

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,
Complainant,

v.

CASCADE NATURAL GAS
CORPORATION,

Respondent.

CASCADE NATURAL GAS CORPORATION

EXHIBIT OF ANN E. BULKLEY

GENERAL ECONOMIC STATISTICS

June 19, 2020

SUMMARY OF ROE ANALYSES RESULTS¹

Constant Growth DCF			
	Median Low	Median	Median High
30-Day Average	9.13%	9.62%	9.97%
90-Day Average	9.08%	9.43%	9.70%
180-Day Average	8.84%	9.42%	9.69%
Constant Growth Average	9.02%	9.49%	9.79%
CAPM			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	8.94%	9.05%	9.64%
Bloomberg Beta	11.01%	11.07%	11.39%
ECAPM			
Value Line Beta	10.07%	10.15%	10.60%
Bloomberg Beta	11.62%	11.66%	11.90%
Treasury Yield Plus Risk Premium			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Risk Premium Analysis	9.06%	9.18%	9.86%
Risk Premium Mean Result	9.37%		
Expected Earnings Analysis			
	Mean		Median
Expected Earnings Result	9.94%		9.74%

Notes:

[1] The analytical results included in the table reflect the results of the Constant Growth DCF analysis excluding the results for individual companies that did not meet the minimum threshold of 7 percent.

PROXY GROUP SCREENING DATA AND RESULTS - FINAL PROXY GROUP

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	
Company	Dividends	S&P Credit Rating Between BBB- and AAA	Covered by More Than 1 Analyst	Positive Growth Rates from at least two sources (Value Line, Yahoo! First Call, and Zacks)	% Regulated Operating Income > 70%	% Regulated Natural Gas Operating Income > 60%	Announced Merger	
Atmos Energy Corporation	ATO	YES	A	Yes	Yes	100.00%	67.74%	No
New Jersey Resources Corporation	NJR	YES	BBB+	Yes	Yes	71.28%	102.39%	No
Northwest Natural Gas Company	NWN	YES	A+	Yes	Yes	100.00%	90.38%	No
One Gas Inc.	OGS	YES	A	Yes	Yes	100.00%	100.00%	No
South Jersey Industries, Inc.	SJI	YES	BBB	Yes	Yes	88.13%	100.00%	No
Southwest Gas Corporation	SWX	YES	BBB+	Yes	Yes	82.14%	100.00%	No
Spire Inc.	SR	YES	A-	Yes	Yes	97.43%	100.00%	No

Notes:

- [1] Source: SNL Financial
 [2] Source: SNL Financial
 [3] Source: Yahoo! Finance and Zacks
 [4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
 [5] to [6] Source: Form 10-Ks for 2018, 2017 & 2016
 [7] SNL Financial News Releases

30-DAY CONSTANT GROWTH DCF -- CASCADE NATURAL GAS PROXY GROUP

Company		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	All Proxy Group			With Exclusions		
											[10]	[11]	[12]	[13]	[14]	
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE	
Atmos Energy Corporation	ATO	\$2.30	\$100.01	2.30%	2.38%	7.00%	7.50%	7.20%	7.23%	9.38%	9.62%	9.89%	9.38%	9.62%	9.89%	
New Jersey Resources Corporation	NJR	\$1.25	\$32.45	3.85%	3.95%	2.50%	6.00%	6.00%	4.83%	6.40%	8.78%	9.97%		8.78%	9.97%	
Northwest Natural Gas Company	NWN	\$1.91	\$61.67	3.10%	3.30%	22.50%	3.75%	NA%	13.13%	6.91%	16.43%	25.95%		16.43%	25.95%	
One Gas Inc.	OGS	\$2.16	\$82.01	2.63%	2.71%	7.00%	5.00%	5.50%	5.83%	7.70%	8.54%	9.73%	7.70%	8.54%	9.73%	
South Jersey Industries, Inc.	SJI	\$1.18	\$25.51	4.63%	4.86%	9.50%	10.20%	10.20%	9.97%	14.35%	14.82%	15.06%	14.35%	14.82%	15.06%	
Southwest Gas Corporation	SWX	\$2.18	\$71.67	3.04%	3.15%	8.00%	8.20%	6.00%	7.40%	9.13%	10.55%	11.37%	9.13%	10.55%	11.37%	
Spire, Inc.	SR	\$2.49	\$72.85	3.42%	3.50%	5.50%	4.65%	4.80%	4.98%	8.15%	8.49%	9.01%	8.15%	8.49%	9.01%	
MEDIAN				3.10%	3.30%	7.00%	6.00%	6.00%	7.23%	8.15%	9.62%	9.97%	9.13%	9.62%	9.97%	

Notes

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 30-day average as of April 30, 2020
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line Investment Survey
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])
- [12] Equals [9] if greater than 7.00%
- [13] Equals [10] if greater than 7.00%
- [14] Equals [11] if greater than 7.00%

