one point of view on the market expectations at that time. This point of view from 2021 is certainly not reflected in current market conditions in October of 2022 as he testifies in the present proceeding. We can guess about the future path of inflation or interest rates and cite authorities like the Federal Open Market Committee (FOMC) but there is seldom unanimous consensus that turns out to accurately predict future market conditions, so there is competing information embedded in the stock prices.

[1] GR-2021-0108 Surrebuttal Testimony of Seoung Joun Won, Phd. Pg. 13.

Q. PLEASE ELABORATE UPON YOUR DISAGREEMENTS WITH STAFF WITNESS WON WITH RESPECT TO CURRENT MARKET AND ECONOMIC CONDITIONS.

A. Staff witness Won's testimony cites events and conditions in 2020, 2021 and 2022 in a non-linear fashion. This is confusing. I would like to clarify that:

- The current measure of inflation is 8.3% YOY based upon the Sept. 13, 2022 CPI-U release from the Bureau of Labor Statistics. The next release (for September) will be on Oct. 13, 2022.
- The current Federal Funds range is 3.00% to 3.25% as of the FOMC meeting on Sept. 21, 2022.
- The FOMC has indicated a terminal rate to the current hiking cycle above 4.50% and an intent to keep this short-term rate higher for longer. The median Fed forecast (FOMC "dot plot") suggests 4.40% Federal Funds rate by the end of 2022.
- The current 30-year treasury rate is 3.704% (as of the date of this testimony) with no discernible downward trend or expectation of a downward trend as suggested by Dr. Won in his direct testimony.
- Spire Inc.'s current price-earnings ratio (based on the next twelve-month consensus) is 15.1x. This is ***lower*** than its price-earnings ratio as of 3/31/2021 of 17.4x which was the basis of testimony in the prior proceeding cited by both witnesses Won and Murray. The proxy/peer group's current price-earnings ratio (including Spire) is 16.8x. This is ***lower*** than its price-earnings ratio as of 3/31/2021 of 18.2x.

Q. DOES STAFF HAVE THE ABILITY TO ADJUST THE ROE OVER THE COURSE OF THIS PROCEEDING?

A. It does. The Company hopes that, given the realities of changing market conditions, Staff will update its ROE models in surrebuttal or true-up testimony.

Q. HAS STAFF COMMENTED ABOUT A POTENTIAL ADJUST IN THEIR DIRECT?

A. Yes. For Won direct (p.37 L10-12) Staff states “Because of the rapidly changing economic outlook, Staff will update its ROE if there are significant changes in the economic outlook that necessitate an update.”

Q. WHAT DO CURRENT MARKET CONDITIONS SUGGEST ABOUT THE COST OF EQUITY GENERALLY?

A. Inflation has increased to the highest levels in over forty years and is certainly not transitory as was suggested by intervenors in last year’s proceeding. Short-term interest rates (as represented by the Federal Funds rate) and long-term interest rates have risen sharply since last year’s proceeding. The broader equity markets have declined over the last year. Equity risk premiums are higher. The gas utility sector continues to trade at a discount to the electric and water sectors, and valuations have generally declined since early 2021 based on price to earnings ratios. All of this suggests a higher cost of capital generally. There is a significant amount of uncertainty around the future path of these market conditions which contributes to a heightened amount of risk. Higher risk equals higher cost.

OPC Witness Murray cites an expansion of P/E ratios to imply the cost of equity has declined. This is objectively false. Murray simply miscalculates the forward price to earnings ratios using a method that differs from the widely accepted market convention for performing such calculations,. The correct P/E ratios were included in numerous equity research reports provided to Murray and which he has cited consistently throughout his testimony. Spire's P/E ratio has in fact declined (and gas utilities are not in parity with electrics). Witness Murray also states that current bond yields are lower "on a trend line basis" than they were over the past decade (page 8, lines 15-16). His own data contradicts this and current market conditions indicate investment grade utility bond yields are now at their highest point in over a decade. These errors cast doubt on the credibility of his cost of capital testimony.

IV. <u>RETURN ON EQUITY METHODOLOGY</u>

Q. HOW WOULD YOU DESCRIBE THE RETURN ON EQUITY METHODOLOGY EMPLOYED BY STAFF WITNESS WON?

A. As I stated in my direct testimony, Spire Missouri has elected to offer Return on Equity testimony using identical methodology to that used by Staff in the Company's last general rate case, in an effort to reach consensus in a transparent and collaborative manner. Staff witness Won does not use a methodology that is identical to what he used in last year's rate proceeding, but it is materially similar. The major difference between the direct testimony I offered and that offered by Dr. Won is the time period that we benchmarked off of to arrive at an estimated shift in Return on Equity. In my analysis I bridged from the time of the 2018 rate case to early 2022 -- similar to what Dr. Won did in the last proceeding. The Commission established a 9.80% ROE in the 2018 proceeding. Won did not bridge back to 2018 but reset his comparative analysis to early 2021 which was the time period he used as the endpoint in the last rate proceeding. The Commission established a 9.37% ROE in the 2021 proceeding.

From a methodology perspective, there is nothing wrong with bridging to 2021 versus 2018. Staff's comparative analysis is meant to produce consistency of results across several rate cases. Spire Missouri wholeheartedly supports this goal as it seeks a path to greater consistency in regulatory outcomes.

