Exhibit No.: _____
Issue(s) Rate of Return (ROR)/ Capital Structure
Witness/Type of Exhibit: Murray/Direct
Sponsoring Party: Public Counsel
Case No.: GR-2021-0108

DIRECT TESTIMONY

OF

DAVID MURRAY

Submitted on Behalf of the Office of the Public Counsel

SPIRE MISSOURI, INC.

CASE NO. GR-2021-0108

** **

Denotes Confidential Information that has been Redacted

May 12, 2021

PUBLIC

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Spire Missouri Inc.'s d/b/a Spire Request for Authority to Implement a General Rate Increase for Natural Gas Service Provided in the Company's Missouri Service Areas	)))))	Case No. GR-2021-0108

VERIFICATION OF DAVID MURRAY

David Murray, under penalty of perjury, states:

1. Attached hereto and made a part hereof for all purposes is my direct testimony in the above-captioned case.

2. My answer to each question in the attached direct testimony is true and correct to the best of my knowledge, information, and belief.

/s/David Murray
David Murray
Utility Regulatory Manager
Office of the Public Counsel

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Definitions/Abbreviations

AFUDC	Allowance for funds used during construction – this is the return that is allowed on CWIP. AFUDC is capitalized based on short-term debt costs until the CWIP balance exceeds short-term debt outstanding. It then accrues a return based on the allowed ROR for long-term capital
Allowed ROE	Regulatory body's determination of how much earnings/profit to allow in the revenue requirement.
Allowed ROR	Regulatory body's decision as to the amount of return allowed for equity capital and debt capital supporting rate base/investment.
Basis Point	$1/100^{th}$ of a percent 0.01%; 100 basis points = 1%
Beta	Measure of the covariance of the stock and the market dividend by the variance of the market. If Beta is less than one, implies the stock will have lower returns than S&P 500 during bull markets, but higher returns than the S&P 500 during bear markets.
BOD	Spire Inc.'s Board of Directors
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing Model
CFA	Chartered Financial Analyst Program
COE	Cost of equity - investors' minimum required/expected ROE in exchange for providing equity capital. Implied/determined through analyzing stock prices in relation to fundamentals, such as estimated cash flows/dividends.
Constant/Gordon Growth DCF/DDM	Method used to discount dividends/cash flows that are expected to grow at a constant growth rate into perpetuity.
CWIP	Construction work in progress – plant that is not included in rate base, but accrues a return until the plant is fully operational and used for service.
DCF	Discounted Cash Flow Method – the DCF method can discount various proxies of cash flows, such as estimated dividends, free cash flows to the equity investor or free cash flows to the firm. In utility ratemaking, "the DCF model" is used loosely to identify a DDM analysis, which is more specific type of DCF.

DDM	Dividend Discount Model – a DCF method that discounts expected dividends to determine a fair price to pay for a share of stock.
DPS	Dividends per share
EPS	Earnings per share
Ex-ante	Risk premium estimates based on evaluating current market price levels as they relate to fundamental valuation principles.
Ex-post	Risk premium estimates made primarily by measuring the excess equity market returns over risk-free rates for historical periods.
Fed	The Federal Reserve Bank
FY	Fiscal Year, which starts on October 1 for Spire Inc.
Investment Grade	BBB-, Baa3 or better
LDC	Companies whose operations are predominately confined to local natural gas distribution services.
Leverage	The amount of debt that supports a company's capital structure.
Multi-stage DCF/DDM	Method used to determine the value and/or COE for a firm in which it is expected to have varying cash flows and/or growth rates. May be as few as two stages, with no limit on more stages.
OTC	Over-the-counter – trades in which a buyer and seller trade directly with each other or through a dealer, but not on a public exchange.
Pure-play	A company whose operations are 100% confined to one business segment, with the definition of the segment dependent on the analyst. In context of LDCs, it is a publicly-traded company with 100% of its operations confined to LDC operations, which by definition only includes ond company, One Gas Company.
P/E	Price per share divided by earnings per share. A measure of the cost per share of earnings. Earnings can be measured based on historical or projected periods. In context of my testimony, P/E is defined as price divided by estimated next-twelve months (NTM) EPS
ROE	Return on Common Equity – a function of accounting net income divided by book value of equity on balance sheet.
ROR	Rate of Return
S&P 500	A market-capitalization-weighted index of the 500 largest publicly-traded companies in the U.S.
WACC	Weighted Average Cost of Capital

YTM	Yield-to-maturity is the total return expected on the bond if it is held to maturity. If a bond was originally priced in a higher yield environment, its YTM will typically be lower, based on recent transactions being priced above par. If a bond was originally priced in a lower yield environment, its YTM will typically be higher, based on recent transactions being priced below par.

DIRECT TESTIMONY

OF

DAVID MURRAY

SPIRE MISSOURI INC.

FILE NO. GR-2021-0108

Q. Please state your name and business address.

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

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

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

Q. On whose behalf are you testifying?

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

Q. What it the purpose of your testimony?

A. To recommend a fair and reasonable rate of return ("ROR") for purposes of setting Spire Missouri Inc.'s ("Spire Missouri") revenue requirement

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

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

Q. What aspects of ROR will you address?

A. I will address a fair and reasonable allowed return on common equity ("ROE") and a fair and reasonable capital structure.

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

A. Spire Missouri's current authorized ROE of 9.8%, set in Spire Missouri's last rate case, Case No. GR-2017-0215 is unreasonable considering the current low interest rate environment. Additionally, Spire Missouri's allowed equity ratio of 54.4% should be adjusted to consider the higher debt capacity afforded by Spire Missouri's low-risk regulated utility assets.

Q. Before you go into the details supporting your analysis, can you summarize the rationale for your conclusions?

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

Return on Equity

I recommend that the Commission lower Spire Missouri's allowed ROE because broader utility sector capital market conditions indicate that, even after their underperformance relative to the Standard & Poors ("S&P") 500 since the onset of the COVID-19 pandemic, the valuation levels of utility stocks continue to be supported by sustained low long-term interest rates. While utility stock valuation levels have not sustained their all-time high levels reached in February 2020, they have rebounded to levels more typical of the current low interest rate environment. Perhaps the most relevant consideration for the Commission's assessment of a fair and reasonable allowed ROE for Spire Missouri is whether Spire Missouri's risk profile is significantly different from Missouri's large electric utilities considering the Commission's last authorized ROE was 9.25% for The Empire District Electric Company ("Empire") in Case No. ER-2019-0374. As I will discuss in greater detail later in my testimony, while I estimate the absolute value of Spire Missouri's cost of equity ("COE") to be significantly below 9.25%, the COE for the utility industry has increased since its all-time lows prior to the COVID-19 pandemic. Additionally, based on my comparison of local natural gas distribution companies'

("LDC") capital market data to regulated electric utility companies' capital market data, I conclude that LDCs currently have a slightly higher COE (approximately 25 basis points). Consequently, although I recommend the Commission authorize Spire Missouri a 9.25% ROE, I considered the implied higher COE by increasing the high-end of my range to 9.5% from 9.25% in recent rate cases. In my opinion an allowed ROE in the range of 8.5% to 9.5% is reasonable, with 9.25% being my point recommendation.

Capital Structure

I recommend that the Commission lower Spire Missouri's authorized common equity ratio to approximately 47.36% from the 54.2% ratio the Commission allowed Spire Missouri in the 2017 rate case. My recommended common equity ratio is premised on the average proportion of equity contained in Spire Missouri's parent company's, Spire Inc., capital structure for the end-of-quarter balances for the period September 30, 2019 through September 30, 2020 (5 quarters based on end-of-period balances provides average capitalization balances over the entire test year). My recommended capital structure also includes a 7.28% weighting for short-term debt due to the fact that both Spire Inc. and Spire Missouri consistently and materially use short-term debt to support capital needs not related to construction work in progress ("CWIP"), which is typically financed with short-term capital as a bridge until CWIP is placed into service and included in rate base. It is apparent from the analysis I performed comparing Spire Missouri's capital structure to Spire Inc.'s capital structure that Spire Inc.'s capital structure is the most actively managed for balancing a lower cost of capital against creditworthiness. Spire Inc.'s targeted common equity ratio for Spire Missouri is that which the Commission authorized it in its last rate case.[1] The Commission can rectify this targeting of an equity-rich capital structure by authorizing Spire Missouri a common equity ratio consistent with Spire Inc.'s on a consolidated basis.

[1] Spire Missouri's Response to Staff Data Request No. 0115.

Q. Did you take any other matters into consideration when determining a fair and reasonable allowed ROE and equity ratio in this case?

A. Yes. Although capital market information and average allowed ROEs for LDCs support lowering Spire Missouri's allowed ROE to as low as 8.5%, I recognize the Commission is likely to benchmark itself off of its own recent allowed ROE of 9.25% for Empire to determine what is fair and reasonable for Spire Missouri. Additionally, the Commission may consider Spire Missouri's affiliates' allowed ROEs and equity ratios. The Alabama Public Service Commission authorized Spire's Alabama LDC utilities, Spire Alabama and Spire Gulf, a 10.5% and a 10.7% ROE, respectively, applied to a 55.5% equity ratio for each. Although more reasonable than the authorized equity ratios and returns for Spire's Alabama LDCs, the Mississippi Public Service Commission authorized Spire Mississippi an ROE of 10.03% applied to a 50% equity ratio.[2]

FAIR RETURN ON COMMON EQUITY

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

A. I reconciled the principles established in *Hope* and *Bluefield*[3] with the modern financial models used to estimate the COE. While setting the allowed ROE based on the COE is at least theoretically sufficient to allow a company to attract capital in efficient markets, the fact that average allowed ROEs have been set higher than rational COE estimates also needs to be considered when determining a fair and reasonable allowed ROE. In fact, this Commission has set a "zone of reasonableness standard" [4] for purposes of setting an allowed ROE with the starting point for this zone of reasonableness being a recent industry average allowed ROE. Considering these principles, I first estimate Spire Missouri's current COE, then compare Spire Missouri's current COE to the COE at the time the

[2] Spire Inc. Investor Presentation, "Stepping Forward," April 2021.
[3] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 64 S.Ct. 281, 88 L.Ed. 333 (1943); *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, *43 S.Ct. 675, 67 L.Ed. 1176* (1923).
[4] *State ex rel. Missouri Gas Energy v. Public Service Commission,* 186 S.W.3d 376, 383 (Mo App. W.D. 2005)

Commission awarded Spire Missouri an ROE of 9.8% in Case No. GR-2017-0215, as well as consideration of the cost of capital now compared to when the Commission authorized Empire a 9.25% ROE. My analysis also includes consideration for other recently allowed ROEs with consideration given to the reasonableness of Spire Missouri's affiliates' allowed ROEs.

Q. Based on your analysis, what is your estimate of Spire Missouri's current COE?

A. Spire Missouri's current COE is in the range of 6.5% to 7.5%.

Q. How does this compare to your COE estimates in the recent rate cases for Ameren Missouri, Case No. ER-2019-0355, and The Empire District Electric Company ("Empire"), Case No. ER-2019-0374?

A. It is about 100 basis points higher than my COE estimates in those cases. At the time I performed my COE studies for Ameren Missouri and Empire, the utility industry's stock valuation levels had reached recent all-time highs. These high valuation levels implied very low costs of equity. I estimate that the electric utility industry's COE has also increased by a little less than 100 basis points since I did my analysis for those cases.

Q. Based on your analysis and awareness of capital market conditions, investor expectations, and recent average allowed ROEs for utilities, what do you consider to be a fair and reasonable allowed ROE for Spire Missouri?

A. 8.50% to 9.50%. 8.46% is likely the lowest ROE that the Commission would consider under its "zone of reasonableness" standard, while 9.50% at least lowers Spire Missouri's allowed ROE to make it more similar to 2020 average authorized ROEs for electric and gas utilities throughout the industry. It also ensures Spire Missouri's allowed ROE is not unreasonably higher than the ROE which was recently awarded to Empire.

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

A. I reviewed as much of Spire Inc.'s Board of Directors ("BOD") strategic financing and investment considerations since September 30, 2017, as Spire Missouri voluntarily made available to OPC. Unfortunately, at the time I wrote this testimony, OPC had met resistance from Spire Missouri in gaining access to much of the information that would provide valuable insight as to Spire Inc.'s and Spire Missouri's cost of capital and financing decisions. As is evident from my testimony in the recent Ameren Missouri rate case, this type of information assists with providing a robust record to objectively evaluate a fair and reasonable authorized ROR, as well as testing the credibility of each witness' cost of capital estimates. Should I receive additional disclosures related to this BOD information, I may file an update to my testimony or else address the information in rebuttal testimony as circumstances allow.

I also reviewed investment industry research covering Spire Inc., the general utility industry, and the LDC industry since at least the beginning of 2019. At the time I was drafting this testimony, Spire Missouri had yet to provide OPC with investment industry information covering Spire Inc.'s financial results for its 2020 fiscal year (twelve months ended September 30, 2020) or any information subsequent to this period. I also generally considered the research I performed in the following recent rate cases: Missouri American Water Company ("MAWC") – Case No. WR-2020-0344, Empire (Case No. ER-2019-0374) and Ameren Missouri (Case No. ER-2019-0355). This research provided me insight as to the types of methods/models typically used by investors to determine fair prices to pay for utility stocks. After performing this research, I estimated Spire Missouri's COE by performing a company-specific COE analysis on Spire Inc. as well as a COE analysis on a proxy group of companies generally categorized as being in the LDC industry.

Q. What specific COE models did you use?

A. I used a multi-stage discounted cash flow ("DCF") method, with specific emphasis on equity analysts' consensus estimated dividends and the modeled growth of dividends.

