SOAH DOCKET NO. 473-18-3981
PUC DOCKET NO. 48401

APPLICATION OF TEXAS-NEW MEXICO POWER COMPANY FOR AUTHORITY TO CHANGE RATES	**§** **§** **§**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

CROSS-REBUTTAL TESTIMONY

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE CITIES SERVED BY

TEXAS-NEW MEXICO POWER COMPANY

AUGUST 28, 2018

Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Richard A. Baudino, a Consultant with J. Kennedy and Associates, Inc., an economic consulting firm specializing in utility ratemaking and planning issues. My business address is 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. ARE YOU THE SAME RICHARD A BAUDINO WHO PRESENTED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR CROSS-REBUTTAL TESTIMONY?

A. The purpose of my cross-rebuttal testimony is to respond to the direct testimonies of Ms. Anjuli Winkler, witness for the Office of Public Utility Counsel ("OPUC") and Mr. Michael Gorman, witness for the Texas Industrial Energy Consumers ("TIEC").

Q. PLEASE SUMMARIZE THE MAIN POINTS TO WHICH YOU WILL RESPOND REGARDING THE DIRECT TESTIMONY OF THESE WITNESSES.

A. I will address an issue regarding the proxy groups these witnesses used to estimate the Discounted Cash Flow ("DCF") model.

Q. DID WITNESSES WINKLER AND GORMAN USE THE SAME PROXY GROUP THAT YOU USED IN YOUR DIRECT TESTIMONY?

A. Ms. Winkler, Mr. Gorman, and I all started with the same proxy group that was used by Mr. Hevert in his Direct Testimony. However, Ms. Winkler and Mr. Gorman both excluded CenterPoint Energy because of its pending acquisition of Vectren Corporation. Mr. Gorman also excluded Southern Company.

Q. WAS IT APPROPRIATE FOR OPUC'S AND TIEC'S WITNESSES TO EXCLUDE CENTERPOINT ENERGY FROM THE PROXY GROUP?

A. Yes, based on my review of the pending transaction between CenterPoint Energy and Vectren Corp. it is reasonable to exclude CenterPoint Energy from the proxy group at this time.

Q. HAVE YOU RECALCULATED YOUR DCF AND CAPM RESULTS TO EXCLUDE CENTERPOINT ENERGY?

A. Yes. Please refer to Schedules RAB-1R, RAB-2R, and RAB-3R for my recalculated DCF and Capital Asset Pricing Model ("CAPM") results excluding CenterPoint Energy.[1]

Q. DOES THE EXCLUSION OF CENTERPOINT ENERGY CHANGE YOUR RESULTS OR YOUR RECOMMENDED RETURN ON EQUITY ("ROE") OF 9.10% FOR TEXAS-NEW MEXICO POWER COMPANY ("TNMP")?

A. No. The DCF results from the revised proxy group declined slightly, but my 9.10% recommendation is still consistent with the upper end of the DCF range of results (8.58% – 9.12%). Therefore, I maintain my recommended 9.10% ROE for TNMP.

Q. DOES THIS CONCLUDE YOUR CROSS-REBUTTAL TESTIMONY?

A. Yes.

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[1] RAB-1R (Average Price, Dividend, and Dividend Yield), RAB-2R (DCF Growth Rate Analysis and Return on Equity), RAB-3R (Capital Asset Pricing Model Analysis).

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND,AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
ALLETE	High Price ($)	72.550	72.800	77.450	79.860	78.620	80.780
	Low Price ($)	66.640	67.070	70.400	73.760	70.460	75.850
	Avg. Price ($)	69.595	69.935	73.925	76.810	74.540	78.315
	Dividend ($)	0.560	0.560	0.560	0.560	0.560	0.560
	Mo. Avg. Div.	3.22%	3.20%	3.03%	2.92%	3.01%	2.86%
	6 mos. Avg.	3.04%					
Alliant Energy	High Price ($)	39.900	41.040	43.270	43.470	42.780	43.950
	Low Price ($)	36.840	37.850	40.340	40.110	38.220	41.410
	Avg. Price ($)	38.370	39.445	41.805	41.790	40.500	42.680
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.49%	3.40%	3.21%	3.21%	3.31%	3.14%
	6 mos. Avg.	3.29%					
Ameren Corp.	High Price ($)	56.850	56.790	58.950	59.790	61.250	62.410
	Low Price ($)	51.890	53.080	55.010	55.720	55.210	59.150
	Avg. Price ($)	54.370	54.935	56.980	57.755	58.230	60.780
	Dividend ($)	0.458	0.458	0.458	0.458	0.458	0.458
	Mo. Avg. Div.	3.37%	3.33%	3.22%	3.17%	3.15%	3.01%
	6 mos. Avg.	3.21%					
American Electric Power	High Price ($)	68.980	69.240	70.980	69.990	70.300	71.890
	Low Price ($)	63.320	64.600	66.460	64.460	62.710	68.130
	Avg. Price ($)	66.150	66.920	68.720	67.225	66.505	70.010
	Dividend ($)	0.620	0.620	0.620	0.620	0.620	0.620
	Mo. Avg. Div.	3.75%	3.71%	3.61%	3.69%	3.73%	3.54%
	6 mos. Avg.	3.67%					
Black Hills Corp.	High Price ($)	55.750	54.620	57.280	59.490	61.650	64.140
	Low Price ($)	50.650	50.490	52.630	55.530	55.070	59.010
	Avg. Price ($)	53.200	52.555	54.955	57.510	58.360	61.575
	Dividend ($)	0.475	0.475	0.475	0.475	0.475	0.475
	Mo. Avg. Div.	3.57%	3.62%	3.46%	3.30%	3.26%	3.09%
	6 mos. Avg.	3.38%					
CMS Energy Corp.	High Price ($)	44.980	45.580	47.480	47.200	47.580	48.680
	Low Price ($)	40.480	41.980	43.790	43.720	42.520	46.250
	Avg. Price ($)	42.730	43.780	45.635	45.460	45.050	47.465
	Dividend ($)	0.358	0.358	0.358	0.358	0.358	0.358
	Mo. Avg. Div.	3.35%	3.27%	3.13%	3.15%	3.17%	3.01%
	6 mos. Avg.	3.18%					

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND,AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Consolidated Edison, Inc.	High Price ($)	80.650	78.400	80.820	80.240	78.910	79.660
	Low Price ($)	74.570	73.730	76.070	73.350	71.120	75.930
	Avg. Price ($)	77.610	76.065	78.445	76.795	75.015	77.795
	Dividend ($)	0.715	0.715	0.715	0.715	0.715	0.715
	Mo. Avg. Div.	3.69%	3.76%	3.65%	3.72%	3.81%	3.68%
	6 mos. Avg.	3.72%					
DTE Energy Co.	High Price ($)	106.350	105.190	106.240	105.460	105.130	109.660
	Low Price ($)	97.660	99.520	101.820	99.000	94.250	101.880
	Avg. Price ($)	102.005	102.355	104.030	102.230	99.690	105.770
	Dividend ($)	0.883	0.883	0.883	0.883	0.883	0.883
	Mo. Avg. Div.	3.46%	3.45%	3.39%	3.45%	3.54%	3.34%
	6 mos. Avg.	3.44%					
Duke Energy Corp.	High Price ($)	79.630	77.910	80.850	80.410	80.150	81.750
	Low Price ($)	72.930	74.580	75.960	73.130	71.960	77.900
	Avg. Price ($)	76.280	76.245	78.405	76.770	76.055	79.825
	Dividend ($)	0.890	0.890	0.890	0.890	0.890	0.890
	Mo. Avg. Div.	4.67%	4.67%	4.54%	4.64%	4.68%	4.46%
	6 mos. Avg.	4.61%					
El Paso Electric Co.	High Price ($)	52.300	51.250	51.550	59.130	59.350	62.700
	Low Price ($)	48.150	48.050	48.500	49.450	54.750	58.250
	Avg. Price ($)	50.225	49.650	50.025	54.290	57.050	60.475
	Dividend ($)	0.335	0.335	0.335	0.335	0.360	0.360
	Mo. Avg. Div.	2.67%	2.70%	2.68%	2.47%	2.52%	2.38%
	6 mos. Avg.	2.57%					
Eversource Energy	High Price ($)	63.420	59.390	60.890	60.450	58.910	60.810
	Low Price ($)	55.930	56.130	58.300	55.310	52.760	57.490
	Avg. Price ($)	59.675	57.760	59.595	57.880	55.835	59.150
	Dividend ($)	0.475	0.505	0.505	0.505	0.505	0.505
	Mo. Avg. Div.	3.18%	3.50%	3.39%	3.49%	3.62%	3.42%
	6 mos. Avg.	3.43%					
Hawaiian Electric Ind.	High Price ($)	34.350	34.620	35.130	35.200	34.510	36.200
	Low Price ($)	31.720	32.580	33.790	32.880	32.590	34.140
	Avg. Price ($)	33.035	33.600	34.460	34.040	33.550	35.170
	Dividend ($)	0.310	0.310	0.310	0.310	0.310	0.310
	Mo. Avg. Div.	3.75%	3.69%	3.60%	3.64%	3.70%	3.53%
	6 mos. Avg.	3.65%					

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND,AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
IDACORP	High Price ($)	86.570	88.600	94.160	96.010	93.280	95.350
	Low Price ($)	79.590	80.290	84.820	87.340	85.230	90.920
	Avg. Price ($)	83.080	84.445	89.490	91.675	89.255	93.135
	Dividend ($)	0.590	0.590	0.590	0.590	0.590	0.590
	Mo. Avg. Div.	2.84%	2.79%	2.64%	2.57%	2.64%	2.53%
	6 mos. Avg.	2.67%					
Northwestern Corp.	High Price ($)	54.510	54.190	55.750	55.800	57.740	59.920
	Low Price ($)	50.010	50.460	52.430	52.770	51.530	55.980
	Avg. Price ($)	52.260	52.325	54.090	54.285	54.635	57.950
	Dividend ($)	0.525	0.550	0.550	0.550	0.550	0.550
	Mo. Avg. Div.	4.02%	4.20%	4.07%	4.05%	4.03%	3.80%
	6 mos. Avg.	4.03%					
OGE Energy Corp.	High Price ($)	33.060	32.830	33.390	35.420	35.540	36.590
	Low Price ($)	29.590	30.760	31.490	32.700	33.190	34.130
	Avg. Price ($)	31.325	31.795	32.440	34.060	34.365	35.360
	Dividend ($)	0.333	0.333	0.333	0.333	0.333	0.333
	Mo. Avg. Div.	4.25%	4.18%	4.10%	3.90%	3.87%	3.76%
	6 mos. Avg.	4.01%					
Otter Tail Corp.	High Price ($)	43.450	44.550	44.850	48.350	48.750	49.750
	Low Price ($)	39.000	39.650	42.300	42.550	44.800	47.000
	Avg. Price ($)	41.225	42.100	43.575	45.450	46.775	48.375
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.25%	3.18%	3.08%	2.95%	2.86%	2.77%
	6 mos. Avg.	3.02%					
Pinnacle West Capital	High Price ($)	80.830	80.210	81.850	80.730	81.250	83.050
	Low Price ($)	73.810	75.210	77.140	75.820	73.410	77.560
	Avg. Price ($)	77.320	77.710	79.495	78.275	77.330	80.305
	Dividend ($)	0.695	0.695	0.695	0.695	0.695	0.695
	Mo. Avg. Div.	3.60%	3.58%	3.50%	3.55%	3.59%	3.46%
	6 mos. Avg.	3.55%					
Portland General Electric	High Price ($)	42.470	41.060	42.700	42.930	43.290	46.000
	Low Price ($)	39.400	39.020	39.180	39.660	39.600	42.100
	Avg. Price ($)	40.935	40.040	40.940	41.295	41.445	44.050
	Dividend ($)	0.340	0.340	0.340	0.340	0.363	0.363
	Mo. Avg. Div.	3.32%	3.40%	3.32%	3.29%	3.50%	3.29%
	6 mos. Avg.	3.35%					

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND,AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Southern Company	High Price ($)	45.300	45.100	46.750	46.580	46.850	48.650
	Low Price ($)	42.380	43.020	43.750	42.420	42.730	46.020
	Avg. Price ($)	43.840	44.060	45.250	44.500	44.790	47.335
	Dividend ($)	0.580	0.580	0.580	0.600	0.600	0.600
	Mo. Avg. Div.	5.29%	5.27%	5.13%	5.39%	5.36%	5.07%
	6 mos. Avg.	5.25%					
Wisconsin Energy Corp.	High Price ($)	64.380	63.130	64.840	64.930	64.980	66.500
	Low Price ($)	59.080	58.920	61.390	59.960	58.480	63.190
	Avg. Price ($)	61.730	61.025	63.115	62.445	61.730	64.845
	Dividend ($)	0.553	0.553	0.553	0.553	0.553	0.553
	Mo. Avg. Div.	3.58%	3.62%	3.50%	3.54%	3.58%	3.41%
	6 mos. Avg.	3.54%					
Xcel Energy	High Price ($)	45.780	45.870	47.380	46.930	46.240	47.150
	Low Price ($)	41.510	42.570	43.930	43.280	41.990	44.540
	Avg. Price ($)	43.645	44.220	45.655	45.105	44.115	45.845
	Dividend ($)	0.360	0.380	0.380	0.380	0.380	0.380
	Mo. Avg. Div.	3.30%	3.44%	3.33%	3.37%	3.45%	3.32%
	6 mos. Avg.	3.37%					
Monthly Avg. Dividend Yield		3.60%	3.62%	3.50%	3.50%	3.54%	3.37%
6-month Avg. Dividend Yield		3.52%					

Source: Yahoo! Finance

TNMP PROXY GROUP
DCF Growth Rate Analysis

Company	(1) Value Line DPS	(2) Value Line EPS	(3) Zacks	(4) Yahoo! Finance
ALLETE, Inc.	4.50%	5.00%	6.00%	6.00%
Alliant Energy Corporation	6.00%	6.50%	5.60%	5.85%
Ameren Corp.	5.50%	7.50%	6.50%	6.30%
American Electric Power Co.	5.00%	4.50%	5.70%	5.79%
Black Hills Corporation	6.00%	6.50%	4.14%	3.86%
CMS Energy Corporation	7.00%	7.00%	6.35%	7.05%
Consolidated Edison, Inc.	3.50%	3.00%	4.00%	3.39%
DTE Energy Company	6.50%	7.00%	5.33%	5.58%
Duke Energy	4.50%	5.50%	4.60%	4.22%
El Paso Electric Co.	7.00%	4.50%	5.10%	5.20%
Eversource Energy	6.00%	5.50%	5.75%	5.64%
Hawaiian Electric	2.00%	3.50%	7.10%	9.10%
IDACORP, Inc.	6.50%	3.00%	3.90%	3.55%
Northwestern Corporation	4.50%	3.50%	3.01%	3.16%
OGE Energy Corp.	8.00%	6.00%	4.70%	4.30%
Otter Tail Corporation	3.50%	7.50%	N/A	9.00%
Pinnacle West Capital Corp.	5.50%	5.00%	4.50%	3.78%
Portland General Electric Company	6.00%	4.00%	2.80%	2.65%
Southern Company	3.50%	3.00%	4.50%	2.25%
Wisconsin Energy Corporation	6.00%	7.00%	4.13%	4.43%
Xcel Energy Inc.	5.50%	5.50%	5.70%	5.86%
Averages	5.36%	5.26%	4.97%	5.09%
Median Values	5.50%	5.50%	4.90%	5.20%

Sources: **Value Line Investment Survey, May 18, June 15, and July 27 2018**
Yahoo! Finance growth rates retrieved July 6, 2018
Zacks growth rates retrieved July 6, 2018

TNMP PROXY GROUP
DCF RETURN ON EQUITY

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) Zack's Earning Gr.	(4) Yahoo! Earning Gr.	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	3.52%	3.52%	3.52%	3.52%	3.52%
Average Growth Rate	5.36%	5.26%	4.97%	5.09%	5.17%
Expected Div. Yield	3.62%	3.62%	3.61%	3.61%	3.61%
DCF Return on Equity	***8.98%***	***8.88%***	***8.58%***	***8.70%***	***8.78%***
Method 2:					
Dividend Yield	3.52%	3.52%	3.52%	3.52%	3.52%
Median Growth Rate	5.50%	5.50%	4.90%	5.20%	5.28%
Expected Div. Yield	3.62%	3.62%	3.61%	3.61%	3.62%
DCF Return on Equity	***9.12%***	***9.12%***	***8.51%***	***8.81%***	***8.90%***

TNMP PROXY GROUP
Capital Asset Pricing Model Analysis

30-Year Treasury Bond, Value Line Beta

Line No.		Value Line
1	Market Required Return Estimate	11.00%
2	Risk-free Rate of Return, 30-Year Treasury Bond	
3	Average of Last Six Months	3.08%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.92%
6	Comparison Group Beta	0.68
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.35%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.43%

5-Year Treasury Bond, Value Line Beta

1	Market Required Return Estimate	11.00%
2	Risk-free Rate of Return, 5-Year Treasury Bond	
3	Average of Last Six Months	2.72%
4	Risk Premium	
5	(Line 1 minus Line 3)	8.28%
6	Comparison Group Beta	0.68
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.60%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.32%

TNMP PROXY GROUP
Capital Asset Pricing Model Analysis

Supporting Data for CAPM Analyses

30 Year Treasury Bond Data

	Avg. Yield
February-18	3.13%
March-18	3.09%
April-18	3.07%
May-18	3.13%
June-18	3.05%
July-18	3.01%
6 month average	3.08%

Source: www.federalreserve.gov/datadownload/

5 Year Treasury Bond Data

	Avg. Yield
February-18	2.60%
March-18	2.63%
April-18	2.70%
May-18	2.82%
June-18	2.78%
July-18	2.78%
6 month average	2.72%

Value Line Market Return Data:

Forecasted Data:	
Value Line Median Growth Rates:	
Earnings	12.00%
Book Value	8.00%
Average	10.00%
Average Dividend Yield	0.95%
Estimated Market Return	11.00%
Value Line Projected 3-5 Yr. Median Annual Total Return	11.00%
Average of Projected Mkt. Returns	11.00%

Source: Value Line Investment Survey for Windows retreived July 10, 2018

Comparison Group Betas:

	Value Line
ALLETE, Inc.	0.75
Alliant Energy Corporation	0.70
Ameren Corp.	0.65
American Electric Power Co.	0.65
Black Hills Corporation	0.85
CMS Energy Corporation	0.65
Consolidated Edison, Inc.	0.50
DTE Energy Company	0.65
Duke Energy	0.60
El Paso Electric Co.	0.75
Eversource Energy	0.65
Hawaiian Electric	0.65
IDACORP, Inc.	0.65
Northwestern Corp.	0.65
OGE Energy Corp.	0.95
Otter Tail Corp.	0.85
Pinnacle West Capital Corp.	0.65
Portland General Electric Company	0.65
Southern Company	0.55
Wisconsin Energy Corp.	0.60
Xcel Energy Inc.	0.60
Average	0.68

Source: Value Line Investment Survey

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DIRECT TESTIMONY

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE CITIES SERVED BY

TEXAS-NEW MEXICO POWER COMPANY

AUGUST 13, 2018

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ATTACHMENTS

SCHEDULES

WORKPAPERS – Provided on CD

I. QUALIFICATIONS AND SUMMARY

A. Qualifications

Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Richard A. Baudino, a Consultant with J. Kennedy and Associates, Inc., an economic consulting firm specializing in utility ratemaking and planning issues. My business address is 570 Colonial Park Drive, Suite 305, Roswell, Georgia.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I provide this information in Attachment A, including a list of my testimony experience.

B. Summary

Q. ON WHOSE BEHALF ARE YOU PROVIDING TESTIMONY IN THIS PROCEEDING?

A. I am providing testimony on behalf of the Cities Served by Texas-New Mexico Power Company ("Cities").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to make recommendations with respect to the return on equity and capital structure for Texas-New Mexico Power Company ("TNMP" or "Company").

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE PUBLIC UTILITY COMMISSION OF TEXAS ("COMMISSION").

A. Based on my analysis in this case, I recommend a 9.1% return on equity ("ROE") for TNMP. I base my recommendation on the results of the Discounted Cash Flow ("DCF") model for a proxy group of 22 electric companies used by TNMP witness

Robert Hevert. I also included two Capital Asset Pricing Model ("CAPM") analyses for additional reference. I did not incorporate the results of the CAPM in my recommendation; however, the results from the CAPM generally confirm the reasonableness of my 9.1% ROE recommendation for TNMP. In fact, the CAPM results are lower than my DCF results.

As I shall explain later in my testimony, a 9.1% ROE is a reasonable estimate of the investor required return on equity for a low risk transmission and distribution utility company like TNMP. Furthermore, in the current low-interest rate environment, a 9.1% ROE is fully justified and supported, even considering the recent increases in the general level of interest rates.

I also recommend that the Commission approve TNMP's current ratemaking capital structure that includes 45% common equity and 55% debt. This capital structure has supported TNMP's currently strong credit ratings and should continue to do so. The Commission should reject TNMP's requested increase in its equity ratio to 50%.

II. REVIEW OF ECONOMIC AND FINANCIAL CONDITIONS

Q. MR. BAUDINO, WHAT HAS THE TREND BEEN IN LONG-TERM CAPITAL COSTS OVER THE LAST TEN YEARS?

A. Since 2007 and 2008, the overall trend in interest rates in the U.S. and the world economy has been lower. This trend was precipitated by the 2007 financial crisis and severe recession that followed in December 2007. In response to this economic crisis, the Federal Reserve ("Fed") undertook an unprecedented series of steps to stabilize the economy, ease credit conditions, and lower unemployment and interest rates. These steps are commonly known as Quantitative Easing ("QE") and were implemented in three distinct stages: QE1, QE2, and QE3. The Fed's stated purpose of QE was "to

support the liquidity of financial institutions and foster improved conditions in financial markets."[1]

Q. MR. BAUDINO, BEFORE YOU CONTINUE, PLEASE PROVIDE A BRIEF EXPLANATION OF HOW THE FED USES MONETARY POLICY TO AFFECT CONDITIONS IN THE FINANCIAL MARKETS.

A. Generally, the Fed uses monetary policy to implement certain economic goals. The Fed explained its monetary policy as follows:

> Monetary policy in the United States comprises the Federal Reserve's actions and communications to promote maximum employment, stable prices, and moderate long-term interest rates—the three economic goals the Congress has instructed the Federal Reserve to pursue.
>
> The Federal Reserve conducts the nation's monetary policy by managing the level of short-term interest rates and influencing the overall availability and cost of credit in the economy.[2]

One of the Fed's primary tools for conducting monetary policy is setting the federal funds rate. The federal funds rate is the interest rate set by the Fed that banks and credit unions charge each other for overnight loans of reserve balances. Traditionally the federal funds rate directly influences short-term interest rates, such as the Treasury bill rate and interest rates on savings and checking accounts. The federal funds rate has a more indirect effect on long-term interest rates, such as the 30-Year Treasury Bond and private and corporate long-term debt. Long-term interest rates are set more by market forces that influence the supply and demand of loanable funds.

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[1] http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm.

[2] From the Federal Reserve's website and the section entitled "Monetary Policy."

Q. PLEASE CONTINUE WITH YOUR DISCUSSION OF THE FED'S QUANTITATIVE EASING PROGRAMS.

A. QE1 was implemented from November 2008 through approximately March 2010. During this time, the Fed cut its key Federal Funds Rate to nearly 0% and purchased $1.25 trillion of mortgage-backed securities and $175 billion of agency debt purchases. QE2 was implemented in November 2010 with the Fed announcing that it would purchase an additional $600 billion of Treasury securities by the second quarter of 2011.[3] Beginning in September 2011, the Fed initiated a "maturity extension program" in which it sold or redeemed $667 billion of shorter-term Treasury securities and used the proceeds to buy longer-term Treasury securities. This program, also known as "Operation Twist," was designed by the Fed to lower long-term interest rates and support the economic recovery. Finally, QE3 began in September 2012 with the Fed announcing an additional bond purchasing program of $40 billion per month of agency mortgage backed securities.

The Fed began to pare back its purchases of securities in the last few years. On January 29, 2014 the Fed stated that beginning in February 2014 it would reduce its purchases of long-term Treasury securities to $35 billion per month. The Fed continued to reduce these purchases throughout the year and in a press release issued October 29, 2014 announced that it decided to close this asset purchase program in October.[4]

Figure 1 below presents a graph that tracks the 30-Year Treasury Bond yield and the Mergent average utility bond yield. The time period covers January 2008 through June 2018.

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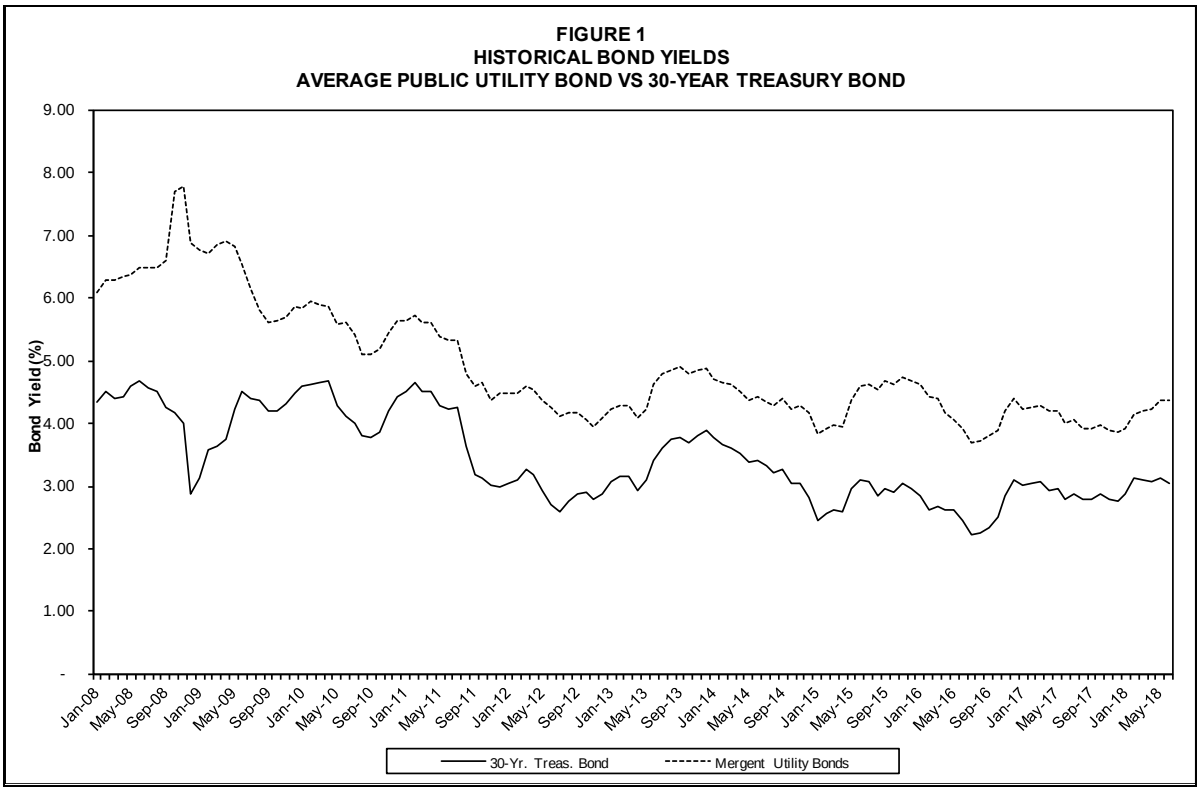
[3] http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm.