90-DAY CONSTANT GROWTH DCF -- CASCADE NATURAL GAS PROXY GROUP

Company		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	All Proxy Group			With Exclusions		
										[9]	[10]	[11]	[12]	[13]	[14]
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE
Atmos Energy Corporation	ATO	\$2.30	\$108.39	2.12%	2.20%	7.00%	7.50%	7.20%	7.23%	9.20%	9.43%	9.70%	9.20%	9.43%	9.70%
New Jersey Resources Corporation	NJR	\$1.25	\$38.04	3.29%	3.37%	2.50%	6.00%	6.00%	4.83%	5.83%	8.20%	9.38%		8.20%	9.38%
Northwest Natural Gas Company	NWN	\$1.91	\$68.35	2.79%	2.98%	22.50%	3.75%	NA%	13.13%	6.60%	16.10%	25.61%		16.10%	25.61%
One Gas, Inc.	OGS	\$2.16	\$87.94	2.46%	2.53%	7.00%	5.00%	5.50%	5.83%	7.52%	8.36%	9.54%	7.52%	8.36%	9.54%
South Jersey Industries, Inc.	SJI	\$1.18	\$28.93	4.08%	4.28%	9.50%	10.20%	10.20%	9.97%	13.77%	14.25%	14.49%	13.77%	14.25%	14.49%
Southwest Gas Corporation	SWX	\$2.18	\$73.00	2.99%	3.10%	8.00%	8.20%	6.00%	7.40%	9.08%	10.50%	11.31%	9.08%	10.50%	11.31%
Spire, Inc.	SR	\$2.49	\$78.97	3.15%	3.23%	5.50%	4.65%	4.80%	4.98%	7.88%	8.22%	8.74%	7.88%	8.22%	8.74%
MEDIAN				2.99%	3.10%	7.00%	6.00%	6.00%	7.23%	7.88%	9.43%	9.70%	9.08%	9.43%	9.70%

Notes

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 90-day average as of April 30, 2020
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line Investment Survey
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])
- [12] Equals [9] if greater than 7.00%
- [13] Equals [10] if greater than 7.00%
- [14] Equals [11] if greater than 7.00%

180-DAY CONSTANT GROWTH DCF -- CASCADE NATURAL GAS PROXY GROUP

Company		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	All Proxy Group			With Exclusions		
											[10]	[11]	[12]	[13]	[14]	
		Annualized Dividend	Stock Price	Dividend Yield	Expected Dividend Yield	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	Average Growth	Low ROE	Mean ROE	High ROE	Low ROE	Mean ROE	High ROE	
Atmos Energy Corporation	ATO	\$2.30	\$109.18	2.11%	2.18%	7.00%	7.50%	7.20%	7.23%	9.18%	9.42%	9.69%	9.18%	9.42%	9.69%	
New Jersey Resources Corporation	NJR	\$1.25	\$40.90	3.06%	3.13%	2.50%	6.00%	6.00%	4.83%	5.59%	7.96%	9.15%		7.96%	9.15%	
Northwest Natural Gas Company	NWN	\$1.91	\$68.94	2.77%	2.95%	22.50%	3.75%	NA%	13.13%	6.57%	16.08%	25.58%		16.08%	25.58%	
One Gas, Inc.	OGS	\$2.16	\$89.72	2.41%	2.48%	7.00%	5.00%	5.50%	5.83%	7.47%	8.31%	9.49%	7.47%	8.31%	9.49%	
South Jersey Industries, Inc.	SJI	\$1.18	\$30.32	3.89%	4.09%	9.50%	10.20%	10.20%	9.97%	13.58%	14.05%	14.29%	13.58%	14.05%	14.29%	
Southwest Gas Corporation	SWX	\$2.18	\$79.00	2.76%	2.86%	8.00%	8.20%	6.00%	7.40%	8.84%	10.26%	11.07%	8.84%	10.26%	11.07%	
Spire, Inc.	SR	\$2.49	\$80.90	3.08%	3.15%	5.50%	4.65%	4.80%	4.98%	7.80%	8.14%	8.66%	7.80%	8.14%	8.66%	
MEDIAN				2.77%	2.95%	7.00%	6.00%	6.00%	7.23%	7.80%	9.42%	9.69%	8.84%	9.42%	9.69%	

Notes

- [1] Source: Bloomberg Professional
- [2] Source: Bloomberg Professional, equals 180-day average as of April 30, 2020
- [3] Equals [1] / [2]
- [4] Equals [3] x (1 + 0.50 x [8])
- [5] Source: Value Line Investment Survey
- [6] Source: Yahoo! Finance
- [7] Source: Zacks
- [8] Equals Average ([5], [6], [7])
- [9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
- [10] Equals [4] + [8]
- [11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])
- [12] Equals [9] if greater than 7.00%
- [13] Equals [10] if greater than 7.00%
- [14] Equals [11] if greater than 7.00%

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VL BETA

		[1]	[2]	[3]	[4]	[5]	[6]
		Current 30-day average of 30-year U.S. Treasury bond			Market	Market Risk	ECAPM
Company	Ticker	yield	Beta	Return	Premium	CAPM ROE	ROE
Atmos Energy Corporation	ATO	1.31%	0.55	13.45%	12.14%	7.99%	9.35%
New Jersey Resources Corporation	NJR	1.31%	0.65	13.45%	12.14%	9.20%	10.27%
Northwest Natural Gas Company	NWN	1.31%	0.55	13.45%	12.14%	7.99%	9.35%
ONE Gas Inc.	OGS	1.31%	0.60	13.45%	12.14%	8.60%	9.81%
South Jersey Industries, Inc.	SJI	1.31%	0.80	13.45%	12.14%	11.02%	11.63%
Southwest Gas Corporation	SWX	1.31%	0.65	13.45%	12.14%	9.20%	10.27%
Spire, Inc.	SR	1.31%	0.60	13.45%	12.14%	8.60%	9.81%
Mean						8.94%	10.07%

Notes:

- [1] Source: Bloomberg Professional
 [2] Source: Value Line; dated February 28, 2020
 [3] Source: Schedule-4, page 3
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]
 [6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & VL BETA