When the DCF method is applied to dividends as the proxy for cash flow, it is more specifically defined as the dividend discount model ("DDM"). I also applied the Capital Asset Pricing Model ("CAPM") to both Spire Inc. and the LDC proxy group. Finally, I performed simple and logical reasonableness checks to test the reasonableness of my COE estimates. These reasonableness checks recognize the basic characteristics of utility stocks, mainly being that they are perceived as yield/income investments by the investment community. One such reasonableness check is a straight-forward bond-yield-plus-risk-premium method discussed in the Chartered Financial Analyst ("CFA") Program curriculum. Another is evaluating the models' projected proportion of a utility's return achieved from capital gains as compared to the dividend yield.

Q. Can you describe current capital market conditions as it relates to the utility industry in general, the LDC industry, and Spire Inc. in particular before you get into the details of how you specifically estimated Spire Missouri's COE?

A. Yes. This information should help provide some context as to the current state of utility capital markets and what this implies about the trend in capital markets over approximately the last decade when long-term interest rates entered into a prolonged period of lower levels with a declining trend. At times, I focus on a shorter time period beginning in 2015, as opposed to a full decade, because this period particularly highlights three phases in trading patterns of the LDC industry compared to the regulated electric utility industry, which are as follows: (1) trading at a premium to the electric utility industry (2015-2019), (2) trading at a discount to the electric utility industry (2020) and (3) trading close to par with the electric utility industry (2021). The first phase implies the LDC industry has a lower COE than the electric utility industry; the second phase implies a higher COE; and the third phase implies a similar COE.

Q. Did you sponsor ROR testimony in Spire Missouri's 2017 rate case?

A. Yes. I testified on behalf of the Staff of the Missouri Public Service Commission ("Staff").

Q. What was your recommended allowed ROE in that case?

A. It was in the range of 9% to 9.5%, with a point recommendation of 9.25%.

Q. Was your recommended allowed ROE consistent with your COE estimates at the time?

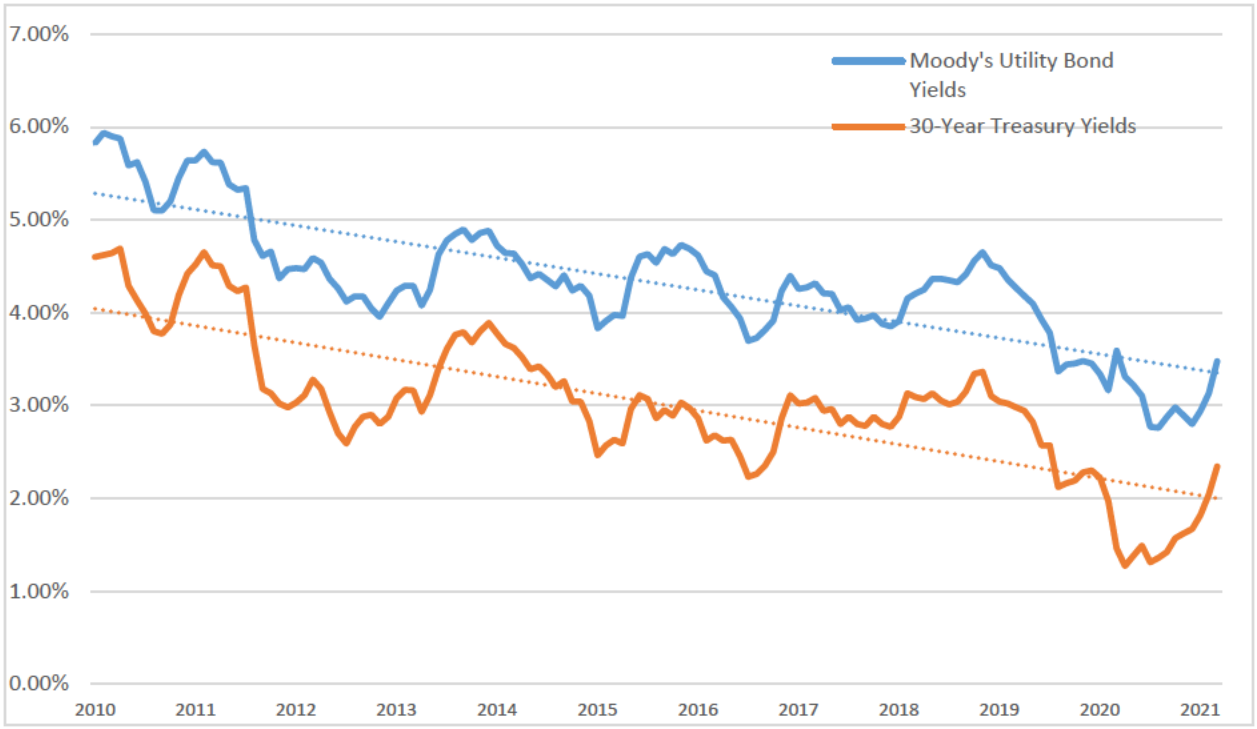
A. No. My COE estimates were lower than allowed ROEs then as well. I compared my COE estimates in the 2017 case to my COE estimates for the electric utility industry at that time and concluded that the LDC industry's COE was lower than the electric utility industry, justifying a lower allowed ROE for Spire Missouri as compared to the Commission's then recent decision to allow Kansas City Power & Light Company (now Evergy Metro) an ROE of 9.5% in Case No. ER-2016-0285.

Q. How do current investment grade utility bond yields compare to investment grade utility bond yields over the past decade?

A. On a trend line basis they are lower.[5] This sustained downward trend in investment grade utility bond yields supports a reduction in allowed ROEs to compress the difference between the cost of capital and allowed rates of return.

The below graph shows long-term bond yields since January 1, 2010, which captures the prolonged period of lower long-term interest rates post the recession/financial crisis of 2008/2009. While the early stages of lower long-term interest rates in the first half of this decade were considered by some as potentially anomalous because of the Federal Reserve Bank's ("Fed") quantitative easing ("QE") programs[6] through the end of 2013, since that time, long-term interest rates have continued an overall declining trend.

[5] S&P rates Spire Inc. and Spire Missouri investment grade at 'A-'; Moody's rates Spire Inc. 'Baa2'and Spire Missouri 'A3' (pro forma unsecured).
[6] QE involved three rounds of the Fed's direct intervention in bond markets beyond just lowering the Fed Funds rate. The Fed's QE programs had the express intent of reducing long-term interest rates.



Average utility long-term bond yields dropped to modern all-time lows in the latter half of 2020 - levels not experienced since the late 1940s and early 1950s (I am not aware of a publication at the time, such as Regulatory Research Associates, that would provide information on allowed returns to provide guidance for current decisions). However, they have increased by approximately 70 basis points through the first three months of 2021. Yields are approximately 70 basis points (0.7%) lower than the period I evaluated in Spire Missouri's 2017 rate case.

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

A. The investment community regards regulated LDC stocks and electric utility stocks as bond proxies/pseudo bonds, meaning that if long-term bond yields decline, then this typically causes regulated electric and gas utility stocks prices to increase. Therefore, changes in utility stock valuation levels typically have a strong inverse correlation to changes in bond yields, i.e. as bond yields decline, utility stock prices increase.

Q. Since April 2020, have utility stock valuations and bond yields provided traditional and consistent signals about utilities' cost of capital?

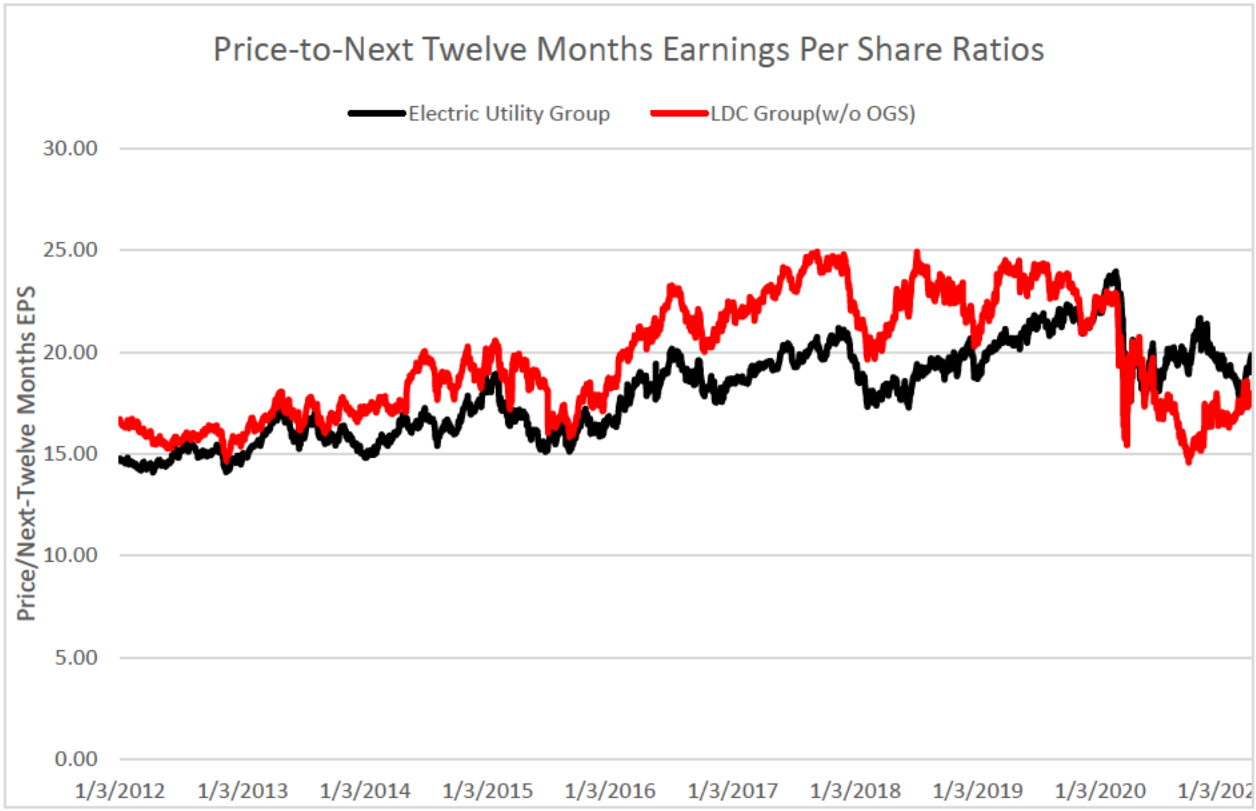
A. No. Utility and corporate bond yields have declined significantly since even before the pandemic, which were already trading at yields-to-maturity ("YTM") that were at 60-year lows. During most of the post-pandemic months in 2020, utility and corporate bonds were trading at YTM that were at 70-to-80 year lows. However, broader utility industry stocks (mainly LDC and electric utility stocks) actually declined on both an absolute and relative basis (as compared to the S&P 500). During recent months, utility valuation levels have rebounded, but not back to the all-time highs they achieved in February 2020.

Consequently, while the utility industry is undoubtedly able to issue bonds at even lower costs than shortly before the pandemic, the utility equity market data has not been as conclusive about the direction of utility equity costs. For example, as I will discuss later in my analysis using the Capital Asset Pricing Model ("CAPM") analysis, utility stock betas have increased, implying a higher COE. However, the valuation ratios for the electric and gas utility industry are only slightly lower than the all-time highs achieved right before the pandemic.

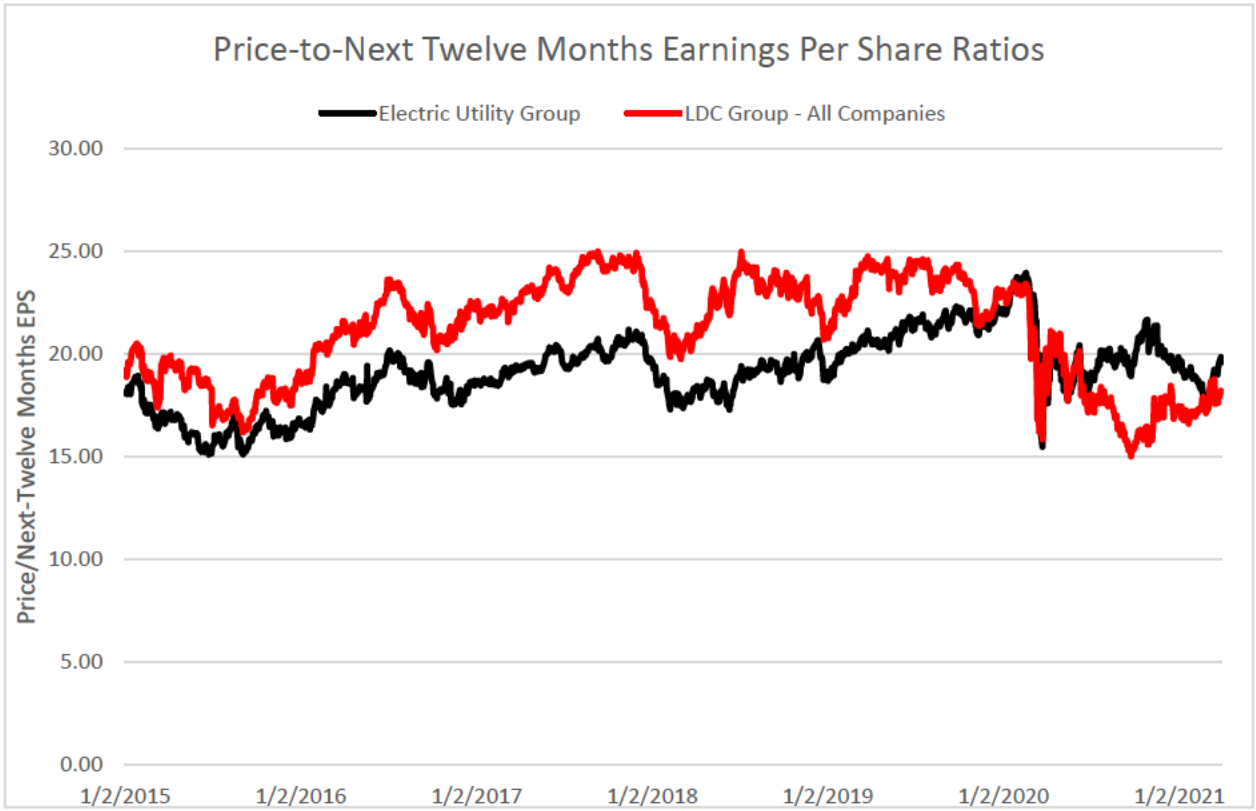
Q. Can you provide a graphic illustration that compares the LDC industry's price-to-next-twelve-months-earnings (P/E) ratios to the electric utility industry's P/E ratios since January 1, 2012?