[4] http://www.federalreserve.gov/newsevents/press/monetary/20141029a.htm.

FIGURE 1
HISTORICAL BOND YIELDS
AVERAGE PUBLIC UTILITY BOND VS 30-YEAR TREASURY BOND



The Fed's QE program and federal funds rate cuts were effective in lowering the long-term cost of borrowing in the United States. The 30-Year Treasury Bond yield declined from 5.11% in July 2007 to a low of 2.59% in July 2012. The average utility bond yield also fell substantially, from 6.28% in July 2007 to 4.12% in July 2012. At the end of June 2018, the 30-Year Treasury yield stood at 3.05% and the average utility bond yield stood at 4.37%.

Bond yields through July 2018 were little changed from June, with the 30-Year Treasury yield at 3.01% and the average utility bond yield at 4.38%.

Q. HAS THE FED RECENTLY INDICATED ANY IMPORTANT CHANGES TO ITS MONETARY POLICY?

A. Yes. In March 2016, the Fed began to raise its target range for the federal funds rate, increasing it to 1/4% to 1/2% from 0% to 1/4%. Since that time, the Fed increased the federal funds rate several more times, with the most recent increase announced on June 13, 2018. The federal funds rate now stands in the range of 1.75% – 2.0%. In its press release dated August 1, 2018 the Fed stated the following:

> Information received since the Federal Open Market Committee met in June indicates that the labor market has continued to strengthen and that economic activity has been rising at a strong rate. Job gains have been strong, on average, in recent months, and the unemployment rate has stayed low. Household spending and business fixed investment have grown strongly. On a 12-month basis, both overall inflation and inflation for items other than food and energy remain near 2 percent. Indicators of longer-term inflation expectations are little changed, on balance.
>
> Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that further gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective over the medium term. Risks to the economic outlook appear roughly balanced.
>
> In view of realized and expected labor market conditions and inflation, the Committee decided to maintain the target range for the federal funds rate at 1-3/4 to 2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation.

The Fed also provided certain economic projections that accompanied its June 13, 2018 press release showing the following:

- Projected federal funds rate of 2.4% for 2018, 2.9% for 2019, 3.4% for 2020, and 2.9% for the longer run.
- Inflation running at 1.9% for 2018 and 2.1% for 2019 and 2020.

- The Fed has signaled that it will likely continue increasing the federal funds rate this year and in 2019.

Q. MR. BAUDINO, WHY IS IT IMPORTANT TO UNDERSTAND THE FED'S ACTIONS OVER THE LAST TEN YEARS?

A. The Fed's monetary policy actions since 2008 were deliberately undertaken to lower interest rates and support economic recovery. Even with several recent increases in the federal funds rate, the U.S. economy is still in a low interest rate environment. This environment has affected the common stocks of regulated utilities, which are interest rate sensitive due to their high concentration of fixed assets. Thus, as interest rates increase in the general economy, the prices of utility common stocks fall and their dividend yields rise. Alternatively, as interest rates fall, the dividend yields on utility common stocks tend to fall as their prices rise.

Q. ARE CURRENT INTEREST RATES INDICATIVE OF INVESTOR EXPECTATIONS REGARDING THE FUTURE DIRECTION OF INTEREST RATES?

A. Yes. Securities markets are efficient and most likely reflect investors' expectations about future interest rates. As Dr. Roger Morin pointed out in *New Regulatory Finance:*

> A considerable body of empirical evidence indicates that U.S. capital markets are efficient with respect to a broad set of information, including historical and publicly available information.[5]

Dr. Morin also noted the following:

> There is extensive literature concerning the prediction of interest rates. From this evidence, it appears that the no-change model of interest rates frequently provides the most accurate forecasts of future interest rates while at other times, the experts are more accurate. Naïve extrapolations of current interest rates frequently outperform published forecasts. The

[5] Morin, Roger A., *New Regulatory Finance*, Public Utilities Reports, Inc., 279 (2006).

> literature suggests that on balance, the bond market is very efficient in that it is difficult to consistently forecast interest rates with greater accuracy than a no-change model. The latter model provides similar, and in some cases, superior accuracy than professional forecasts.[6]

Despite recent increases in the general level of short-term interest rates since the second half of 2016, the U.S. economy continues to operate in a low interest rate environment. It is important to realize that investor expectations of higher future interest rates, if any, are already likely embodied in current securities prices, which include debt securities and stock prices.

Moreover, the current low interest rate environment still favors lower risk regulated utilities. Although the Fed anticipates raising the federal funds rate later this year and in 2019, I still firmly believe that it would not be advisable for utility regulators to raise ROEs in anticipation of higher forecasted interest rates that may or may not occur**.**

Q. HOW HAS THE INCREASE IN THE FEDERAL FUNDS RATE SINCE 2016 AFFECTED UTILITY STOCKS IN TERMS OF BOND YIELDS AND STOCK PRICES?

A. Interestingly, the yield on the average utility bond is lower now than it was in January 2016. Likewise, the Dow Jones Utility Index is substantially higher than it was in January 2016. Table 1 shows the federal funds rate, the yield on the 30-Year Treasury Bond, the yield on the average utility bond, and the Dow Jones Utility Average ("DJUA") from January 2016 through July 2018.

[6] *Id.* at 172.

TABLE 1
Bond Yields and DJUA

	Federal Funds Rate %	30-Year Treasury %	Avg. Utility Bond %	DJUA
2016				
January	0.34	2.86	4.62	611.35
February	0.38	2.62	4.44	620.70
March	0.36	2.68	4.40	668.57
April	0.37	2.62	4.16	654.44
May	0.37	2.63	4.06	659.44
June	0.38	2.45	3.93	716.52
July	0.39	2.23	3.70	711.42
August	0.40	2.26	3.73	666.87
September	0.40	2.35	3.80	668.13
October	0.40	2.50	3.90	675.23
November	0.41	2.86	4.21	632.67
December	0.54	3.11	4.39	645.86
2017				
January	0.65	3.02	4.24	668.87
February	0.66	3.03	4.25	703.16
March	0.79	3.08	4.30	697.28
April	0.90	2.94	4.19	704.35
May	0.91	2.96	4.19	726.62
June	1.04	2.80	4.01	706.91
July	1.15	2.88	4.06	726.48
August	1.16	2.80	3.92	743.24
September	1.15	2.78	3.93	723.60
October	1.15	2.88	3.97	753.20
November	1.16	2.80	3.88	770.39
December	1.30	2.77	3.85	723.37
2018				
January	1.41	2.88	3.91	699.25
February	1.42	3.13	4.15	668.81
March	1.51	3.09	4.21	692.63
April	1.69	3.07	4.24	707.01
May	1.70	3.13	4.36	695.21
June	1.82	3.05	4.37	711.64
July	1.91	3.01	4.38	724.24

Source: Federal Reserve, Mergent Bond Record, Yahoo! Finance, Moody's Credit Trends

Note that as the federal funds rate rose from January through December 2017, the 30-Year Treasury yield declined. The DJUA rose throughout 2017, declined sharply in December and through February 2018, then began to rise again through July 2018. Although the federal funds rate steadily increased from 2016, the 30-Year Treasury yield was not much different in July 2018 than it was in January 2016. The average utility bond yield was lower in July 2018 (4.38%) than it was is January 2016 (4.62%), despite the steep increases in the federal funds rate.

Q. HOW DOES THE INVESTMENT COMMUNITY REGARD THE ELECTRIC UTILITY INDUSTRY CURRENTLY?

A. The Value Line Investment Survey stated the following in its June 15, 2018 report on the Electric Utility (Central) industry:

> This has not been a good year, so far, for most stocks in the Electric Utility Industry. Investors are concerned about the likelihood of rising interest rates. Beyond this, a pullback was likely anyway simply because 2017 was such a strong year for the group. Nevertheless, *interest rates are still low, by historical standards, and so is the average dividend yield of stocks in the Electric Utility Industry*. This is just 3.4%. For the 3- to 5-year period, the average total return potential is just 4%. Many stocks in this group are trading within their 2021-2023 Target Price Range. (emphasis added)

Q. IN 2018, THE EDISON ELECTRIC INSTITUTE ("EEI") PUBLISHED ITS *2017 FINANCIAL REVIEW* OF THE INVESTOR-OWNED ELECTRIC UTILITY INDUSTRY. PLEASE SUMMARIZE EEI'S CONCLUSIONS WITH RESPECT TO CREDIT RATINGS FOR THE ELECTRIC UTILITY INDUSTRY.

A. EEI's report noted the following favorable credit rating summary for 2017:

> The industry's average credit rating in 2017 was BBB+, remaining for a fourth straight year above the BBB average that has held since 2004. Ratings activity, at 53 changes, was below the industry's average for the last decade of 68 changes per year. Upgrades were 73.6% of total actions, the third-highest annual figure in our dataset and just above 2016's 73.1%. In fact, the last five years have produced the five highest upgrade percentages in our historical data.

EEI's report shows that the overall credit standing of the electric industry is still quite strong and has been improving over the last five years.

Q. WHAT CREDIT RATINGS ARE CURRENTLY ASSIGNED TO TNMP?

A. Moody's assigned a long-term issuer rating to TNMP of A3 and a first mortgage bond rating of A1, which represents the top of the A bond rating category. Moody's credit outlook for TNMP is stable. Standard and Poor's ("S&P") assigned TNMP a credit rating of BBB+, but with a negative ratings outlook.

TNMP provided recent credit ratings reports in Schedule II-C-2.10 to its Application. S&P's summary analysis dated May 4, 2018 noted that TNMP had a business risk profile of excellent and a financial risk profile of intermediate. S&P summarized its ratings rationale and, among other things, noted the following with respect to TNMP's risk profile:

- TNMP is a low-risk rate-regulated transmission and distribution ("T&D") utility.
- TNMP demonstrates effective management of regulatory risk through the use of multiple riders.
- The Company's small size is mitigated by the stability of its customer base.
- "Moderate" weakening of the Company's financial measures due to elevated capital spending.

S&P's report also stated that the negative outlook for TNMP reflects expected weaker cash flow from its parent company PNM Resources, Inc. ("PNM"), due primarily to the effect of the recent revisions in the U.S. tax code as well as concerns

regarding outstanding prudence issues surrounding PNM's investments in its coal-fired Four Corners power station.

Moody's July 6, 2018 report on TNMP, which is an update to the report filed by TNMP, noted the following credit strengths:

- Low risk T&D utility in supportive regulatory jurisdiction.
- Strong customer and load growth.
- Commission approved mechanisms allow timely recovery of capital.

Credit challenges that Moody's mentioned were increased capital spending funded with debt, lower Commission-authorized ROEs and equity layers, the current rate case, and near term cash flow implication from the Tax Cuts and Jobs Act ("TCJA").

Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO TNMP'S FINANCIAL CONDITION AND OUTLOOK?

A. TNMP is a financially healthy, low-risk regulated utility company. Although Moody's and S&P mentioned implications from the TCJA, my view is that it is not a major concern for TNMP and was more of a concern for PNM Resources. S&P specifically noted that the credit concern related to TNMP's small size was mitigated by a stable customer base. Both agencies mentioned the credit supportive rate rider mechanisms put into place by the Commission.

III. DETERMINATION OF FAIR RATE OF RETURN

Q. PLEASE DESCRIBE THE METHODS YOU EMPLOYED IN ESTIMATING A FAIR RATE OF RETURN FOR TNMP.

A. I estimated the return on equity for the Company's regulated transmission and distribution operations using a DCF analysis for a proxy group of electric companies.

I also employed two CAPM analyses using both historical and forward-looking data. However, I did not directly incorporate the CAPM results in my recommendation.

Q. WHAT ARE THE MAIN GUIDELINES TO WHICH YOU ADHERE IN ESTIMATING THE COST OF EQUITY FOR A FIRM?

A. Generally speaking, the estimated cost of equity should be comparable to the returns of other firms with similar risk structures and should be sufficient for the firm to attract capital. These are the basic standards set out by the United States Supreme Court in *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) and *Bluefield W.W. & Improv. Co. v. Public Service Comm'n*, 262 U.S. 679 (1922).

From an economist's perspective, the notion of "opportunity cost" plays a vital role in estimating the return on equity. One measures the opportunity cost of an investment equal to what one would have obtained in the next best alternative. For example, let us suppose that an investor decides to purchase the stock of a publicly traded electric utility. That investor made the decision based on the expectation of dividend payments and perhaps some appreciation in the stock's value over time; however, that investor's opportunity cost is measured by what she or he could have invested in as the next best alternative. That alternative could have been another utility stock, a utility bond, a mutual fund, a money market fund, or any other number of investment vehicles.

The key determinant in deciding whether to invest, however, is based on comparative levels of risk. Our hypothetical investor would not invest in a particular electric company stock if it offered a return lower than other investments of similar risk. The opportunity cost simply would not justify such an investment. Thus, the task

for the rate-of-return analyst is to estimate a return that is equal to the return being offered by other risk-comparable firms.

Q. WHAT ARE THE MAJOR TYPES OF RISK FACED BY UTILITY COMPANIES?

A. In general, risk associated with the holding of common stock can be separated into three major categories: business risk, financial risk, and liquidity risk. Business risk refers to risks inherent in the operation of the business. Volatility of the firm's sales, long-term demand for its product(s), the amount of operating leverage, and quality of management are all factors that affect business risk. The quality of regulation at the state and federal levels also plays an important role in business risk for regulated utility companies.

Financial risk refers to the impact on a firm's future cash flows from the use of debt in the capital structure. Interest payments to bondholders represent a prior call on the firm's cash flows and must be met before income is available to the common shareholders. Additional debt means additional variability in the firm's earnings, leading to additional risk.

Liquidity risk refers to the ability of an investor to quickly sell an investment without a substantial price concession. The easier it is for an investor to sell an investment for cash, the lower the liquidity risk will be. Stock markets, such as the New York and American Stock Exchanges, help ease liquidity risk substantially. Investors who own stocks that are traded in these markets know on a daily basis what the market prices of their investments are and that they can sell these investments fairly quickly. Many electric utility stocks are traded on the New York Stock Exchange and are considered liquid investments.

Q. ARE THERE ANY INDICES AVAILABLE TO INVESTORS THAT QUANTIFY THE TOTAL RISK OF A COMPANY?

A. Bond and credit ratings are tools that investors use to assess the risk comparability of firms. Bond rating agencies such as Moody's and S&P perform detailed analyses of factors that contribute to the risk of a particular investment. The end result of their analyses is a bond rating that reflects these risks. This information can then be used to select a comparison group for use in the DCF model.

A. Discounted Cash Flow Model

Q. PLEASE DESCRIBE THE BASIC DCF APPROACH.

A. The basic DCF approach is rooted in valuation theory. It is based on the premise that the value of a financial asset is determined by its ability to generate future net cash flows. In the case of a common stock, those future cash flows take the form of dividends and appreciation in stock price. The value of the stock to investors is the discounted present value of future cash flows. The general equation then is:

$$\boldsymbol{V = \frac{R}{(1+r)} + \frac{R}{(1+r)^2} + \frac{R}{(1+r)^3} + \cdots \frac{R}{(1+r)^n}}$$

Where: *V = asset value*
R = yearly cash flows
r = discount rate

This is no different from determining the value of any asset from an economic point of view; however, the commonly employed DCF model makes certain simplifying assumptions. One is that the stream of income from the equity share is assumed to be perpetual; that is, there is no salvage or residual value at the end of some maturity date (as is the case with a bond). Another important assumption is that financial markets are reasonably efficient; that is, they correctly evaluate the cash flows

relative to the appropriate discount rate, thus rendering the stock price efficient relative to other alternatives. Finally, the model I employ also assumes a constant growth rate in dividends. The fundamental relationship employed in the DCF method is described by the formula:

$$k = {}^{D_1}/_{P_0} + g$$

Where: D_1 = *the next period dividend*
P_0 = *current stock price*
g = *expected growth rate*
k = *investor-required return*

Under the formula, it is apparent that "k" must reflect the investors' expected return. Use of the DCF method to determine an investor-required return is complicated by the need to express investors' expectations relative to dividends, earnings, and book value over an infinite time horizon. Financial theory suggests that stockholders purchase common stock on the assumption that there will be some change in the rate of dividend payments over time. We assume that the rate of growth in dividends is constant over the assumed time horizon, but the DCF model could easily handle varying growth rates if we knew what they were. Finally, the relevant time frame is prospective rather than retrospective.

Q. WHAT WAS YOUR FIRST STEP IN CONDUCTING YOUR DCF ANALYSIS FOR TNMP?

A. My first step was to construct a proxy group of electric companies. In this case, I chose to use the same proxy group of 22 companies used by Company witness Hevert. Mr. Hevert described his selection criteria on page 10 of his Direct Testimony. For purposes of this case, it is reasonable to proceed with the proxy group of companies shown by Mr. Hevert in Table 2, page 11, of his Direct Testimony. Using the same

proxy group as Mr. Hevert also facilities a direct comparison of our cost of equity results free from any differences in the selection of a proxy group, eliminating one area of possible disagreement between us.

Q. WHAT WAS YOUR FIRST STEP IN DETERMINING THE DCF RETURN ON EQUITY FOR THE PROXY GROUP OF COMPANIES?

A. I first determined the current dividend yield, D_0/P_0, from the basic equation. My general practice is to use six months as the most reasonable period over which to estimate the dividend yield.

Q. WHICH SIX-MONTH PERIOD DID YOU USE AND WHAT WERE THE RESULTS?

A. The six-month period I used covered the months from February through July 2018. I obtained historical prices and dividends from Yahoo! Finance. The annualized dividend divided by the average monthly price represents the average dividend yield for each month in the period.

The average dividend yield for the comparison group is 3.55%. These calculations are shown on Schedule RAB-1.

Q. HAS THE PROXY GROUP DIVIDEND YIELD CHANGED MUCH DURING THE SIX-MONTH PERIOD YOU EXAMINED?

A. Schedule RAB-1, page 4, shows that the February 2018 dividend yield for the group was 3.62%. As of July 2018 the proxy group yield was 3.40%, a decline of 22 basis points, or 0.22%.

Q. HAVING ESTABLISHED THE AVERAGE DIVIDEND YIELD, HOW DID YOU DETERMINE THE INVESTORS' EXPECTED GROWTH RATE FOR THE PROXY GROUP?

A. The investors' expected growth rate, in theory, correctly forecasts the constant rate of growth in dividends. The dividend growth rate is a function of earnings growth and the payout ratio, neither of which is known precisely for the future. We refer to a perpetual growth rate since the DCF model has no arbitrary cut-off point. We must estimate the investors' expected growth rate because there is no way to know with absolute certainty what investors expect the growth rate to be in the short term, much less in perpetuity.

For my analysis in this proceeding, I used three major sources of analysts' forecasts for growth. These sources are The Value Line Investment Survey ("Value Line"), Zacks, and Yahoo! Finance. This is the method I typically use for estimating growth for my DCF calculations.

Q. PLEASE BRIEFLY DESCRIBE VALUE LINE, ZACKS, AND YAHOO! FINANCE.

A. The Value Line Investment Survey is a widely used and respected source of investor information that covers approximately 1,700 companies in its Standard Edition and several thousand in its Plus Edition. It is updated quarterly and probably represents the most comprehensive of all investment information services. It provides both historical and forecasted information on a number of important data elements. Value Line neither participates in financial markets as a broker nor works for the utility industry in any capacity of which I am aware.

Zacks gathers opinions from a variety of analysts on earnings growth forecasts for numerous firms including regulated electric utilities. The estimates of the analysts responding are combined to produce consensus average estimates of earnings growth. I obtained Zacks' earnings growth forecasts from its website.

Like Zacks, Yahoo! Finance also compiles and reports consensus analysts' forecasts of earnings growth.

Q. WHY DID YOU RELY ON ANALYSTS' FORECASTS IN YOUR ANALYSIS?

A. Return on equity analysis is a forward-looking process. Five-year or ten-year historical growth rates may not accurately represent investor expectations for future dividend and earnings growth. Analysts' forecasts for earnings and dividend growth provide better proxies for the expected growth component in the DCF model than historical growth rates. Analysts' forecasts are also widely available to investors and one can reasonably assume that they influence investor expectations.

Q. HOW DID YOU UTILIZE YOUR DATA SOURCES TO ESTIMATE GROWTH RATES FOR THE COMPARISON GROUPS?

A. Schedule RAB-2 presents the Value Line, Zacks, and Yahoo! Finance forecasted growth estimates for the comparison group. These earnings and dividend growth estimates for the comparison group are summarized on Columns (1) through (4) of page 1 of Schedule RAB-2.

In my analysis I used dividend and earnings growth from Value Line and earnings growth from Zacks and Yahoo! Finance. It is important to include dividend growth forecasts in the DCF model since the model calls for forecasted cash flows. Value Line is the only source of which I am aware that forecasts dividend growth, and my approach gives this forecast equal weight with each of the three earnings growth forecasts.

Q. HOW DID YOU PROCEED TO DETERMINE THE DCF RETURN ON EQUITY FOR THE COMPARISON GROUP?

A. To estimate the expected dividend yield (D_1) for the group, the current dividend yield must be moved forward in time to account for dividend increases over the next twelve months. I estimated the expected dividend yield by multiplying the current dividend yield by one plus one-half the expected growth rate.

Page 2 of Schedule RAB-2 presents my standard method of calculating dividend yields, growth rates, and return on equity for the proxy group of companies. The DCF Return on Equity section shows the application of each of four growth rates I used in my analysis to the current group dividend yield of 3.55% to calculate the expected dividend yield. I then added the expected growth rates to the expected dividend yield. In evaluating investor expected growth rates, I use both the average (Method 1) and the median values (Method 2) to estimate the growth rates for the proxy group. The calculations of the resulting DCF returns on equity for both methods are presented on page 2 of Schedule RAB-2.

Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

A. For the average growth rates in Method 1, the results range from 8.63% to 9.06%, with the average of these results being 8.85%. Using the median growth rates in Method 2, the results range from 8.74% to 9.15%, with the average of these results being 9.02%.

B. Capital Asset Pricing Model

Q. BRIEFLY SUMMARIZE THE CAPITAL ASSET PRICING MODEL APPROACH.

A. The theory underlying the CAPM approach is that investors, through diversified portfolios, may combine assets to minimize the total risk of the portfolio. Diversification allows investors to diversify away all risks specific to a particular company and be left only with market risk that affects all companies. Thus, the CAPM theory identifies two types of risks for a security: company-specific risk and market risk. Company-specific risk includes such events as strikes, management errors, marketing failures, lawsuits, and other events that are unique to a particular firm. Market risk includes inflation, business cycles, war, variations in interest rates, and changes in consumer confidence. Market risk tends to affect all stocks and cannot be diversified away. The idea behind the CAPM is that diversified investors are rewarded with returns based on market risk.

Within the CAPM framework, the expected return on a security is equal to the risk-free rate of return plus a risk premium that is proportional to the security's market, or non-diversifiable, risk. Beta is the factor that reflects the inherent market risk of a security and measures the volatility of a particular security relative to the overall market for securities. For example, a stock with a beta of 1.0 indicates that if the market rises by 15%, that stock will also rise by 15%. This stock moves in tandem with movements in the overall market. Stocks with a beta of 0.5 will only rise or fall 50% as much as the overall market. So with an increase in the market of 15%, this stock will only rise 7.5%. Stocks with betas greater than 1.0 will rise and fall more than the overall market. Thus, beta is the measure of the relative risk of individual securities vis-à-vis the market.

Based on the foregoing discussion, the equation for determining the return for a security in the CAPM framework is:

$$K = Rf + \beta(MRP)$$

Where: K = *Required Return on equity*
Rf = *Risk-free rate*
MRP = *Market risk premium*
β = *Beta*

This equation tells us about the risk/return relationship posited by the CAPM. Investors are risk averse and will only accept higher risk if they expect to receive higher returns. These returns can be determined in relation to a stock's beta and the market risk premium. The general level of risk aversion in the economy determines the market risk premium. If the risk-free rate of return is 3.0% and the required return on the total market is 15%, then the risk premium is 12%. Any stock's required return can be determined by multiplying its beta by the market risk premium. Stocks with betas greater than 1.0 are considered riskier than the overall market and will have higher required returns. Conversely, stocks with betas less than 1.0 will have required returns lower than the market as a whole.

Q. ARE THERE CONCERNS REGARDING THE USE OF THE CAPM IN ESTIMATING THE RETURN ON EQUITY?

A. Yes. There is some controversy surrounding the use of the CAPM.[7] There is evidence that beta is not the primary factor in determining the risk of a security. For example, Value Line's "Safety Rank" is a measure of total risk, not its calculated beta coefficient. Beta coefficients usually describe only a small amount of total investment risk.

There is also substantial judgment involved in estimating the required market return. In theory, the CAPM requires an estimate of the return on the total market for investments, including stocks, bonds, real estate, etc. It is nearly impossible for the

[7] For a more complete discussion of some of the controversy surrounding the use of the CAPM, refer to *A Random Walk Down Wall Street* by Burton Malkiel, 206-211, 2007 edition.

analyst to estimate such a broad-based return. Often in utility cases, a market return is estimated using the S&P 500 or the return on Value Line's stock market composite. However, these are limited sources of information with respect to estimating the investor's required return for all investments. In practice, the total market return estimate faces significant limitations to its estimation and, ultimately, its usefulness in quantifying the investor required ROE.