		[1]	[2]	[3]	[4]	[5]	[6]
		Near-term projected 30-year U.S. Treasury bond yield			Market	Market Risk	ECAPM
Company	Ticker	(Q3 2020 - Q3 2021)	Beta	Return	Premium	CAPM ROE	ROE
Atmos Energy Corporation	ATO	1.60%	0.55	13.45%	11.85%	8.12%	9.45%
New Jersey Resources Corporation	NJR	1.60%	0.65	13.45%	11.85%	9.30%	10.34%
Northwest Natural Gas Company	NWN	1.60%	0.55	13.45%	11.85%	8.12%	9.45%
ONE Gas Inc.	OGS	1.60%	0.60	13.45%	11.85%	8.71%	9.90%
South Jersey Industries, Inc.	SJI	1.60%	0.80	13.45%	11.85%	11.08%	11.67%
Southwest Gas Corporation	SWX	1.60%	0.65	13.45%	11.85%	9.30%	10.34%
Spire, Inc.	SR	1.60%	0.60	13.45%	11.85%	8.71%	9.90%
Mean						9.05%	10.15%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 5, May 1, 2020, at 2
 [2] Source: Value Line; dated February 28, 2020
 [3] Source: Schedule-4, page 3
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]
 [6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VL BETA

		[1]	[2]	[3]	[4]	[5]	[6]
		Projected 30-year U.S. Treasury bond yield (2021 - 2025)			Market	Market Risk	ECAPM
Company	Ticker		Beta	Return	Premium	CAPM ROE	ROE
Atmos Energy Corporation	ATO	3.20%	0.55	13.45%	10.25%	8.84%	9.99%
New Jersey Resources Corporation	NJR	3.20%	0.65	13.45%	10.25%	9.86%	10.76%
Northwest Natural Gas Company	NWN	3.20%	0.55	13.45%	10.25%	8.84%	9.99%
ONE Gas Inc.	OGS	3.20%	0.60	13.45%	10.25%	9.35%	10.38%
South Jersey Industries, Inc.	SJI	3.20%	0.80	13.45%	10.25%	11.40%	11.91%
Southwest Gas Corporation	SWX	3.20%	0.65	13.45%	10.25%	9.86%	10.76%
Spire, Inc.	SR	3.20%	0.60	13.45%	10.25%	9.35%	10.38%
Mean						9.64%	10.60%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14
 [2] Source: Value Line; dated February 28, 2020
 [3] Source: Schedule-4, page 3
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]
 [6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & BLOOMBERG BETA

		[1]	[2]	[3]	[4]	[5]	[6]
		Current 30-day average of 30-year U.S. Treasury bond yield		Beta	Market Return	Market Risk Premium	ECAPM ROE
Company	Ticker					CAPM ROE	ROE
Atmos Energy Corporation	ATO	1.31%	0.77	13.45%	12.14%	10.67%	11.37%
New Jersey Resources Corporation	NJR	1.31%	0.80	13.45%	12.14%	10.99%	11.61%
Northwest Natural Gas Company	NWN	1.31%	0.73	13.45%	12.14%	10.17%	10.99%
ONE Gas Inc.	OGS	1.31%	0.84	13.45%	12.14%	11.49%	11.98%
South Jersey Industries, Inc.	SJI	1.31%	0.83	13.45%	12.14%	11.40%	11.91%
Southwest Gas Corporation	SWX	1.31%	0.88	13.45%	12.14%	12.00%	12.36%
Spire, Inc.	SR	1.31%	0.74	13.45%	12.14%	10.34%	11.12%
Mean						11.01%	11.62%

Notes:

- [1] Source: Bloomberg Professional
 [2] Source: Bloomberg Professional
 [3] Source: Schedule-4, page 3
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]
 [6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

		[1]	[2]	[3]	[4]	[5]	[6]
		Near-term projected 30-year U.S. Treasury bond yield (Q3 2020 - Q3 2021)		Beta	Market Return	Market Risk Premium	ECAPM ROE
Company	Ticker					CAPM ROE	ROE
Atmos Energy Corporation	ATO	1.60%	0.77	13.45%	11.85%	10.74%	11.42%
New Jersey Resources Corporation	NJR	1.60%	0.80	13.45%	11.85%	11.05%	11.65%
Northwest Natural Gas Company	NWN	1.60%	0.73	13.45%	11.85%	10.25%	11.05%
ONE Gas Inc.	OGS	1.60%	0.84	13.45%	11.85%	11.54%	12.02%
South Jersey Industries, Inc.	SJI	1.60%	0.83	13.45%	11.85%	11.44%	11.95%
Southwest Gas Corporation	SWX	1.60%	0.88	13.45%	11.85%	12.03%	12.39%
Spire, Inc.	SR	1.60%	0.74	13.45%	11.85%	10.42%	11.17%
Mean						11.07%	11.66%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 39, No. 5, May 1, 2020, at 2
 [2] Source: Bloomberg Professional
 [3] Source: Schedule-4, page 3
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]
 [6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

		[1]	[2]	[3]	[4]	[5]	[6]
		Projected 30-year U.S. Treasury bond yield (2021 - 2025)		Beta	Market Return	Market Risk Premium	ECAPM ROE
Company	Ticker					CAPM ROE	ROE
Atmos Energy Corporation	ATO	3.20%	0.77	13.45%	10.25%	11.10%	11.69%
New Jersey Resources Corporation	NJR	3.20%	0.80	13.45%	10.25%	11.37%	11.89%
Northwest Natural Gas Company	NWN	3.20%	0.73	13.45%	10.25%	10.68%	11.37%
ONE Gas Inc.	OGS	3.20%	0.84	13.45%	10.25%	11.80%	12.21%
South Jersey Industries, Inc.	SJI	3.20%	0.83	13.45%	10.25%	11.72%	12.15%
Southwest Gas Corporation	SWX	3.20%	0.88	13.45%	10.25%	12.22%	12.53%
Spire, Inc.	SR	3.20%	0.74	13.45%	10.25%	10.83%	11.48%
Mean						11.39%	11.90%