A. Yes. First, I should note that P/E ratios are often used to evaluate the relative cost to the investor to buy a share of earnings and the potential growth of that earnings. Also, for context regarding the favorableness of utility P/E ratios over the past several years, utility P/E ratios averaged 14.4x since 1995.[7] A graph of the P/E ratios for the LDC and electric utility industry follows:

[7] Durgesh Chopra, et. al., "Utes Close To Fair Value In Our Bond Model," Evercore ISI, April 18, 2021, p. 8.



As can be seen in the above graph, the LDC industry traded at a premium to the electric utility industry until the end of 2019. The premium was especially pronounced during the latter half of the last decade. Because One Gas Company (the only 100% pure-play LDC company of all of the publicly-traded LDCs) did not become a publicly-traded company until 2014, it is not included in the above graph. In order to provide more robust data on the LDC industry for the last half of the decade and focus on the significant change in the relative trading values for the LDC industry compared to the electric industry, I also provide the following graph showing P/E data since January 1, 2015:



As is graphically illustrated, LDC's traded at a significant premium to electric utilities for the five-year period, January 1, 2015 through December 31, 2019. The average P/E multiple was approximately 3x higher over this period. However, beginning in early 2020 and until very recently, LDC's started trading at a discount to electric utilities. LDC's traded at an average P/E that was 1.6x lower than electric utilities for all of 2020. It wasn't until recently that the P/E ratios for LDCs started trading closer to par with electric utilities.

Q. What are some logical explanations for the change in the trading relationship between the local natural gas distribution company and the electric utility industries?

A. I have seen several explanations from equity analysts attempting to explain LDCs trading at a discount to electric utilities in 2020. The following capture the major themes:

First, the likelihood of Joseph Biden being elected President, coupled with various states' individual initiatives (mainly in big cities on the coasts) for electrification, the future

use of natural gas for space heating and other ancillary uses has been a matter of debate. This naturally influences investors' expectations and pricing of LDC stocks. In fact, some cities have passed ordinances that ban the ability of LDC's to provide service for new construction. This at the very least causes doubt about the potential for the LDC industry to continue to grow over the long-term, if not whether the industry will even exist several decades into the future.

Second, not only does the foregoing not bode well for the LDC industry, but it would be an opportunity for electric utility companies to grow through additional customers and investment in renewable energy. This explains why electric utility companies such as NextEra Energy Inc. and others with significant potential to capitalize on investment opportunities related to the "green" movement, have seen their valuation levels (32x P/E for NEE) inflate to much higher levels than where regulated electric utilities had typically traded during the last couple of years (around 20x P/E).

Third, most companies that are considered LDC companies, other than Atmos Energy Company and NiSource Inc., are smaller companies (considered mid-cap or less because the market capitalization of their publicly-traded equity is less than $5 billion). The stocks of smaller capitalization companies (regardless of the industry), typically did not perform well during 2020 because of concerns about the economy related to the pandemic. Smaller companies typically trade much more cyclically even if their underlying fundamentals are quite solid (smaller utility companies still had fairly predictable demand and earnings during the pandemic and were even allowed to book regulatory assets for excess costs incurred during the pandemic).[8]

Finally, although the companies in the LDC industry are predominately state regulated monopoly gas distribution utilities, several of the companies have commodity exposure through their non-regulated businesses, such as Spire's gas marketing businesses. The companies with the most non-regulated business exposure are New Jersey Resources Inc., South Jersey Industries, Southwestern Gas Company and Spire Inc. Typically, the

[8] Neil Kalton, et. al., "Reshuffling the Deck Amidst Unwind of ESG/Quality Trade: Upgrading WEC, PCG, BEP & BEPC; Downgrading SJI, SR & CWT," p. 5, March 4, 2021.

more a company is exposed to commodity pricing risk, the more the company's stock will fluctuate with economic cycles. While this is certainly a risk incurred by these companies' non-regulated business segments, this is not a risk that should be subsidized with a higher return on the LDC's regulated business segment.

Q. What was your initial reaction to the fact that LDC's are trading at discounts to electric utilities?

A. Their cost of capital must now be higher than it is for the electric utility industry. If one assumes both industries have the same near-term and long-term earnings and dividend growth rates, then this is the correct conclusion. In years prior when LDCs were trading at a higher premium to electric utilities, it was widely accepted in the investment community that LDCs deserved a higher premium due to less business risk associated with LDC's steady incremental investments in pipeline replacement programs, which are allowed almost immediate recovery through surcharges/riders for most companies. Also, the investment community recognized that most LDCs typically had fairly favorable rate designs that were either fully decoupled or at least weather-normalized rate designs that consistently achieved recovery of the revenue requirement. After I completed my COE analysis, I concluded that the LDC industry's COE is slightly higher than that of electric utilities, but I also believe investors have been paying less for LDC companies because of lower growth expectations related to decarbonization concerns.

Q. If the future viability of the LDC industry is in doubt due to long-term goals to decarbonize energy, then how would this impact the LDC's expected long-term growth rates and potential terminal values?

A. It would cause downward pressure on any potential growth for the industry. It is even possible that some investors may potentially start factoring in a contraction (negative growth) in the industry. This would affect the terminal value estimates made by investors, which would also help explain the contraction in LDC's P/E ratios, even if the cost of capital remained similar to that of the electric utility industry.

Q. Are you aware of investment analysts analyzing scenarios in which the LDC industry has $0 in terminal value several decades in the future?

A. Yes. Wells Fargo evaluated a scenario in which the LDC industry would have no value ($0) to investors by the year 2060. In this scenario, Wells Fargo used a 6.5% COE to determine a fair value estimate of LDC companies. Wells Fargo's analysis implied a 30% discount to the average electric utility P/E would be justified under this scenario.[9]

Q. What valuation model did Wells Fargo use for its assessment of this scenario?

A. A dividend discount model (DDM), which is synonymous with the discounted cash flow ("DCF") method in regulated utility cost of capital debates.

Q. Do these current utility industry issues cause additional difficulties in estimating a proper perpetual growth rate for LDC companies when estimating LDCs' COE?

A. Yes. Historical industry growth data for the LDC industry typically supported a potential perpetual growth rate that was a slightly higher than those achieved by the electric utility industry, but now it a appears that the LDC industry may be hard pressed to achieve much growth after each company completes its pipeline replacement programs, which range from completed by Northwest Natural Gas to at least 10 years for other companies.[10]

Q. Doesn't the uncertainty surrounding the LDC industries' long-term viability cause additional risk to investors in LDCs?

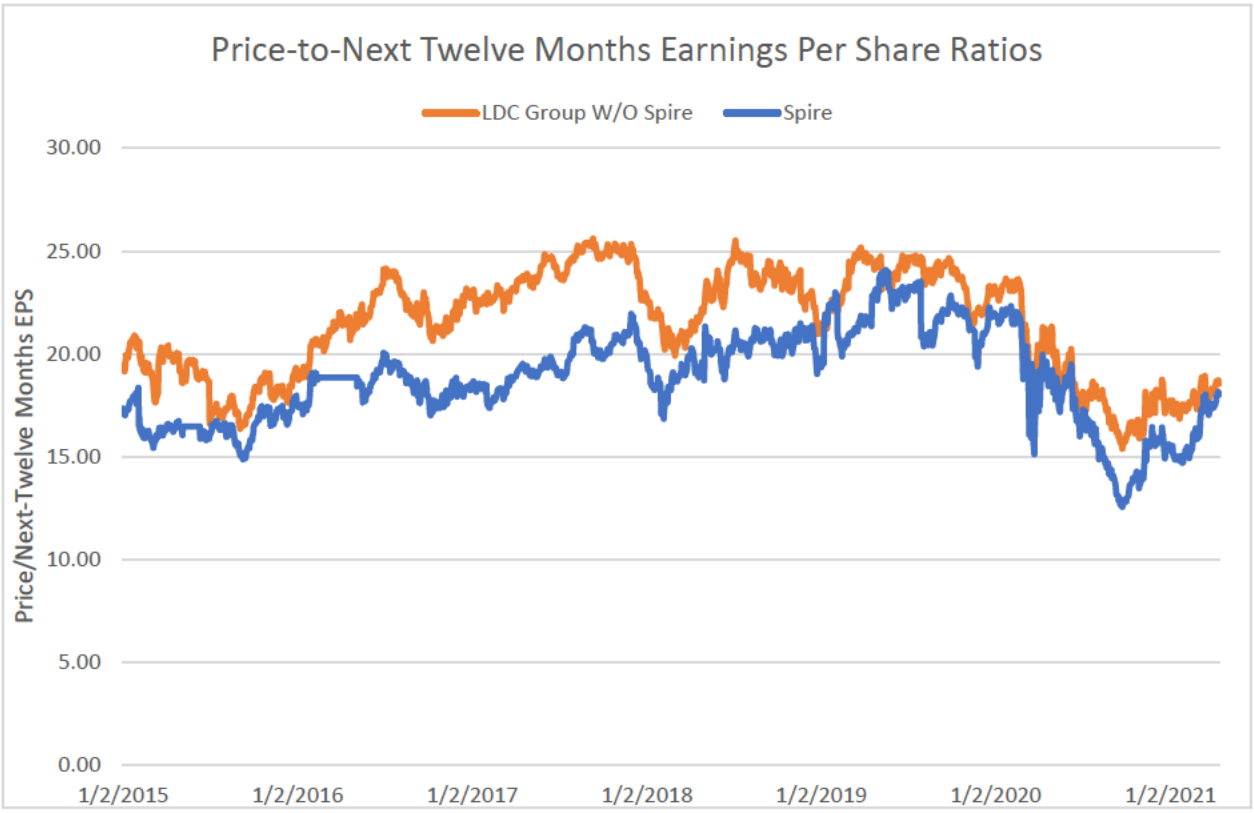
A. Yes. As I will explain in more detail when I provide data on my COE analysis, I am now of the opinion that Spire Missouri's allowed ROE should not be lower than that which is considered reasonable for an electric utility. My opinion in past cases was that Spire Missouri should be authorized an ROE at least 25 basis points lower than that which is considered reasonable for an electric utility with a similar capital structure. If the Commission were to authorize Spire Missouri an ROE consistent with my recommended

[9] Sarah Akers, et. al., "Gas Utilities: Exploring Recent Underperformance + LDCs in an ESG Era," September 27, 2020, Wells Fargo.
[10] *Id.*

allowed ROE of 9.25%, this would still allow for 225 basis point spread over the mid-point of my COE estimated range of 6.5% to 7.5%.

Q. How has Spire Inc.'s P/E ratios compared to the LDC industry?

A. See the below chart:



Spire Inc. traded at a discount the rest of the LDC industry for most of the period 2016 through 2018. Spire Inc. more or less traded in-line with the LDC industry after this period except in the fall of 2020 and in February 2021. Bank of America indicated the following about Spire Inc.'s underperformance compared to its peers in a July 21, 2020, report:

> SR has traded at a discount to peers due to ongoing overhangs related to: 1) uncertainty in recovering Infrastructure System Replacement Surcharge (ISRS) revenues in MO; 2) lack of confidence in mgmt.'s storage strategy; and, 3) unclear messaging from mgmt. on its long term growth target (i.e.

> the base year for the 4-7% growth range). Given mgmt. was able to settle the 2016-2018 ISRS appeal, legislation was signed by the governor to clarify future ISRS recovery, and the company recently took a $130-150mn impairment charge on its storage assets, the story is becoming much cleaner.[11]

Spire Inc.'s stock price in February 2021 was impacted by concern about potential risks caused by the extreme cold weather event (officially named "Uri") that caused Spire Missouri to incur very high gas costs. This weather event also impacted Atmos and One Gas due to the fact that their systems are concentrated in Oklahoma, Texas and Kansas.

Q. Can you provide additional investment community commentary that corroborates your general views expressed above?

A. Yes. The following was stated in a recent JP Morgan Report on the LDC industry:

> Strong YTD performance has narrowed the gas LDC discount to regulated electric peers to -4.1%, versus a peak 2020 discount of -13-15% in October. However, this discount remains significantly below the +16.2% average group premium over 2015-2019. Notable periods of volatility have impacted the group's move higher YTD, including initial price reactions to higher purchased gas costs from February's extreme weather and other company-specific performance (SJI's YTD low/high $21.08/$28.80 vs current $24.77). We see group tailwinds amid this rebound that include 1) recent state legislative focus on pro-natural gas bills, 2) traction in industry environmental messaging on emissions reduction targets and early forays into RNG/hydrogen, and 3) strong operational results to start the first heating season under COVID-19. Attention remains on CNP's AR/OK natural gas distribution operations sale process. Upside from a positive valuation marker for the LDC group appears more limited after the recent rally, although the sale may indicate current strategic/financial interest in LDC assets.[12]

The commentary confirms the fact that LDC stocks have been out of favor for a number of the reasons I have already discussed. This was particularly acute before the fall of 2020 through early this year. While legislators and regulators have been generally supportive of pipeline replacement programs, which provides fairly visible and healthy

[11] Richard Ciciarelli, CFA, et. al., "2Q20 Gas LDC preview: Glimpse into the future of the gas utility outlook," Bank of America, July 21, 2020, p. 26.
[12] Richard W. Sunderland, et. al., "North American Utilities: LDCs 1Q21 Preview: Not Fade Away - YTD Strength Brings Life to the Group," April 22, 2021, JP Morgan.

growth expectations over the next ten to twenty years, it is difficult for investors to project potential growth for the industry past the next couple of decades.