In the final analysis, a considerable amount of judgment must be employed in determining the risk-free rate and market return portions of the CAPM equation. The analyst's application of judgment can significantly influence the results obtained from the CAPM. My past experience with the CAPM indicates that it is prudent to use a wide variety of data in estimating investor-required returns. Of course, the range of results may also be wide, indicating the difficulty in obtaining a reliable estimate from the CAPM.

Q. HOW DID YOU ESTIMATE THE MARKET RETURN PORTION OF THE CAPM ANALYSIS FOR TNMP?

A. The first source I used was the Value Line Investment Analyzer, Plus Edition, for July 10, 2018. This edition covers several thousand stocks. The Value Line Investment Analyzer provides a summary statistical report detailing, among other things, forecasted growth rates for earnings and book value for the companies Value Line follows as well as the projected total annual return over the next three to five years. I present these growth rates and Value Line's projected annual return on page 2 of Schedule RAB-3. I included median earnings and book value growth rates. The estimated market returns using Value Line's market data were 11.0%.

Q. WHY DID YOU USE MEDIAN GROWTH RATE ESTIMATES RATHER THAN THE AVERAGE GROWTH RATE ESTIMATES FOR THE VALUE LINE COMPANIES?

A. Using median growth rates is likely a more accurate method of estimating the central tendency of Value Line's large data set compared to the average growth rates. Average earnings and book value growth rates may be unduly influenced by very high or very low three to five year growth rates that are unsustainable in the long run. For example, Value Line's Statistical Summary shows both the highest and lowest value for earnings and book value growth forecasts. For earnings growth, Value Line showed the highest earnings growth forecast to be 94.5% and the lowest growth rate to be -31%. The highest book value growth rate was 85.5% and the lowest was a -26%. None of these levels of growth is compatible with long-run growth prospects for the market as a whole. The median growth rate is not influenced by such extremes because it represents the middle value of a very wide range of earnings growth rates.

Q. PLEASE CONTINUE WITH YOUR MARKET RETURN ANALYSIS.

A. I also considered a supplemental check to the Value Line projected market return estimates. Duff & Phelps publishes a study of historical returns on the stock market in its *2018 SBBI Yearbook*. Some analysts employ this historical data to estimate the market risk premium of stocks over the risk-free rate. The assumption is that a risk premium calculated over a long period of time is reflective of investor expectations going forward. Schedule RAB-4 presents the calculation of the market returns using the historical data.

Q. PLEASE EXPLAIN HOW THIS HISTORICAL RISK PREMIUM IS CALCULATED.

A. Schedule RAB-4 shows both the geometric and arithmetic average of yearly historical stock market returns over the historical period from 1926 – 2017. The average annual income return for long-term Treasury Bond is subtracted from these historical stocks returns to obtain the historical market risk premium. The historical market risk premium range is 5.2% – 7.1%.

Q. DID YOU ADD AN ADDITIONAL MEASURE OF THE HISTORICAL RISK PREMIUM IN THIS CASE?

A. Yes. Duff & Phelps reported the results of a study by Dr. Roger Ibbotson and Dr. Peng Chen indicating that the historical risk premium of stock returns over long-term government bond returns has been significantly influenced upward by substantial growth in the price/earnings ("P/E") ratio for stocks from 1980 through 2001.[8] Duff & Phelps noted that this growth in the P/E ratio for stocks was subtracted out of the historical risk premium because "it is not believed that P/E will continue to increase in the future." The adjusted historical arithmetic market risk premium is 6.04%, which I have also included in Schedule RAB-4. This risk premium estimate falls near the middle of the market risk premium range shown on Schedule RAB-4.

Q. HOW DID YOU DETERMINE THE RISK FREE RATE?

A. I used the average yields on the 30-year Treasury Bond and 5-year Treasury note over the six-month period from February through July 2018. This was the latest available data from the Federal Reserve's Selected Interest Rates (Daily) H.15 website during the preparation of my Direct Testimony. The 30-year Treasury Bond is often used by

[8] Roger G. Ibbotson, *2018 SBBI Yearbook*, Duff & Phelps, 10-28 (2018).

rate of return analysts as the risk-free rate, but it contains a significant amount of interest rate risk. The 5-year Treasury note carries less interest rate risk than the 30-year bond and is more stable than 3-month Treasury bills. Therefore, I have employed both of these securities as proxies for the risk-free rate of return. This approach provides a reasonable range over which the CAPM return on equity may be estimated.

Q. HOW DID YOU DETERMINE THE VALUE FOR BETA?

A. I obtained the betas for the companies in the proxy group from most recent Value Line reports. The average of the Value Line betas for the comparison group is 0.69.

Q. PLEASE SUMMARIZE THE CAPM RESULTS.

A. For my forward-looking CAPM return on equity estimates, the CAPM results are 8.40% – 8.52%. Using historical risk premiums, the CAPM results are 6.65% – 7.95%.

C. Conclusions and Recommendations

Q. PLEASE SUMMARIZE THE COST OF EQUITY RESULTS FROM YOUR DCF AND CAPM ANALYSES.

A. Table 2 below summarizes the cost of equity estimates I developed using the DCF model and the CAPM.

TABLE 2
SUMMARY OF ROE ESTIMATES

Baudino DCF Methodology:	
Average Growth Rates	
- High	9.06%
- Low	8.63%
- Average	8.85%
Median Growth Rates:	
- High	9.15%
- Low	8.74%
- Average	9.02%
CAPM:	
- 5-Year Treasury Bond	8.40%
- 20-Year Treasury Bond	8.52%
- Historical Returns	6.65% - 7.95%

Q. WHAT IS YOUR RECOMMENDED RETURN ON EQUITY FOR TNMP IN THIS PROCEEDING?

A. My recommended ROE for TNMP is 9.1%. My recommendation is consistent with the upper end of the range of my DCF results.

Q. PLEASE EXPLAIN IN MORE DETAIL WHY YOUR 9.1% ROE RECOMMENDATION IS REASONABLE.

A. TNMP's position as a regulated transmission and distribution-only public utility shows that the Company is a low-risk provider of electric service. TNMP does not own and operate generation facilities and, therefore, has none of the attendant risks of generation that vertically integrated electric utilities have. The credit rating agency reports I cited in section II mentioned TNMP's excellent business risk position. My recommended ROE is a fair estimate of the investor required rate of return on equity for TNMP.

Q. TNMP WITNESS MS. ELISABETH EDEN PROPOSED A 50% EQUITY AND 50% DEBT CAPITAL STRUCTURE IN THIS PROCEEDING. SHOULD THE COMMISSION ADOPT TNMP'S PROPOSED CAPITAL STRUCTURE?

A. No. I recommend that the Commission adopt a capital structure for TNMP that contains a common equity ratio of no more that 45%.

Q. PLEASE EXPLAIN WHY THE COMMISSION SHOULD APPROVE AN EQUITY RATIO THAT DOES NOT EXCEED 45%.

A. On page 4 of her Direct Testimony, Ms. Eden explained that TNMP has "progressively strengthened its financial condition and standing in the financial market." This strengthening included the current allowed ratemaking capital structure for TNMP comprising a common equity ratio of 45%. The 45% ratemaking equity ratio helped to support TNMP's currently strong credit ratings, which I discussed earlier in my testimony in section II, as well as fund system investments that Ms. Eden discussed in her Direct Testimony on page 4. Given TNMP's current ratings and financial situation, I do not recommend that the Commission approve an increase in the equity ratio to 50%.

Instead I recommend that the Commission adopt TNMP's currently approved ratemaking capital structure that includes a 45% common equity ratio. Cities witness Mr. Lane Kollen further addresses the debt ratio and cost of short-term and long-term debt in his Direct Testimony.

Q. BOTH MS. ELLEN LAPSON AND MR. HEVERT DISCUSSED THE EFFECT OF THE TCJA ON THE FINANCIAL METRICS OF UTILITIES GENERALLY. MS. LAPSON ALSO PROVIDED THE COMMISSION WITH FINANCIAL ANALYSES IN TABLE 7 ON PAGE 23 OF HER DIRECT

TESTIMONY. PLEASE RESPOND TO THEIR CONCERNS REGARDING THE POTENTIAL IMPACT ON TNMP CREDIT METRICS FROM THE TCJA.

A. As a general matter, I acknowledge that the TCJA will cause a decline in the credit metrics of regulated utility companies primarily due to the reduction of cash coverages from the cut in the corporate income tax rate to 21%. However, whether this will necessarily result in a credit rating downgrade from S&P, Moody's, and Fitch is unclear. Ms. Lapson focused on the standard credit metrics used by Moody's and S&P in her Direct Testimony. Nevertheless, these quantitative metrics are only part of the story in terms of TNMP's credit profile. Credit rating agencies consider a wide range of qualitative measures as well, which are combined in S&P's business risk profile, for example. Although TNMP's credit metrics will be moderately affected by the TCJA, it is important to note that the Company's low business risk profile was cited as a credit strength by both Moody's and Standard and Poor's. In addition, the rate mechanisms that have been approved by the Commission for TNMP further reduce its risk and add financial stability to the Company and were also cited as credit positives by Moody's and S&P.

In my opinion, it is speculative to conclude that TNMP could face a credit downgrade due to the impacts of the TCJA. The Company's low risk business position will also be considered by the rating agencies as well.

Q. YOU NOTED IN SECTION II OF YOUR TESTIMONY THAT TNMP HAD A NEGATIVE CREDIT OUTLOOK FROM S&P. PLEASE PROVIDE MORE INFORMATION REGARDING THE REASONS FOR S&P'S NEGATIVE OUTLOOK FOR THE COMPANY.

A. Regarding the negative outlook for TNMP, S&P stated the following in its May 4, 2018 report that I referred to in section II of my Direct Testimony:

> The negative outlook reflects S&P Global Ratings' expectations that Texas-New Mexico Power Co.'s (TNMP) parent, PNM Resources Inc. (PNMR), will have weaker cash flows largely stemming from the effects of the revised U.S. corporate tax code. In addition, the negative outlook takes into account the unresolved prudence issue related to PSNM's continued investments in its coalfired Four Corners power plant, potentially resulting in regulatory headwinds that could challenge the company's ability to consistently manage regulatory risk in New Mexico.
>
> We could lower the rating on TNMP if we lower the ratings on parent PNMR.

My understanding of this language is that TNMP carries a negative credit outlook that is primarily due to concerns with its parent PNM Resources.

Q. EXHIBIT EL-6-A CONTAINED A REPORT BY MOODY'S ENTITLED "TAX REFORM IS CREDIT NEGATIVE FOR SECTOR, BUT IMPACT VARIES BY COMPANY" AND DATED JANUARY 24, 2018. WAS PNM RESOURCES OR TNMP INCLUDED IN MOODY'S DISCUSSION OF UTILITIES THAT WERE WEAKENED BY TAX REFORM?

A. No. Exhibit 1 of this Moody's report listed holding companies, vertically integrated utilities, local distribution companies, transmission and distribution companies, and water companies with weakened or weakening financial profiles due to tax reform. Neither PNM Resources nor TNMP was included in Exhibit 1.

Q. HOW MUCH WOULD MR. HEVERT'S RECOMMENDED ROE AND CAPITAL STRUCTURE COST TNMP'S RATEPAYERS PER YEAR?

A. Based on my recommended 45% common equity ratio and 9.1% ROE, Mr. Hevert's recommended ROE and capital structure would cost ratepayers an additional $9.33 million per year.

IV. RESPONSE TO TNMP ROE TESTIMONY

Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY OF MR. ROBERT HEVERT?

A. Yes.

Q. PLEASE SUMMARIZE MR. HEVERT'S TESTIMONY AND APPROACH TO RETURN ON EQUITY.

A. Mr. Hevert employed four methods to estimate the investor required rate of return for TNMP: (1) the constant growth DCF model, (2) a multi-stage DCF model, (3) the CAPM, and (4) the bond yield plus risk premium model.

For his constant growth DCF approach, he used Value Line, First Call, and Zacks for the investor expected growth rate. For the proxy group, Mr. Hevert's mean growth rate ROE results ranged from 8.66% to 8.83%.

Regarding his multi-stage DCF analysis, Mr. Hevert's model is comprised of three distinct stages with assumptions regarding growth rates and payout ratio changes. Mr. Hevert used a forecast of growth in nominal Gross Domestic Product ("GDP") for his long-term growth rate. The results for this method using the mean growth rate for the proxy group ranged from 9.01% to 9.18%.

With respect to the CAPM, Mr. Hevert utilized a current and projected yield on the 30-Year Treasury Bond for his risk-free rate. Using the current Treasury Bond

yield of 3.07%, his CAPM results ranged from 10.07% to 11.80%. Using the near-term projected Treasury yield, his CAPM results ranged from 10.52% to 12.25%.

Finally, Mr. Hevert's formulation of the bond yield plus risk premium approach resulted in a ROE range of 9.96% – 10.24%.

Based on the results of his analyses and judgment, Mr. Hevert recommended a ROE range for TNMP of 10.25% to 10.75%, concluding that the cost of equity is 10.50%.

Q. BEFORE YOU PROCEED TO THE PARTICULARS OF YOUR REVIEW OF MR. HEVERT'S TESTIMONY, WHAT IS YOUR OVERALL CONCLUSION WITH RESPECT TO MR. HEVERT'S RECOMMENDED ROE RANGE?

A. Mr. Hevert's recommended ROE range of 10.25% – 10.75% fails to reflect the full range of results from his analyses. His DCF results, which are fairly consistent with mine, were completely excluded from his range of recommendations. This means that Mr. Hevert rejected the results from two of his four ROE methodologies, choosing instead to mainly rely on the results from the CAPM. To put this another way, consider the following:

- Mr. Hevert rejected the results from the constant growth DCF in total.
- Mr. Hevert rejected the results from his multi-stage DCF model in total.
- Mr. Hevert rejected two of the three bond yield plus risk premium results (9.96% – 10.04%).

Mr. Hevert also apparently rejected the CAPM results that used the average Value Line beta, which ranged from 11.40% – 12.25%. Indeed, these results are inordinately high and should be rejected out of hand.

What we are left with, then, is the CAPM results from the average Bloomberg beta (10.41% – 10.86%) and the bond yield plus risk premium result of 10.24% using

a forecasted Treasury Bond yield to approximate Mr. Hevert's recommended range of 10.25% – 10.75%. Although Mr. Hevert presented four different approaches to ROE analysis, he primarily relied on the results of one method, the CAPM.

Q. IS IT APPROPRIATE FOR MR. HEVERT TO TOTALLY REJECT THE RESULTS FROM HIS DCF ANALYSES?

A. No. It is incorrect for Mr. Hevert to exclude the results of the DCF model in his recommended ROE for TNMP.

The constant growth DCF model utilizes public, verifiable information with respect to investor return requirements for electric utilities. Current stock prices are the best indicators we have of investor expectations and analysts' earnings and dividend growth forecasts may reasonably be assumed to influence investors' required ROEs. Simply discarding this important publicly available information, as Mr. Hevert has done, serves to overstate his recommended investor required return for a low-risk transmission and distribution utility like TNMP. The DCF model currently shows that investor required returns are lower for utility stocks given their safety and security relative to the stock market as a whole.

Q. ON PAGE 17 OF HIS DIRECT TESTIMONY, MR. HEVERT DESCRIBED SEVERAL DCF MODEL ASSUMPTIONS THAT HE CLAIMED "ARE NOT CONSISTENT WITH CURRENT MARKET CONDITIONS". PLEASE SUMMARIZE THE ASSUMPTIONS ADDRESSED BY MR. HEVERT.

A. Mr. Hevert addressed the following assumptions:

- A constant payout ratio.
- A constant price/earnings ("P/E") ratio.
- Constant required return on equity.

Q. DID MR. HEVERT PROVIDE SUFFICIENT BASIS FOR THE COMMISSION TO QUESTION THE DCF RESULTS?

A. No, he did not. Before I proceed to a more detailed response to Mr. Hevert's criticisms of the DCF model's assumptions, it is important to realize that none of the models Mr. Hevert and I use to estimate the investor required ROE strictly adhere to their underlying assumptions 100% of the time. The DCF, CAPM, and risk premium models all operate with certain simplifying assumptions. Earlier in my testimony I pointed out the limitations of the CAPM that must be considered in assessing its effectiveness relative to the DCF model. One of those limitations is estimating the market required rate of return. Estimating the market required rate of return requires considerable judgment on the part of the analyst, judgment that may result in a wide range of possible returns. And in fact, Mr. Hevert and I used very different estimates of the market required rate of return that caused our CAPM results to differ considerably. I will address the problems with Mr. Hevert's CAPM later in my testimony.

I suggest that the Commission keep in mind that no ROE estimation model strictly adheres to its underlying assumptions all of the time.

Q. PLEASE CONTINUE WITH YOUR RESPONSE TO MR. HEVERT'S CRITICISM OF THE DCF MODEL'S ASSUMPTIONS.

A. With respect to the assumption of a constant payout ratio, simply because the industry's payout ratio may be above or below the long-term average payout ratio does not mean that the DCF results are questionable and should be thrown out completely. This is also the case with respect to the industry's P/E ratio and the assumption of a constant expected future return. As I have stated previously in my testimony, capital markets are efficient and can be assumed to reflect investor preferences in the prices they are

willing and able to pay for a regulated utility's common stock. This includes publicly available information to which investors have access including payout and P/E ratios. That stock price, then, is reflective of the discounted future cash flows to the investor in the form of dividends as well as the expected price of the stock when it is sold. It does not make sense for a rational investor to expect a capital loss in the future based on the price that investor pays today. What this means is that it is reasonable to assume that current stock prices and the resulting P/E ratios are reflective of investors' required ROE and that the DCF model can provide valid information to the Commission in its determination of the allowed ROE for TNMP. Payout ratios will also vary around their long-term historical averages based on current market conditions, but this by no means invalidates the DCF model results.

Q. ON PAGE 18, LINES 5 THROUGH 9 OF HIS TESTIMONY MR. HEVERT TESTIFIED THAT SINCE 1980 ONLY SEVEN UTILITY RATE CASES INCLUDED AN AUTHORIZED ROE OF LESS THAN 9.0%. PLEASE RESPOND TO MR. HEVERT'S TESTIMONY ON THIS POINT.

A. Including rate cases since 1980 is, quite frankly, an irrelevant exercise. In the 1980s and 1990s interest rates and allowed ROEs were far higher than they have been in the last few years. Consider the following information I developed using the information in Mr. Hevert's Exhibit RBH-6:

- From 1980 through 1989, the average awarded ROE was 14.80% and the average 30-Year Treasury Bond yield was 11.35%.
- From 1990 through 1999, the average awarded ROE was 11.91% and the average 30-Year Treasury Bond yield was 7.51%.
- From 2000 through 2009, the average awarded ROE was 10.62% and the average 30-Year Treasury Bond yield was 4.81%.

These averages give a general picture of the interest rate and ROE levels from the 1980s, 1990s, and 2000s and represent 1,218 of the 1,553 observations in Mr. Hevert's data set. They are in no way indicative of investor required returns today, especially given how much higher interest rates were during those periods. Since January 2016, the average awarded ROE was 9.64% which, if anything, shows how overstated Mr. Hevert's ROE recommendation is in today's environment.

Q. BEGINNING ON PAGE 30 OF HIS DIRECT TESTIMONY MR. HEVERT PRESENTED A DISCUSSION OF BUSINESS RISKS AND OTHER CONSIDERATIONS THAT INFORMED HIS JUDGMENT REGARDING HIS RECOMMENDED ROE RANGE. PLEASE SUMMARIZE YOUR UNDERSTANDING OF THESE CONSIDERATIONS.

A. Beginning on page 30 of his Direct Testimony, Mr. Hevert presented the risks and other considerations that he believes should be taken into account in setting the allowed cost of equity for TNMP. These considerations include:

- TNMP's planned capital expenditure program.
- TNMP's small size relative to its peer companies.
- TNMP's regulatory environment.
- Implications of recent tax reform legislation.

Q. MR. BAUDINO, WERE THESE RISKS CONSIDERED BY THE CREDIT RATING AGENCIES IN THE REPORTS ON TNMP THAT YOU REVIEWED?

A. Based on my reading of the credit reports, I believe they were. Moody's and S&P mentioned these risks in various places in the reports I reviewed. After assessing these risks, as well as the important credit strengths possessed by TNMP, Moody's and S&P assigned credit ratings to TNMP that were consistent with the proxy group that

Mr. Hevert and I both used to estimate the investor required ROE in this case. Stated another way, TNMP's overall risk profile and credit rating does not differ significantly from the proxy group and, therefore, no additional risk premium for TNMP relative to the proxy group is justified.

Q. MR. HEVERT PRESENTED AN 87 BASIS POINT SMALL SIZE PREMIUM FOR TNMP ON PAGE OF HIS 37 DIRECT TESTIMONY. SHOULD THE COMMISSION CONSIDER A SIZE PREMIUM FOR TNMP IN ITS DETERMINATION OF ROE IN THIS PROCEEDING?

A. No, definitely not. The data that the Mr. Hevert relied on to quantify this adjustment came from the *2018 SBBI Valuation Yearbook*. The group of companies from which Mr. Hevert calculated this significant upward adjustment contains many smaller unregulated companies. Mr. Hevert thus assumes, without foundation, that a return premium for higher risk unregulated companies would apply to TNMP. Given the fact that the Company engages in low-risk T&D operations, it is incorrect to assume that TNMP would be as risky a group of unregulated companies simply on the basis of its size. Moreover, the S&P report I cited in section II of my Direct Testimony stated that TNMP's small size was offset by the stability of its customer base. Mr. Hevert's small size premium should be rejected.

Q. CONSIDERING THE FOREGOING DISCUSSION, PLEASE SUMMARIZE YOUR CONCLUSIONS WITH RESPECT TO MR. HEVERT'S RECOMMENDED ROE RANGE AND ROE FOR TNMP.

A. I strongly recommend that the Commission reject Mr. Hevert's recommended ROE range and his recommended ROE of 10.5%. Mr. Hevert's ROE range omits important information from the DCF model and, as a result, greatly overstates the investor

required ROE for a low-risk regulated transmission and distribution company like TNMP.

A. CAPM

Q. BRIEFLY SUMMARIZE THE MAIN ELEMENTS OF MR. HEVERT'S CAPM APPROACH.

A. On page 25 of his Direct Testimony, Mr. Hevert testified that he used two different measures of the risk-free interest rate: the current 30-day average yield on the 30-year Treasury Bond (3.07%) and a projected 30-year Treasury Bond yield (3.52%). Mr. Hevert did not consider any shorter maturity bonds, such as the 5-year Treasury note.

Mr. Hevert then calculated *ex-ante* measures of total market returns using data from Bloomberg and Value Line. Total market returns from these two sources were 15.16% using Bloomberg data and a 15.75% return using Value Line data.

Mr. Hevert used two different estimates for beta from Bloomberg and Value Line.

Q. IS IT APPROPRIATE TO USE FORECASTED OR PROJECTED BOND YIELDS IN THE CAPM?

A. Definitely not. Current interest rates and bond yields embody all of the relevant market data and expectations of investors, including expectations of changing future interest rates. The forecasted bond yield used by Mr. Hevert is speculative at best and may never come to pass. Current interest rates provide tangible and verifiable market evidence of investor return requirements today, and these are the interest rates and bond yields that should be used in both the CAPM and in the bond yield plus risk premium

analyses. To the extent that investors give forecasted interest rates any weight at all, they are already incorporated in current securities prices.

Q. YOU NOTED EARLIER THAT MR. HEVERT USED A FORECASTED 30-YEAR TREASURY BOND YIELD OF 3.52%, WHILE THE CURRENT YIELD WAS 3.07%. WHAT DOES THIS SUGGEST WITH RESPECT TO INVESTORS CURRENTLY HOLDING 30-YEAR TREASURY BONDS?

A. It suggests that investors today are expecting to incur huge losses in the value of their investments in long-term Treasury Bonds, which makes no economic sense whatsoever.

The price of a bond moves in the opposite direction of its yield. In other words, given a certain current bond coupon and price, if the required yield on that bond increases then the price of the bond goes down. Alternatively, if the required yield declines then the price of the bond increases. This relationship can be illustrated with the following simplified example. Assume a current 30-year Treasury Bond has a coupon of $3.00 and a price of $100, resulting in a current yield of 3.00%. This is the approximate current yield for 30-year Treasury Bonds in the market at the time I prepared my Direct Testimony. If interest rates were to rise in the economy such that the required yield on the 30-year Treasury Bond increased to 3.50%, then the price of our existing 30-year Treasury Bond would fall to $85.71 from $100, given the coupon of $3.00. This represents a loss to our current bond investor of 14.30%.

The point here is that if investors were certain that there would soon be a substantial increase in interest rates, the rational response would be to immediately discount what they were willing to pay currently for the 30-year Treasury Bond rather than pay $100 and suffer certain significant losses to the value of their bonds. The fact

that the 30-Year Treasury Bond is currently yielding about 3.00% suggests that investors do not expect Treasury Bonds yields to drastically increase and, as a result, cause dramatic losses in their investments.

Q. SHOULD MR. HEVERT HAVE CONSIDERED SHORTER-TERM TREASURY YIELDS IN HIS CAPM ANALYSES?

A. Yes. In theory, the risk-free rate should have no interest rate risk. 30-year Treasury Bonds do tend to face this risk, which is the risk that interest rates could rise in the future and lead to a capital loss for the bondholder. Typically, the longer the duration of the bond, the greater the interest rate risk. The 5-year Treasury note has much less interest rate risk than the 30-year Treasury Bond and may be considered one reasonable proxy for a risk-free security.

Q. PLEASE COMMENT ON MR. HEVERT'S USE OF BLOOMBERG AND VALUE LINE EARNINGS GROWTH ESTIMATES FOR THE S&P 500.

A. Mr. Hevert used earnings growth estimates from these two sources to estimate the expected market return for his CAPM. According to the data contained in Exhibit RBH-5, the average Value Line growth rate is 11.35% and the average Bloomberg growth rate is 11.88%. These are by no means long-run sustainable growth rates. They are well over double the long-term GDP forecast of 5.44% that Mr. Hevert used in his multi-stage DCF analysis. If forecasted GDP growth is used as the long-term growth rate for the S&P 500, then both Mr. Hevert's and my own market return estimates would fall significantly.