Notes:

- [1] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14
 [2] Source: Bloomberg Professional
 [3] Source: Schedule-4, page 3
 [4] Equals [3] - [1]
 [5] Equals [1] + [2] x [4]
 [6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

MARKET RISK PREMIUM DERIVED FROM S&P EARNINGS AND ESTIMATE REPORT

[7] S&P's estimate of the S&P 500 Dividend Yield	2.01%
[8] S&P's estimate of the S&P 500 Growth Rate	11.33%
[9] S&P 500 Estimated Required Market Return	13.45%

Notes:

[7] Source: S&P Dow Jones Indices, S&P 500 Earnings and Estimate Report, April 30, 2020

[8] Source: S&P Dow Jones Indices, S&P 500 Earnings and Estimate Report, April 30, 2020

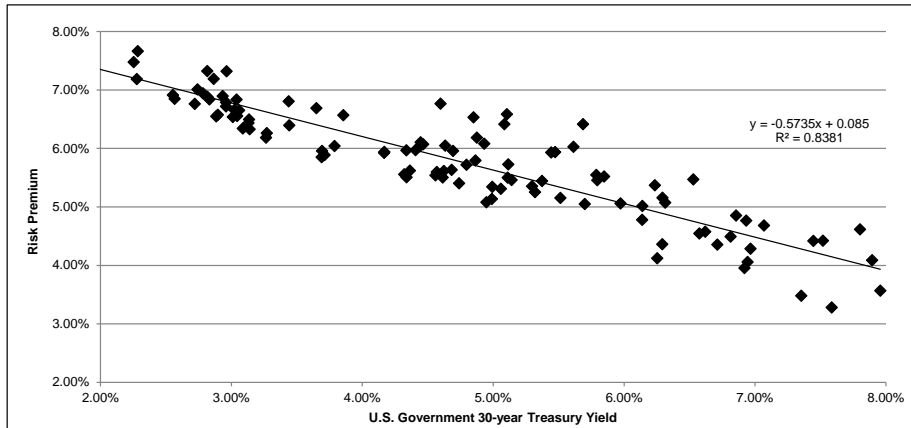
[9] Equals $([7] \times (1 + (0.5 \times [8]))) + [8]$

Risk Premium -- Natural Gas Utilities (US)

	[1]	[2]	[3]
	Average Authorized Gas ROE	U.S. Govt. 30-year Treasury	Risk Premium
1992.1	12.42%	7.80%	4.62%
1992.2	11.98%	7.89%	4.09%
1992.3	11.87%	7.45%	4.42%
1992.4	11.94%	7.52%	4.42%
1993.1	11.75%	7.07%	4.68%
1993.2	11.71%	6.86%	4.85%
1993.3	11.39%	6.31%	5.07%
1993.4	11.16%	6.14%	5.02%
1994.1	11.12%	6.57%	4.55%
1994.2	10.84%	7.35%	3.48%
1994.3	10.87%	7.58%	3.28%
1994.4	11.53%	7.96%	3.57%
1995.2	11.00%	6.94%	4.06%
1995.3	11.07%	6.71%	4.35%
1995.4	11.61%	6.23%	5.37%
1996.1	11.45%	6.29%	5.16%
1996.2	10.88%	6.92%	3.96%
1996.3	11.25%	6.96%	4.29%
1996.4	11.19%	6.62%	4.58%
1997.1	11.31%	6.81%	4.49%
1997.2	11.70%	6.93%	4.77%
1997.3	12.00%	6.53%	5.47%
1997.4	10.92%	6.14%	4.78%
1998.2	11.37%	5.85%	5.52%
1998.3	11.41%	5.47%	5.94%
1998.4	11.69%	5.10%	6.59%
1999.1	10.82%	5.37%	5.44%
1999.2	11.25%	5.79%	5.46%
1999.4	10.38%	6.25%	4.12%
2000.1	10.66%	6.29%	4.36%
2000.2	11.03%	5.97%	5.06%
2000.3	11.33%	5.79%	5.55%
2000.4	12.10%	5.69%	6.41%
2001.1	11.38%	5.44%	5.93%
2001.2	10.75%	5.70%	5.05%
2001.4	10.65%	5.30%	5.35%
2002.1	10.67%	5.51%	5.15%
2002.2	11.64%	5.61%	6.03%
2002.3	11.50%	5.08%	6.42%
2002.4	11.01%	4.93%	6.08%
2003.1	11.38%	4.85%	6.53%
2003.2	11.36%	4.60%	6.76%
2003.3	10.61%	5.11%	5.50%
2003.4	10.84%	5.11%	5.73%
2004.1	11.06%	4.88%	6.18%
2004.2	10.57%	5.32%	5.25%
2004.3	10.37%	5.06%	5.31%
2004.4	10.66%	4.86%	5.79%
2005.1	10.65%	4.69%	5.96%
2005.2	10.54%	4.47%	6.07%
2005.3	10.47%	4.44%	6.03%
2005.4	10.32%	4.68%	5.63%
2006.1	10.68%	4.63%	6.05%
2006.2	10.60%	5.14%	5.46%
2006.3	10.34%	4.99%	5.34%
2006.4	10.14%	4.74%	5.40%
2007.1	10.52%	4.80%	5.72%
2007.2	10.13%	4.99%	5.14%
2007.3	10.03%	4.95%	5.08%
2007.4	10.12%	4.61%	5.50%
2008.1	10.38%	4.41%	5.97%
2008.2	10.17%	4.57%	5.60%
2008.3	10.55%	4.44%	6.11%
2008.4	10.34%	3.65%	6.69%
2009.1	10.24%	3.44%	6.81%
2009.2	10.11%	4.17%	5.94%
2009.3	9.88%	4.32%	5.56%
2009.4	10.31%	4.34%	5.97%
2010.1	10.24%	4.62%	5.61%
2010.2	9.99%	4.36%	5.62%
2010.3	10.43%	3.86%	6.57%
2010.4	10.09%	4.17%	5.93%
2011.1	10.10%	4.56%	5.54%
2011.2	9.85%	4.34%	5.51%
2011.3	9.65%	3.69%	5.96%
2011.4	9.88%	3.04%	6.84%
2012.1	9.63%	3.14%	6.50%
2012.2	9.83%	2.93%	6.90%
2012.3	9.75%	2.74%	7.01%
2012.4	10.06%	2.86%	7.19%
2013.1	9.57%	3.13%	6.44%
2013.2	9.47%	3.14%	6.33%