Q. Did you attempt to discover and analyze Spire Inc.'s own views about the current state of the LDC capital markets by requesting access to internal BOD documents related to financing and capital allocation decisions?

A. Yes. I requested access to all of Spire Inc.'s Board of Director ("BOD") and BOD Committee minutes and materials. However, at the time I was drafting this testimony, Spire Missouri had been limiting the documents it allowed OPC to review. In the past Ameren Missouri rate case, Case No. ER-2019-0355, access to these documents allowed me to further understand decisions as it related to issuing various forms of capital, including equity. Most often, the investment bank engaged to issue the capital on the utility company's behalf will provide analysis of both the broader capital markets and those specific to the utility industry. This is exactly the type of information I discovered in Ameren Missouri's last rate case. I have also discovered this type of information in past Spire Missouri cases, including its application requesting authority to acquire the Missouri Gas Energy ("MGE") system from Southern Union in 2013, Case No. GM-2013-0254. At the time I drafted this testimony, Spire Missouri started to provide some of this information. After I have the opportunity to thoroughly review this information (and determine whether all requested information has been provided), I may seek to supplement my direct testimony. Otherwise, I can provide such information in subsequent rounds of testimony.

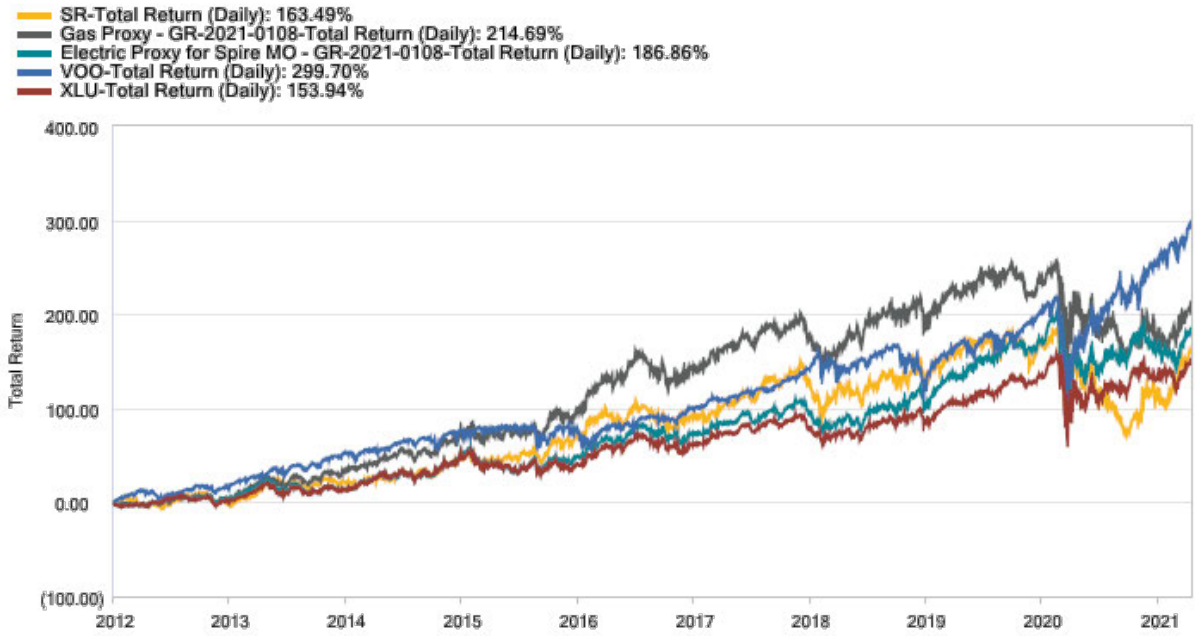
Q. Do investors expect allowed ROEs to be reduced because of continued low long-term interest rates?

A. Yes, but investors have recognized that utility stock betas have also increased at the same time long-term interest rates continued to decline. Assuming the market risk premium was the same as before the pandemic and long-term interest rates had not declined, this would imply a potential increase in utilities' COE. However, broader markets, such as the S&P 500 have soared in recent months, which implies a lower market risk premium or at least no higher than that which has been applied under higher interest rate environments. A

potential lower market risk premium combined with lower interest rates implies a lower cost of capital for all companies operating in the United States.

Q. Can you provide information on how Spire Inc.'s shareholder returns have compared to its peers, the electric utility proxy group, a broad utility index and the S&P 500?

A. Yes. See the below chart for a graphic illustration of Spire Inc.'s total return as compared to the LDC peer group, the S&P 500 (VOO), a broad utility index (XLU), and an electric utility proxy group.



Spire Inc.'s (trading ticker is "SR") market equity returns have underperformed those of its peers, the S&P 500 and the electric proxy group. The total returns over this period translate into the following compound annual returns: Spire – 5.50%, LDC Group – 8.62%, electric group – 7.02%, XLU (broad utility index) – 4.82% and VOO (S&P 500) – 12.57%.

Most interestingly is the fact that immediately prior to the pandemic, most utility stocks, especially those of LDC companies, were significantly outperforming the S&P 500,

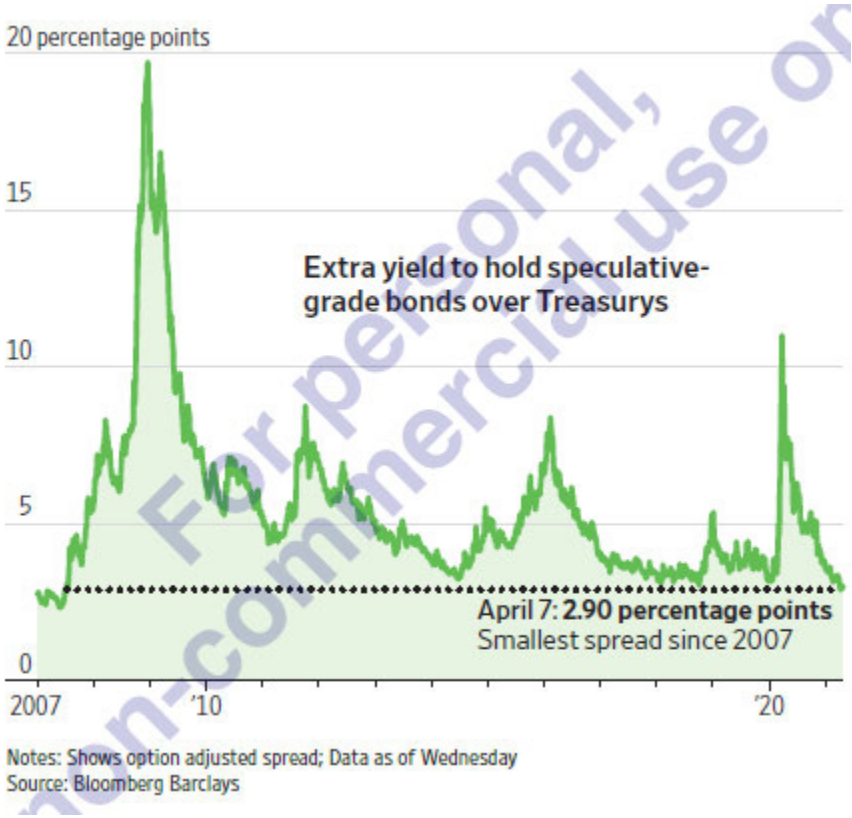
to the extent that utility P/E ratios were actually higher than that of the S&P 500. While over the long-term (more than just the last ten years) higher growth indices such as the S&P 500 are expected to have a higher P/E ratio than low-growth utilities, the low-return, low growth period subsequent to the financial crisis during 2008/2009, turned this typical valuation relationship on its head. For much of the next decade, utility companies traded a P/E ratio that was at times 1.3x that of the S&P 500.[13] While utility companies recent underperformance relative to the S&P 500 certainly implies a narrower spread between the market COE and the utility industry's COE, considering the fact that the S&P 500 has been trading at extremely high P/E ratios, this is likely more a function of the market (S&P) COE declining as opposed to the utility industry's COE increasing. For example, a recent article in the Wall Street Journal ("WSJ") indicated the following about broader stock market price levels:

> In the U.S., the S& P 500 currently trades at a price/ earnings ratio of around 26, according to Dow Jones Market Data. Another measure of valuation, called the CAPE ratio or the Shiller P/E, registers an even higher reading of 37.6, roughly a two-decade high. The measurement, which looks at the past 10 years of earnings and adjusts for inflation, peaked in December 1999 at 44.2.[14]

Q. Does the decrease in the required returns for junk bonds corroborate the reduced equity risk premium implied by broader stock market valuation levels?

A. Yes. In a recent article in the WSJ, the authors indicated that the spread between high-yield (junk bonds) and Treasuries is at its lowest level since 2007 (currently a 2.9% spread between junk bonds and Treasuries).[15] The following chart was provided as an inset within the article:

[13] Durgesh Chopra, et. al., "Utes Close To Fair Value In Our Bond Model," April 18, 2021, Evercore ISI.
[14] Akane Otani and Michael Wursthorn, "Wild Market Ride Lifts All Assets: Frenzy for stocks, crypto and resources puzzles experts, raises concerns of a bubble," Wall Street Journal, April 26, 2021, p. B1.
[15] Sam Golfarb, "Corporate-Bond Measure Hints At An Upbeat Outlook," Wall Street Journal, April 23, 2021, p. B1.



Q. Have investors' expectations for 5-year CAGR in earnings per share ("EPS") for the LDC industry changed much since Spire Missouri's last rate case?

A. No. The projected 5-year CAGR in EPS for the same five companies I used in the 2017 rate case is now 4.97% compared to 5.19% in the 2017 rate case. As I indicated earlier in my testimony, the most likely change to investors' views regarding the LDC industry is in regard to how much, if any, terminal value should be assigned to LDC assets many decades into the future.

Q. Because there is likely considerable debate regarding whether the LDC industry will be viable many decades into the future, which will cause for uncertainty in deriving a reliable COE estimate from a DDM analysis, are there other more objective and easily observable factors you can evaluate relative to the electric utility industry to determine a fair and reasonable allowed ROE for an LDC company, such as Spire Missouri?

A. The most straightforward and objective market data, which doesn't rely on growth rate expectations, are the yield-to-maturities ("YTM") on recent bond trades for Spire Missouri compared to Missouri's electric utilities. Of course, there may be some nuances in the specifics of the bonds that cause some yield differentials, but as long as the tenor of the bonds are fairly similar, this information can provide clear insight as to whether investors are requiring a higher risk premium to invest in Spire Missouri as compared to a proxy company, such as Ameren Missouri. Based on my comparison of recent over-the-counter trades on a Spire Missouri bond maturing in 2029 compared to over-the-counter trades on a couple of Ameren Missouri bonds maturing in 2029 and 2030, investors are currently requiring an extra 45 to 75 basis points to invest in Spire Missouri bonds.

The other equity security-related measure that allows for an assessment of whether investors may require a higher equity return to invest in LDCs compared to electric utilities is to evaluate the differences in equity betas. Although it is appropriate to use longer periods of time to estimate betas for a more stable, long-term COE, it is insightful to compare shorter-period betas for LDCs and electric utilities to diagnose why LDC utility stocks have been trading at a discount to electric utility stocks. As I will show when discussing my CAPM analysis, long-term betas for pure-play LDCs are not much different then long-term betas for pure-play electric utility companies, but shorter-term betas have been slightly higher for LDCs as compared to electric utilities. Consequently, based exclusively on recent shorter-term betas, Spire Missouri may deserve a slightly higher authorized ROE than that authorized for Empire. Of course, the appropriate ROE is highly dependent on the Commission's decision on the authorized capital structure.

COST OF EQUITY METHODS

Q. Now that you have provided some context on changes in utility capital market conditions generally and the LDC industry and Spire Inc. specifically, can you discuss how you decided to approach your COE estimate for Spire Missouri in this case?

A. Yes. I performed a company-specific COE analysis on Spire Inc. as well as a proxy group COE analysis. I used a multi-stage DCF approach and a CAPM. I then tested the reasonableness of my estimates by using some simple, straightforward sanity checks, such as the simple, but reliable, bond-yield-plus-risk-premium method discussed in the CFA curriculum.[16]

Q. How have you informed yourself as to reasonable and rational inputs for your COE approaches?

A. Being that the objective of a ROR witness is to emulate investors' approaches to analyzing and making investment recommendations as it relates to investing in utility stocks, I have made it a priority to review and analyze how equity research analysts determine a utility stock price estimate in practice. This has allowed me to test the theory of cost of capital estimation in utility ROR testimony as it compares to how utility stocks are actually valued. I have discovered professional equity analysts typically use a combination of valuation approaches. Investment firms may use absolute/intrinsic valuation techniques, such as a multi-stage DCF approach to estimate fundamental values of utility stocks and/or they use relative valuation techniques that compare a company's P/E ratios to an average for the industry. In my experience, professional equity analysts project long-term CAGR in EPS to determine whether a company's P/E ratio deserves a premium or a discount to its peers. Professional equity analysts do not use these estimated long-term CAGRs in EPS for purposes of projecting a perpetual dividend growth rate, as some ROR witnesses suggest. If the investment analysts are performing an absolute valuation analysis, such as a DCF/DDM, they assume rational perpetual growth rates in the 2.7% to 3.3% range when

[16] 2021 CFA Program Refresher Reading, Level II, Reading 25, p. 35.

discounting dividends for LDC companies. Finally, and most relevant to the task at hand, they estimate utilities' COE to be in the 6% to 7% range.[17]

Q. What equity research firms cover Spire Inc.'s stock?

A. According to Spire Inc.'s website, the following firms cover its stock: Bank of America Global Research, Credit Suisse, Edward Jones, Guggenheim Securities, JP Morgan, Morgan Stanley, RBC Capital Markets, Sidoti & Company, Sitfel Nicolaus & Co., UBS Investment Research and Wells Fargo Securities.