Q. HOW DO MR. HEVERT'S ESTIMATES OF THE OVERALL MARKET RETURN COMPARE TO YOURS?

A. My estimates of the market required return are as follows:

- Value Line 3-5 Year Total Return: 11.0%.
- Value Line Growth Rates: 11.0%.
- S&P Average Historical Returns: 10.2% - 12.1%.

Mr. Hevert's market returns of 15.16% – 15.75% are extraordinarily high compared to historical norms. I recommend that the Commission give Mr. Hevert's estimated market returns no weight in this proceeding.

B. Multi-stage DCF Model

Q. PLEASE SUMMARIZE THE COMPONENTS OF MR. HEVERT'S MULTI-STAGE DCF MODEL.

A. Mr. Hevert described the structure and the inputs for his multi-stage DCF model on pages 20 through 23 of his Direct Testimony. The main elements of Mr. Hevert's multi-stage DCF analyses are as follows:

- 30, 90, and 180 average stock prices.
- First stage of growth based on the average earnings growth rates from Value Line, Zacks, and First Call.
- A transition period from near-term to long-term growth.
- Long-term growth estimated using GDP growth based on historical real GDP growth from 1929 through 2017 (3.21%) and a forecasted inflation rate (2.16%). The total nominal GDP growth rate was 5.44%.
- Expected dividend in the final year divided by solved cost of equity less long-term growth rate.
- Payout ratio assumptions based on Value Line for the first stage, a transition period, and a long-term expected payout ratio.

Q. AS A PRACTICAL MATTER, IS IT LIKELY THAT INVESTORS WOULD USE THE MULTI-STAGE MODEL PRESENTED BY MR. HEVERT?

A. No. In my opinion, it is highly unlikely that investors would employ the complicated structure and set of assumptions used by Mr. Hevert. Mr. Hevert presented no evidence whatsoever that investors use such a model in forming their required return for T&D

utilities like TNMP. He presented no evidence that investors use GDP growth in their evaluation of expected growth in dividends and earnings for electric utility companies. Neither did he show that investors utilize his assumptions regarding the transition period or payout ratio forecasts.

Q. IN YOUR OPINION, DID MR. HEVERT OVERSTATE EXPECTED GDP GROWTH?

A. Yes. There are two publicly available forecasts of GDP growth that have been relied upon by the Federal Energy Regulatory Commission ("FERC") in the determination of the second stage of the two-stage growth rate in its DCF return on equity formula. These forecasts come from the Energy Information Administration ("EIA"), and the Social Security Administration ("SSA") Trustees Report.[9] The latest EIA GDP forecast shows expected growth in nominal GDP of 4.39%. The SSA Report forecasts nominal growth in GDP of 4.38%. I included the calculation of these two GDP growth rates on Schedule RAB-5. My calculations are based on my understanding of how the FERC Staff used the data contained in the EIA and SSA documents to calculate long-term GDP growth for the second stage of its two-stage DCF model.

These independent sources are forecasting nominal GDP growth to be substantially lower than the forecast used by Mr. Hevert (4.38% vs. Mr. Hevert's forecast of 5.44%). In conclusion, Mr. Hevert's GDP forecast contributes to a significant overstatement of his multi-stage DCF results.

[9] Please see the U.S. Energy Information Administration, *Annual Energy Outlook 2018* and Social Security Administration, *The 2018 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, Table VI.G6.—Selected Economic Variables, Calendar Years 2017-2095 [GDP and taxable payroll in billions].

C. Risk Premium

Q. PLEASE SUMMARIZE MR. HEVERT'S RISK PREMIUM APPROACH.

A. Mr. Hevert developed a historical risk premium using Commission-allowed returns for regulated electric utility companies and 30-year Treasury Bond yields from January 1980 through April 30, 2018. He used regression analysis to estimate the value of the inverse relationship between interest rates and risk premiums during that period. Applying the regression coefficients to the average risk premium and using the projected 30-year Treasury Bond yields I discussed earlier, Mr. Hevert's risk premium ROE estimate range is 9.96% – 10.24%.

Q. PLEASE RESPOND TO MR. HEVERT'S RISK PREMIUM ANALYSIS.

A. First, the bond yield plus risk premium approach is imprecise and can only provide very general guidance on the current authorized ROE for a regulated electric utility company. Risk premiums can change substantially over time. As such, this approach is a "blunt instrument," if you will, for estimating the ROE in regulated proceedings. In my view, a properly formulated DCF model using current stock prices and growth forecasts is far more reliable and accurate than the bond yield plus risk premium approach, which relies on a historical risk premium analysis over a certain period of time.

Second, I recommend that the Commission reject the use of the forecasted 30-year Treasury Bond yield for the same reasons I described in my response to Mr. Hevert's CAPM approach.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-five years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Climax Molybdenum Company
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

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of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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Date	Case	Jurisdict.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T	WV	West Virginia Energy Users Group	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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Date	Case	Jurisdict.	Party	Utility	Subject
03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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Date	Case	Jurisdict.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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Date	Case	Jurisdict.	Party	Utility	Subject
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power	Texas-New Mexico Power	Return on equity, capital structure

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
ALLETE	High Price ($)	72.550	72.800	77.450	79.860	78.620	80.780
	Low Price ($)	66.640	67.070	70.400	73.760	70.460	75.850
	Avg. Price ($)	69.595	69.935	73.925	76.810	74.540	78.315
	Dividend ($)	0.560	0.560	0.560	0.560	0.560	0.560
	Mo. Avg. Div.	3.22%	3.20%	3.03%	2.92%	3.01%	2.86%
	6 mos. Avg.	3.04%					
Alliant Energy	High Price ($)	39.900	41.040	43.270	43.470	42.780	43.950
	Low Price ($)	36.840	37.850	40.340	40.110	38.220	41.410
	Avg. Price ($)	38.370	39.445	41.805	41.790	40.500	42.680
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.49%	3.40%	3.21%	3.21%	3.31%	3.14%
	6 mos. Avg.	3.29%					
Ameren Corp.	High Price ($)	56.850	56.790	58.950	59.790	61.250	62.410
	Low Price ($)	51.890	53.080	55.010	55.720	55.210	59.150
	Avg. Price ($)	54.370	54.935	56.980	57.755	58.230	60.780
	Dividend ($)	0.458	0.458	0.458	0.458	0.458	0.458
	Mo. Avg. Div.	3.37%	3.33%	3.22%	3.17%	3.15%	3.01%
	6 mos. Avg.	3.21%					
American Electric Power	High Price ($)	68.980	69.240	70.980	69.990	70.300	71.890
	Low Price ($)	63.320	64.600	66.460	64.460	62.710	68.130
	Avg. Price ($)	66.150	66.920	68.720	67.225	66.505	70.010
	Dividend ($)	0.620	0.620	0.620	0.620	0.620	0.620
	Mo. Avg. Div.	3.75%	3.71%	3.61%	3.69%	3.73%	3.54%
	6 mos. Avg.	3.67%					
Black Hills Corp.	High Price ($)	55.750	54.620	57.280	59.490	61.650	64.140
	Low Price ($)	50.650	50.490	52.630	55.530	55.070	59.010
	Avg. Price ($)	53.200	52.555	54.955	57.510	58.360	61.575
	Dividend ($)	0.475	0.475	0.475	0.475	0.475	0.475
	Mo. Avg. Div.	3.57%	3.62%	3.46%	3.30%	3.26%	3.09%
	6 mos. Avg.	3.38%					
CenterPoint Energy, Inc.	High Price ($)	28.320	27.590	27.540	27.080	28.000	28.540
	Low Price ($)	25.840	26.400	24.810	24.990	25.100	26.550
	Avg. Price ($)	27.080	26.995	26.175	26.035	26.550	27.545
	Dividend ($)	0.278	0.278	0.278	0.278	0.278	0.278
	Mo. Avg. Div.	4.10%	4.11%	4.24%	4.26%	4.18%	4.03%
	6 mos. Avg.	4.15%					

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
CMS Energy Corp.	High Price ($)	44.980	45.580	47.480	47.200	47.580	48.680
	Low Price ($)	40.480	41.980	43.790	43.720	42.520	46.250
	Avg. Price ($)	42.730	43.780	45.635	45.460	45.050	47.465
	Dividend ($)	0.358	0.358	0.358	0.358	0.358	0.358
	Mo. Avg. Div.	3.35%	3.27%	3.13%	3.15%	3.17%	3.01%
	6 mos. Avg.	3.18%					
Consolidated Edison, Inc.	High Price ($)	80.650	78.400	80.820	80.240	78.910	79.660
	Low Price ($)	74.570	73.730	76.070	73.350	71.120	75.930
	Avg. Price ($)	77.610	76.065	78.445	76.795	75.015	77.795
	Dividend ($)	0.715	0.715	0.715	0.715	0.715	0.715
	Mo. Avg. Div.	3.69%	3.76%	3.65%	3.72%	3.81%	3.68%
	6 mos. Avg.	3.72%					
DTE Energy Co.	High Price ($)	106.350	105.190	106.240	105.460	105.130	109.660
	Low Price ($)	97.660	99.520	101.820	99.000	94.250	101.880
	Avg. Price ($)	102.005	102.355	104.030	102.230	99.690	105.770
	Dividend ($)	0.883	0.883	0.883	0.883	0.883	0.883
	Mo. Avg. Div.	3.46%	3.45%	3.39%	3.45%	3.54%	3.34%
	6 mos. Avg.	3.44%					
Duke Energy Corp.	High Price ($)	79.630	77.910	80.850	80.410	80.150	81.750
	Low Price ($)	72.930	74.580	75.960	73.130	71.960	77.900
	Avg. Price ($)	76.280	76.245	78.405	76.770	76.055	79.825
	Dividend ($)	0.890	0.890	0.890	0.890	0.890	0.890
	Mo. Avg. Div.	4.67%	4.67%	4.54%	4.64%	4.68%	4.46%
	6 mos. Avg.	4.61%					
El Paso Electric Co.	High Price ($)	52.300	51.250	51.550	59.130	59.350	62.700
	Low Price ($)	48.150	48.050	48.500	49.450	54.750	58.250
	Avg. Price ($)	50.225	49.650	50.025	54.290	57.050	60.475
	Dividend ($)	0.335	0.335	0.335	0.335	0.360	0.360
	Mo. Avg. Div.	2.67%	2.70%	2.68%	2.47%	2.52%	2.38%
	6 mos. Avg.	2.57%					
Eversource Energy	High Price ($)	63.420	59.390	60.890	60.450	58.910	60.810
	Low Price ($)	55.930	56.130	58.300	55.310	52.760	57.490
	Avg. Price ($)	59.675	57.760	59.595	57.880	55.835	59.150
	Dividend ($)	0.475	0.505	0.505	0.505	0.505	0.505
	Mo. Avg. Div.	3.18%	3.50%	3.39%	3.49%	3.62%	3.42%
	6 mos. Avg.	3.43%					

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Hawaiian Electric Ind.	High Price ($)	34.350	34.620	35.130	35.200	34.510	36.200
	Low Price ($)	31.720	32.580	33.790	32.880	32.590	34.140
	Avg. Price ($)	33.035	33.600	34.460	34.040	33.550	35.170
	Dividend ($)	0.310	0.310	0.310	0.310	0.310	0.310
	Mo. Avg. Div.	3.75%	3.69%	3.60%	3.64%	3.70%	3.53%
	6 mos. Avg.	3.65%					
IDACORP	High Price ($)	86.570	88.600	94.160	96.010	93.280	95.350
	Low Price ($)	79.590	80.290	84.820	87.340	85.230	90.920
	Avg. Price ($)	83.080	84.445	89.490	91.675	89.255	93.135
	Dividend ($)	0.590	0.590	0.590	0.590	0.590	0.590
	Mo. Avg. Div.	2.84%	2.79%	2.64%	2.57%	2.64%	2.53%
	6 mos. Avg.	2.67%					
Northwestern Corp.	High Price ($)	54.510	54.190	55.750	55.800	57.740	59.920
	Low Price ($)	50.010	50.460	52.430	52.770	51.530	55.980
	Avg. Price ($)	52.260	52.325	54.090	54.285	54.635	57.950
	Dividend ($)	0.525	0.550	0.550	0.550	0.550	0.550
	Mo. Avg. Div.	4.02%	4.20%	4.07%	4.05%	4.03%	3.80%
	6 mos. Avg.	4.03%					
OGE Energy Corp.	High Price ($)	33.060	32.830	33.390	35.420	35.540	36.590
	Low Price ($)	29.590	30.760	31.490	32.700	33.190	34.130
	Avg. Price ($)	31.325	31.795	32.440	34.060	34.365	35.360
	Dividend ($)	0.333	0.333	0.333	0.333	0.333	0.333
	Mo. Avg. Div.	4.25%	4.18%	4.10%	3.90%	3.87%	3.76%
	6 mos. Avg.	4.01%					
Otter Tail Corp.	High Price ($)	43.450	44.550	44.850	48.350	48.750	49.750
	Low Price ($)	39.000	39.650	42.300	42.550	44.800	47.000
	Avg. Price ($)	41.225	42.100	43.575	45.450	46.775	48.375
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.25%	3.18%	3.08%	2.95%	2.86%	2.77%
	6 mos. Avg.	3.02%					
Pinnacle West Capital	High Price ($)	80.830	80.210	81.850	80.730	81.250	83.050
	Low Price ($)	73.810	75.210	77.140	75.820	73.410	77.560
	Avg. Price ($)	77.320	77.710	79.495	78.275	77.330	80.305
	Dividend ($)	0.695	0.695	0.695	0.695	0.695	0.695
	Mo. Avg. Div.	3.60%	3.58%	3.50%	3.55%	3.59%	3.46%
	6 mos. Avg.	3.55%					

TNMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Portland General Electric	High Price ($)	42.470	41.060	42.700	42.930	43.290	46.000
	Low Price ($)	39.400	39.020	39.180	39.660	39.600	42.100
	Avg. Price ($)	40.935	40.040	40.940	41.295	41.445	44.050
	Dividend ($)	0.340	0.340	0.340	0.340	0.363	0.363
	Mo. Avg. Div.	3.32%	3.40%	3.32%	3.29%	3.50%	3.29%
	6 mos. Avg.	3.35%					
Southern Company	High Price ($)	45.300	45.100	46.750	46.580	46.850	48.650
	Low Price ($)	42.380	43.020	43.750	42.420	42.730	46.020
	Avg. Price ($)	43.840	44.060	45.250	44.500	44.790	47.335
	Dividend ($)	0.580	0.580	0.580	0.600	0.600	0.600
	Mo. Avg. Div.	5.29%	5.27%	5.13%	5.39%	5.36%	5.07%
	6 mos. Avg.	5.25%					
Wisconsin Energy Corp.	High Price ($)	64.380	63.130	64.840	64.930	64.980	66.500
	Low Price ($)	59.080	58.920	61.390	59.960	58.480	63.190
	Avg. Price ($)	61.730	61.025	63.115	62.445	61.730	64.845
	Dividend ($)	0.553	0.553	0.553	0.553	0.553	0.553
	Mo. Avg. Div.	3.58%	3.62%	3.50%	3.54%	3.58%	3.41%
	6 mos. Avg.	3.54%					
Xcel Energy	High Price ($)	45.780	45.870	47.380	46.930	46.240	47.150
	Low Price ($)	41.510	42.570	43.930	43.280	41.990	44.540
	Avg. Price ($)	43.645	44.220	45.655	45.105	44.115	45.845
	Dividend ($)	0.360	0.380	0.380	0.380	0.380	0.380
	Mo. Avg. Div.	3.30%	3.44%	3.33%	3.37%	3.45%	3.32%
	6 mos. Avg.	3.37%					
Monthly Avg. Dividend Yield		3.62%	3.64%	3.54%	3.53%	3.57%	3.40%
6-month Avg. Dividend Yield		3.55%					

Source: Yahoo! Finance

TNMP PROXY GROUP
DCF Growth Rate Analysis

Company	(1) Value Line DPS	(2) Value Line EPS	(3) Zacks	(4) Yahoo! Finance
ALLETE, Inc.	4.50%	5.00%	6.00%	6.00%
Alliant Energy Corporation	6.00%	6.50%	5.60%	5.85%
Ameren Corp.	5.50%	7.50%	6.50%	6.30%
American Electric Power Co.	5.00%	4.50%	5.70%	5.79%
Black Hills Corporation	6.00%	6.50%	4.14%	3.86%
CenterPoint Energy, Inc.	2.00%	8.50%	5.38%	8.34%
CMS Energy Corporation	7.00%	7.00%	6.35%	7.05%
Consolidated Edison, Inc.	3.50%	3.00%	4.00%	3.39%
DTE Energy Company	6.50%	7.00%	5.33%	5.58%
Duke Energy	4.50%	5.50%	4.60%	4.22%
El Paso Electric Co.	7.00%	4.50%	5.10%	5.20%
Eversource Energy	6.00%	5.50%	5.75%	5.64%
Hawaiian Electric	2.00%	3.50%	7.10%	9.10%
IDACORP, Inc.	6.50%	3.00%	3.90%	3.55%
Northwestern Corporation	4.50%	3.50%	3.01%	3.16%
OGE Energy Corp.	8.00%	6.00%	4.70%	4.30%
Otter Tail Corporation	3.50%	7.50%	N/A	9.00%
Pinnacle West Capital Corp.	5.50%	5.00%	4.50%	3.78%
Portland General Electric Company	6.00%	4.00%	2.80%	2.65%
Southern Company	3.50%	3.00%	4.50%	2.25%
Wisconsin Energy Corporation	6.00%	7.00%	4.13%	4.43%
Xcel Energy Inc.	5.50%	5.50%	5.70%	5.86%
Averages	5.20%	5.41%	4.99%	5.24%
Median Values	5.50%	5.50%	5.10%	5.39%

Sources: **Value Line Investment Survey, May 18, June 15, and July 27 2018**
Yahoo! Finance growth rates retrieved July 6, 2018
Zacks growth rates retrieved July 6, 2018

TNMP PROXY GROUP
DCF RETURN ON EQUITY

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) Zack's Earning Gr.	(4) Yahoo! Earning Gr.	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	3.55%	3.55%	3.55%	3.55%	3.55%
Average Growth Rate	5.20%	5.41%	4.99%	5.24%	5.21%
Expected Div. Yield	3.64%	3.65%	3.64%	3.64%	3.64%
DCF Return on Equity	***8.84%***	***9.06%***	***8.63%***	***8.88%***	***8.85%***
Method 2:					
Dividend Yield	3.55%	3.55%	3.55%	3.55%	3.55%
Median Growth Rate	5.50%	5.50%	5.10%	5.39%	5.37%
Expected Div. Yield	3.65%	3.65%	3.64%	3.65%	3.65%
DCF Return on Equity	***9.15%***	***9.15%***	***8.74%***	***9.04%***	***9.02%***

TNMP PROXY GROUP
Capital Asset Pricing Model Analysis

30-Year Treasury Bond, Value Line Beta

Line No.		Value Line
1	Market Required Return Estimate	11.00%
2	Risk-free Rate of Return, 30-Year Treasury Bond	
3	Average of Last Six Months	3.08%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.92%
6	Comparison Group Beta	0.69
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.44%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.52%

5-Year Treasury Bond, Value Line Beta

1	Market Required Return Estimate	11.00%
2	Risk-free Rate of Return, 5-Year Treasury Bond	
3	Average of Last Six Months	2.72%
4	Risk Premium	
5	(Line 1 minus Line 3)	8.28%
6	Comparison Group Beta	0.69
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.68%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.40%

TNMP PROXY GROUP
Capital Asset Pricing Model Analysis

Supporting Data for CAPM Analyses

30 Year Treasury Bond Data

	Avg. Yield
February-18	3.13%
March-18	3.09%
April-18	3.07%
May-18	3.13%
June-18	3.05%
July-18	3.01%
6 month average	3.08%

Source: www.federalreserve.gov/datadownload/

5 Year Treasury Bond Data

	Avg. Yield
February-18	2.60%
March-18	2.63%
April-18	2.70%
May-18	2.82%
June-18	2.78%
July-18	2.78%
6 month average	2.72%

Value Line Market Return Data:

Forecasted Data:	
Value Line Median Growth Rates:	
Earnings	12.00%
Book Value	8.00%
Average	10.00%
Average Dividend Yield	0.95%
Estimated Market Return	11.00%
Value Line Projected 3-5 Yr. Median Annual Total Return	11.00%
Average of Projected Mkt. Returns	11.00%

Source: Value Line Investment Survey for Windows retreived July 10, 2018

Comparison Group Betas:

	Value Line
ALLETE, Inc.	0.75
Alliant Energy Corporation	0.70
Ameren Corp.	0.65
American Electric Power Co.	0.65
Black Hills Corporation	0.85
CenterPoint Energy, Inc.	0.90
CMS Energy Corporation	0.65
Consolidated Edison, Inc.	0.50
DTE Energy Company	0.65
Duke Energy	0.60
El Paso Electric Co.	0.75
Eversource Energy	0.65
Hawaiian Electric	0.65
IDACORP, Inc.	0.65
Northwestern Corp.	0.65
OGE Energy Corp.	0.95
Otter Tail Corp.	0.85
Pinnacle West Capital Corp.	0.65
Portland General Electric Company	0.65
Southern Company	0.55
Wisconsin Energy Corp.	0.60
Xcel Energy Inc.	0.60
Average	0.69

TNMP PROXY GROUP
Capital Asset Pricing Model Analysis
Historic Market Premium

	Geometric Mean	Arithmetic Mean	Adjusted Arithmetic Mean
Long-Term Annual Return on Stocks	10.20%	12.10%	
Long-Term Annual Income Return on Long-Term Treas. Bonds	5.00%	5.00%	
Historical Market Risk Premium	5.20%	7.10%	6.04%
Comparison Group Beta, Value Line	0.69	0.69	0.69
Beta * Market Premium	3.57%	4.87%	4.15%
Current 30-Year Treasury Bond Yield	3.08%	3.08%	3.08%
CAPM Cost of Equity, Value Line Beta	**6.65%**	**7.95%**	**7.23%**

Source: *2018 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation*, Duff and Phelps; pp. 6-17, 10-31

FERC GDP GROWTH RATE

	2020	2050	2070	
Energy Information Administration				
Real GDP	18,335	33,205		
GDP Deflator	1.217	2.437		
	22,314	80,921		4.39%
SSA Trustees Report	22,288		189,838	4.38%
Average GDP Growth Rate				4.38%

Sources:

Energy Information Administration, *Annual Energy Outlook 2018* (Macroeconomic Indicators).
Social Security Administration, 2018 OASDI Trustees Report, Table VI.G6

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December 19, 2018

Administrative Law Judge Angela T. Jones
Administrative Law Judge F. Joseph Brady
Pennsylvania Public Utility Commission
801 Market Street, Suite 4063
Philadelphia, PA 19107

VIA EMAIL AND FIRST CLASS MAIL

RE: Pennsylvania Public Utility Commission v. Aqua Pennsylvania, Inc. and Aqua Pennsylvania Wastewater, Inc.; Docket Nos. R-2018-3003558 and R-2018-3003561

Dear Judges Jones and Brady:

Enclosed please find two (2) copies of the Rebuttal Testimony and Exhibit of Richard A. Baudino on behalf of the Aqua Large Users Group ("Aqua LUG") in the above-referenced proceedings.

As evidenced by the attached Certificate of Service, all parties to the proceeding are being served with copies of this document. Thank you.

Very truly yours,

McNEES WALLACE & NURICK LLC

By
Adeolu A. Bakare

Counsel to Aqua Large Users Group

Enclosures
c: Rosemary Chiavetta, Secretary (Transmittal letter only via Electronic Filing)
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that I am this day serving a true copy of the foregoing document upon the participants listed below in accordance with the requirements of 52 Pa. Code Section 1.54 (relating to service by a participant).

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Adeolu A. Bakare

Counsel to Aqua Large Users Group

Dated this 19th day of December, 2018, at Harrisburg, Pennsylvania.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION	:	
V.	:	Docket No. R-2018-3003558
	:	Docket No. R-2018-3003561
AQUA PENNSYLVANIA, INC. AND AQUA PENSYLVANIA WASTEWATER, INC.	:	

REBUTTAL TESTIMONY

AND EXHIBIT

OF

RICHARD A. BAUDINO

ON BEHALF OF

AQUA LARGE USERS GROUP

J. KENNEDY AND ASSOCIATES, INC.

DECEMBER 2018

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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V.	:	**Docket No. R-2018-3003558**
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REBUTTAL TESTIMONY OF RICHARD A. BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant to Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979. In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant

with Kennedy and Associates. Exhibit ____(RAB-1) summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Aqua Large Users Group ("Aqua LUG").

Q. Please provide an overview of your Rebuttal Testimony?

A. The purpose of my Rebuttal Testimony is to respond to the revenue allocation proposal of Mr. Brian Kalcic, witness for the Office of Small Business Advocate ("OSBA") and the revenue scale-back proposed by Joseph Kubas, witness for the Pennsylvania Public Utility Commission's ("PPUC" or "Commission") Bureau of Investigation and Enforcement ("I&E"). My testimony will explain that Mr. Kalcic's proposed revenue allocation should be rejected because it fails to consider factors affecting the precision of the CCOSS relied upon by Aqua Pennsylvania, Inc.'s ("AP" or "Company"), such as the age of AP's demand study and the broad allocation of small mains to large customers that may not use them. As such, AP's more gradual approach to revenue allocation should be adopted by the Commission. I also recommend a proportional scaleback of any reduced revenue allocation in contrast to the first relief scale-back proposed by Mr. Kubas.

Q. Please summarize Mr. Kalcic's revenue allocation recommendation in this proceeding.

A. Mr. Kalcic presented his revenue allocation proposal in Schedule BK-4. Mr. Kalcic described the derivation of his revenue allocation approach as follows:

- In Step 1, assign each customer class its cost-based increase as shown in AP witness Herbert's proposed water class cost of service study ("COSS"). As a result of this assignment, Private Fire received a cost-based decrease of $2.55 million.