Risk Premium -- Natural Gas Utilities (US)

	[1]	[2]	[3]
	Average Authorized Gas ROE	U.S. Govt. 30-year Treasury	Risk Premium
2013.3	9.60%	3.71%	5.89%
2013.4	9.83%	3.79%	6.04%
2014.1	9.54%	3.69%	5.85%
2014.2	9.84%	3.44%	6.39%
2014.3	9.45%	3.26%	6.19%
2014.4	10.28%	2.96%	7.32%
2015.1	9.47%	2.55%	6.91%
2015.2	9.43%	2.88%	6.55%
2015.3	9.75%	2.96%	6.79%
2015.4	9.68%	2.96%	6.72%
2016.1	9.48%	2.72%	6.76%
2016.2	9.42%	2.57%	6.85%
2016.3	9.47%	2.28%	7.19%
2016.4	9.67%	2.83%	6.84%
2017.1	9.60%	3.04%	6.56%
2017.2	9.47%	2.90%	6.58%
2017.3	10.14%	2.82%	7.32%
2017.4	9.70%	2.82%	6.88%
2018.1	9.68%	3.02%	6.66%
2018.2	9.43%	3.09%	6.34%
2018.3	9.71%	3.06%	6.65%
2018.4	9.53%	3.27%	6.26%
2019.1	9.55%	3.01%	6.54%
2019.2	9.73%	2.78%	6.94%
2019.3	9.95%	2.29%	7.66%
2019.4	9.73%	2.25%	7.48%
2020.1	9.35%	1.89%	7.46%
2020.2	9.80%	1.26%	8.54%
AVERAGE	10.50%	4.69%	5.81%
MEDIAN	10.38%	4.66%	5.93%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.915485313
R Square	0.838113359
Adjusted R Square	0.836614408
Standard Error	0.003974897
Observations	110

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	0.008834199	0.008834199	559.1334907	1.65656E-44
Residual	108	0.001706379	1.57998E-05		
Total	109	0.010540577			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.084978434	0.001198636	70.89596322	2.12782E-92	0.08260253	0.08735434	0.08260253	0.087354338
X Variable 1	-0.573546363	0.02425553	-23.6460037	1.65656E-44	-0.621625032	-0.5254677	-0.621625032	-0.525467694

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	1.31%	7.74%	9.06%
Blue Chip Near-Term Projected Forecast (Q3 2020 - Q3 2021) [5]	1.60%	7.58%	9.18%
Blue Chip Long-Term Projected Forecast (2021-2025) [6]	3.20%	6.66%	9.86%
AVERAGE			9.37%

Notes:

- [1] Source: Regulatory Research Associates, rate cases through April 30, 2020
- [2] Source: Bloomberg Professional, quarterly bond yields are the average of each trading day in the quarter
- [3] Equals Column [1] - Column [2]
- [4] Source: Bloomberg Professional, 30-day average as of April 30, 2020
- [5] Source: Blue Chip Financial Forecasts, Vol. 39, No. 5, May 1, 2020, at 2
- [6] Source: Blue Chip Financial Forecasts, Vol. 38, No. 12, December 1, 2019, at 14
- [7] See notes [4], [5] & [6]
- [8] Equals $0.084978 + (-0.573546 \times \text{Column [7]})$
- [9] Equals Column [7] + Column [8]

EXPECTED EARNINGS ANALYSIS

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
		Value Line ROE 2023-2025	Value Line Total Capital 2019	Value Line Common Equity Ratio 2019	Total Equity 2019	Value Line Total Capital 2023-2025	Value Line Common Equity Ratio 2023-2025	Total Equity 2023-2025	Compound Annual Growth Rate	Adjustment Factor	Adjusted Return on Common Equity
Atmos Energy Corporation	ATO	9.00%	9,280	62.00%	5,753	16,000	60.00%	9,600	10.78%	1.051	9.46%
New Jersey Resources Corporation	NJR	9.00%	3,089	50.20%	1,551	4,615	56.50%	2,607	10.95%	1.052	9.47%
Northwest Natural Gas Company	NWN	11.50%	1,520	52.00%	790	1,825	52.50%	958	3.92%	1.019	11.72%
One Gas Inc.	OGS	9.50%	3,415	62.00%	2,117	4,400	62.00%	2,728	5.20%	1.025	9.74%
South Jersey Industries, Inc.	SJI	11.50%	3,550	42.50%	1,509	4,925	44.00%	2,167	7.51%	1.036	11.92%
Southwest Gas Corporation	SWX	9.50%	5,000	50.00%	2,500	7,150	56.50%	4,040	10.07%	1.048	9.96%
Spire, Inc.	SR	7.00%	4,626	55.00%	2,544	7,200	55.00%	3,960	9.25%	1.044	7.31%
Mean											9.94%
Median											9.74%