A consistent methodology utilizing objectively valid inputs should produce very similar, if not identical, results. Spire Missouri's use of Staff's methodology yielded a 10.07% (at the midpoint) return on equity which I adjusted higher based on a few adjustments I suggested in my direct testimony. Staff's use of their methodology yielded a 9.57% (at the midpoint). Again, this analysis should produce very similar, if not identical, results if constructed properly. I will address this discrepancy later in my rebuttal testimony.

Q. HOW DOES OPC WITNESS MURRAY ARRIVE AT HIS RETURN ON EQUITY RECOMMENDATION?

A. While OPC witness Murray goes through the motions of calculating <u>cost of equity</u> using primarily a version of a Discounted Cash Flow model; in the end, he recommends a <u>return on equity</u> based on his judgment rather than the results of his model. Notably, his judgment about a utility's return on equity always seems to result in a recommended return on equity between **9.00%** and **9.25%** -- despite differences in utilities, inputs, risks, etc.[2] In addition to a consistently narrow band of recommended ROEs, I cannot locate an example in which Murray has ever supported equity percentages above 50% in a utility's capital structure. Despite the 30-year treasury note trading between 1.13% and 3.83% during this time period, which was also characterized by significant equity market volatility, a pandemic

[2] AWW-R1

and a winter storm which caused gas prices to go parabolic, OPC Witness Murray has not recommended a ROE outside of a very narrow band, or an equity layer that promoted enhanced financial resilience for essential service utilities.

Q. IS IT REALISTIC TO ASSUME THAT THE RETURN ON EQUITY FOR DIFFERENT UTILITIES AT DIFFERENT TIMES SHOULD ALL BE THE SAME?

A. Although OPC witness Murray apparently believes this to be the case, this is not realistic or credible. Spire Missouri seeks greater consistency in ratemaking but does not support the establishment of the exact same return on equity despite highly variable capital market conditions.

V. <u>RETURN ON EQUITY MODELING INPUTS AND IMPLICATIONS</u>

Q. DO YOU TAKE ISSUE WITH ANY OF STAFF WITNESS WON'S INPUTS?

A. Yes.

Q. PLEASE ELABORATE.

A. Staff Witness Won offered testimony in both Spire Missouri's 2021 rate proceeding (GR-2021-0108) and the present proceeding (GR-2022-0179). He recommended a 9.37% return on equity based upon his comparative model in GR-2021-0108, and has recommended a 9.58% return on equity in this case based on the same comparative model. The models underpinning Dr. Won's recommendation share a common field of inputs. Both survey the same proxy group for the 3-month period ending March 31, 2021. Testimony in the earlier proceeding used this period as the endpoint of the comparative analysis while Dr. Won's current direct testimony uses this period as the starting point of the comparative analysis. This is consistent with the methodology Dr. Won describes in both sets of testimony.

It does not require a detailed examination of this analysis to realize something is not quite right. The cost of equity estimate for this period in the earlier testimony was **7.25%** while the cost of equity estimate for this exact same period using the same methodology in the current testimony is **8.04%**. <u>This cannot be accurate</u>. Assuming Dr. Won's earlier testimony covering the exact same time period was accurate, this would lead to a materially different ROE recommendation. Dr. Won testifies to a current cost of equity of 8.25%. Comparing this current cost of equity to the cost of equity (7.25%) established by Staff in the last rate proceeding would suggest a ROE of **10.37%** in this case. This ROE is similar to that proposed by Spire Missouri in direct testimony. Conversely, if Staff's current estimation of the cost of equity from the first quarter of 2021 is applied to the comparative analysis from the last proceeding, the ROE recommendation in that proceeding should have been **10.16%**. If this ROE is used as the base for Dr. Won's current testimony it would also suggest a ROE of **10.37%**.

I would note that the DCF analysis provided by Won in his direct testimony estimates Spire's cost of equity during the time of the last rate proceeding to be 10.51%, well above both Dr. Won's prior ROE recommendation and the ROE actually ordered by the Commission in that case, both of which were 9.37%. I would certainly view any Staff recommendation to adopt a return on equity which is significantly lower than the measured cost of equity to be unreasonable (and punitive). While the gap has narrowed, this discrepancy still exists in the current proceeding with Staff recommending a 9.57% despite measuring Spire's cost of equity as 9.95% in its own analysis. Please see Schedule AWW-R2 for a comparison of these rates.

Q. TURNING TO OPC WITNESS MURRAY'S TESTIMONY, DO YOU TAKE ISSUE WITH ANY OF THE INPUTS HE USES IN HIS RETURN ON EQUITY MODELING?

A. Yes.

Q. PLEASE EXPLAIN.

A. Murray's "main" conclusion (page 3 Murray direct) is that price earnings ratios for local gas distribution companies have expanded since the last rate proceeding which implies a higher cost of equity. Murray states that "the Commission heard evidence related to capital market conditions through the summer of 2021" (p. 3, ln 16-17). The Commission authorized a 9.37% return on equity which was the specific recommendation of Staff. *Won did not update his financial testimony beyond the first quarter of 2021*. The price-earnings ratios of LDCs have in fact not expanded since 2021. As of September 30, 2022, the LDC sector has retracted by two times (based on the next twelve month P/E ratio) which, according to OPC Witness Murray, implies a higher COE instead of a lower COE.