- Adjust the increase from Step 1 so that no class would receive: (i) an increase greater than 1.50 times the system average; or (ii) a revenue decrease. In order to meet these two standards, OSBA applied a 20.5% cap to the increase to Industrial customers for a resulting in a $433,000 reduction in its "cost-based revenue level," according to Mr. Kalcic. Additionally, Private Fire was assigned an increase of 0% in lieu of the aforementioned cost-based decrease of $2.55 million. This step produced a revenue surplus of $2.125 million that had to be allocated to AP's remaining classes.
- Assign the $2.125 million surplus resulting from the adjustments in Step 2 to the Residential and Industrial classes in proportion to their respective total cost of service at proposed rates.

Q. Do you agree with Mr. Kalcic's proposed revenue allocation in this proceeding?

A. No. I recommend that the Commission reject Mr. Kalcic's proposed revenue allocation. I recommend that the Commission adopt the revenue allocation proposed by Company witness Paul R. Herbert.

Q. Should the results of AP's CCOSS be followed exactly for revenue allocation as Mr. Kalcic proposes?

A. No. AP's CCOSS should be used as a general guide for cost and revenue allocation, but I would not recommend that the results be followed exactly in this proceeding. My recommendation is because of the degree of judgement involved in water company class cost of service studies generally and in the Company's class cost of service study ("CCOSS") in this case. In addition, as I will explain later, the Industrial class may be allocated too much of the Mains and Accessories account in the Company's CCOSS.

Q. How did the Company apply judgement in the construction of its CCOSS?

A. On pages 9 and 10 of his Direct Testimony, Mr. Herbert described the factors he considered in developing the maximum day extra capacity and maximum hour extra capacity demand used for the Company's customer classes as follows:

> "The estimated demands were based on judgment which considered field studies of customer class demands conducted for the Company, field observations of the service areas of the Company, field studies of similar service areas in Pennsylvania conducted by my firm, and generally-accepted customer class maximum day and maximum hour demand ratios."

Additionally, Mr. Herbert noted on page 10 that the Company's demand study was presented in Exhibit 5-A, Part 1. This study was submitted by the Company in Docket No. R-00973952 and contains data through 1996. Mr. Herbert used the same customer class extra capacity factors that he used in his 2011 CCOSS study (Docket No. R-2011-2267958).

The class extra capacity factors have been used by the Company for a number of years and may or may not be relevant today. Since we do not know the customer class extra capacity factors for the test year and since the Company relied on estimates based on a 1996 Customer Demand Study as well as a degree of judgement, the resulting cost allocations to customer classes do not have the precision generally observed in an electric or gas CCOSS. This is not necessarily meant to be a criticism of Mr. Herbert's CCOSS, as it is my understanding that the Commission has adopted his general approach in past AP cases. However, it does support my contention that the Company's CCOSS results should be used as a general guide until the demand study is updated and not as an absolute target for revenue allocation in this case.

Q. Regarding the Industrial Class, are there additional factors impacting the precision of Aqua's CCOSS??

A. Yes. The Company's CCOSS segregated the Mains and Accessories account into "12-inch and Over" and "Under 12-inch" and allocated these costs based on each class' maximum day and maximum hour factors. However, large users often do not use the smaller mains. The Seventh Edition of *Principles of Water Rates, Fees, and Charges* published by the American Water Works Association, indicates as much on page 73:

> "Service characteristic differences may be illustrated by recognizing that customers using treated water require facilities that raw-water customers do not need. *Similarly, large-volume industrial customers, wholesale customers, and other large users are often served directly from major treated-water transmission mains, whereas smaller users are served by both large and small distribution mains.*" (italics added)

AP's cost allocation lacked a study of whether or how much Industrial customers used smaller mains. Utilities should consider these and other factors when establishing customer classes and their respective costs of service. In my opinion, it is likely that Industrial customers are allocated too much of the Company's smaller sized mains and that, therefore, their allocated cost of service is overstated.

Q. Is the Mains and Accessories account a significant portion of AP's cost of service?

A. Yes. Schedule E, page 20, of Exhibit 5-A, Part 1 presents AP's total depreciable plant of $3,558,374,011. Of that total, Mains and Accessories account for $2,206,118,458, or 62% of total depreciable plant. Mains under 12 inches represent 47.9% of total depreciable plant. Clearly, the proper allocation of Mains and Accessories is critical to generating accurate results from the CCOSS.

Q. Why are these CCOSS matters related to revenue allocation?

A. Although the PPUC has relied on AP's CCOSS approach in past cases, I recommend the results be used as a general guide to class cost responsibility in this case, not as an absolute target. In this regard, Mr. Herbert's proposed revenue allocation is measured and reasonable and should be adopted in this proceeding. Mr. Kalcic's recommended revenue allocation should be rejected.

Q. Does Mr. Herbert's proposed revenue allocation in this case reduce subsidies and move the customer classes toward their allocated share of the Company's total cost of service?

A. Yes. Table 1 below shows the class relative rates of return ("RROR") at present rates and proposed rates from Schedules B and C of Exhibit No. 5-A, Part 1. The RROR shows how close a customer class rate of return is to the system average return. For example, if a customer class rate of return is 5.5% and the system average rate of return is 6.5%, then that class RROR is 0.85. Because the 0.85 RROR is below 1.0, the class is earning less than the system average rate of return. A class RROR of 1.0 indicates that the class return is the same as the system average rate of return. A class RROR greater than 1.0 indicates that the class RROR is greater than the system average rate of return.

TABLE 1
Class Relative Rates of Return
Company Proposed Revenue Allocation

	Current Rates	Proposed Rates
Residential	0.95	0.97
Commercial	1.04	1.01
Industrial	0.84	0.90
Public	1.21	1.15
Other Water Utilities	5.12	4.49
Private Fire	1.76	1.48
Public Fire	0.98	1.00

All of AP's customer classes show movement toward their respective cost of service under Mr. Herbert's class revenue allocation recommendation. The Industrial class, for example moves significantly from a RROR of 0.84 to 0.90. This movement is made with a gradual approach as AP's proposed increase for the Industrial class (16.9%) exceeds the system average.

Of course, the RROR comparison presented in Table 1 is based on AP's CCOSS results, which may lack precision due to how the costs of smaller mains are allocated to the Company's larger customers, as well as the out-of-date demand study.

Q. Given the observations regarding AP's CCOSS, how should the PPUC scale back the class revenue increases proposed by Mr. Herbert?

A. I recommend that the increases proposed by Mr. Herbert be scaled back proportionately for all classes if the Commission lowers the revenue increase requested by the Company. Given the lack of precision of the CCOSS, I recommend that the Commission not follow the "first dollar relief" proposal offered by Mr. Kubas in his Direct Testimony.

Q. Does this conclude your Rebuttal Testimony?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

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AQUA PENNSYLVANIA, INC. AND AQUA PENSYLVANIA WASTEWATER, INC.	:	

EXHIBIT

OF

RICHARD A. BAUDINO

ON BEHALF OF

AQUA LARGE USERS GROUP

J. KENNEDY AND ASSOCIATES, INC.

DECEMBER 2018

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-six years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Aqua Large Users Group
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Climax Molybdenum Company
Connecticut Industrial Energy Consumers
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

Expert Testimony Appearances
of
Richard A. Baudino
As of December 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of December 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of December 2018

Date	Case	Jurisdict.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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As of December 2018

Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

Expert Testimony Appearances
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As of December 2018

Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

Expert Testimony Appearances
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Date	Case	Jurisdict.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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Date	Case	Jurisdict.	Party	Utility	Subject
03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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Date	Case	Jurisdict.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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Date	Case	Jurisdict.	Party	Utility	Subject
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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Date	Case	Jurisdict.	Party	Utility	Subject
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

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Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Co.	Return on equity, capital structure
8/18	18-05-16	CT	Connecticut Industrial Energy Consumers	Connecticut Natural Gas Co.	Cost and revenue allocation
9/18	9484	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design
9/18	2017-370-E	SC	South Carolina Office of Regulatory Staff	South Carolina Electric & Gas, Dominion Resources, SCANA	Return on equity, service quality standards, credit quality conditions
10/18	18-1115-G-390P	WV	West Va. Energy Users Group	Mountaineer Gas Company	Customer protections for Infrastructure Replacement and Expansion Program
12/18	R-2018-3003558, R-2018-3003561	PA	Aqua Large Users Group	Aqua Pennsylvania, Inc.	Cost and revenue allocation

VERIFICATION

I, Richard A. Baudino, Consultant of J. Kennedy and Associates, Inc., hereby state that the facts contained in Aqua Large Users Group (Aqua LUG) Statement No. 1-R, the Rebuttal Testimony of Richard A. Baudino, is true and correct to the best of my knowledge, information, and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904, relating to unsworn falsification to authorities.

12/19/2018
Date

Richard A. Baudino
Signature

STATE OF CONNECTICUT
PUBLIC UTILITIES REGULATORY AUTHORITY

Application of Connecticut Natural Gas Corporation to Increase its Rates and Charges

Docket: 18-05-16

DIRECT TESTIMONY

OF

RICHARD A. BAUDINO

ON BEHALF OF THE

CONNECTICUT INDUSTRIAL ENERGY CONSUMERS

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

AUGUST 16, 2018

STATE OF CONNECTICUT
PUBLIC UTILITIES REGULATORY AUTHORITY

Application of Connecticut Natural Gas Corporation to Increase its Rates and Charges — Docket: 18-05-16

DIRECT TESTIMONY OF RICHARD A. BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant with Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979.

I began my professional career with the New Mexico Public Service Commission Staff ("Staff") in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

Exhibit ____(RAB-1) summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Connecticut Industrial Energy Consumers ("CIEC").

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to address the cost and revenue allocation and rate design proposals set forth by the Connecticut Natural Gas Company ("CNG" or "Company").

Q. Please summarize your conclusions and recommendations to the Connecticut Public Utility Regulatory Authority ("PURA").

A. I recommend that the PURA adopt the class cost of service study ("CCOSS") presented by Company witness Mr. Goodwin in his Direct Testimony. However, although Mr. Goodwin's recommended class revenue allocation generally moves the Company's rate classes toward their cost to serve, more movement is required to bring the Residential Heating class closer to full cost of service.

I recommend that the PURA adopt my recommended class revenue allocation, which provides for a larger increase to the Residential Heating class and smaller increases to the Small General Service and Large General Service classes. The larger increase that

I recommend for Residential Heating is reasonable given the CCOSS results and does not cause rate shock for these customers. The lower increases I recommend for Small and Large General Service customers moves these classes closer to their allocated cost to serve than Mr. Goodwin's proposal. By moving all three classes closer to cost of service, my revenue allocation proposal is more fair than the Company's.

Q. Briefly discuss the purpose and function of a class cost of service study.

A. A class cost of service study allocates and assigns the total cost of providing utility service to the classes of customers receiving that service. In certain instances, the subject utility can identify and directly assign costs to customers. For the vast majority of costs, however, such direct assignments are not possible and a cost of service study is required so that the remaining costs may be allocated among customer classes. The development of a class cost of service study consists of three steps: functionalization, classification, and allocation. Step 1, functionalization, involves separating the utility's investment and expenses into major functional categories. For natural gas utilities such as CNG, these categories may include production, storage, transmission, and distribution functions. The FERC Uniform System of Accounts provides the method by which costs are identified and placed into these various functional categories.

Step 2 is classification. Once functionalization is complete, the utility's costs are classified into demand, commodity, and customer components. Demand-related costs are fixed and do not vary with the monthly and yearly gas commodity consumption of the utility's customers. These costs are driven by demands placed on the system during

the winter peak period and include such items as gas main investment and expenses. Commodity-related expenses vary with the amount of gas consumed by customers and include the cost of gas and certain operation and maintenance expenses. Customer-related costs are associated with the number of customers and include items such as a portion of distribution main investment, meters, and services.

Step 3 is allocation. After costs are classified, they are allocated to customer classes based on each class' contribution to the respective cost classifications. Generally speaking, demand costs are allocated based on each class' contribution to the total winter peak. Commodity costs are allocated based on each class' share of total yearly consumption, or throughput. Customer costs are allocated based on the number of customers.

Q. Do you agree with Mr. Goodwin's proposed classification and allocation of distribution mains?

A. Yes. I agree with the general approach of classifying and allocating mains based on contribution to peak demand and the number of customers. Mr. Goodwin relied on a zero-intercept study to classify distribution mains between demand-related and customer-related, an approach that I support.

Q. Please explain why distribution mains should be classified as both demand and customer related for purposes of the Company's CCOSS.

A. The two main functions of distribution mains are to deliver gas during the system winter peak and to connect customers to the system. A properly designed zero-intercept study or minimum size system study recognizes these two functions by classifying main costs into demand-related and customer-related costs, which can then

be assigned to customer classes based on their respective contributions to system peak and on the number of customers in each class.

Peak winter demand is one of the primary drivers of CNG's investment in gas distribution mains. The Company must have sufficient capacity available on its system to satisfy the peak winter heating demand. If the peak winter demand increases, the Company may need to invest in additional mains to serve the load. During the non-winter months, substantial excess capacity exists on the system. Gas consumption during these off-peak months does not cause additional fixed costs to be incurred by the Company. In a similar manner to peak winter demand, if the number of customers increases, the Company may need to expand its distribution system investment. Thus, the number of customers connected to the distribution system is an important causal factor in distribution main investment.

Q. Is it appropriate to classify and allocate a portion of the costs of distribution mains on the basis of total throughput?

A. No. Peak winter demands and the number of customers drive investment in distribution mains, not gas consumption throughout the year. Throughput, which varies substantially during the year, is not what causes CNG's investment in the *fixed costs* of distribution mains.

The NARUC Gas Distribution Rate Design Manual, pages 23 and 24, also states the following with respect to demand or capacity related costs:

> "Demand or capacity costs vary with the quantity or size of plant and equipment. They are related to maximum system requirements which the system is designed to serve during short intervals and do not directly vary with

> the number of customers or their annual usage. Included in these costs are: the capital costs associated with production, transmission and storage plant and their related expenses; the demand cost of gas; and most of the capital costs and expenses associated with that part of distribution plant not allocated to customer costs, such as the costs associated with distribution mains in excess of the minimum size."

Q. Did the PURA find in favor of using a zero-intercept study for purposes of classifying and allocating distribution mains?

A. Yes. In Docket No. 99-03-29, *DPUC Review of Natural Gas Companies Cost of Service Study Methodologies* the PURA (then the Department of Public Utility Control) issued a Decision dated December 8, 2000 that held the following:

> "In accordance with an engineering replication theory of cost responsibility, the Department believes that the classification of mains into a demand and customer component using the zero-intercept method is most appropriate. This method was proposed by CNG and Southern and each LDC is directed to follow it."

Q. Is Mr. Goodwin's zero-intercept study consistent with PURA precedent and accepted industry cost allocation principles?

A. Yes it is.

Q. Did you review CNG witness Goodwin's recommended revenue allocation?

A. Yes. My Table 1 below summarizes Mr. Goodwin's recommended revenue allocation, along with the percentage increases required under the Company's CCOSS. The percentage increases shown are based on CNG's requested increase to 2019 base revenues in this proceeding.

TABLE 1

Analysis of CNG Proposed and Required Class Increases

Rate Class	(1) CNG Proposed Increase	(2) Percentage Increase	(3) Pct. Increase Required	(4) Subsidy in Proposed Revenues
Residential General	$ 669,339	11.5%	22.1%	$ (618,061)
Residential Heating	$ 10,245,536	8.5%	12.9%	$ (5,300,083)
Residential Multi-Dwelling	$ 1,205,607	14.6%	29.5%	$ (1,227,195)
Small General Service	$ 1,084,486	6.4%	1.0%	$ 907,514
General Service	$ 1,591,982	8.3%	9.0%	$ (116,288)
Large Gnl. Service	$ 1,676,152	6.7%	3.7%	$ 748,374
Seasonal	$ 6,914	5.4%	-1.8%	$ 9,168
Special Contracts	$ -	0.0%	-65.6%	$ 936,878
Interruptible & Other	$ 83,855	1.5%	-83.0%	$ 4,659,482
Total	$ 16,563,871	8.2%		

The Company's CCOSS generally supports the direction of the class revenue increases proposed by Mr. Goodwin. Column (4) in Table 1 illustrates the difference between the Company's proposed class increases and the increase required at full cost of service revenues. These differences represent the class subsidies or surpluses that remain after CNG's proposed revenue allocation. The classes with negative numbers are receiving subsidies from other customers and the classes with positive number are providing the subsidies. *For example, the Residential Heating class will still receive a yearly*

subsidy of $5.3 million from other customers if CNG's revenue allocation is adopted. Residential Heating customers should have an increase of 12.9% in order to pay full cost of service rates. By not moving these customers closer to cost of service, Small and Large General Service customers are responsible for paying subsidies of $0.907 million and $0.748 million, respectively.

Q. What is your recommendation?

A. Mr. Goodwin's revenue allocation proposal should be modified so that more progress can be made toward eliminating the aforementioned subsidies and achieving fairer rates for Residential Heating, Small General Service, and Large General Service customers.

Q. Please present your proposed class revenue allocation for the PURA.

A. Table 2 below presents my recommended revenue allocation based on CNG's requested increase in 2019 base revenues.

TABLE 2
CIEC Proposed Class Increases and ROR

Rate Class		(1) CIEC Proposed Increase	(2) Percentage Increase	(3) CIEC Relative Rate of Return	(4) Subsidy in CIEC Proposed Revenues
Residential General	$	669,339	11.5%	0.50	(618,061)
Residential Heating	$	11,450,961	9.5%	0.86	(4,094,658)
Residential Multi-Dwelling	$	1,205,607	14.6%	0.59	(1,227,195)
Small General Service	$	627,435	3.7%	1.11	450,463
General Service	$	1,591,982	8.3%	0.98	(116,288)
Large Gnl. Service	$	927,778	3.7%	1.00	0
Seasonal	$	6,914	5.4%	1.36	9,168
Special Contracts	$	-	0.0%	7.12	936,878
Interruptible & Other	$	83,855	1.5%	70.27	4,659,482
Total	$	16,563,871	8.2%		

The only changes I made to Mr. Goodwin's revenue allocation are as follows:

- Residential Heating increase raised to 9.5% from 8.5%.
- Small General increase lowered from 6.4% to 3.7%.
- Large General increase lowered from 6.7% to 3.7%.

Column (4) shows that the subsidies paid by Small and Large General Services customers are substantially reduced and that the subsidy being received by the Residential Heating class is also reduced. Notably, even after my adjustments, the

Residential Heating class still is receiving a $4.1 million subsidy from other service classes.

Column (3) shows the class-specific relative rates of return ("RROR") that result from my proposal. The relative rate of return is a measure of a class' return on rate base compared to the overall system average rate of return. For example, if the system average rate of return is 10% and the Large General Service class' rate of return is 11%, then its RROR would be 1.1 (11%/10%). Because of potential rate shock, I do not recommend complete elimination of the Residential Heating subsidy. Note that my proposal results in a RROR for Residential Heating of 0.86, still well below the system average. My proposed increase for Residential Heating is only 1.16 times the overall system average increase requested by the Company, which, again, avoids rate shock. In addition, under my proposal Large General Service would be at parity with the system average rate of return and Small General Service would be only 11% above parity – which is significant progress from what is proposed by Mr. Goodwin.

To conclude, my proposed class revenue allocation is just and reasonable, is not burdensome to any rate class, reduces inter-class revenue subsidies, and makes significant progress toward each customer class paying its fair share of the total cost to serve. For these reasons, I recommend that CNG's proposal be modified to include my proposed revenue allocation.

Q. Please illustrate how your proposed revenue allocation would work for the Large General Service classes relative to Mr. Goodwin's proposal.

A. Table 3 shows the 2019 class increases for each of the Large General Service classes proposed by the Company and my recommended increases for those classes. Please

note that the increases shown in Table 2 did not include the $1.25 million annual rate credit that Mr. Goodwin included in his rate design in his Exhibit CRG-1 (A) and in Schedule E-3.5 (A) - (C). Including this credit reduced the LGS classes' proposed 2019 revenue increase from $1,676,152 to $1,573,094, a decrease of 6.55%. In order to reflect this annual credit for purposes of rate design, I adjusted my recommended LGS revenue increase by 6.55%, from the $927,778 shown on Table 2 to $866,936. I then assigned increases to the individual LGS classes by reducing the increases shown in Schedule E-3.5 (A) by the percentage of my recommended LGS increase to Mr. Goodwin's, i.e., $866,996/$1,573,094 = 55.1%. The individual LGS class results are presented in Table 3.

Table 3
CIEC Recommended Increases
Large General Service Classes

	Current Non-Gas Revs.	CNG Recommended Increase	CNG Recommended % Increase	CIEC Recommended Increase	CIEC Recommended % Increase
LGSS	$ 17,621,785	$ 840,481	4.77%	$ 463,224	2.63%
LGOS	$ 1,214,030	$ 61,182	5.04%	$ 33,720	2.78%
LGFS	$ 206,236	$ 66,023	32.01%	$ 36,388	17.64%
LGST	$ 7,033,904	$ 586,369	8.34%	$ 323,172	4.59%
LGOT	$ 189,813	$ 19,038	10.03%	$ 10,493	5.53%
	$ 26,265,767	$ 1,573,094	5.99%	$ 866,996	3.30%

Q. If the PURA approves CNG's proposed 3-Year Plan, how should subsequent yearly increases be apportioned?

A. Rather than using the lower rate award to accelerate the movement toward cost of service (*i.e.*, maintain the Residential Heating allocation at the level of a full rate award and further reduce the increase to the Small and Large General Services classes), I

recommend that the PURA reduce Year 2 and Year 3 increases to LGS by 55.1% of the Company's proposed increases. This is my recommended reduction to the Company's Year 1 increase based on the CCOSS results for the LGS classes.

Q. If the PURA reduces CNG's requested revenue requirement, how should class revenue allocation be handled?

A. I recommend that the increases shown in my Table 2 be reduced in the same proportion as the reduction to CNG's proposed revenue increase. For example, if the PURA reduces the Company's requested revenue increase by 30%, then each class' increase shown in my Table 2 should be reduced by 30%.

Q. Does this complete your Direct Testimony?

A. Yes.

STATE OF CONNECTICUT
PUBLIC UTILITIES REGULATORY AUTHORITY

Application of Connecticut Natural Gas Corporation to Increase its Rates and Charges

Docket: 18-05-16

EXHIBIT

OF

RICHARD A. BAUDINO

ON BEHALF OF THE

CONNECTICUT INDUSTRIAL ENERGY CONSUMERS

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

AUGUST 16, 2018

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-five years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Climax Molybdenum Company
Connecticut Industrial Energy Consumers
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

Expert Testimony Appearances
of
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As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

Expert Testimony Appearances
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Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Co.	Return on equity, capital structure
8/18	18-05-16	CT	Connecticut Industrial Energy Consumers	Connecticut Natural Gas Co.	Cost and revenue allocation

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October 15, 2018

VIA HAND DELIVERY

01:33 PM OCT 15 2018 EXEC SEC DIV

Ms. Ingrid Ferrell
Executive Secretary
Public Service Commission of West Virginia
201 Brooks Street
Charleston, WV 25301

Re: CASE NO. 18-1115-G-390P
MOUNTAINEER GAS COMPANY
Surcharge on Infrastructure Improvements

Dear Ms. Ferrell:

Please find enclosed for filing on behalf of the West Virginia Energy Users Group an original and twelve (12) copies of the "*Direct Testimony and Exhibit of Richard A. Baudino*" in the above-referenced case.

Please contact me if you have any questions concerning this filing.

Sincerely,

Grant P. H. Shuman (WV State Bar #8856)
gshuman@spilmanlaw.com

Barry A. Naum (WV State Bar #12791)
Derrick Price Williamson
bnaum@spilmanlaw.com
dwilliamson@spilmanlaw.com

GPHS.sds.11255374
Enclosures
c: Certificate of Service

CERTIFICATE OF SERVICE

I, Grant P. H. Shuman, counsel to the West Virginia Energy Users Group, do hereby certify that on this 15th day of October, 2018, a copy of the foregoing *"Direct Testimony and Exhibit of Richard A. Baudino"* was served upon the parties and/or counsel of record in this proceeding as follows:

VIA HAND DELIVERY

01:33PM OCT 15 2018 EXEC SEC DIV

Linda Bouvette, Esquire
Staff Attorney
Public Service Commission of West Virginia
201 Brooks Street
Charleston, WV 25301
Counsel for Commission Staff

VIA U.S. MAIL

Christopher L. Callas, Esquire
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Charleston, WV 25322-0553
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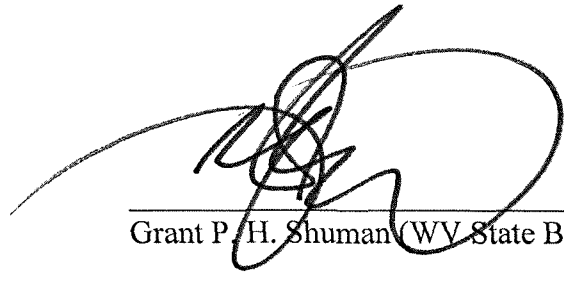
Charleston, WV 25325-1386
Counsel for Independent Oil and Gas Association of West Virginia, Inc.



Grant P. H. Shuman (WV State Bar #8856)

WVEUG Exhibit RAB-D

PUBLIC SERVICE COMMISSION
OF WEST VIRGINIA
CHARLESTON

CASE NO. 18-1115-G-390P

MOUNTAINEER GAS COMPANY
Surcharge on Infrastructure Improvements

DIRECT TESTIMONY

AND EXHIBIT

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE WEST VIRGINIA ENERGY USERS GROUP

J. KENNEDY AND ASSOCIATES, INC.

OCTOBER 15, 2018

PUBLIC SERVICE COMMISSION
OF WEST VIRGINIA
CHARLESTON

CASE NO. 18-1115-G-390P

MOUNTAINEER GAS COMPANY
Surcharge on Infrastructure Improvements

DIRECT TESTIMONY OF RICHARD A. BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant to J. Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979. I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate

design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

Exhibit RAB-1 summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the West Virginia Energy Users Group ("WVEUG").[1]

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to respond to the Direct Testimony of Mr. Scott Klemm, witness for Mountaineer Gas Company ("Mountaineer" or "Company"). Specifically, I will respond to the section of Mr. Klemm's Direct Testimony that addresses the customer protections I recommended in Case No. 17-1066-G-390P.