Q. Why is it important to analyze this information to determine a fair and reasonable allowed ROE for Spire Missouri?

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

Q. Did you review any of these firms' research for purposes of performing your cost of equity analysis and preparing your testimony?

A. Yes. I mainly relied on reports Spire Missouri provided in response to OPC Data Request No. 3005. However, over my career I have established relationships with some firms/analysts who have distributed this material to me directly through their email distribution lists. These relationships were borne from my role as a regulator in which many of these analysts seek information related to Missouri's general and specific regulatory issues. I have also interacted with these analysts through my participation in organizations, such as the Society of Utility and Regulatory Financial Analysts ("SURFA").

[17] Neil Kalton, Sarah Akers, and Jonathan Reeder, "DDM Analysis Supports Sector Valuation & Quality/Growth Trade," August 19, 2019, Wells Fargo.

Q. How did you approach the multi-stage DCF/DDM analysis you performed on Spire Inc.?

A. Schedule DM-D-2 attached to my testimony shows the primary logic and assumptions I used in my multi-stage approach. For the first stage, I used consensus analysts' estimates for annual dividend per share ("DPS") through 2023, which is the longest period for which this information is available for Spire Inc. Spire Inc.'s consensus dividend payout ratio is projected to be 64.19% in 2023. Spire Inc.'s current guidance on its dividend payout ratio is 55% to 65%.[18] Being that Spire Inc.'s pipeline replacement program is expected to continue for another 15 years[19], I assumed Spire Inc. could continue to achieve a CAGR in EPS over the next 15 years that would be higher than inflationary growth. However, I assumed that equity analysts' median projected 5-year CAGR in EPS of 5.10% would gradually decline to a perpetual growth rate of anywhere from 0% (no growth-maintain a constant rate base due to no industry growth) to 2.8% growth (Wells Fargo's assumed perpetual growth rate for Spire Inc.) starting in year 15. In order to sustain a growth rate consistent with inflation, Spire Inc.'s earnings retention rate does not need to be as high as it current rate of 35% to 45%. Based on a long-term 9.25% reinvestment return, Spire would need to retain a little over 20% of its earnings in order to sustain an inflationary growth rate.

Q. Can you provide some additional explanation as to the rationale underlying your assumed growth rates for Spire Inc.?

A. Yes. Spire Inc. has provided guidance to investors that it expects to achieve a long-term CAGR in EPS in the range of 5% to 7%, supported by an anticipated long-term CAGR in rate base of 7% to 8%.[20] Investors have factored in an expected annual growth in Spire Inc.'s DPS of approximately 5% through 2023. However, Spire Inc.'s pipeline replacement programs are finite and they will eventually return to a maintenance level of

[18] Brian J. Russo, "AAO Settlement, ISRS Risks Diminishing; Attractive Valuation and Dividend Yield of 4.7%; Maintain BUY, Lower Target to $65 (From $72) Due to Peer Multiple Contraction," Sidoti & Company, October 6, 2020, p. 2.
[19] *Id.*
[20] Shariar Pourezza, CFA et. al., "SR – F1Q21 Earnings: Progressing on Regulatory Matters as Mgmt. Has Eyes Set on Sustainability," Guggenheim Securities, February 4, 2021, p. 1.

capital investment, similar to Northwest Natural Gas Company's ("NWNG") current status, which already has a higher payout ratio (approximately 70%) and a lower projected 5-year CAGR in EPS of 3.92% and is only expected to increase its dividend by 2 cents over the next 3 years (0.59% CAGR). Consequently, NWNG is seeking to grow through the acquisition of water utilities to diversify its exposure to the LDC industry, as well as making investments in renewable natural gas. Once Spire Inc. achieves its constant state of growth, then its dividend payout ratio should converge to a target that ensures it will have sufficient internal equity capital to fund its investments. At a constant growth rate consistent with inflation, the payout ratio target should be 78.38% assuming a 9.25% reinvestment return. The payout ratio target should be 69.73% if Spire could achieve a 2.8% perpetual growth rate assuming the same reinvestment return.

Q. What type of growth has the LDC industry been able to achieve historically?

A. In the Spire Missouri's last rate case, I provided actual historical industry growth rate data from a sample group of LDCs. For the period 1968 through 2016, the 10-year rolling compound growth rates in DPS, EPS and BVPS for the LDC group were in the range of 2.5% to 5.5% with an average of around 4.25%. For the same period, Spire's 10-year rolling compound growth rates in DPS, EPS and BVPS ranged from 1.7% to 8.7% with an average of 4.2%.[21] This information suggests a constant growth rate of approximately 4% could be achieved. However, as I have explained, there is significant debate in the investment community as to what value, if any, should be assigned to the LDC industry several decades into the future, let alone a constant-growth rate as high as 4%. However, for sake of testing the reasonableness of my multi-stage DDM and CAPM, a constant-growth DDM estimate can be easily determined by adding the LDC group's average dividend yield to the 4% growth rate. The broad LDC proxy group average dividend yield is approximately 3.79% with the more pure-play companies' dividend yields at approximate 3.56%. A simple constant-growth DDM using a 4% growth rate suggests an LDC COE in the 7.5% to 7.8% range.

[21] See Schedules 9-5 to 9-8 in Appendix 2 Attached to Staff's Cost of Service Report filed in Case No. GR-2017-0215.

Q. Are there any logical relationships related to regulated utility stocks that prove the aforementioned constant-growth DCF/DDM COE estimate is likely too high?

A. Yes. A Bernstein analysis showed that between 1974 to 2010, approximately 68% of returns from utility stocks were from the income received through dividends, with the remaining from capital gains.[22] The above constant-growth DCF/DDM COE estimate implies that an investor expects to achieve over 50% of their expected return from capital gains. This assumption defies the fundamental investment characteristics of yield investments, such as regulated utility stocks. If LDCs were to achieve 1/3 of their returns from capital gains, this would imply an expected return in the range of 5.35% to 5.67%.

Q. What is a rational and reasonable perpetual growth rate for LDCs?

A. Anywhere from 0% to 3.3%. However, I primarily rely on perpetual growth rates of 2% (inflationary growth) to 3.3% (highest used by Wells Fargo to estimate a fair value for LDCs). A perpetual growth rate within this range is also consistent with the "sustainable growth model," which estimates EPS growth by multiplying an average long-term industry retention rate by an expected book ROE. Assuming the LDC industry reverts to its long-term earnings retention rate of approximately 30% and allowed ROEs are eventually lowered to compress the spread between the COE and the allowed ROE, this would support a 2.78% perpetual growth rate (9.25% allowed ROE multiplied by 30%). Wells Fargo, a firm that follows Spire Inc. and Evercore ISI, a firm that follows other utility companies in the utility industry, assume long-term scenarios where allowed ROEs eventually decline to between 9% to 9.25% as the United States remains in a prolonged period of low costs of capital.[23]

[22] Hugh Wynne, Francois D. Broquin, and Saurabh Singh, "U.S. Utilities: Our Dividend Growth Model Identified Utilities Poised to Pay More," May 20, 2011, Bernstein Research.
[23] Durgesh Chopra, et. al, "Utes Close To Fair Value In Our Bond Model," April 18, 2021, Evercore ISI. Neil Kalton, Sarah Akers, and Jonathan Reeder, "DDM Analysis Supports Sector Valuation & Quality/Growth Trade," August 19, 2019, Wells Fargo.

Q. How does your assumed perpetual growth rates compare to those used by equity analysts to estimate fair prices for LDC stocks?

A. This is fairly consistent with the perpetual growth rates used for purposes of estimating LDC utility stock prices. For example, Wells Fargo used an average perpetual growth rate in the range of 2.7% to 3.3% for LDC companies.[24]

Q. What cost of equity did you estimate performing a company-specific multi-stage DCF on Spire Inc.?

A. Using Spire Inc.'s average daily closing stock prices since December 31, 2020, approximately $68, and discounting prospective dividends by reasonable growth rates in the intermediate future as well as perpetually (0% to 2.8%), the implied COE for Spire Inc. is approximately 7.37% to 7.68% (see Schedule DM-D-2). Given that this COE estimate assumes Spire Inc. can achieve a 3.48% to 3.82% CAGR in EPS through 2035, I consider this COE estimate to be on the high side because this assumes Spire will not experience any negative earnings events on a year-over-year basis through 2035. Also, while Spire Inc.'s earnings are predominately derived from its regulated LDC operations (approximately 90%), it does have non-regulated exposure to natural gas marketing operations and its storage business, which introduces volatility to Spire Inc.'s earnings. For example, Spire Inc. took $148.6 million of asset impairments during the 2020 fiscal year ("FY") related to its non-regulated investments, which reduced Spire Inc.'s EPS by $2.89 for the 2020 FY.[25] For this reason, I will also carefully consider the COE estimates for the companies in my LDC proxy group that have less exposure to non-regulated business risks.

[24] Neil Kalton, Sarah Akers, and Jonathan Reeder, "DDM Analysis Supports Sector Valuation & Quality/Growth Trade," August 19, 2019, Wells Fargo.
[25] Spire Inc.'s Investor Presentation, "Year-end Fiscal 2020 Update", November 18, 2020, p. 10.

PROXY GROUP COST OF EQUITY

Q. Did you also estimate the COE for the LDC industry as compared to Spire Inc.?

A. Yes. Investors frequently evaluate the attractiveness of a utility company's share price by comparing it to the average of a peer group, whether it's based on a broader utility index or a custom proxy group.

Q. How did you approach selecting a custom proxy group for purposes of comparing Spire Inc.'s COE versus its peers?

A. The number of publicly-traded companies at least generally classified as LDCs is fairly small with Value Line classifying only 10 companies as LDCs. Additionally, based on my review of equity research reports covering the LDC industry, equity analysts typically only include eight to nine companies in their LDC peer groups. Based on my review and understanding of this information, I decided that the proxy group used by Company witness, Dylan D'Ascendis, is a reasonable proxy group to estimate the LDC industry's COE. Therefore, I used the following eight companies for my LDC proxy group: Atmos Energy Corporation ("Atmos"), New Jersey Resources Corporation ("New Jersey"), NiSource Inc. ("NiSource), Northwest Natural Gas Company ("Northwest"), One Gas Company ("One Gas") South Jersey Industries ("South Jersey), (Southwest Gas Holdings Inc. ("Southwest") and Spire Inc. I decided to include Spire Inc. in my proxy group analysis because I used more generic assumptions for Spire Inc. than I did in my company-specific analysis. While it would be ideal to try and narrow down the specifics for all companies in a proxy group, this is fairly time consuming and also may defy the purpose of attempting to use broader investor consensus information on each company, which may allow for an investor consensus discount rate (i.e. COE) underlying each company's stock price. Although I estimated the COE for all companies in the LDC group, I gave more weight to the results from companies that have operations that are almost entirely concentrated in the LDC industry or at least entirely concentrated in regulated utility operations (some electric and water). Only One Gas is a true pure-play LDC. While Atmos is a pure-play gas utility, it also has assets dedicated to FERC regulated pipeline

transportation of gas. The other two companies that have a pure-play regulated utility profile are Northwest (minor concentration of water utility assets) and NiSource (a majority of its exposure is gas distribution, but it also has a moderate concentration in regulated electric utility assets).

Q. Did you perform a multi-stage DCF analyses on these companies?

A. Yes, but my analysis was more generic because of my lack of familiarity of intimate details of each of the companies. However, I applied the same principles as I did when estimating Spire Inc.'s COE, which was to specifically incorporate equity analysts' discrete dividend per share ("DPS") estimates over the next several years, then estimate DPS based on projected earnings per share ("EPS") growth and a sustainable DPS payout ratio as it relates to the projected EPS. For the terminal stage, I assumed all companies would have the same dividend payout ratios and growth rates.

My average LDC industry COE estimate based on application of the multi-stage DCF to the proxy group is in the range of 7.7% to 7.9% (see Schedules DM-D-3-1 through DM-D-5-2). However, when I filter the results to ensure that the COE estimates are limited to pure-play regulated utilities, the COE estimates are in the range of 7.4% to 7.7%. My estimated COE of the only true pure-play LDC utility, One Gas, is in the range of 7.06% to 7.36%. Additionally, my estimate of Spire Inc.'s COE based on more generic assumptions is in the range of 7.62% to 7.83%.

Q. How is the multi-stage DCF analysis you have been performing while sponsoring testimony on behalf of OPC different than how you performed such analysis when sponsoring testimony on behalf of Staff?

A. While I was with Staff, the multi-stage DCF I performed was more generic. For the first stage (first five years), I assumed that DPS would grow at the same rate as EPS. For the second stage (next five years), I assumed the growth in DPS would gradually converge toward the perpetual growth rate, which was the third and final stage of the multi-stage DCF.

The multi-stage DCF I have sponsored since the Ameren Missouri rate case, Case No. ER-2019-0374, still has 3 stages, but the first stage discounts discrete consensus annual DPS estimates for as many years as they are available for each company. At the point in which no discrete DPS estimates are available, I apply an estimated dividend payout ratio to each company's projected EPS in order to estimate the dividend payment. Because the projected EPS are based on analysts' estimates for the first five years and then transitions to a sustainable growth rate by the final stage, this approach captures the influence of analysts' estimates on utility stock prices, while still discounting the appropriate metric, DPS. This method also corrects for the fact that the appropriate dividend payout ratio will vary until the company reaches a sustainable state in which it manages its dividend payout ratio to ensure it is not required to issue new equity, which would reduce the value of existing shares.