Murray later suggests that utility bond yields are on a "trend line basis" lower over the past decade (page 8, ln 13-16). Utility bond yields are higher today than at any point in the last decade and trending higher, not lower. It is incredible to even suggest otherwise. Murray postulates that "capital markets have not traded consistent with fundamentals" and hypothesizes that "much of this appears to be driven by the Fed's and U.S. Congress' massive interventions through monetary and fiscal policies" (p.9, lns 13-15). I don't think OPC can simply explain away market conditions that don't support their recommendations while populating their analysis with "other" market information. It would also be misleading to blame everything on the government. For instance, the Fed's massive bond buying ("quantitative easing") certainly influenced the path of interest rates through 2020 and 2021, but it would be inaccurate to describe the currently active selling ("quantitative tightening") of the Fed's bond portfolio to be "intervention." This selling allows the market to adjust to a more fundamental level.

Murray describes the gas LDC sector trading at a "significant" 3x premium to electrics between 2015 and 2019. However, he goes on to describe the gas LDC sector's recent trading as a "slight" 2x discount to electrics (page 13, lns 2-7). Evidently there is a very fine line between "slight" and "significant". The truth of the matter is that while the gas utility sector traded at a premium valuation to the electric utility sector in the past, that has not been the case for quite some time. The gas utility sector is currently trading at a "meaningful" 2x discount to the electric sector. This implies that the gas utility sector has a higher COE than the electric sector.

OPC insists that while Spire traded at a discount to its LDC peers at the time of the last rate order, it now trades in line with the group (p.18). Again, this is not correct. As of September 30, 2022, Spire trades at a 2x discount relative to its LDC peers. This has been the case for all of 2022 and is noted in most of equity research reports that were provided to OPC. While multiple factors contribute to this discount, the most often cited rationale and the most material aspect impacting Spire shares is uncertainty and inconsistency surrounding Missouri regulation.

Q. DO YOU HAVE ANY OTHER ISSUES WITH MR. MURRAY'S DCF MODELING?

A. Yes. All of OPC Witness Murray's DCF modeling assumes that the capital plans of Spire Inc. extend for five years and then start to decline. Murray confuses Spire Inc.'s 5-year capex, and shorter-term capital expenditure and net economic earnings per share guidance, with a peak or terminal growth rate. He therefore models declining trajectories for growth in his analysis after year five. He assumes Spire "could" continue to achieve growth above the inflation rate through the next 15 years albeit at a rate below current consensus growth rates and company guidance. There is no basis for this assumption. While Spire Inc. routinely offers 5-year capital expenditure guidance, it is well understood that the current pacing of capital growth extends well beyond the guidance window as exemplified by the significant amount of older materials still in service within the capital base of Spire Missouri and its operating utilities. This information has been publicly disclosed through PHMSA filings for several years and is often cited by equity analysts and investors.

Murray's attempt to limit the results of his models does not stop at minimizing longer term growth prospects. He assumes a 5-year compound growth rate in earnings per share of 4.65% which he describes as equity analysts' median projection for Spire Inc. Murray is referencing a survey of analysts that is not directly connected to their underlying estimates for the next five years. His own workpapers offer a conflicting view as he accurately includes the discrete estimates for Spire Inc. over this time period which produce an average growth rate of **7.60%** (updated as of October 2, 2022). This discrepancy is not unique to Spire Inc., as the survey results and discrete estimates are different (higher and lower) for the entire proxy group. I see no rationale for using a generic survey percentage for inputs when specific discrete estimates are available for the time period in question.

For a different point of reference, Value Line projects Spire's earnings per share growth to be **9.00%** during this same period (Value Line Survey, August 26, 2022).

Murray later testifies that investors have factored in an expected growth rate of Spire's dividend per share of 3.52% through 2026 in an attempt to further diminish expectations for Spire's growth and support his unreasonably low ROE recommendation. It is evident from an examination of his workpapers that Murray simply miscalculated the average of these discrete estimates. He attempts to measure a compound growth rate to 2025 (instead of 2026) but includes an error in his formula. The actual average through 2025 is **4.72%** (based on consensus as of October 2, 2022) and **4.52%** through 2026.

Spire Missouri has supplied OPC with dozens of equity research reports in response to data requests and agree with Murray that they can provide useful perspective. He has cited to these reports liberally throughout his testimony. While Spire Missouri is happy to share these reports, they should not be quoted or cited without permission from the publishing entity, and then only citations to active reports should be used.

