

**CAPITAL ASSET PRICING MODEL (CAPM) COST OF COMMON EQUITY ESTIMATES
FOR LDC PEER GROUP, INCLUDING SPIRE INC., BASED ON 20-YEAR US TREASURY**

	(1)	(2)	(3)	(4)	(5)	(6)
Company Name	20-Year Risk Free Rate	Beta	Geometric Equity Risk Premium	Arithmetic Equity Risk Premium	Geometric CAPM Cost of Common Equity	Arithmetic CAPM Cost of Common Equity
Atmos Energy Corporation	1.92%	0.78	4.62%	6.07%	5.52%	6.65%
New Jersey Resources Corporation	1.92%	0.74	4.62%	6.07%	5.34%	6.42%
NiSource Inc.	1.92%	0.77	4.62%	6.07%	5.47%	6.59%
Northwest Natural Holding Company	1.92%	0.69	4.62%	6.07%	5.09%	6.09%
ONE Gas, Inc.	1.92%	0.81	4.62%	6.07%	5.67%	6.84%
South Jersey Industries, Inc.	1.92%	0.80	4.62%	6.07%	5.60%	6.76%
Southwest Gas Holdings, Inc.	1.92%	0.83	4.62%	6.07%	5.73%	6.93%
Spire Inc.	1.92%	0.77	4.62%	6.07%	5.49%	6.61%
Average		<u>0.773</u>			<u>5.49%</u>	<u>6.61%</u>
Average of Pure-Play Regulateds	1.92%	0.76	4.62%	6.07%	5.44%	6.54%

Column 1 = Average of last 3 Months of 20-Year Treasuries obtained from the St. Louis Federal Reserve website at <https://fred.stlouisfed.org/series/GS20>

Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole. I used a template provided by S&P Market Intelligence that calculates raw betas based on the Value Linen approach. This approach measures the covariance of the company's weekly returns with that of the S&P 500 divided by the variance of the S&P 500 returns over an historical 5 year period. This raw beta is then adjusted by the Blume formula, which is the following:
Adjusted Beta = 0.35 + 0.67 * Unadjusted Beta

Column 3 = Geometric realized equity risk premiums (1926-2020) based on Stocks, Bonds, Bills and Inflation Data Provided by Ibbotson.

Column 4 = Arithmetic realized equity risk premiums (1926-2020) based on Stocks, Bonds, Bills and Inflation Data Provided by Ibbotson.

Column 5 = (Column 1 + (Column 2 * Column 3)).

Column 6 = (Column 1 + (Column 2 * Column 4)).