[1] For the purpose of this case, WVEUG's membership consists of ArcelorMittal Weirton LLC; Constellium Rolled Products Ravenswood, LLC; and Quad/Graphics.

Q. Briefly review the consumer protections that you recommended be adopted by the Commission in Case No. 17-1066-G-390P.

A. I recommended the following protections in that proceeding:

1. A yearly cap on Infrastructure Replacement and Expansion Plan ("IREP") related rate increases from current authorized tariff rates should be implemented and limited to 3.75%.

2. A cumulative cap on customer IREP related rate increases over currently authorized tariff rates should be implemented and limited to 7.5%.

3. The Company should not be permitted: (1) to implement an IREP Rate Component after an IREP investment base reset following a base rate case order; or, (2) if an annual IREP Rate Component is already in place, to increase the existing IREP Rate Component with a subsequent calendar year's incremental projected investment in IREP facilities if the Company's achieved return on average equity investment, as reflected in its audited financial statements for the preceding calendar year prepared using generally accepted accounting principles and measured on a calendar year basis, exceeds the authorized return on common equity set in the Company's most recent base rate case. If one of these situations occurs, then the Company should still make its IREP filing for purposes of maintaining the existing IREP Rate Component (if any) and addressing any needed reconciliations of costs and revenues from previous years.

Q. Did the Commission adopt these consumer protections in that case?

A. As Mr. Klemm pointed out on page 28 of his Direct Testimony, the 2017 Joint Stipulation achieved by the parties and approved by the Commission in 2017 required Mountaineer to submit illustrations in this proceeding of the customer protection proposals I recommended in that case. The Commission acknowledged this as well on page 6 of its Order dated December 13, 2017, although it did not expressly approve these protections.

Q. Did Mr. Klemm provide the illustrations agreed to in the 2017 Joint Stipulation?

A. Yes. Mr. Klemm provided the illustrations in his Exhibits SKF-1 and SKF-2. I reviewed these exhibits and am satisfied that, at least so far, the single year and cumulative rate effects from the implementation of Mountaineer's IREP do not exceed 3.75% and 7.5%, respectively. I would also note, however, that as Mountaineer has increased the amount of investment subject to IREP recovery, the cumulative rate impact of 4.20% continues to approach the 7.5% limit I recommended.

Q. Did Mountaineer take a position in this case on those proposed customer protections?

A. No. Mr. Klemm presented the illustrations in accordance with last year's settlement, but the Company does not appear to take a position on the merits of these protections and has not proposed their implementation.

Q. Are the customer protections you recommended in Case No. 17-1066-G-390P still relevant and applicable to this proceeding and to future IREP filings?

A. Yes, most definitely. The protections I recommended in Case No. 17-1066-G-390P are even more important now as Mountaineer continues to increase its IREP-eligible investments and the cumulative rate increase grows toward 7.5%. For example, although Mr. Klemm is correct that even the proposed rates would be below my recommended caps, another 1.9% increase next year would bring the cumulative rate increase to 6.2%, only 1.3% less than the cumulative total of 7.5%. At the current pace, it is entirely foreseeable that the IREP charge could reach the cumulative cap within just two years. The ever-increasing nature of the IREP charge provides sound justification to implement these protections now where there is no current risk or burden to Mountaineer but where the near-term risk to customers could be easily mitigated before it is too late.

As I stated in my Direct Testimony in Case No. 17-1066-G-390P, West Virginia ratepayers must receive protection from excessive future rate increases that may flow through Mountaineer's IREP. Given the expedited cost recovery treatment afforded investments that flow through Mountaineer's IREP, it is a just and reasonable *quid pro quo* that fairly balances the interests of Mountaineer and its customers.

Q. Does this conclude your Direct Testimony?

A. Yes.

PUBLIC SERVICE COMMISSION
OF WEST VIRGINIA
CHARLESTON

CASE NO. 18-1115-G-390P

MOUNTAINEER GAS COMPANY
Surcharge on Infrastructure Improvements

EXHIBIT

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE WEST VIRGINIA ENERGY USERS GROUP

J. KENNEDY AND ASSOCIATES, INC.

OCTOBER 15, 2018

PUBLIC SERVICE COMMISSION
OF WEST VIRGINIA
CHARLESTON

CASE NO. 18-1115-G-390P

MOUNTAINEER GAS COMPANY
Surcharge on Infrastructure Improvements

EXHIBIT__(RAB-1)

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE WEST VIRGINIA ENERGY USERS GROUP

J. KENNEDY AND ASSOCIATES, INC.

OCTOBER 15, 2018

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-five years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: Kennedy and Associates: **Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: New Mexico Public Service Commission Staff: **Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Climax Molybdenum Company
Connecticut Industrial Energy Consumers
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

Expert Testimony Appearances
of
Richard A. Baudino
As of October 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of October 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of October 2018

Date	Case	Jurisdict.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T	WV	West Virginia Energy Users Group	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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Date	Case	Jurisdict.	Party	Utility	Subject
03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

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Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Co.	Return on equity, capital structure
8/18	18-05-16	CT	Connecticut Industrial Energy Consumers	Connecticut Natural Gas Co.	Cost and revenue allocation
9/18	9484	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design
9/18	2017-370-E	SC	South Carolina Office of Regulatory Staff	South Carolina Electric & Gas, Dominion Resources, SCANA	Return on equity, service quality standards, credit quality conditions
10/18	18-1115-G-390P	WV	West Va. Energy Users Group	Mountaineer Gas Company	Customer protections for Infrastructure Replacement and Expansion Program

THE OFFICE OF REGULATORY STAFF

DIRECT TESTIMONY & EXHIBITS

OF

RICHARD BAUDINO

SEPTEMBER 24, 2018

DOCKET NO. 2017-370-E

Joint Application and Petition of South Carolina Electric & Gas Company and Dominion Energy, Incorporated for Review and Approval of a Proposed Business Combination between SCANA Corporation and Dominion Energy, Incorporated, as May be Required, and for a Prudency Determination Regarding the Abandonment of the V.C. Summer Units 2 and 3 Project and Associated Customer Benefits and Cost Recovery Plans

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DIRECT TESTIMONY AND EXHIBITS OF

RICHARD BAUDINO

ON BEHALF OF

THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF

DOCKET NO. 2017-370-E

IN RE: JOINT APPLICATION AND PETITION OF SOUTH CAROLINA ELECTRIC & GAS COMPANY AND DOMINION ENERGY, INCORPORATED FOR REVIEW AND APPROVAL OF A PROPOSED BUSINESS COMBINATION BETWEEN SCANA CORPORATION AND DOMINION ENERGY, INCORPORATED, AS MAY BE REQUIRED, AND FOR A PRUDENCY DETERMINATION REGARDING THE ABANDONMENT OF THE V.C. SUMMER UNITS 2 & 3 PROJECT AND ASSOCIATED CUSTOMER BENEFITS AND COST RECOVERY PLANS

I. QUALIFICATIONS AND SUMMARY

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.

A. My name is Richard A. Baudino, a Consultant with J. Kennedy and Associates, Inc., an economic consulting firm specializing in utility ratemaking and planning issues. My business address is 570 Colonial Park Drive, Suite 305, Roswell, Georgia.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979. I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field.

Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of J. Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became a Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with J. Kennedy and Associates. ORS Exhibit RAB-1 summarizes my expert testimony experience.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am providing testimony on behalf of the South Carolina Office of Regulatory Staff ("ORS").

Q. HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA ("COMMISSION")?

A. No, this is my first time presenting testimony before the Commission.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The primary purpose of my testimony is to present my recommendation with respect to the allowed return on equity for South Carolina Electric and Gas Company ("SCE&G" or "Company"). My recommended return on equity ("ROE") should be applied to the allowed New Nuclear Development ("NND") costs to be collected through a new Capital Cost Recovery ("CCR") Rider as described more fully by other witnesses for ORS.

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I will also respond to the Direct Testimony and ROE recommendations of Mr. Robert Hevert, witness for SCE&G. Finally, I will briefly respond to the Direct Testimony filed by SCE&G witness Ms. Ellen Lapson.

In addition, I will present recommendations regarding service quality and credit quality conditions that should be attached to the proposed acquisition of SCANA Corporation ("SCANA") by Dominion Energy, Inc ("Dominion"). These two sets of conditions are necessary to ensure that (1) South Carolina ratepayers receive the best possible quality of service from SCE&G after the acquisition of its system by Dominion and (2) that SCE&G's credit quality is enhanced because of the acquisition. Neither Dominion nor SCE&G proposed any quantifiable service quality measures that would enable the Commission to ensure that the quality of service is enhanced after the Dominion acquisition. Further, Dominion has not offered concrete measures to ensure that its acquisition of SCE&G will enhance the Company's credit quality, although the acquisition will likely improve SCE&G's financial position substantially.

The service and credit quality conditions I recommend, as well as reporting requirements associated with verifiable service quality measures, will assist the Commission, ORS, and other stakeholders to ensure that service quality will be maintained and improved for SCE&G's ratepayers.

Q. PLEASE SUMMARIZE YOUR ROE RECOMMENDATIONS FOR THE COMMISSION.

A. I recommend that the Commission authorize an allowed ROE for SCE&G of 9.1%, which would be applied to the rate of return for the ORS's allowable NND costs. My recommendation is based on the application of the Discounted Cash Flow ("DCF") model

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to the proxy group of 22 regulated electric and gas utilities used by Mr. Hevert in the Direct Testimony he filed on August 2, 2018. I also performed Capital Asset Pricing Model ("CAPM") analyses using projected and historical data, although I did not directly incorporate the results into my recommendation.

My 9.1% ROE reflects the required ROE for an average investment grade regulated utility company. It does not reflect any additional ROE premium for SCE&G's current financial condition, which is currently at the bottom of the investment grade credit ratings from Standard and Poor's, Moody's, and Fitch. These low credit ratings are primarily due to SCANA's and SCE&G's involvement in the now cancelled nuclear facility located in Jenkinsville, South Carolina and the uncertainty related to the disposition of the costs and revenue requirements associated with that facility. The ORS has recommended that certain NND costs be collected from SCE&G ratepayers through a new CCR Rider. ORS also recommends the disallowance of imprudently incurred costs from that facility.

With respect to the allowed ROE in this case, the Commission should approve an ROE consistent with a prudently operated, financially sound regulated utility company. The Commission should not allow a higher ROE that reflects any additional risk stemming from SCANA's and SCE&G's actions with respect to the cancelled nuclear project, from the cost disallowances that the ORS recommends, or from imprudent actions by SCANA and/or SCE&G. If the Commission adopts the ORS' recommendations with respect to the amount of allowable NND costs, South Carolina ratepayers will be paying their pro-rata share of costs for a cancelled nuclear plant that will never generate a single kilowatt hour ("kWh") of electricity to serve them. Ratepayers should not support higher rates or a higher ROE that would compensate SCANA's or Dominion's investors for any added risks or

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adverse credit impacts from the disallowed NND costs or from any imprudent actions on the part of SCANA and/or SCE&G.

I also recommend that the Commission utilize SCE&G's capital structure ending September 30, 2017, which includes an equity ratio of 52.81%. It is this capital structure that ORS used for its revenue requirement analysis in this proceeding.

Finally, I recommend that the Commission order SCE&G to modify its cost of long-term debt by including the new debt that the Company issued in August. I will discuss this recommendation in more detail in Section III.

II. REVIEW OF ECONOMIC AND FINANCIAL CONDITIONS

Q. WHAT HAS THE TREND BEEN IN LONG-TERM CAPITAL COSTS OVER THE LAST 10 YEARS?

A. Since 2007 and 2008, the overall trend in interest rates in the U.S. and the world economy has been lower. This trend was precipitated by the 2007 financial crisis and severe recession that followed in December 2007. In response to this economic crisis, the Federal Reserve ("Fed") undertook an unprecedented series of steps to stabilize the economy, ease credit conditions, and lower unemployment and interest rates. These steps are commonly known as Quantitative Easing ("QE") and were implemented in three distinct stages: QE1, QE2, and QE3. The Fed's stated purpose of QE was "to support the liquidity of financial institutions and foster improved conditions in financial markets."[1]

Q. PLEASE PROVIDE A BRIEF EXPLANATION OF HOW THE FED USES MONETARY POLICY TO AFFECT CONDITIONS IN THE FINANCIAL MARKETS.

[1] http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm.

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A. Generally, the Fed uses monetary policy to implement certain economic goals. The Fed explained its monetary policy as follows:

> Monetary policy in the United States comprises the Federal Reserve's actions and communications to promote maximum employment, stable prices, and moderate long-term interest rates--the three economic goals the Congress has instructed the Federal Reserve to pursue.
>
> The Federal Reserve conducts the nation's monetary policy by managing the level of short-term interest rates and influencing the overall availability and cost of credit in the economy.[2]

One of the Fed's primary tools for conducting monetary policy is setting the federal funds rate. The federal funds rate is the interest rate set by the Fed that banks and credit unions charge each other for overnight loans of reserve balances. Traditionally the federal funds rate directly influences short-term interest rates, such as the Treasury bill rate and interest rates on savings and checking accounts. The federal funds rate has a more indirect effect on long-term interest rates, such as the 30-Year Treasury bond and private and corporate long-term debt. Long-term interest rates are set more by market forces that influence the supply and demand of loanable funds.

Q. PLEASE CONTINUE WITH YOUR DISCUSSION OF THE FED'S QUANTITATIVE EASING PROGRAMS.

A. QE1 was implemented from November 2008 through approximately March 2010. During this time, the Fed cut its key Federal Funds Rate to nearly 0% and purchased $1.25 trillion of mortgage-backed securities and $175 billion of agency debt purchases. QE2 was implemented in November 2010 with the Fed announcing that it would purchase an additional $600 billion of Treasury securities by the second quarter of 2011.[3] Beginning

[2] From the Federal Reserve's web site and the section entitled "Monetary Policy."
[3] http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm

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in September 2011, the Fed initiated a "maturity extension program" in which it sold or redeemed $667 billion of shorter-term Treasury securities and used the proceeds to buy longer-term Treasury securities. This program, also known as "Operation Twist," was designed by the Fed to lower long-term interest rates and support the economic recovery. Finally, QE3 began in September 2012 with the Fed announcing an additional bond purchasing program of $40 billion per month of agency mortgage backed securities.

The Fed began to pare back its purchases of securities in the last few years. On January 29, 2014, the Fed stated that beginning in February 2014 it would reduce its purchases of long-term Treasury securities to $35 billion per month. The Fed continued to reduce these purchases throughout the year and in a press release issued October 29, 2014 announced that it decided to close this asset purchase program in October.[4]

Figure 1 below presents a graph that tracks the 30-Year Treasury Bond yield and the Mergent average utility bond yield. The period covers January 2008 through August 2018.

[4] (http://www.federalreserve.gov/newsevents/press/monetary/20141029a.htm)

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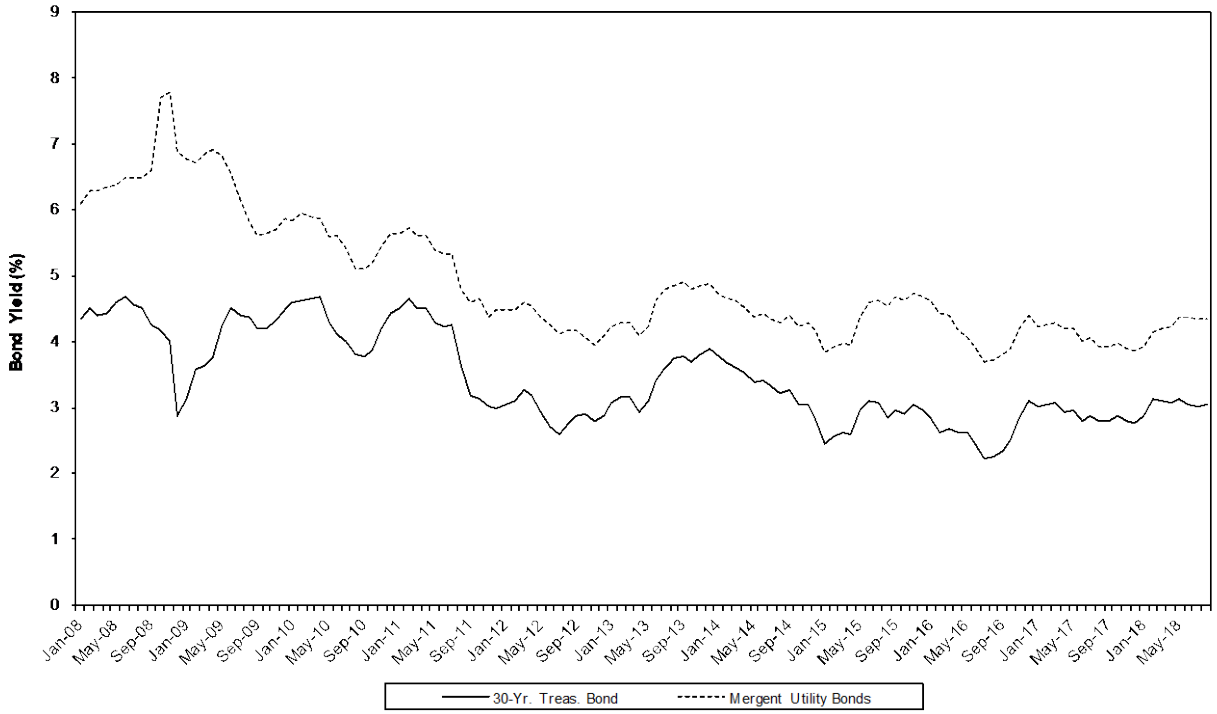
FIGURE 1
HISTORICAL BOND YIELDS
AVERAGE PUBLIC UTILITY BOND VS 30-YEAR TREASURY BOND



The Fed's QE program and federal funds rate cuts were effective in lowering the long-term cost of borrowing in the United States. The 30-Year Treasury Bond yield declined from 5.11% in July 2007 to a low of 2.59% in July 2012. The average utility bond yield also fell substantially, from 6.28% in July 2007 to 4.12% in July 2012. At the end of August 2018, the 30-Year Treasury yield stood at 3.04% and the average utility bond yield stood at 4.33%.

Q. HAS THE FED RECENTLY INDICATED ANY IMPORTANT CHANGES TO ITS MONETARY POLICY?

A. Yes. In March 2016, the Fed began to raise its target range for the federal funds rate, increasing it to 1/4% to 1/2% from 0% to 1/4%. Since that time, the Fed increased the federal funds rate several more times, with the most recent increase announced on June

13, 2018. The federal funds rate now stands in the range of 1.75% - 2.0%. In its press release dated August 1, 2018, the Fed stated the following:

> "Information received since the Federal Open Market Committee met in June indicates that the labor market has continued to strengthen and that economic activity has been rising at a strong rate. Job gains have been strong, on average, in recent months, and the unemployment rate has stayed low. Household spending and business fixed investment have grown strongly. On a 12-month basis, both overall inflation and inflation for items other than food and energy remain near 2 percent. Indicators of longer-term inflation expectations are little changed, on balance.
>
> Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that further gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective over the medium term. Risks to the economic outlook appear roughly balanced.
>
> In view of realized and expected labor market conditions and inflation, the Committee decided to maintain the target range for the federal funds rate at 1-3/4 to 2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation."

The Fed also provided certain economic projections that accompanied its June 13, 2018 press release showing the following:

- Projected federal funds rate of 2.4% for 2018, 2.9% for 2019, 3.4% for 2020, and 2.9% for the longer run.
- Inflation running at 1.9% for 2018 and 2.1% for 2019 and 2020.
- The Fed has signaled that it will likely continue increasing the federal funds rate this year and in 2019.

Q. WHY IS IT IMPORTANT TO UNDERSTAND THE FED'S ACTIONS OVER THE LAST 10 YEARS?

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A. The Fed's monetary policy actions since 2008 were deliberately undertaken to lower interest rates and support economic recovery. Even with several recent increases in the federal funds rate, the U.S. economy is still in a low interest rate environment. This environment has affected the common stocks of regulated utilities, which are interest rate sensitive due to their high concentration of fixed assets. Thus, as interest rates increase in the general economy, the prices of utility common stocks fall, and their dividend yields rise. Alternatively, as interest rates fall, the dividend yields on utility common stocks tend to fall as their prices rise.

Q. ARE CURRENT INTEREST RATES INDICATIVE OF INVESTOR EXPECTATIONS REGARDING THE FUTURE DIRECTION OF INTEREST RATES?

A. Yes. Securities markets are efficient and most likely reflect investors' expectations about future interest rates. As Dr. Roger Morin pointed out in *New Regulatory Finance:*

> "A considerable body of empirical evidence indicates that U.S. capital markets are efficient with respect to a broad set of information, including historical and publicly available information."[5]

Dr. Morin also noted the following:

> "There is extensive literature concerning the prediction of interest rates. From this evidence, it appears that the no-change model of interest rates frequently provides the most accurate forecasts of future interest rates while at other times, the experts are more accurate. Naïve extrapolations of current interest rates frequently outperform published forecasts. The literature suggests that on balance, the bond market is very efficient in that it is difficult to consistently forecast interest rates with greater accuracy than a no-change model. The latter model provides similar, and in some cases, superior accuracy than professional forecasts."[6]

[5] Morin, Roger A., *New Regulatory Finance,* Public Utilities Reports, Inc. (2006) at 279.
[6] *Ibid* at 172.

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Despite recent increases in the general level of short-term interest rates since the second half of 2016, the U.S. economy continues to operate in a low interest rate environment. It is important to realize that investor expectations of higher future interest rates, if any, are already likely already embodied in current securities prices, which include debt securities and stock prices.

Moreover, the current low interest rate environment still favors lower risk regulated utilities. Although the Fed anticipates raising the federal funds rate later this year and in 2019, I still firmly believe that it would not be advisable for utility regulators to raise ROEs in anticipation of higher forecasted interest rates that may or may not occur**.**

Q. HOW HAS THE INCREASE IN THE FEDERAL FUNDS RATE SINCE 2016 AFFECTED UTILITY STOCKS IN TERMS OF BOND YIELDS AND STOCK PRICES?

A. Interestingly, the yield on the average utility bond is lower now than it was in January 2016. Likewise, the Dow Jones Utility Index is substantially higher than it was in January 2016. Table 1 shows the federal funds rate, the yield on the 30-Year Treasury bond, the yield on the average utility bond, and the Dow Jones Utility Average ("DJUA") from January 2016 through August 2018.

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TABLE 1
Bond Yields and DJUA

	Federal Funds Rate %	30-Year Treasury %	Avg. Utility Bond %	DJUA
2016				
January	0.34	2.86	4.62	611.35
February	0.38	2.62	4.44	620.70
March	0.36	2.68	4.40	668.57
April	0.37	2.62	4.16	654.44
May	0.37	2.63	4.06	659.44
June	0.38	2.45	3.93	716.52
July	0.39	2.23	3.70	711.42
August	0.40	2.26	3.73	666.87
September	0.40	2.35	3.80	668.13
October	0.40	2.50	3.90	675.23
November	0.41	2.86	4.21	632.67
December	0.54	3.11	4.39	645.86
2017				
January	0.65	3.02	4.24	668.87
February	0.66	3.03	4.25	703.16
March	0.79	3.08	4.30	697.28
April	0.90	2.94	4.19	704.35
May	0.91	2.96	4.19	726.62
June	1.04	2.80	4.01	706.91
July	1.15	2.88	4.06	726.48
August	1.16	2.80	3.92	743.24
September	1.15	2.78	3.93	723.60
October	1.15	2.88	3.97	753.20
November	1.16	2.80	3.88	770.39
December	1.30	2.77	3.85	723.37
2018				
January	1.41	2.88	3.91	699.25
February	1.42	3.13	4.15	668.81
March	1.51	3.09	4.21	692.63
April	1.69	3.07	4.24	707.01
May	1.70	3.13	4.36	695.21
June	1.82	3.05	4.37	711.64
July	1.91	3.01	4.38	724.24
August	1.91	3.04	4.33	726.41

Source: Federal Reserve, Mergent Bond Record, Yahoo! Finance

Note that as the federal funds rate rose from January through December 2017, the 30-Year Treasury yield declined. The DJUA rose throughout 2017, declined sharply in December and through February 2018, then began to rise again through August 2018. Although the federal funds rate steadily increased from 2016, the 30-Year Treasury yield is only slightly higher in August 2018 than it was in January 2016. The average utility bond yield was lower in August 2018 (4.33%) than it was is January 2016 (4.62%), despite the steep increases in the federal funds rate.

Q. HOW DOES THE INVESTMENT COMMUNITY REGARD THE ELECTRIC UTILITY INDUSTRY CURRENTLY?

A. The Value Line Investment Survey stated the following in its August 17, 2018 report on the Electric Utility (East) industry:

> ***Tax Reform***
>
> *This year, the federal corporate tax rate dropped to 21% from 35% previously, thanks to the law that was enacted in late 2017. This is benefiting nonregulated businesses, such as PSEG Power (a subsidiary of Public Service Enterprise Group). The nonutility activities of Dominion Energy also got a boost from the new law. By contrast, regulated utilities are passing through to customers the benefits of the lower tax rate. Exelon estimates that this will save its customers $675 million annually. Since some of the company's utilities are raising rates, the net effect on prices after the passthrough will still be a reduction. Florida Power & Light, the utility subsidiary of NextEra Energy, will use the tax savings to offset the costs of service restoration it incurred from the hurricane that hit the Sunshine State last year.*
>
> *One negative feature of tax reform for utilities is in their cash flow. Many utilities are not cash taxpayers thanks to numerous credits (such as those for renewable energy), so when customers' rates are reduced to reflect the new lower tax rate, there is less cash coming in but there isn't less cash going out. Utilities are trying to address this when they file general rate cases. Some utilities owned by Southern Company and Xcel Energy (covered in Issue 11) have asked for (and received) higher common-equity ratios used to determine their revenue requirements. Another negative*

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> *feature is the lower tax shield on expenses at the parent level. Some electric utility holding companies have a good deal of debt held at the parent level. The recent price of most stocks in the Electric Utility Industry is within their 2021-2023 Target Price Range. Naturally, this makes their long-term total return potential unimpressive. The industry's average dividend yield is 3.4% (low, by historical standards), and its average 3- to 5-year total return potential is 3%.*

My conclusion from Value Line's comments here is that despite short-term challenges to cash flow coverages from the Tax Cut and Jobs Act ("TCJA") utilities still have robust valuations in terms of their current prices.