Q. DOES MR. MURRAY OFFER ANY OTHER MODELING IN SUPPORT OF HIS ROE RECOMMENDATION?

A. Yes. Murray also provides multiple CAPM analyses in support of his testimony. He notes that his analysis indicates a much higher COE than the last case and then attempts to explain away the results of his analysis. I agree that CAPM indicates a much higher COE than the last case, but believe his analyses still understate the CAPM indicated COE of Spire and the proxy group. Murray believes a 0.75 beta is appropriate for the group. His workpapers on this subject are unclear as to the source of his beta calculations. There is a description of his beta assumption being derived based on the Value Line method and Blume adjustment (which is part of the Value Line method), but he also mentions the S&P 500 in his testimony (page 31, lines 6-12). The Value Line method uses the NYSE index as the market comparison not the S&P 500 (The Bloomberg method uses the S&P 500). The direct testimony of both Won and Woodard provide current Value Line betas for the proxy group which are higher than Murray. These betas can be calculated directly but are also reported quarterly by Value Line. These reports serve as the source of betas in the testimony of both Won and Woodard. The last quarterly update of the proxy group from Value Line was dated August 26, 2022 and was nearly identical to the May 27, 2022 update. The average beta of the proxy group was 0.86 as of August 22, 2022. Small movements in the beta assumption can have a large impact on the results of CAPM. If Murray's 30-year CAPM used true Value Line betas for the proxy group, his calculated COE would be 39 basis points higher. If the risk-free rate is updated in the same analysis to the current 30-year treasury (as of October 2, 2022) in addition to the true Value Line betas, then Murray's calculated COE would be 104 basis points higher, with a top end of the range that is just under his recommended return on equity.

Q. WHAT ARE THE IMPLICATIONS OF OPC WITNESS MURRAY'S USE OF THESE ERRONEOUS INPUTS IN HIS RETURN ON EQUITY MODELING?

A. Not surprisingly, all of the errors in Murray's testimony support a lower cost of equity in his CAPM analysis.

Q. IF OPC WITNESS MURRAY'S RECOMMENDED RETURN ON EQUITY WERE RECALCULATED BASED UPON THE CORRECTED INPUTS YOU IDENTIFY, WHAT WOULD THE RESULTS BE?

A. If Murray was not suppressing Spire's growth in his analyses, he would arrive at a very similar cost of equity estimate to those provided in the testimony of Won and Woodard.

Q. WHAT ARE THE REAL WORLD IMPACTS UPON A UTILITY SUCH AS SPIRE MISSOURI IF THE COMMISSION WERE TO USE THE INPUTS OF STAFF WITNESS WON OR OPC WITNESS MURRAY TO CALCULATE SPIRE MISSOURI'S RETURN ON EQUITY IN THIS CASE?

A. Witnesses Won, Murray and myself are each trying to establish an estimate of Spire's cost of equity and inform the Commission as to a reasonable authorized return on equity. If the information used to populate the models is erroneous, the Commission will not receive advice and recommendations grounded in objective facts which could lead to irrational and inconsistent outcomes.

VI. <u>CAPITAL STRUCTURE</u>

Q. OPC WITNESS MURRAY RECOMMENDS THAT THE CAPITAL STRUCTURE OF SPIRE MISSOURI'S PARENT, SPIRE, INC., BE IMPUTED TO SPIRE MISSOURI FOR PURPOSES OF CALCULATING RATES IN THIS PROCEEDING. HOW DO YOU RESPOND?

A. The Society of Utility and Regulatory Financial Analysts' ("SURFA") Cost of Capital Practitioner's Guide (Parcell 2020) lists things to consider in deciding whether the operating company capital structure is appropriate for ratemaking purposes including:

1. Whether the subsidiary utility obtains all of its capital from its parent, or issues its own debt and preferred stock;
2. Whether the parent guarantees any of the securities issued by the subsidiary;
3. Whether the subsidiary's capital structure is independent of its parent; and

4. Whether the parent is diversified into non-utility operations.

Spire Missouri issues its own debt which is separately rated by Moody's and S&P and supported by its stand-alone capital structure. Spire Inc. does not guaranty any of the securities issued by Spire Missouri. Spire Inc. has not raised debt in order to contribute equity to Spire Missouri. Spire Inc.'s non-regulated businesses contribute a small percentage of the enterprise's total earnings. Spire Missouri's actual capital structure should be used for ratemaking purposes. Spire Missouri and Staff are in agreement on this matter (Won Direct page 27 line 14).

The Commission considered these same facts and factors in its decision in the Company's general rate case last year, and again appropriately concluded that Spire Missouri's actual capital structure should be used for ratemaking purposes, and not an imputed parent capital structure[3].

Spire Missouri is owned by Spire Inc. which is a utility holding company. Spire Inc. owns other regulated and non-regulated businesses. These other businesses are not under the jurisdiction of the Missouri Public Service Commission. OPC witness Murray's "debt capacity" argument is familiar as it has been offered up numerous times in proceedings involving multiple utilities in the jurisdiction. His clear preference is for a single jurisdiction stand-alone operating utility. Whether Mr. Murray is referencing "debt capacity" or "double leverage," it is an antiquated theory in regulatory practice and should be directly rejected by the Commission. The continued consideration of this discredited theory sows the seeds of doubt in the minds of investors and reduces confidence in the supportiveness of the Missouri regulatory environment.

[3] Amended Report and Order, page 84, GR-2021-0108.

The base suggestion of this line of argument is that the parent company owner is earning an abnormally high return. This is easily refuted by examining the historical performance of Spire Inc. relative to its peers. There are no abnormally high returns. Spire Inc. is prospectively targeting 5-7% growth in net economic earnings per share. This is actually lower than many peers. The historical and projected growth of Spire Inc. undermines the assertion that it is earning an abnormally high return because it is exploiting its operating companies through holding company ownership.