My current multi-stage DCF approach is more consistent with anticipated impacts on projected DPS caused by investment opportunities and dividend strategies consistent with these investment opportunities. Typically, companies won't increase DPS at the same rate as EPS, especially during periods of higher capital expenditures. In such situations, typically the growth in DPS will lag that of EPS. After the increased capital expenditure cycle ends, then DPS may grow at a rate higher than EPS for a period of time. During this period, companies will adjust their dividend payout ratios to consider their stage in the building cycle. After the building cycle returns to a maintenance level of capital expenditures, then the payout ratio will increase until the company reaches its sustainable/constant state. After a build-cycle, especially with no expected growth in usage, eventually the growth rate would revert back to no higher than historical averages. However, considering the current threats to the LDC industry's ability to grow through expansion (additional customers and usage), historical average growth rates are an optimistic scenario.

Q. If you had performed your multi-stage similar to how you did so when with Staff, what COE would you have estimated?

A. My estimate would have been approximately 100 basis points lower than the approach I used in this case (see Schedule DM-D-6). The higher COE estimate using my current approach is mainly due to the fact that adjusting the dividend payout ratio for a sustainable stage recognizes that companies' DPS will increase at a faster rate than their EPS as they transition to the reality that their operations do not require as much reinvestment due to the declining nature of their industry. However, once the constant state is achieved at the terminal stage, then it is logical to assume that earnings, dividends and book value will grow at the same rate, which is consistent with the assumptions of the constant-growth DCF. Regardless, because it is abundantly clear that the COE is much lower than allowed ROEs, I don't consider it critical to attempt to determine a precise COE estimate. In my opinion, the most productive analysis for purpose of setting Spire Missouri's allowed ROE at a fair and reasonable level is to compare the LDCs' COE to the electric utility industry's COE and determine if it is fair to set Spire Missouri's allowed ROE different than 9.25%.

Q. How did you accomplish this objective?

A. I also analyzed the COE for a proxy group of electric utilities I have regularly followed over the last several years. This is the same electric proxy group that underlies the valuation information I provided in the charts earlier in my testimony. The electric proxy group includes the following companies: Alliant Energy Corporation, Ameren Corporation, American Electric Power Company Inc., CMS Energy Corporation, DTE Energy Company, IDACORP Inc., OGE Energy Corp., Pinnacle West Capital Corporation, Portland General Electric Company, Southern Company, WEC Energy Group Inc., and Xcel Energy Inc.

Q. Did you use the same general approach to your multi-stage DDM of these companies as the LDC group?

A. Yes. However, I only applied the 2.7% perpetual growth rate because my purpose was to compare the relative differences between the electric and LDC industry's COE assuming

the same growth. A reasonable argument can be made that the electric utility industry should have a higher perpetual growth rate compared to LDCs, which would cause a higher COE estimate for the electric utility industry.

Q. Did you make any changes to the multi-stage DDM approach you used in the recent Empire and Ameren Missouri rate cases?

A. Yes. Because I assumed investors are purchasing the utility stocks at the end of the first quarter of this year (rather than the end of the year as I did in the Empire and Ameren Missouri rate cases), I had to take into consideration specific timing of expected dividend payments. Therefore, I recognized investors would only receive the next three quarters of projected dividends (not the full year) and I assumed they received the dividends at the mid-point of each period. I also assumed the final/perpetual stage of the multi-stage DDM starts in year 15 rather than year 10 because of the fairly long investment horizon for LDC pipeline replacement programs.

Q. What is the implied COE for the electric utility proxy group based on your application of the multi-stage DDM using a 2.7% perpetual growth rate?

A. Approximately 7.3% to 7.4% (see Schedules DM-D-7-1 and DM-D-7-2).

Q. How does this compare to the multi-stage DDM you applied to the LDC group using the same perpetual growth rate?

A. It is 15 to 25 basis points lower than the LDC COE of 7.55%.

Q. Are there any other models that can be used to test your conclusions from your multi-stage DCF/DDM analysis on Spire Inc., the LDC group and the electric utility group?

A. Yes. The CAPM shows the specific impact of lower interest rates on the cost of capital. Although COE estimates can be manipulated with the CAPM by using unreasonable risk premium estimates, there are fortunately a variety of authoritative sources that provide equity risk premium estimates that can form the basis for a consensus view on reasonable risk premium based on current capital market conditions.

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

A. The CAPM is based on capital market theory in which it is recognized that although the total risk of a company and/or industry consists of market ("systematic") risk and asset/business-specific ("unsystematic") risk, investors are only compensated for systematic risk because holding a diversified portfolio allows for the investor to avoid unsystematic risk. Systematic risks are unanticipated events in the economy, such as economic growth, changes in interest rates, demographic changes, etc., that affect almost all assets to some degree. The required risk premium for incurring the market risk as it relates to the investment/portfolio is determined by adjusting the market risk premium by the beta of the stock or portfolio. The adjusted risk premium is then added to a risk-free rate to determine the cost of equity. The CAPM is typically expressed in equation form as follows:

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

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

For purposes of my CAPM analysis, I relied on Duff & Phelps (D&P) recommended equity risk premium of 5.5% provided as of December 8, 2020[26] and a range of realized historical equity risk premiums of 4.62% (geometric historical mean for 1926 through 2020) to 6.07% (arithmetic historical annual mean for the period 1926 through 2020) derived from data provided by Ibbotson Associates' Stocks, Bonds, Bills and Inflation database. Although each of these equity risk premium estimates use various methods and risk-free rates to arrive at their final estimates, I do not consider any estimate outside these to be consistent with the investment community's "consensus." One of the primary drivers of using a higher equity risk premium versus a lower equity risk premium is due to whether this equity risk premium is applied to a normalized risk-free rate or a

[26] https://www.duffandphelps.com/insights/publications/cost-of-capital/duff-and-phelps-recommended-us-equity-risk-premium-decreased-december-2020

current risk-free rate (higher equity risk premiums applied to lower current low risk-free rates). Long-term expected nominal market returns for the S&P 500 are as low as 4% to 5%.[27] Therefore, equity risk premiums in the 5.5% to 6.0% range may actually be excessive for purposes of a CAPM analysis.

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

A. Beta is statistically defined as the covariance of the returns on an asset (in this case an individual stock or group of stocks) with the return on the S&P 500 divided by the variance of the returns on the S&P 500. This statistical measure is intended to provide investors with insight regarding expected volatility of a security (or portfolio of securities) as it relates to market volatility. A beta of less than one implies less expected volatility than the market with the trade-off of a lower expected return than the market. The reverse is expected for a beta greater than one.

Q. Have utility stock betas increased recently?

A. Yes. At the time I drafted testimony for the Empire and Ameren Missouri rate cases, electric utility stock betas had declined to quite low levels of around 0.55. Gas utility betas at that time were also around 0.6. Both electric utility stock betas and gas utility stock betas have since increased to around 0.80 as of April 2021. Although these beta increases imply a higher required risk premium since February 2020, it is important to note that before the decline in utility betas to the 0.55 to 0.60 range, utility betas had typically been in the 0.7 to 0.75 range.

Q. What appears to be the primary cause of the increase in utility stock betas?

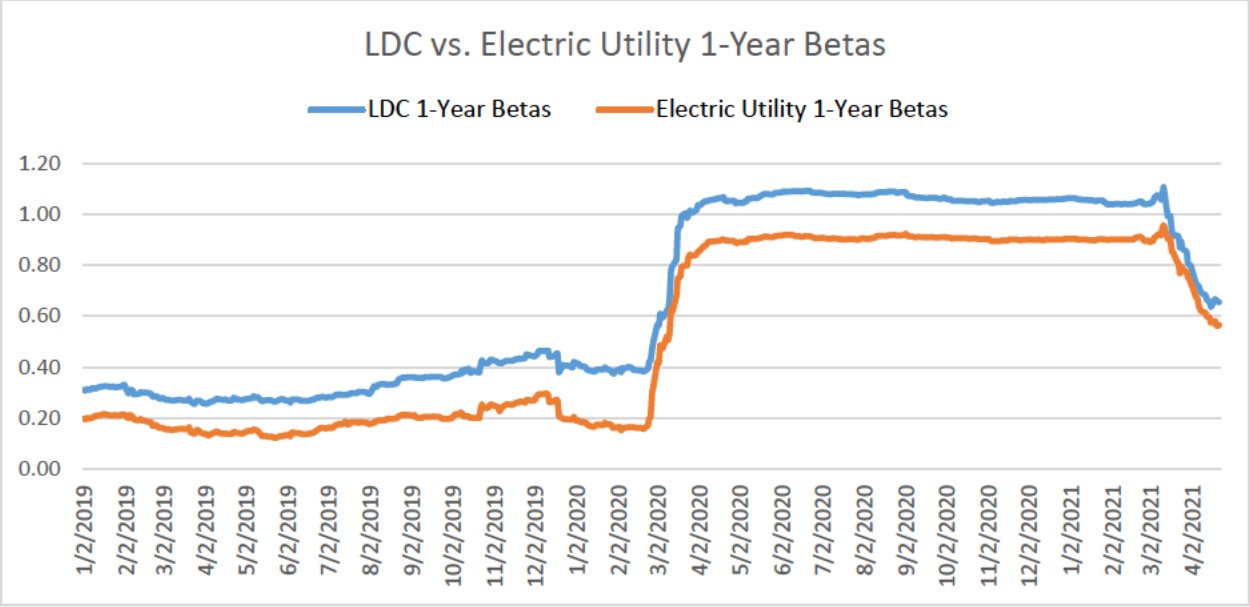
A. The spike in utility stock betas occurred when the market plummeted at the onset of the pandemic in March 2020. It is quite common for all securities, both higher-risk and lower-

[27] First Quarter 2021 Survey of Professional Forecasters, Philadelphia Federal Reserve Board (Feb. 12, 2021), https://www.philadelphiafed.org/-/media/frbp/assets/surveys-and-data/survey-of-professional-forecasters/2021/spfq121.pdf, and John Bilton et al., *Executive Summary: A new Portfolio for a New Decade*, J.P.Morgan (Nov. 9, 2020), https://am.jpmorgan.com/us/en/asset-management/institutional/insights/portfolio-insights/ltcma/executive-summary/.

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, the semiconductor equipment industry typically have betas that significantly exceeds one. However, when all securities declined at the start of the pandemic, the semiconductor equipment industry's 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's betas started to increase back to their normal higher levels.

Q. How much have gas and electric utility one-year raw betas changed over the last couple of years due to the market contraction at the onset of the pandemic?

A. As can be seen in the following chart, LDC utility raw betas increased to over 1 from around .3 before the pandemic, and have now fallen back to approximately .6. Electric utility raw betas were in the .2 to .25 range before they increased to approximately 0.9 and then declined to below 0.6.



Q. Will electric and gas utility betas continue on their downward trend?

A. I don't know, but I will continue to monitor the changes in betas as this case progresses.

Q. What beta do you consider appropriate based on current market conditions?

A. Approximately 0.75.

Q. Based on your CAPM analysis, what it the estimated COE for Spire Inc. and the LDC group?

A. Spire Inc.'s COE is between approximately 5.5% and 6.75% based on its long-term beta of 0.77. The average beta for the LDC group is the same so the COE estimates for the LDC group also ranges from 5.5% to 6.75% (see Schedules DM-D-8-1 through DM-D-8-3).

Q. Do the differences in shorter-term betas between the LDC group and the electric utility group corroborate your other analysis implying a recent higher COE for the LDC as compared to electric utility companies?

A. Yes. The difference in shorter-term betas for the LDC industry and the electric utility industry are in the range of .05 to .1. Applying this beta difference to an equity risk premium of 5.50% to 6.0% implies LDCs have an approximate 28 to 60 basis point higher COE than regulated electric utility companies.

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

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

bond issuances of 2.84%[28] to approximately 3.5%[29], results in a COE estimate of 5.84% to 6.5%, which implies my DCF and CAPM cost of equity estimates are too high. Applying the same 3% risks premium to the more liquid Moody's 'A' and 'Baa' utility bond indices, which have had an average YTM of 3.14% and 3.42%, respectively for the first three months of 2021, implies a COE range of 6.14% to 6.42%, again, implying my DCF and CAPM COE estimates are too high.

Second, one just needs to think about the basic characteristics of utility stocks, which is that investors view them as yield investments. A Bernstein analysis showed that between 1974 to 2010, approximately 68% of returns from utility stocks were from the income received through dividends, with the remaining from capital gains.[30] Even assuming Spire Inc. had sustainable investment opportunities to allow it to generate 50% of returns from capital gains, this would translated into a 7.76% expected return based on Spire Inc.'s current dividend yield of 3.88%. However, this expected return is not consistent with Spire Inc.'s current dividend payout ratio of approximately 63.5%. This implies a little over 1/3 of Spire Inc.'s total return should comprise of capital gains. This equates into an expected return of approximately 5.82%.

Q. Based on your analysis and understanding of the LDC industry's current COE, as well as the relative difference between the LDC industry's COE and the electric utility industry's COE, what would be a fair and reasonable allowed ROE in this case?

A. 9.25% based on a range of 8.5% to 9.5% would be justified. However, as I will explain in further detail in the following sections of my testimony, my recommended allowed ROE depends on the capital structure to which it is applied.

[28] Spire Missouri's 2.840% First Mortgage Bonds, Issued on Nov 15, 2019, Due on Nov 15, 2029.
[29] Spire Gulf's 3.520% First Mortgage Bonds, Issued on Sept 30, 2019, Due Sept 30, 2049.
[30] Hugh Wynne, Francois D. Broquin, and Saurabh Singh, "U.S. Utilities: Our Dividend Growth Model Identified Utilities Poised to Pay More," May 20, 2011, Bernstein Research.

CAPITAL STRUCTURE

Q. Will you briefly explain capital structure?

A. Capital structure represents how a company's assets are financed. The typical capital structure consist of common equity, long-term debt, and short-term debt. Although some operating utility subsidiaries may continue to have outstanding preferred stock, this is becoming much rarer under circumstances in which the operating subsidiary's holding company issues capital other than common equity. This is also true for Spire Missouri and Spire Inc. Although short-term debt is a typical component of a utility company's capital structure, if it is fully supporting CWIP, then it is typically excluded from the rate making capital structure and reflected in the allowance for funds used during construction (AFUDC) rate. However, this is not true for Spire Missouri.