Notes:

- [1] Source: Value Line, dated February 28, 2020
 [2] Source: Value Line, dated February 28, 2020
 [3] Source: Value Line, dated February 28, 2020
 [4] Equals [2] x [3]
 [5] Source: Value Line, dated February 28, 2020
 [6] Source: Value Line, dated February 28, 2020
 [7] Equals [5] x [6]
 [8] Equals $([7] / [4])^{(1/5)} - 1$
 [9] Equals $2 \times (1 + [8]) / (2 + [8])$
 [10] Equals [1] x [9]

SIZE PREMIUM CALCULATION

Proxy Group Market Capitalization and Market-to-Book Ratio

Company	Ticker	[1]	[2]
		Market Capitalization (\$ billions)	Market-to-Book Ratio
Atmos Energy Corporation	ATO	12.23	2.00
New Jersey Resources Corporation	NJR	3.10	1.70
Northwest Natural Gas Company	NWN	1.88	2.17
ONE Gas Inc.	OGS	4.33	2.03
South Jersey Industries, Inc.	SJI	2.35	1.66
Southwest Gas Corporation	SWX	3.95	1.57
Spire, Inc.	SR	3.72	1.59
Average		4.51	1.81
Median		3.72	1.70

Cascade Natural Gas Corp.		
Common Equity (\$ millions) [3]	\$	215.31
Implied Market Capitalization [4]		365.05
As a percent of Proxy Group Median Market Capitalization		9.81%

Duff & Phelps Cost of Capital Navigator -- Size Premium

Breakdown of Deciles 1-10	[5]	[6]
	Market Capitalization of Largest Company (\$ millions)	Size Premium
1-Largest	1,061,355.01	-0.27%
2	30,542.94	0.48%
3	13,100.23	0.69%
4	6,614.96	0.77%
5	4,311.25	1.08%
6	2,685.87	1.37%
7	1,668.28	1.47%
8	993.85	1.61%
9	515.60	2.26%
10-Smallest	229.75	4.99%
Cascade Natural Gas Corp. - Implied Market Capitalization	365.05	2.26%
Proxy Group Median Market Capitalization	3,720.45	1.08%
Size Premium [7]		1.18%

Notes:

- [1] Source: SNL Financial; equals 30-day average as of April 30, 2020
 [2] Source: SNL Financial; equals 30-day average as of April 30, 2020
 [3] Data Provided by Cascade Natural Gas Corp.
 [4] Equals [3] x proxy group median market-to-book ratio
 [5] Duff & Phelps Cost of Capital Navigator - Size Premium: Annual Data as of 12/31/2019
 [6] Duff & Phelps Cost of Capital Navigator - Size Premium: Annual Data as of 12/31/2019
 [7] Equals 2.26% - 1.08%

FLOTATION COST ADJUSTMENT -- CASCADE NATURAL GAS PROXY GROUP

Company	Date [i]	Shares Issued (000)	Offering Price	Under-writing Discount [ii]	Offering Expense (\$000)	Net Proceeds Per Share	Total Flotation Costs (\$000)	Equity Issue Before Costs (\$000)	Net Proceeds (\$000)	Flotation Cost Percentage
MDU Resources Group	2/4/2004	2,300	\$ 23.32	\$ 0.7930	\$ 350	\$ 22.37	\$ 2,174	\$ 53,636	\$ 51,462	4.05%
MDU Resources Group	11/19/2002	2,400	\$ 24.00	\$ 0.7200	\$ 193	\$ 23.20	\$ 1,921	\$ 57,600	\$ 55,680	3.33%
							\$ 4,094	\$ 111,236	\$ 107,142	3.68%

Notes:

[i] Offering Completion Date

[ii] Underwriting discount was calculated as the market price minus the offering price when not explicitly given in the prospectus.

The flotation cost adjustment is derived by dividing the dividend yield by 1 - F (where F = flotation costs expressed in percentage terms), or by 0.9632, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

$$k = \frac{D \times (1 + 0.5g)}{P \times (1 - F)} + g$$

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Expected Dividend Yield Adjusted for Flotation Costs	[6] Value Line Earnings Growth	[7] Yahoo! Finance Earnings Growth	[8] Zacks Earnings Growth	[9] Average Earnings Growth	[10] ROE	[11] ROE Adjusted for Flotation Costs
Atmos Energy Corporation	ATO	\$2.30	\$100.01	2.30%	2.38%	2.47%	7.00%	7.50%	7.20%	7.23%	9.62%	9.71%
New Jersey Resources Corporation	NJR	\$1.25	\$32.45	3.85%	3.95%	4.10%	2.50%	6.00%	6.00%	4.83%	8.78%	8.93%
Northwest Natural Gas Company	NWN	\$1.91	\$61.67	3.10%	3.30%	3.43%	22.50%	3.75%	NA%	13.13%	16.43%	16.55%
One Gas Inc.	OGS	\$2.16	\$82.01	2.63%	2.71%	2.81%	7.00%	5.00%	5.50%	5.83%	8.54%	8.65%
South Jersey Industries, Inc.	SJI	\$1.18	\$25.51	4.63%	4.86%	5.04%	9.50%	10.20%	10.20%	9.97%	14.82%	15.01%
Southwest Gas Corporation	SWX	\$2.18	\$71.67	3.04%	3.15%	3.27%	8.00%	8.20%	6.00%	7.40%	10.55%	10.67%
Spire, Inc.	SR	\$2.49	\$72.85	3.42%	3.50%	3.64%	5.50%	4.65%	4.80%	4.98%	8.49%	8.62%
Median Flotation Cost Adjustment											9.62%	9.71%
											[12]	0.09%