Financial theory clearly establishes that the cost of equity is the risk adjusted opportunity cost to the investor and not the cost of the specific capital sources employed by the investor (Morin, p. 523). OPC witness Murray flips this basic tenet on its head by demanding the source of capital dictate the cost of equity. *Hope* and *Bluefield* clearly stand for the proposition that the cost of capital is determined by the alternatives available to investors and the returns and risks associated with those alternatives. The source of funding and costs of those funds to the investor are irrelevant. The strained logic suggesting otherwise breaks down quickly. If the shareholder is less levered than the operating utility does than mean a higher equity layer should be authorized? Unlikely. If the owner is a person and not a holding company would that require an assessment of the personal leverage undertaken by the owner? Probably not. If that individual investor also owns a like amount of riskier tech stocks should that influence the allowed return? How far does this theory extend? Spire Inc. has a large number of individual and institutional shareholders. Should a survey of the "debt capacity" of all of its shareholders be undertaken so as to satisfy such a backwards theory? Mr. Murray's call for tracing of funds is not reasonable and should not be considered by the Commission. Equity is equity. The cost of equity is governed by its use, not by its source.

A holding company is typically invested in various businesses with different risks and different returns. The "double leverage" or "debt capacity" concept would assign the same return to each business. Investors recognize that different subsidiaries are exposed to different risks (and often different bond ratings). The parent company's cost of capital is determined by its subsidiaries' cost of capital – the opposite cannot be true – the parent's cash flows come from its equity in each subsidiary.

Q. OPC WITNESS MURRAY ALSO RECOMMENDS THAT 7% OF SPIRE MISSOURI'S CAPITAL STRUCTURE FOR RATEMAKING PURPOSES SHOULD CONSIST OF SHORT-TERM DEBT. DO YOU AGREE?

A. No. Here again, Mr. Murray recommends imputing Spire Inc.'s capital structure to Spire Missouri. Spire Inc. also owns a non-regulated gas marketing business (Spire Marketing), it owns and recently built an interstate pipeline (STL Pipeline), and it is currently developing a large gas storage facility in Wyoming (Spire Storage). The marketing business has no long-term debt but requires short-term borrowing at times to match the timing of receivables. Some of these funding requirements can be large but typically settle out within a month or two. The construction of the pipeline was substantially financed with short-term debt before it went into service. The storage business is currently at the inception of a construction cycle which will require short-term funding. All of these uses of short-term debt are typical for the type of businesses described above. None of these uses has anything to do with Spire Missouri's short-term debt.

Spire Missouri's debt substantially supports short-term assets particularly construction work in progress ("CWIP") and deferred gas costs although it does support other deferred costs as detailed in Schedule AWW-D13.

Q. WHY SHOULD SPIRE MISSOURI'S CAPITAL STRUCTURE ONLY REFLECT DEBT THAT IS USED TO FINANCE LONG-TERM ASSETS?

A. Short-term debt that is not funding rate base earning an authorized return should be excluded from the capital structure. It is typical for short-term debt to fund short-term assets that earn an alternative return (often tied to a short-term rate) or no return at all. The former includes items like WNAR and gas costs, which are assigned a specific recovery by the Commission that approximates carrying costs. The latter includes CWIP and rate base not yet earning a return (in between rate proceedings) or assets that have been disallowed from earning a return. Capital structure should follow rate base.

Neither Staff or OPC addressed Spire Missouri's recommended exclusion of the $300 million 3-year notes which were issued in December of 2021 from the capital structure based on the stated intent to use this debt tranche to carry the 3-year deferral of gas costs approved by the Commission in October of 2021 as part of the Company's PGA filing. While this is technically long-term debt, its purpose is not to fund long-term assets. The Commission should support exclusion since it provides an incentive for Spire Missouri to provide this type of deferral for the benefit of its customers. This has shielded our customers from the price spikes of Winter Storm Uri and the recent overall increases in the natural gas markets. If this customer-centric approach is not recognized by the Commission in a constructive manner, then Spire Missouri is not likely to support any similar future deferral of costs for its customers.

Q. STAFF WITNESS BOLIN PRESENT AN ANALYSIS THAT RELIES ON A 13-MONTH AVERAGE OF SHORT-TERM DEBT VERSUS SHORT-TERM ASSETS. IN YOUR OPINION, IS THIS AN APPROPRIATE CAPITAL STRUCTURE ANALYSIS FOR RATEMAKING PURPOSES?

A. No, I do not believe it is.

Q. PLEASE EXPLAIN WHY THIS IS NOT AN APPROPRIATE ANALYSIS FOR RATEMAKING PURPOSES.

A. I agree with Staff Witness Bolin that short-term debt should not be included in Spire Missouri's capital structure. However, I take issue with how she arrived at this recommendation. Ms. Bolin only examined the level of CWIP and gas costs relative to short-term debt while ignoring the full record of other short-term assets provided by Spire Missouri in Schedule AWW-D13. The analysis is incomplete without a full examination of both short-term assets and short-term liabilities. Staff also ignores the build-up of rate base in between rate proceedings that is not yet earning a return. It certainly does not seem fair and reasonable to expect Spire Missouri to fully capitalize assets that are not earning a return.

The use of a 13-month average is also questionable. It is not clear why short-term debt is being examined in this manner while the rest of the capital structure components are determined at a point in time. Consistency would argue for the entire capital structure to be examined in the same way, which has traditionally been at a point in time.