Q. What capital structure do you recommend for purposes of setting Spire Missouri's rate of return (ROR)?

A. I recommend a capital structure that consists of approximately 47.36% common equity, 45.35% long-term debt, and 7.28% short-term debt. My recommended common equity ratio is slightly higher than the approximate 44.5% common equity ratio Spire Inc. has maintained the last three years when including short-term debt, but below the approximate 50.5% common equity ratio maintained at Spire Inc. the last three years when excluding short-term debt.[31]

Q. What is the basis for this capital structure recommendation?

A. My recommended capital structure is consistent with Spire Inc.'s consolidated capital structure ratios, net of short-term debt adjusted for CWIP balances. This capital structure best represents the amount of debt capacity Spire Inc. considers reasonable and appropriate for its regulated utility assets, including Spire Missouri. Use of this capital structure ensures that Spire Missouri receives credit for the debt capacity its assets actually support.

[31] See Schedule DM-D-9-1

Since Spire Inc. acquired Alagasco (now Spire Alabama) on September 2, 2014,[32] Spire Inc.'s main goal relative to its capitalization strategy has been to reduce the amount of leverage it carries on a consolidated basis in order to show improvement in Spire Inc.'s consolidated credit metrics. Obviously, this can't be achieved if Spire Missouri used more leverage for its own benefit or else this would cancel any benefit to Spire Inc. reducing leverage at the holding company. Consequently, Spire Missouri's capital structure is not managed for the best interest of Spire Missouri, but rather for the best interest of Spire Inc. Spire Missouri's targeting of a higher common equity ratio for ratemaking, rather than for changes in business risk and/or economic conditions, contradicts one of the primary purposes of managing a capital structure – to achieve the lowest reasonable cost without jeopardizing financial stability. As I will discuss later in my testimony, Spire Missouri's lower business risk affords it the ability to utilize more leverage, but for its affiliation with Spire Inc. and its decisions to use significant leverage to pursue and execute its acquisitions of other companies.

Q. What is the basis for your conclusion that Spire Inc. targets common equity ratios for ratemaking purposes rather than for purposes of achieving the most cost efficient capital structure?

A. First, in response to Staff Data Request No. 0115, Spire Missouri confirmed that it targets a common equity ratio consistent with that which the Commission authorized in the 2017 rate case. Second, Spire Missouri's projected common equity ratio is only expected to vary by approximately ** ____________ **[33] Third, because Spire Alabama operates under a formula rate mechanism that assumes a common equity ratio of 55.5%, the parameters of Spire Alabama's formula rate mechanism dictate that it target this common equity ratio for ratemaking.

[32] Spire Inc.'s 2014 SEC 10-K Filing.
[33] Spire Inc.'s January 15, 2020 Presentation to Moody's and Spire Inc.'s January 16, 2020 Presentation to Standard & Poor's.

Q. What capital structure has Spire Inc. managed for purposes of taking advantage of debt capacity afforded by Spire Inc.'s low-risk regulated utility subsidiaries?

A. Spire Inc. has managed its own consolidated capital structure for purposes of taking advantage of debt capacity afforded by Spire Inc.'s low-risk regulated utility subsidiaries. Spire Inc. issued a significant amount of holding company debt for purposes of acquiring Alagasco in 2014. This acquisition caused Spire Inc.'s common equity ratio to drop from 51.46% at the end of the 2013 fiscal year to 41.36% at the end of the 2014 fiscal year.[34] While it is true none of the proceeds from holding company debt were used for purposes of investing in Spire Missouri, this should not form the basis for determining whether this debt should be considered for purpose of determining a fair and reasonable capital structure to set Spire Missouri's allowed ROR. If not for Spire Missouri's and Spire Alabama's low-risk regulated utility operations, Spire Inc. would not have been able to use this much leverage and still maintained strong investment grade credit ratings. In fact, Moody's indicated the following about Spire Inc.'s ability to service this debt:

> The roughly $31 million of annual parent level interest expense is essentially a fixed obligation that is generally serviced by the utilities, since the unregulated net income and distributable cash of Spire Inc.'s other unregulated businesses, such as Spire Marketing, can be more volatile, less certain and insufficient to service the debt.[35]

In essence, Spire Inc. has used Spire Missouri's (and Spire Alabama's) debt capacity to enhance its shareholder returns utilizing a sizeable amount of leverage to acquire Spire Alabama. Authorizing Spire Missouri a lower common equity ratio and a corresponding higher debt ratio, along with its lower cost, would reduce the amount of cash flow Spire Inc. has available to issue debt at the holding company.

[34] Schedule DM-D-9-2.
[35] Moody's Credit Opinion on Spire Missouri, April 1, 2021.

Q. What proof do you have that Spire Missouri's debt capacity is impaired by the holding company's use of leverage?

A. The rating agencies observations of the impact Spire Inc.'s holding company debt has on Spire Missouri's financial flexibility. For example, in Moody's recent ratings report on Spire Missouri it explicitly indicated that Spire Inc.'s substantial amount of holding company debt puts pressure on Spire Missouri to provide upstream dividends to support the holding company's debt serviced needs.[36] S&P assigns Spire Missouri a corporate credit rating of 'A-' rather than its hypothetical stand-alone credit profile of 'A+' because of its association with Spire Inc.'s higher financial risk associated with its use of leverage, as well as its higher-risk non-regulated operations.

Q. How can this be looked at differently?

A. If Spire Missouri had issued the debt rather than Spire Inc., its credit rating would be the same because Spire Inc.'s consolidated debt levels would be the same, rather the debt was issued directly by the subsidiaries. Of course, if this debt were recognized in the authorized capital structure, then Spire Missouri's ratepayers would pay for a lower ROR associated with the more cost efficient capital structure, which would reduce the amount of cash flow available to distribute to Spire Inc. However, at least Spire Missouri's reduced financial flexibility would be due to use of leverage for its own investment rather than Spire Missouri's debt capacity being misappropriated to Spire Inc. for purposes of funding acquisitions.

Q. Does Spire Inc. use the creditworthiness conferred to it from its regulated LDC companies to directly support credit for its non-regulated subsidiaries?

A. Yes. Spire Inc. explicitly guarantees obligations for the following entities: Spire Storage West, Spire Marketing and Spire Pipeline.

[36] *Id.*

Q. Are you recommending the same general approach for setting Spire Missouri's capital structure as you did in Spire Missouri's last rate case?

A. Somewhat. My recommended capital structure is guided by my analysis of Spire Inc.'s capital structure mainly for purposes of deciding a reasonable common equity ratio to assign to Spire Missouri. Unlike the last rate case, in which I recommended applying Spire Inc.'s consolidated embedded cost of capital to the amount of debt and preferred stock in my recommended capital structure, I am using Spire Missouri's cost of debt, but applying it to a proportion of debt consistent with the proportion carried at Spire Inc. Additionally, Spire Inc. issued preferred stock in 2019 at a coupon of 5.9%. Instead of incorporating this preferred stock directly into my capital structure recommendation, I am assigning it 50% weight as common equity and 50% weight as debt for purposes of determining a fair and reasonable capital structure for purposes of setting Spire Missouri's allowed ROR.

Q. What is your logic for giving the preferred stock 50/50 weighting for long-term debt and common equity?

A. This is consistent with how the rating agencies treat the preferred stock for purposes of evaluating Spire Inc.'s credit metrics.

Q. What is the impact on the common equity ratio and long-term debt ratio of treating preferred stock in this manner?

A. It results in adding approximately 2.12% to the common equity ratio and the long-term debt ratio.

Q. What other capital structure approaches did you consider in the last rate case?

A. In addition to Spire Inc.'s consolidated capital structure, I considered the following capital structure approaches:

(1) Spire Missouri's per books capital structure, including short-term debt balances in excess of CWIP,

(2) An imputed capital structure for Spire Missouri based on the lower credit rating S&P assigns to it because of its affiliation with Spire Inc. and its higher financial risk,

(3) An imputed capital structure based on constraints imposed directly on the common equity ratio in Spire East's 2013 rate case, Case No. GR-2013-0171 and indirectly in Spire West's 2013 rate case, and

(4) A hypothetical capital structure based on an approximate 50% equity ratio that had been recently authorized for Evergy Metro (formerly known as Kansas City Power & Light Company) in Case No. ER-2016-0285.

Q. Did you consider Spire Missouri's goodwill adjusted capital structure in the last rate case?

A. I did not for my direct testimony. Because I concluded that Spire Inc.'s consolidated capital structure best captured the debt capacity consistent with Spire Missouri's low-risk regulated utility risk profile, I did not consider the alternative of adjusting Spire Missouri's common equity ratio by the amount of the goodwill asset incurred in conjunction with Spire Missouri's acquisition of the MGE assets.

Q. Was this an alternative the Commission considered in Spire Missouri's last rate case?

A. Yes. The Missouri Industrial Energy Consumer's and OPC's witness in the last Spire Missouri last rate case, Michael Gorman, proposed this alternative.

Q. What is the logic for this alternative?

A. Goodwill generally relates to the purchase price of a company and/or its assets that exceeds the amount that can be assigned to specific tangible or intangible assets. In the utility industry, this is generally understood to be any assets that are included in a company's rate base, on which a company is allowed to earn a ROR. Considering the fact that the expressed goal of ratemaking is to set the allowed ROR at parity with the cost of capital, this typically would limit the price a potential acquirer would be willing to pay for regulated

utility assets. The acquirer should not expect regulators to increase the book value of rate base to match the purchase price. If regulators did so, then this favorable ratemaking treatment would allow previous investors to reap a windfall at the expense of ratepayers. The regulators authorization of a rate base similar to the purchase price would become the predominant factor influencing the "market" price.

While the Commission has not allowed Spire Missouri to increase MGE's rate base by the $210 million of goodwill related to the excess of Spire Missouri's purchase price over the book value of MGE's assets, the Commission has allowed the capital associated with this purchase to be included in Spire Missouri's capital structure. Spire Missouri funded its purchase of the MGE assets with a mix of debt and equity capital. Because goodwill investment does not earn a return, it does not generate cash. If the lack of cash generation should cause the goodwill asset to be impaired, then Spire Missouri would be required to write-down the goodwill asset, which would flow through to equity investors as a loss and therefore, a decline in their book value.

Q. If you removed goodwill from Spire Missouri's common equity balance, what is the impact on the capital structure ratios?

A. Based on Spire Missouri's five-quarter average capital balances (including a CWIP adjusted short-term debt balance) for the period September 30, 2019 through September 30, 2020, I determined that Spire Missouri's common equity ratio would decrease from 52.79% to 48.90%.[37]

Q. Why did you think using Spire Inc.'s consolidated capital structure as a guide is more appropriate than making adjustments to Spire Missouri's current book value capital structure?

A. Because it is impossible to unwind all of the transactions that have occurred to determine how MGE was originally capitalized, which is the intent of such regulatory exercises. Unlike the original Spire East assets, which had been organically funded by capital issued

[37] See Schedule DM-D-10-1.

by Spire Missouri, this has not been the case for the Spire West system for at least 25 years. Because the Spire West system was owned directly at the parent level (not a subsidiary corporation) by its previous owner, Southern Union, no legacy debt (and therefore, capital structure) followed MGE, as it was an asset acquisition. If MGE had been a separate subsidiary corporation with its own capital structure, then Spire Inc. could have issued all of the capital for the acquisition, much like it did for Alagasco.

Q. Does this mean that Spire Missouri's capital structure already contains capital that wasn't used to invest organically into Spire Missouri's system?

A. Yes.

Q. Did you opine on this lack of an identifiable original capital structure in the last rate case?

A. Yes. I indicated the following:

> Spire Missouri's capital structure ideally would represent the financing that had been issued to directly fund capital expenditures in Spire Missouri's utility systems. But as we know from Spire Missouri's acquisition of MGE's assets, this is not the case. Spire Missouri acquired MGE from Southern Union on September 1, 2013. Because MGE was not a subsidiary corporation that issued its own debt, no legacy debt followed MGE. Consequently, the debt issued by Spire Missouri and the equity issued by Spire Inc. essentially recapitalized the system. However, now that Spire Missouri owns both the MGE and LAC systems, all of the funding issued to complete the acquisition of the MGE assets is now consolidated with all of Spire Missouri's securities. This was very similar to what transpired in Spire Inc.'s other acquisitions, except for the fact that Spire Inc. issued all of the capital, including the debt capital.
>
> The details of post-acquisition capital structures of utilities generally get muddied over the long run. Consequently, an attempt to reconcile capital issued to capital expenditures in the systems is futile. Traditional ratemaking typically assumes that the rate base can be reconciled with the capital in the capital structure. This is no longer possible after utility systems change owners and additional capital is issued to acquire the systems. While some would claim that if the transaction occurred solely at the utility holding company level, this allows for the original capital in the subsidiary corporation to be undisturbed, this ignores the fact that the capital issued at the holding company impacts the risk profile of the subsidiary. If

> the holding company's capital structure had consistent financial risk with that of the subsidiary, then it would be reasonable to use a subsidiary capital structure. However, when the subsidiary is affiliated with a holding company that has a more leveraged capital structure, then the subsidiary's less leveraged capital structure no longer attracts debt at costs consistent with its more conservative capital structure. This fact should be given consideration when determining the appropriate capital structure to use when setting the utility company's allowed ROR.[38]

Q. Does the above complication apply regardless of the consideration given to goodwill?

A. Yes. Spire Missouri's capital costs are impacted by the use of holding company leverage regardless of the attempt to reconcile funding sources and uses. As cost of capital experts (including company ROR witnesses) frequently recognize in determining a fair and reasonable ROR, it is not the source of the capital that defines the cost of the capital, but it is the risk of the investment. Spire Inc.'s liberal use of leverage to capitalize its acquisitions of regulated local gas distribution companies proves that these assets can and do support much higher amounts of leverage than that which is recognized in setting a fair and reasonable ROR for ratemaking. This is unfair to ratepayers.