Q. IN 2018, THE EDISON ELECTRIC INSTITUTE ("EEI") PUBLISHED ITS *2017 FINANCIAL REVIEW* OF THE INVESTOR-OWNED ELECTRIC UTILITY INDUSTRY. PLEASE SUMMARIZE EEI'S CONCLUSIONS WITH RESPECT TO CREDIT RATINGS FOR THE ELECTRIC UTILITY INDUSTRY.

A. EEI's report noted the following favorable credit rating summary for 2017:

> The industry's average credit rating in 2017 was BBB+, remaining for a fourth straight year above the BBB average that has held since 2004. Ratings activity, at 53 changes, was below the industry's average for the last decade of 68 changes per year. Upgrades were 73.6% of total actions, the third-highest annual figure in our dataset and just above 2016's 73.1%. In fact, the last five years have produced the five highest upgrade percentages in our historical data.

EEI's report shows that the overall credit standing of the electric industry is still quite strong and has been improving over the last five years.

Q. WHAT CREDIT RATINGS ARE CURRENTLY ASSIGNED TO SCE&G?

A. SCE&G credit and bond ratings are as follows:

- Standard and Poor's corporate credit rating of BBB- and senior secured bond rating of BBB+, negative watch.

- Moody's Issuer Rating of Baa3 and senior secured bond rating of Baa1, negative outlook.
- Fitch's Issuer Default Rating of BB+ and first mortgage bond rating of BBB, evolving watch.

I note that S&P and Fitch lowered their ratings on SCANA and SCE&G after the filing of testimony by the Company on August 2, 2018. Fitch announced ratings downgrades for SCANA and SCE&G on August 8, 2018 and S&P announced its lower ratings on August 9, 2018.

Q. DID YOU REVIEW THE TESTIMONY AND EXHIBITS FILED BY SCE&G WITNESS LAPSON?

A. Yes. SCE&G witness Lapson summarizes the rating agencies' main concerns with respect to SCANA's and SCE&G's credit condition in her Direct Testimony. Ms. Lapson also attached several credit rating agencies reports regarding SCANA and SCE&G as exhibits, with recent July 2018 updates attached as Exhibits ___(EL-5) through ___(EL-7).

Q. BASED ON YOUR REVIEW OF THE CREDIT RATING AGENCY REPORTS, WHAT ARE YOUR CONCLUSIONS WITH RESPECT TO HOW THE COMMISSION SHOULD EVALUATE SCE&G'S ALLOWED ROE IN THIS PROCEEDING?

A. I conclude that the Commission should approach the allowed ROE in this proceeding based on the required ROE for a group of financially sound and prudently operated regulated utility companies. The Commission should not grant a higher ROE to

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SCE&G based on its current credit ratings, which are at or near the bottom of the investment grade ratings for S&P, Moody's, and Fitch.

Consider the following excerpt from S&P's report included in Ms. Lapson's Exhibit ___(EL-5):

> The CreditWatch with negative implications on SCANA and its subsidiaries reflects our view of ongoing uncertainty regarding cost recovery of the abandoned V.C. Summer nuclear construction project. We could lower the ratings if the Court does not issue an injunction prohibiting the SCPSC from implementing the new law. A rate decrease of the magnitude reflected in the law would weaken credit metrics significantly. We could also lower ratings even if the Court issues an injunction that is subsequently followed by a SCPSC order to reduce rates or an order to provide rate credits for Summer-related costs that results in weaker financial measures.

My understanding of this report from S&P is that the credit watch with negative implications is primarily due to "uncertainty regarding cost recovery of the abandoned V. C. Summer nuclear construction project."

The Moody's report included in Exhibit ___(EL-7) stated the following with respect to SCANA's and SCE&G's credit outlook:

> "The negative outlooks on SCE&G and SCANA reflect continued uncertainty surrounding the ultimate decision of the SCPSC with regard to SCE&G's recovery of its new nuclear costs, and the future of its relationship with SCE&G. The outlook reflects Moody's view that the political and regulatory environment within which the companies must operate is now considerably below average. The outlook also considers the potential for additional adverse developments as a result of ongoing investigations and legal actions related to the abandoned Summer new nuclear plant and reflects some uncertainty with regard to the company's future."

My understanding is that, like S&P, Moody's also cited uncertainty regarding the recovery of costs related to the abandoned Summer nuclear project as being primarily responsible for the negative rating outlook.

Q. PLEASE COMMENT ON THE RECENT ANNOUNCEMENTS BY S&P AND FITCH REGARDING THE DOWNGRADES OF SCE&G'S CREDIT RATINGS.

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A. The announcements by S&P and Fitch I referenced earlier do not change my opinion regarding how the Commission should treat SCE&G's allowed ROE. Both announcements came after the absence of injunctive relief following the recently enacted 14.8% rate cut for SCE&G. Nonetheless, S&P announcement noted the following:

> "We are maintaining the ratings on CreditWatch with negative implications due to uncertainty regarding the PSC's final decision about rate recovery of the V.C. Summer nuclear construction project expected around year-end 2018."

Clearly, the uncertainty regarding the disposition of the treatment of costs related to the Summer nuclear project still drive SCE&G's current credit ratings.

Q. DO THE ORS RECOMMENDATIONS IN THIS CASE BRING MORE CERTAINTY TO THE DISPOSITION OF SCE&G'S NND COSTS AND TO THE PROPOSED ACQUISITION BY DOMINION?

A. Yes. ORS has recommended an allowable amount of NND costs to be collected through the CCR Rider, as well as a full weighted cost of capital to be applied to those costs. ORS also recommends that, if the Commission were to approve the merger proposed by SCANA and Dominion, the Commission should include commitments and conditions necessary to ensure that the Merger is in the public interest and does not harm customers. The ORS recommendations bring far more certainty to SCE&G's current and future position than currently exists.

Q. SHOULD ANY ADVERSE EFFECTS FROM THE ORS RECOMMENDED DISALLOWANCE OF NND COSTS BE REFLECTED IN A HIGHER ROE FOR SCE&G?

A. No, definitely not. South Carolina ratepayers should not be burdened with any imprudent costs from the abandoned Summer plant and that includes any adverse credit

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implications from the disallowance of such costs. ORS has recommended the inclusion of allowed NND costs from the cancelled Summer plant, which will never produce a single kWh for use by SCE&G's customers. Customers should support a ROE commensurate with the operation of a prudently run investment grade regulated utility company and no more. This is a fair balancing of interests between SCE&G's shareholders and ratepayers.

Q. HAS SCE&G BEEN ABLE TO ACCESS CAPITAL MARKETS RECENTLY DESPITE THE UNCERTAINTY WITH RESPECT TO THE DISPOSITION OF THE ABANDONED SUMMER PLANT?

A. Yes, SCE&G has been able to access the capital markets this year and on favorable terms. ORS Exhibit RAB-2 contains a news release from SCANA regarding two debt issuances made by SCE&G on August 16, 2018. The release stated that SCE&G issued the following:

- $300 million of 3.5% coupon first mortgage bonds due August 15, 2021 priced at 99.997 percent.
- $400 million of 4.25% coupon first mortgage bonds due August 15, 2028 priced at 99.75 percent.

The pricing and coupon for the 10-year 4.25% first mortgage issuance is consistent with the August 2018 yield on the average utility bond, which was 4.33%. Moody's rated these issuances Baa1 and S&P's rating was BBB+. Based on this information, it appears that SCE&G is well able to access the debt market at reasonable rates.

III. DETERMINATION OF FAIR RATE OF RETURN

Q. PLEASE DESCRIBE THE METHODS YOU EMPLOYED IN ESTIMATING A FAIR RATE OF RETURN FOR SCE&G.

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A. I estimated the return on equity for the Company using a Discounted Cash Flow analysis for a group of proxy group of 22 regulated electric companies. This is the same proxy group used by SCE&G witness Hevert. I also employed two Capital Asset Pricing Model analyses using both historical and forward-looking data. However, I did not directly incorporate the CAPM results in my recommendation.

Q. WHAT ARE THE MAIN GUIDELINES TO WHICH YOU ADHERE IN ESTIMATING THE COST OF EQUITY?

A. Generally speaking the estimated cost of equity should be comparable to the returns of other firms with similar risk structures and should be sufficient for the firm to attract capital. These are the basic standards set out by the United States Supreme Court in Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944) and Bluefield W.W. & Improv. Co. v. Public Service Comm'n, 262 U.S. 679 (1922).

From an economist's perspective, the notion of "opportunity cost" plays a vital role in estimating the return on equity. One measures the opportunity cost of an investment equal to what one would have obtained in the next best alternative. For example, let us suppose that an investor decides to purchase the stock of a publicly traded electric utility. That investor made the decision based on the expectation of dividend payments and perhaps some appreciation in the stock's value over time; however, that investor's opportunity cost is measured by what she or he could have invested in as the next best alternative. That alternative could have been another utility stock, a utility bond, a mutual fund, a money market fund, or any other number of investment vehicles.

The key determinant in deciding whether to invest, however, is based on comparative levels of risk. Our hypothetical investor would not invest in a particular

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electric company stock if it offered a return lower than other investments of similar risk. The opportunity cost simply would not justify such an investment. Thus, the task for the rate of return analyst is to estimate a return that is equal to the return being offered by other risk-comparable firms.

Q. WHAT ARE THE MAJOR TYPES OF RISK FACED BY UTILITY COMPANIES?

A. In general, risk associated with the holding of common stock can be separated into three major categories: business risk, financial risk, and liquidity risk. Business risk refers to risks inherent in the operation of the business. Volatility of the firm's sales, long-term demand for its product(s), the amount of operating leverage, and quality of management are all factors that affect business risk. The quality of regulation at the state and federal levels also plays an important role in business risk for regulated utility companies.

Financial risk refers to the impact on a firm's future cash flows from the use of debt in the capital structure. Interest payments to bondholders represent a prior call on the firm's cash flows and must be met before income is available to the common shareholders. Additional debt means additional variability in the firm's earnings, leading to additional risk.

Liquidity risk refers to the ability of an investor to quickly sell an investment without a substantial price concession. The easier it is for an investor to sell an investment for cash, the lower the liquidity risk will be. Stock markets, such as the New York and American Stock Exchanges, help ease liquidity risk substantially. Investors who own stocks that are traded in these markets know daily what the market prices of their investments are and that they can sell these investments fairly quickly. Many electric utility stocks are traded on the New York Stock Exchange and are considered liquid investments.

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Q. ARE THERE ANY INDICES AVAILABLE TO INVESTORS THAT QUANTIFY THE TOTAL RISK OF A COMPANY?

A. Bond and credit ratings are tools that investors use to assess the risk comparability of firms. Bond rating agencies such as Moody's and Standard and Poor's perform detailed analyses of factors that contribute to the risk of a particular investment. The result of their analyses is a bond rating that reflects these risks. This information can then be used to select a comparison group for use in the Discounted Cash Flow model.

Discounted Cash Flow ("DCF") Model

Q. PLEASE DESCRIBE THE BASIC DCF APPROACH.

A. The basic DCF approach is rooted in valuation theory. It is based on the premise that the value of a financial asset is determined by its ability to generate future net cash flows. In the case of a common stock, those future cash flows take the form of dividends and appreciation in stock price. The value of the stock to investors is the discounted present value of future cash flows. The general equation then is:

$$\boldsymbol{V = \frac{R}{(1+r)} + \frac{R}{(1+r)^2} + \frac{R}{(1+r)^3} + \cdots \frac{R}{(1+r)^n}}$$

Where: *V = asset value*
R = yearly cash flows
r = discount rate

This is no difference from determining the value of any asset from an economic point of view; however, the commonly employed DCF model makes certain simplifying assumptions. One is that the stream of income from the equity share is assumed to be perpetual; that is, there is no salvage or residual value at the end of some maturity date (as is the case with a bond). Another important assumption is that financial markets are reasonably efficient; that is, they correctly evaluate the cash flows relative to the

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appropriate discount rate, thus rendering the stock price efficient relative to other alternatives. Finally, the model I employ also assumes a constant growth rate in dividends. The fundamental relationship employed in the DCF method is described by the formula:

$$k = {}^{D_1}/_{P_0} + g$$

Where: D_1 = *the next period dividend*
P_0 = *current stock price*
g = *expected growth rate*
k = *investor-required return*

Under the formula, it is apparent that "k" must reflect the investors' expected return. Use of the DCF method to determine an investor-required return is complicated by the need to express investors' expectations relative to dividends, earnings, and book value over an infinite time horizon. Financial theory suggests that stockholders purchase common stock on the assumption that there will be some change in the rate of dividend payments over time. We assume that the rate of growth in dividends is constant over the assumed time horizon, but the model could easily handle varying growth rates if we knew what they were. Finally, the relevant time frame is prospective rather than retrospective.

Q. WHAT WAS YOUR FIRST STEP IN CONDUCTING YOUR DCF ANALYSIS FOR SCE&G?

A. My first step was to construct a proxy group of electric companies. In this case, I chose to use the same proxy group of 22 companies used by Company witness Hevert. Mr. Hevert described his selection criteria on pages 15 through 16 of his Direct Testimony. For purposes of this case, it is reasonable to proceed with the proxy group of companies shown by Mr. Hevert in Table 2, page 17, of his Direct Testimony. Using the same proxy group as Mr. Hevert also facilitates a direct comparison of our cost of equity results free from any

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differences in the selection of a proxy group, eliminating one area of possible disagreement between us.

Q. WHAT WAS YOUR FIRST STEP IN DETERMINING THE DCF RETURN ON EQUITY FOR THE PROXY GROUP OF COMPANIES?

A. I first determined the current dividend yield, D_0/P_0, from the basic equation. My general practice is to use six months as the most reasonable period over which to estimate the dividend yield. A six-month period includes stock price data that is recent and smooths out short-term fluctuations in prices that may occur in a given month.

Q. WHICH SIX-MONTH PERIOD DID YOU USE AND WHAT WERE THE RESULTS?

A. The six-month period I used covered the months from March through August 2018. I obtained historical prices and dividends from Yahoo! Finance. The annualized dividend divided by the average monthly price represents the average dividend yield for each month in the period.

The average dividend yield for the comparison group is 3.40%. These calculations are shown on ORS Exhibit RAB-3.

Q. HAS THE PROXY GROUP DIVIDEND YIELD CHANGED MUCH DURING THE SIX-MONTH PERIOD YOU EXAMINED?

A. Looking at the six-month period, the dividend yield for the proxy group has fallen slightly from 3.54% in March to 3.26% in August. This shows that stock prices for the proxy group have increased over the six-month period despite forecasted increases in short-term interest rates by the Fed.

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Q. HAVING ESTABLISHED THE AVERAGE DIVIDEND YIELD, HOW DID YOU DETERMINE THE INVESTORS' EXPECTED GROWTH RATE FOR THE PROXY GROUP?

A. The investors' expected growth rate, in theory, correctly forecasts the constant rate of growth in dividends. The dividend growth rate is a function of earnings growth and the payout ratio, neither of which is known precisely for the future. We refer to a perpetual growth rate since the DCF model has no arbitrary cut-off point. We must estimate the investors' expected growth rate because there is no way to know with absolute certainty what investors expect the growth rate to be in the short term, much less in perpetuity.

For my analysis in this proceeding, I used three major sources of analysts' forecasts for growth. These sources are The Value Line Investment Survey, Zacks, and Yahoo! Finance. This is the method I typically use for estimating growth for my DCF calculations.

Q. PLEASE BRIEFLY DESCRIBE THE VALUE LINE INVESTMENT SURVEY, ZACKS, AND YAHOO! FINANCE.

A. The Value Line Investment Survey ("Value Line") is a widely used and respected source of investor information that covers approximately 1,700 companies in its Standard Edition and several thousand in its Plus Edition. It is updated quarterly and probably represents the most comprehensive of all investment information services. It provides both historical and forecasted information on a number of important data elements. Value Line neither participates in financial markets as a broker nor works for the utility industry in any capacity of which I am aware.

Zacks gathers opinions from a variety of analysts on earnings growth forecasts for numerous firms including regulated electric utilities. The estimates of the analysts

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responding are combined to produce consensus average estimates of earnings growth. I obtained Zacks' earnings growth forecasts from its web site.

Like Zacks, Yahoo! Finance also compiles and reports consensus analysts' forecasts of earnings growth.

Q. WHY DID YOU RELY ON ANALYSTS' FORECASTS IN YOUR ANALYSIS?

A. Return on equity analysis is a forward-looking process. Five-year or ten-year historical growth rates may not accurately represent investor expectations for future dividend and earnings growth. Analysts' forecasts for earnings and dividend growth provide better proxies for the expected growth component in the DCF model than historical growth rates. Analysts' forecasts are also widely available to investors and one can reasonably assume that they influence investor expectations.

Q. HOW DID YOU UTILIZE YOUR DATA SOURCES TO ESTIMATE GROWTH RATES FOR THE COMPARISON GROUPS?

A. ORS Exhibit RAB-4 presents the Value Line, Zacks, and Yahoo! Finance forecasted growth estimates for the comparison group. These earnings and dividend growth estimates for the comparison group are summarized on Columns (1) through (4) of page 1 of ORS Exhibit RAB-4.

In my analysis I used dividend and earnings growth from Value Line and earnings growth from Zacks and Yahoo! Finance. It is important to include dividend growth forecasts in the DCF model since the model calls for forecasted cash flows. Value Line is the only sources of which I am aware that forecasts dividend growth and my approach gives this forecast equal weight with each of the three earnings growth forecasts.

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Q. HOW DID YOU PROCEED TO DETERMINE THE DCF RETURN ON EQUITY FOR THE COMPARISON GROUP?

A. To estimate the expected dividend yield (D_1) for the group, the current dividend yield must be moved forward in time to account for dividend increases over the next twelve months. I estimated the expected dividend yield by multiplying the current dividend yield by one plus one-half the expected growth rate.

Page 2 of ORS Exhibit RAB-4 presents my standard method of calculating dividend yields, growth rates, and return on equity for the proxy group of companies. The DCF Return on Equity section shows the application of each of four growth rates I used in my analysis to the current group dividend yield of 3.40% to calculate the expected dividend yield. I then added the expected growth rates to the expected dividend yield. In evaluating investor expected growth rates, I use both the average (Method 1) and the median values (Method 2) to estimate the growth rates for the proxy group. The calculations of the resulting DCF returns on equity for both methods are presented on page 2 of ORS Exhibit RAB-4.

Q. WHAT ARE THE RESULTS OF YOUR CONSTANT GROWTH DCF ANALYSIS?

A. For the average growth rates in Method 1, the results range from 8.70% to 9.48%, with the average of these results being 9.09%. Using the median growth rates in Method 2, the results range from 8.30% to 9.24%, with the average of these results being 8.86%.

Capital Asset Pricing Model

Q. BRIEFLY SUMMARIZE THE CAPITAL ASSET PRICING MODEL ("CAPM") APPROACH.

A. The theory underlying the CAPM approach is that investors, through diversified portfolios, may combine assets to minimize the total risk of the portfolio. Diversification

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allows investors to diversify away all risks specific to a particular company and be left only with market risk that affects all companies. Thus, the CAPM theory identifies two types of risks for a security: company-specific risk and market risk. Company-specific risk includes such events as strikes, management errors, marketing failures, lawsuits, and other events that are unique to a particular firm. Market risk includes inflation, business cycles, war, variations in interest rates, and changes in consumer confidence. Market risk tends to affect all stocks and cannot be diversified away. The idea behind the CAPM is that diversified investors are rewarded with returns based on market risk. Within the CAPM framework, the expected return on a security is equal to the risk-free rate of return plus a risk premium that is proportional to the security's market, or non-diversifiable, risk. Beta is the factor that reflects the inherent market risk of a security and measures the volatility of a particular security relative to the overall market for securities. For example, a stock with a beta of 1.0 indicates that if the market rises by 15%, that stock will also rise by 15%. This stock moves in tandem with movements in the overall market. Stocks with a beta of 0.5 will only rise or fall 50% as much as the overall market. So with an increase in the market of 15%, this stock will only rise 7.5%. Stocks with betas greater than 1.0 will rise and fall more than the overall market. Thus, beta is the measure of the relative risk of individual securities vis-à-vis the market.

Based on the foregoing discussion, the equation for determining the return for a security in the CAPM framework is:

$$K = Rf + \beta(MRP)$$

Where: K = *Required Return on equity*
Rf = *Risk-free rate*
MRP = *Market risk premium*
β = *Beta*

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This equation tells us about the risk/return relationship posited by the CAPM. Investors are risk averse and will only accept higher risk if they expect to receive higher returns. These returns can be determined in relation to a stock's beta and the market risk premium. The general level of risk aversion in the economy determines the market risk premium. If the risk-free rate of return is 3.0% and the required return on the total market is 15%, then the risk premium is 12%. Any stock's required return can be determined by multiplying its beta by the market risk premium. Stocks with betas greater than 1.0 are considered riskier than the overall market and will have higher required returns. Conversely, stocks with betas less than 1.0 will have required returns lower than the market as a whole.

Q. ARE THERE CONCERNS REGARDING THE USE OF THE CAPM IN ESTIMATING THE RETURN ON EQUITY?

A. Yes. There is some controversy surrounding the use of the CAPM.[7] There is evidence that beta is not the primary factor in determining the risk of a security. For example, Value Line's "Safety Rank" is a measure of total risk, not its calculated beta coefficient. Beta coefficients usually describe only a small amount of total investment risk.

There is also substantial judgment involved in estimating the required market return. In theory, the CAPM requires an estimate of the return on the total market for investments, including stocks, bonds, real estate, etc. It is nearly impossible for the analyst to estimate such a broad-based return. Often in utility cases, a market return is estimated using the S&P 500 or the return on Value Line's stock market composite. However, these are limited sources of information with respect to estimating the investor's required return

[7] For a more complete discussion of some of the controversy surrounding the use of the CAPM, refer to *A Random Walk Down Wall Street* by Burton Malkiel, pp. 219 - 223, 11th edition.

for all investments. In practice, the total market return estimate faces significant limitations to its estimation and, ultimately, its usefulness in quantifying the investor required ROE.

In the final analysis, a considerable amount of judgment must be employed in determining the risk-free rate and market return portions of the CAPM equation. The analyst's application of judgment can significantly influence the results obtained from the CAPM. My past experience with the CAPM indicates that it is prudent to use a wide variety of data in estimating investor-required returns. Of course, the range of results may also be wide, indicating the difficulty in obtaining a reliable estimate from the CAPM.

Q. HOW DID YOU ESTIMATE THE MARKET RETURN PORTION OF THE CAPM?

A. The first source I used was the Value Line Investment Analyzer, Plus Edition, for September 7, 2018. This edition covers several thousand stocks. The Value Line Investment Analyzer provides a summary statistical report detailing, among other things, forecasted growth rates for earnings and book value for the companies Value Line follows as well as the projected total annual return over the next 3 to 5 years. I present these growth rates and Value Line's projected annual return on page 2 of ORS Exhibit RAB-5. I included median earnings and book value growth rates. The estimated market returns, using Value Line's market data, were 10.62%.

Q. WHY DID YOU USE MEDIAN GROWTH RATE ESTIMATES RATHER THAN THE AVERAGE GROWTH RATE ESTIMATES FOR THE VALUE LINE COMPANIES?

A. Using median growth rates is likely a more accurate method of estimating the central tendency of Value Line's large data set compared to the average growth rates.

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Average earnings and book value growth rates may be unduly influenced by very high or very low 3 - 5-year growth rates that are unsustainable in the long run. For example, Value Line's Statistical Summary shows both the highest and lowest value for earnings and book value growth forecasts. For earnings growth, Value Line showed the highest earnings growth forecast to be 94.5% and the lowest growth rate to be -31%. The highest book value growth rate was 85.5% and the lowest was -22%. None of these extreme levels of growth is compatible with long-run growth prospects for the market as a whole. The median growth rate is not influenced by such extremes because it represents the middle value of a very wide range of earnings growth rates.

Q. PLEASE CONTINUE WITH YOUR MARKET RETURN ANALYSIS.

A. I also considered a supplemental check to the Value Line projected market return estimates. Duff and Phelps publishes a study of historical returns on the stock market in its *2018 SBBI Yearbook*. Some analysts employ this historical data to estimate the market risk premium of stocks over the risk-free rate. The assumption is that a risk premium calculated over a long period of time is reflective of investor expectations going forward. Exhibit RAB-6 presents the calculation of the market returns using the historical data.

Q. PLEASE EXPLAIN HOW THIS HISTORICAL RISK PREMIUM IS CALCULATED.

A. ORS Exhibit RAB-6 shows both the geometric and arithmetic average of yearly historical stock market returns over the historical period from 1926 - 2017. The average annual income return for long-term Treasury bond is subtracted from these historical stocks returns to obtain the historical market risk premium. The historical market risk premium range is 5.2% - 7.1%.

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Q. DID YOU ADD AN ADDITIONAL MEASURE OF THE HISTORICAL RISK PREMIUM IN THIS CASE?

A. Yes. Duff and Phelps reported the results of a study by Dr. Roger Ibbotson and Dr. Peng Chen indicating that the historical risk premium of stock returns over long-term government bond returns has been significantly influenced upward by substantial growth in the price/earnings ("P/E") ratio for stocks from 1980 through 2001.[8] Duff and Phelps noted that this growth in the P/E ratio for stocks was subtracted out of the historical risk premium because "it is not believed that P/E will continue to increase in the future." The adjusted historical arithmetic market risk premium is 6.04%, which I have also included in ORS Exhibit RAB-6. This risk premium estimate falls near the middle of the market risk premium range shown on this exhibit.

Q. HOW DID YOU DETERMINE THE RISK-FREE RATE?

A. I used the average yields on the 30-year Treasury bond and five-year Treasury note over the six-month period from March through August 2018. This was the latest available data from the Federal Reserve's Selected Interest Rates (Daily) H.15 web site during the preparation of my Direct Testimony. The 30-year Treasury bond is often used by rate of return analysts as the risk-free rate, but it contains a significant amount of interest rate risk. The five-year Treasury note carries less interest rate risk than the 30-year bond and is more stable than three-month Treasury bills. Therefore, I have employed both securities as proxies for the risk-free rate of return. This approach provides a reasonable range over which the CAPM return on equity may be estimated.