VII. <u>COST OF SHORT-TERM DEBT</u>

Q. DO YOU TAKE ISSUE WITH OPC WITNESS MURRAY'S TESTIMONY REGARDING SPIRE MISSOURI'S COST OF SHORT-TERM DEBT?

A. Yes.

Q. PLEASE EXPLAIN.

A. I want to reiterate from my direct testimony that Spire Missouri does not believe short-term debt should be included in the capital structure regardless of whether the cost of such debt is higher or lower than the cost of long-term debt. Mr. Murray recommends a cost of short-term debt of 2.70% based on his estimation of the current cost of commercial paper. He admits that rates "could" peak at 3.90%, but opines they would quickly trend lower. This is not credible testimony.

Spire Missouri's commercial paper rate on the morning of October 3, 2022 was **3.75%** ($60 million for 35 days) and is obviously trending higher. This "cost" does not include the requisite fees and expenses to support this type of borrowing (example: rating agency fees and bank facility fees). Mr. Murray would set a fixed cost of what is objectively a highly volatile rate below Spire Missouri's current cost. The FOMC has indicated their intent to continue to raise the federal funds rate higher in the near future. This will cause Spire Missouri's cost of short-term debt to continue to increase and quickly exceed its cost of long-term debt. Mr. Murray's recommendation is punitive and without theoretical or factual foundation, and should be rejected.

VIII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Spire Missouri Inc.'s Request for Authority to Implement a General Rate Increase for Natural Gas Service Provided in the Company's Missouri Service Areas.	)))))	**Case No. GR-2022-0179**

AFFIDAVIT

STATE OF MISSOURI CITY OF ST. LOUIS	)))	SS.

I, Adam Woodard, of lawful age, being first duly sworn, deposes and states:

1. My name is Adam Woodard. I am Chief Financial Officer and Treasurer for Spire Missouri Inc. and Vice President and Treasurer of Spire Inc. My business address is 700 Market Street, St. Louis, Missouri 63101.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony on behalf of Spire Missouri Inc.

3. Under penalties for perjury, I declare that the foregoing is true and correct to the best of my knowledge and belief.

Adam Woodard (Oct 6, 2022 16:34 CDT)

Signature

Adam Woodard
Printed Name

Dated: 10/06/2022

Testimony of Dave Murray, OPC, since July 2019

Docket	Company	ROE	Equity
ER-2019-0335	Union Electric	9.25%	48.0%
ER-2019-0374	Empire District Electric	9.25%	46.0%
WR-2020-0344	Missouri-American Water	9.25%	41.1%
GR-2021-0108	Spire Missouri	9.25%	47.4%
ER-2021-0240	Union Electric	9.00%	45.0%
GR-2021-0241	Union Electric	9.25%	48.0%
ER-2021-0312	Empire District Electric	9.00%	47.5%
GR-2021-0320	Empire District Electric	9.25%	47.5%
ER-2022-0129	Evergy Metro	9.00%	48.0%
ER-2022-0130	Evergy Missouri West	9.00%	48.0%
GR-2022-0179	Spire Missouri	9.25%	45.0%

Comparison of Staff's Q1 2021 Stock Prices for Q1 2021
in Testimony for GR-2021-0108 and GR-2022-0179

GR-2021-0108

	2021 Q1		January 2021		February 2021		March 2021		
	Company Name	Ticker	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	Average High/Low Stock Price (10/01/20 - 12/31/21)
1	Atmos Energy Corporation	ATO	95.92	86.85	94.30	84.59	99.25	85.59	91.08
2	New Jersey Resources Corporation	NJR	38.39	33.32	40.40	34.61	42.57	39.01	38.05
3	Northwest Natural Holding Company	NWN	47.24	41.71	50.18	43.12	54.27	46.77	47.21
4	ONE Gas, Inc.	OGS	78.01	69.48	74.78	66.77	77.70	67.29	72.34
5	South Jersey Industries, Inc.	SJI	24.20	20.82	26.50	21.98	29.24	21.13	23.98
6	Southwest Gas Holdings, Inc.	SWX	61.29	57.00	66.64	58.91	71.35	61.77	62.83
7	Spire Inc.	SR	64.54	59.29	69.39	60.50	75.78	65.79	65.88

GR-2022-0179

	2021 Q1		January 2021		February 2021		March 2021		
	Company Name	Ticker	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	High Stock Price	Low Stock Price	Average High/Low Stock Price (1/01/21 - 3/31/21)
1	Atmos Energy Corporation	ATO	91.28	89.09	90.93	88.97	93.60	91.55	90.90
2	New Jersey Resources Corporation	NJR	36.33	35.18	38.14	37.21	41.06	39.79	37.95
3	Northwest Natural Holding Company	NWN	45.13	43.40	47.62	46.24	52.61	50.69	47.61
4	ONE Gas, Inc.	OGS	73.88	71.86	73.13	71.25	74.74	72.65	72.92
5	South Jersey Industries, Inc.	SJI	22.37	21.51	24.13	23.44	25.54	24.43	23.57
6	Southwest Gas Holdings, Inc.	SWX	60.26	58.67	63.54	61.83	68.05	65.89	63.04
7	Spire Inc.	SR	62.54	60.83	65.95	64.27	73.00	70.99	66.26

Comparison of Staff's Q1 2021 Growth Rates for Q1 2021
in Testimony for GR-2021-0108 and GR-2022-0179