Notes:

[1] Source: Bloomberg Professional

[2] Source: Bloomberg Professional, equals 30-day average as of April 30, 2020

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [9])

[5] Equals [4] / (1 - Flotation Cost)

[6] Source: Value Line

[7] Source: Yahoo! Finance

[8] Source: Zacks

[9] Equals Average ([6], [7], [8])

[10] Equals [4] + [9]

[11] Equals [5] + [9]

[12] Equals Average ([11] - Average ([10])

**COMPARISON OF CASCADE NATURAL GAS AND PROXY GROUP COMPANIES
 REGULATORY FRAMEWORK - ADJUSTMENT CLAUSES**

Proxy Group Company	Operation State	Operation	Test Year	Rate Base	Decoupling		New Capital	
					Full	Partial	Generic Infrastructure	
Atmos Energy Corporation	Kansas	Gas	1	Historical	Year End		x	x
	Kentucky	Gas	1	Fully Forecast	Average		x	x
	Louisiana	Gas	1	Historical	Year End		x	x
	Mississippi	Gas	1	Partially Forecast	Average		x	x
	Tennessee	Gas	1	Fully Forecast	Average		x	
	Texas RRC	Gas	1	Historical	Year End		x	x
New Jersey Resources Corporation	New Jersey	Gas	1	Partially Forecast	Year End	x		x
Northwest Natural Gas Company	Oregon	Gas	1	Fully Forecast	Average		x	
	Washington	Gas	1	Historical	Average			
ONE Gas, Inc.	Kansas	Gas	1	Historical	Year End		x	x
	Oklahoma	Gas	1	Historical	Year End		x	
	Texas RRC	Gas	1	Historical	Year End		x	x
South Jersey Industries, Inc.	New Jersey	Gas	1	Partially Forecast	Year End	x		x
Southwest Gas Corporation	Arizona	Gas	1	Historical	Year End	x		x
	California	Gas	1	Fully Forecast	Average	x		
	Nevada	Gas	1	Historical	Year End	x		x
Spire, Inc.	Alabama	Gas	1	Fully Forecast	Average		x	
	Missouri East	Gas	1	Historical	Year End		x	x
	Missouri West	Gas	1	Historical	Year End			x
Proxy Companies				Historical: 11 Forecast: 8	Average: 7 Year End: 12	5	12	13
Total Jurisdictions		19						
Percent of Jurisdictions				Forecast: 42%	Year End: 63%	26%	63%	68%
Cascade Natural Gas [2]	Washington			Historical	Average		x	x

Notes:

[1] S&P Global - Market Intelligence Rate Case History, accessed April 30, 2020; Regulatory Focus: Adjustment Clauses, dated November 12, 2019. Operating subsidiaries
 [2] Data provided by Cascade Natural Gas Corporation

CAPITAL STRUCTURE ANALYSIS

Proxy Group Company	COMMON EQUITY RATIO [1]				
	Ticker	2019	2018	2017	MRY
Atmos Energy Corporation	ATO	58.43%	63.22%	59.63%	58.43%
New Jersey Resources Corporation	NJR		61.92%	62.35%	61.92%
Northwest Natural Gas Company	NWN	49.19%	50.36%	51.95%	49.19%
One Gas Inc.	OGS		62.03%	63.16%	62.03%
South Jersey Industries, Inc.	SJI		53.55%	54.63%	53.55%
Southwest Gas Corporation	SWX	48.52%	49.38%	51.32%	48.52%
Spire Inc.	SR	63.05%	63.73%	63.70%	63.05%
MEAN		54.80%	57.74%	58.11%	56.67%
LOW		48.52%	49.38%	51.32%	48.52%
HIGH		63.05%	63.73%	63.70%	63.05%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES [2]					
Company Name	Ticker	2019	2018	2017	MRY
Atmos Energy Corporation	ATO	58.43%	63.22%	59.63%	58.43%
New Jersey Natural Gas Company	NJR		61.92%	62.35%	61.92%
Northwest Natural Holding Company	NWN	49.19%	50.36%	51.95%	49.19%
Kansas Gas Service Company, Inc.	OGS		62.20%	63.35%	62.20%
Oklahoma Natural Gas Company	OGS		61.94%	63.13%	61.94%
Texas Gas Service Company, Inc.	OGS		61.95%	63.01%	61.95%
South Jersey Gas Company	SJI		53.55%	54.63%	53.55%
Southwest Gas Corporation	SWX	48.52%	49.38%	51.32%	48.52%
Spire Alabama Inc.	SR	63.05%	71.48%	77.78%	63.05%
Spire Gulf Inc.	SR		45.31%	41.74%	45.31%
Spire Mississippi Inc.	SR		100.00%	68.02%	100.00%
Spire Missouri Inc.	SR		60.32%	57.13%	60.32%

Notes:

[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.

[2] Natural Gas Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[3] Data yet unavailable for FY2019 may be attributable to reporting deadline extensions.