Q. If you adjusted Spire Inc.'s common equity balance by the amount of goodwill on its books, what is the indicated common equity ratio for the average five-quarter period, September 30, 2019 through September 30, 2020?

A. 33.75%.[39]

Q. Why is Spire Inc.'s goodwill adjusted common equity ratio so low?

A. Because Spire Inc. paid a sizeable premium for Alagasco (now Spire Alabama). Spire Inc. booked $727.6 million of goodwill for the Alagasco purchase in 2014, which equates into an approximate 51% premium over the book value of Spire Alabama's assets as of September 30, 2014.[40] Spire Inc. booked $218.9 million of goodwill for the EnergySouth purchase in 2016, which equated into an approximate 79% premium over the book value

[38] Case No. GR-2017-0215, Staff Cost of Service Report, pages 25-26.
[39] Schedule DM-D-10.
[40] Laclede Group 2014 SEC 10-K Filing, p. 39.

of EnergySouth as of December 31, 2016.[41] The combined goodwill balances associated with Spire Alabama, Spire EnergySouth and Spire Missouri results in a consolidated goodwill asset value of $1.17 billion, which represents approximately 14% of Spire Inc.'s total assets as of September 30, 2020.

Q. If all of Spire Inc.'s regulated local gas distribution operations can support this much debt at the holding company, why not just issue this debt at the subsidiary level?

A. Because this would upset the balance of the capital structure at the subsidiary, which is primarily managed for ratemaking purposes. It is obvious from Spire Inc.'s use of leverage at the holding company to finance its acquisition of these regulated utility assets, they can support much more leverage. In fact, if regulators in each jurisdiction were willing to continue to authorize common equity ratios, cost of debt and ROEs consistent with pre-recapitalization of the subsidiaries, the cash flows generated by the utility companies would allow FFO/debt ratios that would support at least a credit rating consistent with Spire Inc.'s current group credit ratings.

Q. What would happen if the regulators recognized the true debt capacity associated with the regulated utility subsidiaries in determining an authorized ROR?

A. This would reduce the amount of cash flows generated from the utility properties, which would require the company to be less aggressive in the use of debt at the subsidiary. However, because this would be captured in the ratemaking capital structure, then the subsidiary has an incentive to manage its capital structure not only for ratemaking, but also for debt capacity and financial flexibility purposes.

Q. Is this self-correcting balance eliminated when regulators ignore the use of leverage at the holding company?

A. Yes. If a company's management knows regulators will ignore holding company debt and continue to authorize capital structures based on subsidiary per books capital structures,

[41] Spire Gulf and Spire Mississippi regulatory financial statements as of December 31, 2016.

then they can target such for ratemaking and use these more costly capital structures to support cheap debt issued by the holding company.

Q. Do Alabama and Mississippi recognize the additional leverage Spire Inc. issued at the holding company to determine an authorized equity ratio for their formula rate plans?

A. Based on their authorized equity ratios, it does not appear so. Alabama authorized Spire Alabama and Spire Gulf a 55.5% equity ratio for purposes of their Rate Stabilization and Equalization ("RSE") plans. Spire Mississippi is authorized a 50% equity ratio for its Rate Stabilization Adjustment ("RSA") mechanism.[42]

Q. Do you think the Missouri Public Service Commission should follow Alabama's and Mississippi's lead in determining a fair and reasonable common equity ratio for Spire Missouri?

A. No. It is obvious from the high purchase prices for these systems that Alabama and Mississippi are allowing these systems to earn a ROR much higher than its cost of capital.

Q. Are other companies in your LDC proxy group organized in a fashion that creates transparency and trust in the consolidated company's real capital structure rather than the disparity that exists between Spire Inc.'s consolidated capital structure and its subsidiaries?

A. Yes. One Gas and Atmos are not organized as holding companies that own regulated utility assets under separate subsidiary corporations. Consequently, to the extent that they desire their commissions to recognize a higher common equity ratio in their ratemaking capital structures, they have to issue equity to third-party shareholders. In a recent report addressing Atmos' capital structure, Bank of America indicated the following:

> While mgmt. is likely to defer equity needs as much as possible and be opportunistic in the market, another potential solution could be to establish a HoldCo. structure. That said, mgmt. has been somewhat opposed to this

[42] Spire Inc. Investor Presentation, "Stepping Forward," April 2021.

in the past given the impact to leverage and minimization of questions from regulators on the equity capitalization.[43]

A review of Spire Inc. transactional structures for acquiring the MGE systems compared to the Alagasco System reveals the disparate treatment of regulatory capital structures based solely on how a company is organized and at what level it makes its acquisitions. If Spire Inc. owned all of its LDC assets directly, then all of the capital funding the acquisitions would require third-party investors. Because the LDCs would be funded directly by the parent company, only real third-party equity would be considered in the ratemaking capital structure. To the extent this capital structure is more conservative, this directly benefits the LDCs because of the financial stability and flexibility this capital structure affords. However, this stability and flexibility does come at the expense of dilution to existing shareholders, but only until this higher equity ratio is recognized in a subsequent rate case.

Q. Is there a way to estimate how much additional debt Spire Missouri's cash flows are supporting at the holding company?

A. Yes. Spire Inc.'s credit rating is based on a consolidated FFO/debt of approximately 15%, which is consistent with its target.[44] Spire Missouri has consistently generated FFO that results in FFO/debt ratios of around 19% to 20%. Therefore, the amount of FFO that exceeds a 15% FFO/debt at Spire Missouri can be viewed as available to support Spire Inc.'s debt and still allow Spire Missouri to have a credit rating consistent with the group credit profile.

Q. Based on your analysis of Spire Missouri's current projected FFO, how much additional debt can Spire Missouri support and still maintain a strong credit rating?

A. Assuming Spire Missouri targeted an FFO/debt ratio similar to Spire Inc.'s achieved FFO/debt ratios of no higher than 15% over the last three years, Spire Missouri's capital

[43] Julien Dumoulin-Smith, et. al., "Gas LDC 1Q21EPS preview: The day after the storm; measuring the Feb Uri," Bank of America, April 19, 2021.
[44] Brian J Russo, CFA, "Upgrade SR To BUY (From NEUTRAL) On Valuation And Improved ISRS Outlook; In Line 3Q:F20 Results Reported; Dividend Offers Current Yield Of 4.0%; Maintain $72 Price Target," Sidoti & Company, LLC, August 11, 2020.

structure could be supported by another $385.93 million of debt as of the test year in this case, September 30, 2020. Adjusting Spire Missouri's capital structure to reflect the additional debt capacity supported by Spire Missouri's cash flows would result in a capital structure that only needs to be supported by 38.29% common equity.

Q. What would happened to Spire Missouri's FFO if the Commission authorized Spire Missouri a capital structure that contained only 38.29% common equity and the rest was allocated to debt?

A. It would be reduced. Because the Commission last authorized Spire Missouri a 54.2% common equity ratio and a 9.8% allowed ROE, I estimated the reduction in Spire Missouri's FFO based on applying the same 9.8% allowed ROE to the 38.29% equity ratio. I also incorporated the additional after-tax impact of the additional interest expense associated with an additional $385.93 million of debt. I used a cost of debt consistent with Spire Missouri's weighted-average cost of debt. I used the Company's current rate base request of $2.777 billion. The difference between the Commission's last authorized ROR and a ROR consistent with a 38.29% common equity ratio, 54.43% long-term debt, and 7.28% short-term debt, Spire Missouri's revenue requirement would be approximately $47 million/year lower. After taking into consideration the additional after-tax interest expense of approximately $11.8 million Spire Missouri would pay, Spire Missouri's FFO would be reduced by a total of approximately $58.5 million/year. This results in a pro-forma estimate of Spire Missouri's FFO/debt being less than 12%, which would be even lower than Spire Inc.'s current consolidated FFO/debt ratio, which would cause pressure on Spire Inc. and Spire Missouri's credit ratings.

Q. How would your recommended capital structure and resulting ROR impact Spire Missouri's pro forma FFO/debt ratio?

A. Based on the pre-tax revenue requirement difference between the Commission's last authorized ROR and my recommended ROR in this case, I estimate Spire Missouri's FFO/debt ratio would be approximately 15.45%. This FFO/debt ratio is consistent with that which Spire targets on a consolidated basis. Therefore, if Spire Missouri was allowed

to use its own debt capacity, it would still be able maintain a strong credit rating while charging ratepayers approximately $34 million/year less in revenue requirement.

Q. What evidence can you provide that shows Spire Missouri's capital flows are not managed as if it were a stand-alone entity?

A. If Spire Missouri's capital structure were being managed for its own benefit, then one would expect that it would have a carefully managed dividend payment policy, similar to how Spire Inc. manages its dividend payments to a targeted payout ratio in the range of 55% to 65%. However, Spire Missouri's dividend payout ratio was approximately 80% in the 2016 FY, 25% in the 2017 FY and has averaged around 32% over the 2018 through 2020 FYs. If Spire Missouri were financially managed as a stand-alone entity accountable to third-party equity investors, it would be required to maintain a higher and more consistent payout ratio, similar to how Spire Inc. manages its dividends. Spire Missouri's retention of a significant amount of its earnings in recent years results in Spire Missouri's capital structure not receiving the benefit of the use of debt rather than retaining equity to meet it cash deficiencies.

Q. What other tools allow Spire Inc. to manage its subsidiaries' common equity ratios?

A. First, I should emphasize that technically, Spire Inc. does not specifically manage all of Spire Inc.'s subsidiaries, rather this function is performed by Spire Missouri employees that lend their services to Spire Inc. and its other subsidiaries.

Spire Inc. has a consolidated commercial paper program backed by a consolidated credit facility with borrowing sub-limits for Spire Inc., Spire Missouri, and Spire Alabama. Investors purchase Spire Inc.'s commercial paper issuances and then Spire Inc. loans these proceeds to its subsidiaries through intra-company short-term loans. Being that Spire Missouri and Spire Alabama have been retaining a significant amount of cash flow for reinvestment, Spire Inc. has not received sufficient cash from its subsidiaries to fund the payment of its dividend to third-party shareholders. If Spire Inc. did not receive dividend distributions from its other subsidiaries for the approximate $100 million deficiency from Spire Missouri and Spire Alabama, then it would have had to finance this $100 million

deficiency with other forms of financing, with additional commercial paper being the most likely source.

Q. Are there any other consequences of maintaining a high common equity ratio on Spire Missouri's revenue requirement other than charging a higher return for a higher proportion of the capital structure?

A. Yes. Although the common equity ratio has been my primary point of contention as to how Spire Inc. inflates Spire Missouri's cost of service, because debt yields have been very favorable, reaching all-time lows recently, Spire Inc.'s strategy also prevents Spire Missouri ratepayers from realizing lower cost of debt capital. Spire Inc.'s decision to issue holding company debt clearly impacts Spire Missouri's debt issuance strategies.

Q. Have you discovered other examples of Spire Inc. trying to minimize capital costs for Spire Missouri in between rate cases, placing the risk of potential increased capital costs on ratepayers based on the projected timing of the next rate case?

A. Yes. In the interim period between this case and Spire Missouri's last rate case, instead of refinancing short-term debt with a first mortgage bond, Spire Missouri decided to refinance the short-term debt with a term loan that would mature before Spire Missouri's current rate case. While this transaction ended up benefiting ratepayers because bond yields declined in the interim period, the fact of the matter is that the intention of the transaction was to achieve additional margin for shareholders with the risk of changes in interest rates being incurred by ratepayers.

Q. Why do you consider Spire Inc.'s equity ratio to be the most appropriate for setting Spire Missouri's allowed ROR?

A Spire Inc. allocates capital around its companies to target and achieve ratemaking common equity ratios. The most objective and practical measure of the capital structure that captures the debt capacity of Spire Inc.'s regulated utility assets, is that of Spire Inc. on a consolidated basis. Consequently, this is why I am recommending Spire Missouri's common equity ratio be set no higher than Spire Inc.'s, which is currently 47.36%.

Q. What proportion of Spire Inc.'s and Spire Missouri's capital structure is typically supported by short-term debt?

A. Approximately 10% of each company's capital structure is consistently comprised of short-term debt.

Q. How much of this short-term debt is reflected in the rates charged to ratepayers?

A. I am only aware of approximately 3% of the short-term debt weight (30% of total short-term debt) in the total capital structure being captured in the cost of service charged to ratepayers. Consequently, I recommend approximately 7% of the total capital structure (70% of total short-term debt) be charged based on short-term debt costs.

OVERALL RATE OF RETURN

Q. What your final recommended overall ROR?

A. Based on my recommended capital structure of 47.36% common equity, 45.35% long-term debt and 7.28% short-term debt, and applying the following returns to each component respectively, 9.25%, 4.12% and 0.2%, I recommend an overall after-tax ROR of 6.27%.

SUMMARY AND CONCLUSIONS

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

A. Yes. While the pandemic caused a significant disruption in the capital markets, especially as it related to credit, during the spring of 2020, broader capital markets have since been hitting all-time highs on a regular and consistent basis. This has caused the S&P 500 to trade at a premium to the utility industry, which is more typical of financial markets prior to the financial crisis in 2008/2009. While utility stocks are no longer trading at the all-time high levels they achieved right before the pandemic, they are still trading at higher levels due to continued low, long-term interest rates. My analysis shows that electric

utilities and LDCs are beginning to trade at similar valuation levels. However, this was not the case for much of 2020. Although I am recommending Spire Missouri be allowed the same ROE as Empire, I recognize the recent discount by recommending an ROE range with a high-end of 9.5%.

My recommended ROE of 9.25% is dependent on the Commission adopting my capital structure recommendation, which includes a common equity ratio of 47.36%. If the Commission were to adopt Spire Missouri's unreasonably high common equity ratio of 54.2%, then I recommend the Commission authorize Spire Missouri an ROE of 8.5%.

Q. Does this conclude your testimony?

A. Yes.