GR-2021-0108

			[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
	2021 Q1		Past 10-Years			Past 5-Year			Projected			Average			Projective
	Water Utility Companies	Ticker	DPS	EPS	Average	DPS	EPS	Average	DPS	EPS	Average	DPS	EPS	Average	Real GDP
1	Atmos Energy Corporation	ATO	4.00%	7.50%	5.75%	6.50%	8.50%	7.50%	7.50%	7.00%	7.25%	6.00%	7.67%	6.83%	3.80%
2	New Jersey Resources Corporation	NJR	7.00%	7.00%	7.00%	6.50%	6.00%	6.25%	5.50%	1.50%	3.50%	6.33%	4.83%	5.58%	3.80%
3	Northwest Natural Holding Company	NWN	0.20%	-11.00%	-5.40%	0.50%	-17.00%	-8.25%	0.50%	5.50%	3.00%	0.40%	-7.50%	-3.55%	3.80%
4	ONE Gas, Inc.	OGS				17.00%	9.50%	13.25%	7.00%	6.50%	6.75%	12.00%	8.00%	10.00%	3.80%
5	South Jersey Industries, Inc.	SJI	7.50%	1.00%	4.25%	5.00%	-4.00%	0.50%	4.00%	10.50%	7.25%	5.50%	2.50%	4.00%	3.80%
6	Southwest Gas Holdings, Inc.	SWX	8.50%	8.00%	8.25%	9.50%	4.50%	7.00%	4.00%	8.00%	6.00%	7.33%	6.83%	7.08%	3.80%
7	Spire Inc.	SR	4.00%	3.50%	3.75%	5.50%	9.50%	7.50%	4.50%	9.00%	6.75%	4.67%	7.33%	6.00%	3.80%
	Average		5.20%	2.67%	3.93%	7.21%	2.43%	4.82%	4.71%	6.86%	5.79%	6.03%	4.24%	5.14%	3.80%

GR-2022-0179

			[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
	2021 Q1		Past 10-Years			Past 5-Year			Projected			Average			Projective	Projective
	Water Utility Companies	Ticker	EPS	DPS	BVPS	EPS	DPS	BVPS	EPS	DPS	BVPS	EPS	DPS	BVPS	Growth	Nominal GDP
1	Atmos Energy Corporation	ATO	8.00%	5.00%	7.50%	9.00%	7.50%	10.00%	7.00%	7.50%	10.50%	8.00%	6.67%	9.33%	8.33%	3.80%
2	New Jersey Resources Corporation	NJR	7.00%	7.00%	7.00%	6.00%	6.50%	8.50%	1.50%	5.50%	5.00%	4.83%	6.33%	6.83%	4.00%	3.80%
3	Northwest Natural Holding Company	NWN	-11.00%	2.00%	1.50%	-17.00%	0.50%	-0.50%	5.50%	0.50%	8.00%	-7.50%	1.00%	3.00%	4.67%	3.80%
4	ONE Gas, Inc.	OGS				9.50%	17.00%	2.50%	6.50%	7.00%	4.50%	8.00%	12.00%	3.50%	6.00%	3.80%
5	South Jersey Industries, Inc.	SJI	1.00%	7.50%	5.50%	-4.00%	5.00%	3.50%	10.50%	4.00%	5.00%	2.50%	5.50%	4.67%	6.50%	3.80%
6	Southwest Gas Holdings, Inc.	SWX	8.00%	8.50%	6.00%	4.50%	9.50%	6.50%	8.00%	4.50%	6.00%	6.83%	7.50%	6.17%	6.17%	3.80%
7	Spire Inc.	SR	1.50%	4.50%	7.00%	4.50%	6.00%	5.50%	9.00%	4.50%	8.50%	5.00%	5.00%	7.00%	7.33%	3.80%
	Average		2.42%	5.75%	5.75%	1.79%	7.43%	5.14%	6.86%	4.79%	6.79%	3.95%	6.29%	5.79%	6.14%	3.80%

Comparison of Staff's Q1 2021 DCF for Q1 2021
in Testimony for GR-2021-0108 and GR-2022-0179

GR-2021-0108

	2020 DCF Estimate		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
	Water Utility Companies	Ticker	Dividend per Share	Stock Price	Dividend Yield	Expected Dividend Yield	Projected Dividend Growth	Projected GDP Growth	Growth Rate	COE
1	Atmos Energy Corporation	ATO	2.30	91.08	2.53%	2.60%	7.50%	3.80%	6.27%	8.87%
2	New Jersey Resources Corporation	NJR	1.27	38.05	3.34%	3.42%	5.50%	3.80%	4.93%	8.35%
3	Northwest Natural Holding Company	NWN	1.91	47.21	4.05%	4.08%	0.50%	3.80%	1.60%	5.68%
4	ONE Gas, Inc.	OGS	2.16	72.34	2.99%	3.07%	7.00%	3.80%	5.93%	9.01%
5	South Jersey Industries, Inc.	SJI	1.20	23.98	5.00%	5.10%	4.00%	3.80%	3.93%	9.04%
6	Southwest Gas Holdings, Inc.	SWX	2.26	62.83	3.60%	3.67%	4.00%	3.80%	3.93%	7.60%
7	Spire Inc.	SR	2.49	65.88	3.78%	3.86%	4.50%	3.80%	4.27%	8.13%
	Average		1.94	57.34	3.61%	3.69%	4.71%	3.80%	4.41%	8.10%