CAPITAL STRUCTURE ANALYSIS

CAPITAL STRUCTURE ANALYSIS

LONG-TERM DEBT RATIO [1]					
Proxy Group Company	Ticker	2019	2018	2017	MRY
Atmos Energy Corporation	ATO	41.57%	36.78%	40.37%	41.57%
New Jersey Resources Corporation	NJR		38.08%	37.65%	38.08%
Northwest Natural Gas Company	NWN	50.81%	49.64%	48.05%	50.81%
One Gas Inc.	OGS		37.97%	36.84%	37.97%
South Jersey Industries, Inc.	SJI		46.45%	45.37%	46.45%
Southwest Gas Corporation	SWX	51.48%	50.62%	48.68%	51.48%
Spire Inc.	SR	36.95%	36.27%	36.30%	36.95%
MEAN		45.20%	42.26%	41.89%	43.33%
LOW		36.95%	36.27%	36.30%	36.95%
HIGH		51.48%	50.62%	48.68%	51.48%

PREFERRED EQUITY RATIO [1]				
Proxy Group Company	Ticker	2019	2018	
Atmos Energy Corporation	ATO	0.00%	0.00%	
New Jersey Resources Corporation	NJR		0.00%	
Northwest Natural Gas Company	NWN	0.00%	0.00%	
One Gas Inc.	OGS		0.00%	
South Jersey Industries, Inc.	SJI		0.00%	
Southwest Gas Corporation	SWX	0.00%	0.00%	
Spire Inc.	SR	0.00%	0.00%	
MEAN		0.00%	0.00%	
LOW		0.00%	0.00%	
HIGH		0.00%	0.00%	

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES [2]					
Company Name	Ticker	2019	2018	2017	MRY
Atmos Energy Corporation	ATO	41.57%	36.78%	40.37%	41.57%
New Jersey Natural Gas Company	NJR		38.08%	37.65%	38.08%
Northwest Natural Holding Company	NWN	50.81%	49.64%	48.05%	50.81%
Kansas Gas Service Company, Inc.	OGS		37.80%	36.65%	37.80%
Oklahoma Natural Gas Company	OGS		38.06%	36.87%	38.06%
Texas Gas Service Company, Inc.	OGS		38.05%	36.99%	38.05%
South Jersey Gas Company	SJI		46.45%	45.37%	46.45%
Southwest Gas Corporation	SWX	51.48%	50.62%	48.68%	51.48%
Spire Alabama Inc.	SR	36.95%	28.52%	22.22%	36.95%
Spire Gulf Inc.	SR		54.69%	58.26%	54.69%
Spire Mississippi Inc.	SR		0.00%	31.98%	0.00%
Spire Missouri Inc.	SR		39.68%	42.87%	39.68%

PREFERRED EQUITY RATIO - UTILITY OPERATING COMPAN				
Company Name	Ticker	2019	2018	
Atmos Energy Corporation	ATO	0.00%	0.00%	
New Jersey Natural Gas Company	NJR		0.00%	
Northwest Natural Holding Company	NWN	0.00%	0.00%	
Kansas Gas Service Company, Inc.	OGS		0.00%	
Oklahoma Natural Gas Company	OGS		0.00%	
Texas Gas Service Company, Inc.	OGS		0.00%	
South Jersey Gas Company	SJI		0.00%	
Southwest Gas Corporation	SWX	0.00%	0.00%	
Spire Alabama Inc.	SR	0.00%	0.00%	
Spire Gulf Inc.	SR		0.00%	
Spire Mississippi Inc.	SR		0.00%	
Spire Missouri Inc.	SR		0.00%	

Notes:

[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.

[2] Natural Gas Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[3] Data yet unavailable for FY2019 may be attributable to reporting deadline extensions.

Notes:

[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Subsidiaries.

[2] Natural Gas Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.

[3] Data yet unavailable for FY2019 may be attributable to reporting deadline extensions.

CAPITAL STRUCTURE ANALYSIS

		CHECK					
2017	MRY	Proxy Group Company	Ticker	2019	2018	2017	MRY
0.00%	0.00%	Atmos Energy Corporation	ATO	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	New Jersey Resources Corporation	NJR		100.00%	100.00%	100.00%
0.00%	0.00%	Northwest Natural Gas Company	NWN	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	One Gas Inc.	OGS		100.00%	100.00%	100.00%
0.00%	0.00%	South Jersey Industries, Inc.	SJI		100.00%	100.00%	100.00%
0.00%	0.00%	Southwest Gas Corporation	SWX	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	Spire Inc.	SR	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	MEAN		100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	LOW		100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	HIGH		100.00%	100.00%	100.00%	100.00%

IES [2]		Check					
2017	MRY	Company Name	Ticker	2019	2018	2017	MRY
0.00%	0.00%	Atmos Energy Corporation	ATO	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	New Jersey Natural Gas Company	NJR		100.00%	100.00%	100.00%
0.00%	0.00%	Northwest Natural Holding Company	NWN	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	Kansas Gas Service Company, Inc.	OGS		100.00%	100.00%	100.00%
0.00%	0.00%	Oklahoma Natural Gas Company	OGS		100.00%	100.00%	100.00%
0.00%	0.00%	Texas Gas Service Company, Inc.	OGS		100.00%	100.00%	100.00%
0.00%	0.00%	South Jersey Gas Company	SJI		100.00%	100.00%	100.00%
0.00%	0.00%	Southwest Gas Corporation	SWX	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	Spire Alabama Inc.	SR	100.00%	100.00%	100.00%	100.00%
0.00%	0.00%	Spire Gulf Inc.	SR		100.00%	100.00%	100.00%
0.00%	0.00%	Spire Mississippi Inc.	SR		100.00%	100.00%	100.00%
0.00%	0.00%	Spire Missouri Inc.	SR		100.00%	100.00%	100.00%

Notes:

- part of Operating Subsidiaries. [1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.
- excluded from the [2] Natural Gas Subsidiaries with data listed as N/A from SNL Financial have been excluded from the analysis.
- ons. [3] Data yet unavailable for FY2019 may be attributable to reporting deadline extensions.