GR-2022-0179

	2021 Q1 DCF COE estimate		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
	Gas Utility Companies	Ticker	Dividend per Share	Stock Price	Dividend Yield	Expected Dividend Yield	Projected Growth	Projected GDP Growth	Growth Rate	COE
1	Atmos Energy Corporation	ATO	2.30	90.90	2.53%	2.62%	8.33%	3.80%	7.43%	10.05%
2	New Jersey Resources Corporation	NJR	1.27	37.95	3.35%	3.41%	4.00%	3.80%	3.96%	7.37%
3	Northwest Natural Holding Company	NWN	1.91	47.61	4.01%	4.10%	4.67%	3.80%	4.49%	8.59%
4	ONE Gas, Inc.	OGS	2.16	72.92	2.96%	3.04%	6.00%	3.80%	5.56%	8.60%
5	South Jersey Industries, Inc.	SJI	1.19	23.57	5.05%	5.20%	6.50%	3.80%	5.96%	11.16%
6	Southwest Gas Holdings, Inc.	SWX	2.28	63.04	3.62%	3.72%	6.17%	3.80%	5.69%	9.41%
7	Spire Inc.	SR	2.49	66.26	3.76%	3.88%	7.33%	3.80%	6.63%	10.51%
	Average		1.94	57.47	3.61%	3.71%	6.14%	3.80%	5.67%	9.38%
									DCF Lower Bound	8.87%
									DCF Upper Bound	9.99%
									DCF COE	9.38%

Comparison of Staff's Q1 2021 CAPM for Q1 2021
in Testimony for GR-2021-0108 and GR-2022-0179

GR-2021-0108

2020 CAPM Estimate	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
			Duff&Philips (1926-2019)				NYU Stern (1928-2020)				Market Risk Premium				CAPM Cost of Common Equity			
			Large Company Stocks		Long-term G-Bonds		S&P 500		US Treasury Bond		Duff&Philips		NYU Stern		Duff&Philips		NYU Stern	
Water Utility Companies	Risk-Free Rate	Beta	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return
1 Atmos Energy Corporation	2.07%	0.65	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	5.13%	6.04%	5.22%	6.25%
2 New Jersey Resources Corporation	2.07%	0.93	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	6.44%	7.74%	6.58%	8.05%
3 Northwest Natural Holding Company	2.07%	0.73	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	5.50%	6.52%	5.61%	6.76%
4 ONE Gas, Inc.	2.07%	0.75	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	5.60%	6.65%	5.70%	6.89%
5 South Jersey Industries, Inc.	2.07%	0.83	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	5.97%	7.13%	6.09%	7.41%
6 Southwest Gas Holdings, Inc.	2.07%	0.89	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	6.25%	7.50%	6.38%	7.79%
7 Spire Inc.	2.07%	0.71	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	5.41%	6.40%	5.51%	6.63%
Average	2.07%	0.78	10.20%	12.10%	5.50%	6.00%	9.79%	11.64%	4.95%	5.21%	4.70%	6.10%	4.84%	6.43%	5.76%	6.85%	5.87%	7.11%
																Average		6.40%
																CAPM Lower Bound		5.87%
																CAPM Upper Bound		6.85%

GR-2022-0179

2021 Q1 CAPM Estimate	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]
			Duff&Phelps (1926-2020)				NYU Stern (1928-2020)				Market Risk Premium				CAPM Cost of Common Equity			
			Large Company Stocks		Long-term G-Bonds		S&P 500		US Treasury Bond		Duff&Phelps		NYU Stern		Duff&Phelps		NYU Stern	
Gas Utility Companies	Risk-Free Rate	Beta	Geometric Mean Return	Arithmetic Mean Return	Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return	Geometric Mean Return	Arithmetic Mean Return
1 Atmos Energy Corporation	2.07%	0.80	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	5.77%	6.93%	5.94%	7.21%
2 New Jersey Resources Corporation	2.07%	0.95	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	6.47%	7.84%	6.67%	8.17%
3 Northwest Natural Holding Company	2.07%	0.80	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	5.77%	6.93%	5.94%	7.21%
4 ONE Gas, Inc.	2.07%	0.80	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	5.77%	6.93%	5.94%	7.21%
5 South Jersey Industries, Inc.	2.07%	1.05	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	6.93%	8.44%	7.15%	8.82%
6 Southwest Gas Holdings, Inc.	2.07%	0.95	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	6.47%	7.84%	6.67%	8.17%
7 Spire Inc.	2.07%	0.85	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	6.00%	7.23%	6.18%	7.53%
Average	2.07%	0.89	10.29%	12.16%	5.65%	6.08%	9.79%	11.64%	4.95%	5.21%	4.63%	6.07%	4.84%	6.43%	6.17%	7.45%	6.36%	7.76%
																CAPM Lower Bound		6.18%
																CAPM Upper Bound		7.23%
																Average		6.71%

Comparison of Staff's Q1 2021 COE for Q1 2021
in Testimony for GR-2021-0108 and GR-2022-0179

GR-2021-0108

Q1 2021 COE Estimate	
DCF	8.10%
CAPM	6.40%
Average	**7.25%**

GR-2022-0179

Q1 2021 COE Estimate	
DCF	9.38%
CAPM	6.71%
Average	**8.04%**