Q. HOW DID YOU DETERMINE THE VALUE FOR BETA?

[8] *2018 SBBI Yearbook*, Duff and Phelps, pg. 10-28.

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A. I obtained the betas for the companies in the proxy group from most recent Value Line reports. The average of the Value Line betas for the comparison group is 0.66.

Q. PLEASE SUMMARIZE THE CAPM RESULTS.

A. For my forward-looking CAPM return on equity estimates, the CAPM results are 7.97% - 8.08% as presented in ORS Exhibit RAB-5. Using historical risk premiums, the CAPM results are 6.52% - 7.78% as presented in ORS Exhibit RAB-6.

Conclusions and Recommendations

Q. PLEASE SUMMARIZE THE COST OF EQUITY RESULTS FROM YOUR DCF AND CAPM ANALYSES.

A. Table 2 below summarizes the cost of equity estimates I developed using the DCF model and the CAPM.

TABLE 2
SUMMARY OF ROE ESTIMATES

Baudino DCF Methodology:	
Average Growth Rates	
- High	9.48%
- Low	8.70%
- Average	9.09%
Median Growth Rates:	
- High	9.24%
- Low	8.30%
- Average	8.86%
CAPM:	
- 5-Year Treasury Bond	7.97%
- 30-Year Treasury Bond	8.08%
- Historical Returns	6.52% - 7.78%

Q. WHAT IS YOUR RECOMMENDED RETURN ON EQUITY FOR SCE&G IN THIS PROCEEDING?

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A. My recommended ROE for SCE&G is 9.1%. My recommendation is consistent with the average of the DCF results from my Method 1 and represents a fair rate of return for a prudently operated investment grade regulated utility company. I explained in Section II of my Direct Testimony why South Carolina ratepayers should be shielded from any adverse cost of capital impacts from the disallowance of imprudently incurred costs from the abandoned Summer nuclear facility. Basing my ROE recommendation to the Commission on the required ROE for the proxy group accomplishes this end.

Q. ON PAGE 62 OF HIS DIRECT TESTIMONY MR. HEVERT PROVIDED THE EARNED RETURNS FROM THE UTILITY OPERATING COMPANIES IN THE PROXY GROUP. HOW DOES YOUR RECOMMENDED ROE OF 9.1% COMPARE TO THE EARNED RETURNS CALCULATED BY MR. HEVERT?

A. My recommended ROE of 9.1% is quite close to the 2017 earned return of 9.17% for the companies in the proxy group. It is also quite close to the 5-year average of 9.54%. My recommended ROE of 9.1% is far more consistent with the earned returns for the companies in the proxy group than the 10.75% ROE that Mr. Hevert recommends. In fact, Mr. Hevert's Chart 8 shows how out of step and grossly overstated his recommended ROE is comparatively.

Q. BEGINNING ON PAGE 54 OF HIS DIRECT TESTIMONY, MR. HEVERT DISCUSSED THE EFFECT OF THE TCJA ON THE DIVIDEND YIELDS AND FINANCIAL METRICS OF THE PROXY GROUP AND OF UTILITIES GENERALLY. PLEASE RESPOND TO HIS CONCERNS REGARDING THE POTENTIAL IMPACT ON THE PROXY GROUP'S ROE FROM THE TCJA.

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A. As a general matter, I acknowledge that the TJCA will cause a decline in the credit metrics of regulated utility companies primarily due to the reduction of cash coverages from the cut in the corporate income tax rate to 21%. Value Line noted this as well in the excerpt I quoted from in its August 17, 2018 report on the Electric Utility (East) Industry. However, whether this will necessarily result in credit rating downgrades from S&P, Moody's and Fitch is unclear at this time. Credit rating agencies consider a wide range of qualitative measures as well, which are combined in S&P's business risk profile, for example. My understanding of the rating agency reports cited by Mr. Hevert in his testimony is that any ratings actions due to the TCJA will depend on the circumstances for each utility.

In evaluating the impact, if any, of the TCJA on the required ROE for the proxy group one could look at the monthly average dividend yields of the proxy group over the last 6 months. Exhibit RAB-3 shows that the proxy group dividend yield declined from March (3.54%) through August (3.26%), indicating that stock prices increased over this period. On the basis of stock prices, then, one really cannot say that the TCJA affected stock prices adversely for the proxy group.

Likewise, we could evaluate the direction of the DJUA this year. My Table 1 shows that the DJUA increased significantly from closing at the end of February 2018 at 668.81 to closing in August 2018 at 726.41, an increase of 8.6%. The August 2018 closing level is significantly higher than the January 2017 close of 668.87 as well. This means that the DJUA is at a higher level now than before the passage of the TCJA.

Q. ON PAGE 56 OF HIS DIRECT TESTIMONY, MR. HEVERT REFERRED TO AN UPDATED MOODY'S CREDIT REVIEW DATED JUNE 18, 2018 THAT

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LOWERED THE CREDIT OUTLOOK FOR THE REGULATED UTILITY INDUSTRY FROM STABLE TO NEGATIVE. IN YOUR OPINION, DID THIS HAVE A SIGNIFICANT IMPACT ON THE EXPECTED ROE FOR YOUR PROXY GROUP?

A. No. After the June 18, 2018 release date of this report the DJUA continued to increase in July and August and the dividend yield of the proxy group declined, indicating increased stock prices for the companies in the group. Increased stock prices appear do not support Mr. Hevert's concerns about heightened credit risk.

Q. ON PAGE 59 OF HIS DIRECT TESTIMONY, MR. HEVERT OFFERED THE CONCLUSION THAT "IT IS MY VIEW THAT THE TCJA, AND ITS IMPLICATIONS FOR UTILITIES' CASH FLOWS AND CREDIT PROFILES, FURTHER SUPPORT LOOKING TO THE UPPER END OF THE RANGE OF RESULTS WHEN SETTING THE COMPANY'S ROE." DO YOU AGREE WITH HIS CONCLUSION?

A. No. To the extent there is any effect from the TCJA it is already embodied in the stock prices of the companies in the proxy group. Further, there is no need for the Commission to go to the higher end of the DCF results given the increases in stock prices for the proxy group and the increase in the DJUA. Mr. Hevert's conclusion should be rejected.

Q. IN SECTION II OF YOUR TESTIMONY, YOU MENTIONED THAT ON AUGUST 16, 2018 SCE&G ISSUED NEW LONG-TERM DEBT. SHOULD THIS NEW LONG-TERM DEBT BE INCLUDED IN THE COMPANY'S COST OF LONG-

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TERM DEBT FOR PURPOSES OF CALCULATING THE RETURN ON THE ORS' ALLOWED NND COSTS?

A. Yes. The two new debt issuances consist of $300 million of First Mortgage Bonds, 3.50% Series due August 15, 2021 and $400 million of First Mortgage Bonds, 4.25% Series due August 15, 2028. Including these two new debt issues will appropriately reflect a slightly lower cost of debt going forward for the Company. I recommend that the Commission require SCE&G to include these two new debt issuances in its cost of long-term debt, recalculate the revised cost and include it in the weighted cost of capital to be applied to the ORS allowed NND costs. For purposes of this calculation, SCE&G should use its September 30, 2017 capital structure.

Q. WHAT CAPITAL STRUCTURE DO YOU RECOMMEND FOR PURPOSES OF THIS CASE?

A. I recommend using SCE&G's capital structure ending September 30, 2017, with a common equity ratio of 52.81% and a long-term debt ratio of 47.19%. This is the capital structure proposed by the Applicants for use in the CCR Rider under the Merger Customer Benefits Plan ("CBP"). It is an imputed capital structure that does not reflect the actual impairment write offs taken in September 2017, which restores the common equity and reduces the long-term debt ratio to reflect a "normalized" proforma capital structure for ratemaking purposes. Further, Dominion stated its intent to make additional equity investments in SCE&G if the Merger is approved to restore the actual common equity to this "normalized" level.

I recommend using this capital structure because it reflects SCE&G's capital structure before the impairment losses recorded in September 2017 and December 2017

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and before any additional impairment losses that will be recorded under the ORS recommendations or the Applicants' proposed Merger CBP. Using the capital structure after the impairment losses would improperly compound the effects of the impairment losses through a reduction in the recoveries through the CCR Rider caused by the lower return.

IV. RESPONSE TO HEVERT ROE TESTIMONY

Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY OF MR. ROBERT HEVERT?

A. Yes.

Q. PLEASE SUMMARIZE MR. HEVERT'S TESTIMONY AND APPROACH TO RETURN ON EQUITY.

A. Mr. Hevert employed four methods to estimate the investor required rate of return for SCE&G: (1) the constant growth DCF model, (2) two multi-stage DCF models, (3) the CAPM and Empirical CAPM ("ECAPM"), and (4) the bond yield plus risk premium model.

For his constant growth DCF approach, he used Value Line, First Call, and Zacks for the investor expected growth rate. For the proxy group, Mr. Hevert's mean growth rate ROE results ranged from 9.16% to 9.29%.

Regarding his multi-stage DCF analyses, Mr. Hevert's models are comprised of three distinct stages with assumptions regarding growth rates and payout ratio changes. Mr. Hevert used his own forecast of growth in nominal Gross Domestic Product ("GDP") for his long-term growth rate. The mean ROE results for the Gordon Method for the proxy group ranged from 9.14% to 9.28%. The mean ROE results for the Terminal P/E method ranged from 9.67% to 10.02%.

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With respect to the CAPM, Mr. Hevert utilized a current and projected yield on the 30-Year Treasury Bond for his risk-free rate. Using the current Treasury bond yield of 3.11%, his CAPM results ranged from 10.13% to 11.91%. Using the near-term projected Treasury yield of 3.48%, his CAPM results ranged from 10.5% to 12.28%. Mr. Hevert's version of the ECAPM yielded results in the range of 11.53% - 13.33%.

Finally, Mr. Hevert's formulation of the bond yield plus risk premium approach resulted in a ROE range of 9.96% - 10.28%.

Based on the results of his analyses and judgment, Mr. Hevert recommended a ROE range for SCE&G of 10.25% to 11.00%, concluding that the cost of equity is 10.75%.

Q. BEFORE YOU PROCEED TO THE PARTICULARS OF YOUR REVIEW OF MR. HEVERT'S TESTIMONY, WHAT IS YOUR OVERALL CONCLUSION WITH RESPECT TO MR. HEVERT'S RECOMMENDED ROE RANGE?

A. Mr. Hevert's recommended ROE range of 10.25% - 11.00% fails to reflect the full range of results from his analyses. His mean DCF results, which are fairly consistent with mine, were completely excluded from his range of recommendations. This means that Mr. Hevert rejected the results from two of his four ROE methodologies, choosing instead to mainly rely on the results from the CAPM. To put this another way, consider the following:

- Mr. Hevert effectively rejected the average (mean) results from the constant growth DCF in total.
- Mr. Hevert effectively rejected the mean results from his multi-stage DCF models in total.
- Mr. Hevert effectively rejected two of the three bond yield plus risk premium results (9.96% - 10.03%).

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Mr. Hevert also apparently rejected the CAPM results that used the average Value Line beta, which ranged from 11.66% - 12.28% as well as the ECAPM results (11.53% - 13.33%). Indeed, these results are so unreasonably high that they should be rejected out of hand. Mr. Hevert's own historical data presented in his Exhibit RBH-6 show that more recent allowed returns are far below these calculated returns, making them extreme outliers. I will explain this in more detail later in my response to Mr. Hevert.

What we are left with to discern the basis for Mr. Hevert's ROE range, then, is the CAPM results from the average Bloomberg beta (10.13% - 10.71%) and the bond yield plus risk premium result of 10.28% using a forecasted Treasury bond yield. Based on the results summarized by Mr. Hevert on his Tables 1a and 1b, I was not able to determine how he obtained the 11.0% high end of his recommended ROE range. Although Mr. Hevert presented four different approaches to ROE analysis, he primarily relied on the results of one method, the CAPM.

Q. IS IT APPROPRIATE FOR MR. HEVERT TO REJECT THE MEAN RESULTS FROM HIS CONSTANT GROWTH DCF ANALYSES?

A. No. It is incorrect for Mr. Hevert to exclude the mean results of the DCF models in his recommended ROE for SCE&G. The constant growth DCF model utilizes verifiable public information with respect to investor return requirements for electric utilities. Current stock prices are the best indicators we have of investor expectations and analysts' earnings and dividend growth forecasts may reasonably be assumed to influence investors' required ROEs. Simply discarding this important publicly available information, as Mr. Hevert has done, serves to significantly overstate his recommended investor required return for the average regulated utility company. The DCF model currently shows that investor

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required returns are lower for utility stocks given their safety and security relative to the stock market as a whole.

Q. IS USING THE HIGH MEAN RESULTS FROM THE DCF MODELS APPROPRIATE?

A. No, definitely not. Mr. Hevert's high mean results simply use the highest ROE for each company in the proxy group, which is driven by the highest expected growth rate. There is no basis for assuming that investors are more likely to expect the highest growth rate from the three sources used by Mr. Hevert. The average of the three sources is a far more likely and reasonable assumption. Further, the proxy group high mean is unduly influenced by Avangrid, which has a high ROE result of over 16%.

Referring to Mr. Hevert's Table 1a, there is no single DCF mean ROE result that supports the low end of Mr. Hevert's recommended range of 10.25%. In addition, the high mean results for Mr. Hevert's multi-stage DCF models cannot be used because they are greatly overstated due to an excessively high GDP growth forecast that Mr. Hevert developed himself. I will address this in more detail later in my testimony.

Q. ON PAGE 26 OF HIS DIRECT TESTIMONY, MR. HEVERT DESCRIBED TWO DCF MODEL ASSUMPTIONS THAT HE CLAIMED "LIKELY ARE NOT CONSISTENT WITH CURRENT MARKET CONDITIONS." PLEASE SUMMARIZE THE ASSUMPTIONS ADDRESSED BY MR. HEVERT.

A. Mr. Hevert addressed the following assumptions:

- A constant payout ratio
- Constant required return on equity

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These are two of the basic assumptions that underlie the DCF model. The payout ratio refers to the percentage of earnings that are paid out in dividends. For example, if a utility company earns $1.00 per share and pays out $0.80 per share in dividends, then the payout ratio is 0.80. The constant growth DCF analysis assumes that this ratio is constant over time and is a very reasonable simplifying assumption.

The DCF model also assumes that the investor has a constant required return on equity over time. This is a logical assumption given that investors base their investment decisions on assessing expectations of the future outcomes using a current market required return on equity.

Q. DID MR. HEVERT PROVIDE SUFFICIENT BASIS FOR THE COMMISSION TO QUESTION THE DCF RESULTS?

A. No, he did not. Before I proceed to a more detailed response to Mr. Hevert's criticisms of the DCF model's assumptions, it is important to realize that none of the models Mr. Hevert and I use to estimate the investor required ROE strictly adhere to their underlying assumptions 100% of the time. The DCF, CAPM, and risk premium models all operate with certain simplifying assumptions. Earlier in my testimony I pointed out the limitations of the CAPM that must be considered in assessing its effectiveness relative to the DCF model. One of those limitations is estimating the market required rate of return. Estimating the market required rate of return requires considerable judgment on the part of the analyst, judgment that may result in a wide range of possible returns. And in fact, Mr. Hevert and I used very different estimates of the market rate of return that caused our CAPM results to differ considerably. I will address the serious underlying problems with Mr. Hevert's CAPM later in my testimony.

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I suggest that the Commission keep in mind that no ROE estimation model strictly adheres to its underlying assumptions all the time.

Q. PLEASE CONTINUE WITH YOUR RESPONSE TO MR. HEVERT'S CRITICISM OF THE DCF MODEL'S ASSUMPTIONS.

A. With respect to the assumption of a constant payout ratio, simply because the industry's current payout ratio may be above or below the long-term average payout ratio does not mean that the DCF results based on current data are questionable and should be thrown out completely. This is also the case with respect to the industry's price/earnings ("P/E") ratio and the assumption of a constant expected future return. As I have stated previously in my testimony, capital markets are efficient and can be assumed to reflect investor preferences in the prices they are willing and able to pay for a regulated utility's common stock. This includes publicly available information to which investors have access including payout and P/E ratios. The current stock price, then, is reflective of the discounted future cash flows to the investor in the form of dividends as well as the expected price of the stock when it is sold. It does not make sense for a rational investor to expect a capital loss in the future based on the price that investor pays today. What this means is that it is reasonable to assume that current stock prices are reflective of investors' required ROE and that the DCF model can provide valid information to the Commission in its determination of the allowed ROE for regulated utilities generally and SCE&G specifically. Similarly, payout ratios will also vary around their long-term historical averages based on current market conditions, but this by no means invalidates the DCF model results.

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Q. ON PAGE 26 OF HIS DIRECT TESTIMONY, MR. HEVERT TESTIFIED THAT THE "PROCESS OF NORMALIZATION, TOGETHER WITH THE UNCERTAINTY SURROUNDING THE "UNWINDING" OF THE ASSETS PUT ON THE FEDERAL RESERVE'S BALANCE SHEET DURING ITS "QUANTITATIVE EASING" INITIATIVES, INTRODUCE A DEGREE OF RISK, AND A LIKELIHOOD OF INCREASING INTEREST RATES NOT PRESENT IN THE CURRENT MARKET." DO YOU AGREE WITH THIS STATEMENT?

A. No. Instead, it is highly likely that investors have taken this information into account since it is already public knowledge given the Federal Reserve's statements regarding its plans for unwinding its Quantitative Easing program and increasing short-term interest rates. In fact, Mr. Hevert referred to these statements on pages 49 and 50 of his Direct Testimony.

Q. ON PAGE 27, LINES 3 THROUGH 8 MR. HEVERT TESTIFIED THAT SINCE 1980 ONLY ONE UTILITY RATE CASE INCLUDED AN AUTHORIZED ROE OF 9.0% FOR A VERTICALLY INTEGRATED UTILITY. PLEASE RESPOND TO MR. HEVERT'S TESTIMONY ON THIS POINT.

A. Including rate cases since 1980 is, quite frankly, an irrelevant exercise because it places too much emphasis on stale data. In the 1980s and 1990s interest rates and allowed ROEs were far higher than they have been in the last few years. Consider the following information I developed using the information in Mr. Hevert's Exhibit RBH-6:

- From 1980 through 1989, the average awarded ROE was 14.80% and the average 30-Year Treasury Bond yield was 11.35%.

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- From 1990 through 1999, the average awarded ROE was 11.91% and the average 30-Year Treasury Bond yield was 7.51%.
- From 2000 through 2009, the average awarded ROE was 10.62% and the average 30-Year Treasury Bond yield was 4.81%.

Note that this data includes all ROE awards since 1980, not just those for vertically integrated companies. Nonetheless, these averages give the Commission a general picture of the interest rate and ROE levels from the 1980s, 1990s, and 2000s and represent 1,218 of the 1,556 observations in Mr. Hevert's data set in Exhibit RBH-6. They are in no way indicative of investor required returns today given how much higher interest rates were during these prior periods. Since January 2016, the average awarded ROE was 9.63% and so far in 2018 the average allowed ROE was 9.58%. More recent ROE awards show how grossly overstated Mr. Hevert's 10.75% ROE recommendation is in today's environment.

Q. CONSIDERING THE FOREGOING DISCUSSION, PLEASE SUMMARIZE YOUR CONCLUSIONS WITH RESPECT TO MR. HEVERT'S RECOMMENDED ROE RANGE AND ROE FOR SCE&G.

A. I strongly recommend that the Commission reject Mr. Hevert's recommended ROE range and his recommended ROE of 10.75%. Mr. Hevert's ROE range omits critically important information from the DCF model and, as a result, greatly overstates the investor required ROE for investment grade regulated electric utilities.

CAPM and ECAPM

Q. BRIEFLY SUMMARIZE THE MAIN ELEMENTS OF MR. HEVERT'S CAPM APPROACH.

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A. On page 36 of his Direct Testimony, Mr. Hevert testified that he used two different measures of the risk-free interest rate: the current 30-day average yield on the 30-year Treasury bond (3.11%) and a projected 30-year Treasury bond yield (3.48%). Mr. Hevert used these yields in both his CAPM and ECAPM analyses. Mr. Hevert did not consider any shorter maturity bonds, such as the 5-year Treasury note.

Mr. Hevert then calculated ex-ante measures of total market returns using data from Bloomberg and Value Line. Total market returns from these two sources were 15.73% using Bloomberg data and a 16.10% return using Value Line data. Mr. Hevert used these market returns in both the CAPM and ECAPM. Mr. Hevert also used two different estimates for beta from Bloomberg and Value Line.

Q. IS IT APPROPRIATE TO USE FORECASTED OR PROJECTED BOND YIELDS IN THE CAPM?

A. No. Current interest rates and bond yields embody all the relevant market data and expectations of investors, including expectations of changing future interest rates. The forecasted bond yield used by Mr. Hevert is speculative at best and may never come to pass. Current interest rates provide tangible and verifiable market evidence of investor return requirements today, and these are the interest rates and bond yields that should be used in both the CAPM and in the bond yield plus risk premium analyses. To the extent that investors give forecasted interest rates any weight at all, they are already incorporated in current securities prices.

Q. YOU NOTED EARLIER THAT MR. HEVERT USED A FORECASTED 30-YEAR TREASURY BOND YIELD OF 3.48%, WHILE THE CURRENT YIELD WAS

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3.11%. WHAT DOES THIS SUGGEST WITH RESPECT TO INVESTORS CURRENTLY HOLDING 30-YEAR TREASURY BONDS?

A. It suggests that investors today should expect to incur huge losses in the value of their investments in long-term Treasury bonds, which suggests economic irrationality on their part. There is no sound basis for such an assumption.

The price of a bond moves in the opposite direction of its yield. In other words, given a certain current bond coupon and price, if the required yield on that bond increases then the price of the bond goes down. Alternatively, if the required yield declines then the price of the bond increases. This relationship can be illustrated with the following simplified example. Assume a current 30-year Treasury bond has a coupon of $3.00 and a price of $100, resulting in a current yield of 3.00%. This is the approximate current yield for 30-year Treasury bonds in the market at the time I prepared my Direct Testimony. If interest rates were to rise in the economy such that the required yield on the 30-year Treasury increased to 3.50%, then the price of our existing 30-year Treasury bond would fall to $85.71 from $100, given the coupon of $3.00. This represents a loss to our current bond investor of 14.30%.

The point here is that if investors were certain that there would soon be a substantial increase in interest rates, the rational response would be to immediately discount what they were willing to pay currently for the 30-year Treasury bond rather than pay $100 and suffer certain significant losses to the value of their bonds. The fact that the 30-Year Treasury bond is currently yielding about 3.00% suggests that investors do not expect Treasury Bonds yields to drastically increase and, as a result, cause dramatic losses in their investments.

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Q. SHOULD MR. HEVERT HAVE CONSIDERED SHORTER-TERM TREASURY YIELDS IN HIS CAPM ANALYSES?

A. Yes. In theory, the risk-free rate should have no interest rate risk. 30-year Treasury Bonds do tend to face interest rate risk, which is the risk that interest rates could rise in the future and lead to a capital loss for the bondholder. Typically, the longer the duration of the bond, the greater the interest rate risk. The 5-year Treasury note has much less interest rate risk than the 30-year Treasury Bond and may be considered one reasonable proxy for a risk-free security.

Q. PLEASE COMMENT ON MR. HEVERT'S USE OF BLOOMBERG AND VALUE LINE EARNINGS GROWTH ESTIMATES FOR THE S&P 500.

A. Mr. Hevert used earnings growth estimates from these two sources to estimate the expected market return for his CAPM and ECAPM. According to the data contained in Exhibit RBH-5, the average Value Line growth rate is 11.79% and the average Bloomberg growth rate is 12.33%. These are by no means long-run sustainable growth rates. They are well over double the long-term GDP forecast of 5.45% that Mr. Hevert used in his multi-stage DCF analysis. If forecasted GDP growth were used as the long-term growth rate for the S&P 500, then both Mr. Hevert's and my own market return estimates would fall significantly.

Q. HOW DO MR. HEVERT'S ESTIMATES OF THE OVERALL MARKET RETURN COMPARE TO YOURS?

A. My estimates of the market required return are as follows:

- Value Line 3-5 Year Total Return: 10.0%
- Value Line Growth Rates: 11.25%

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- S&P Average Historical Returns: 10.2% - 12.1%

Mr. Hevert's market returns of 15.73% - 16.10% are extraordinarily high compared to historical norms. I recommend that the Commission give Mr. Hevert's inflated market returns no weight in this proceeding.

Q. PLEASE ADDRESS THE USE OF THE ECAPM.

A. The ECAPM is supposed to account for the possibility that the CAPM understates the return on equity for companies with betas less than 1.0. The use of an adjustment factor to "correct" the CAPM results for companies with betas less than 1.0 suggests that published betas by such sources as Value Line are incorrect and that investors should not rely on them in formulating the CAPM. Further, Mr. Hevert did not present evidence that investors use the adjustment figure he calculated (alpha) in his ECAPM.

Of course, given the excessively high returns from Mr. Hevert's ECAPM, the argument regarding his use of this model is academic. All of the returns from the ECAPM fall well outside the upper end of his recommended ROE range (11.0%).

Multi-stage DCF Model

Q. PLEASE SUMMARIZE THE COMPONENTS OF MR. HEVERT'S MULTI-STAGE DCF MODEL.

A. Mr. Hevert described the structure and the inputs for his multi-stage DCF model on pages 29 through 31 of his Direct Testimony. The main elements of Mr. Hevert's multi-stage DCF analyses are as follows:

- 30, 90, and 180 average stock prices.
- First stage of growth based on the average earnings growth rates from Value Line, Zacks, and First Call.

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- A transition period from near-term to long-term growth.
- Long-term growth estimated using GDP growth based on historical real GDP growth from 1929 through 2017 (3.21%) and a forecasted inflation rate. The total nominal GDP growth rate was 5.45%.
- Expected dividend in the final year divided by solved cost of equity less long-term growth rate.
- Payout ratio assumptions based on Value Line for the first stage, a transition period, and a long-term expected payout ratio.

Q. AS A PRACTICAL MATTER, IS IT LIKELY THAT INVESTORS WOULD USE THE MULTI-STAGE MODEL PRESENTED BY MR. HEVERT?

A. No. In my opinion, it is highly unlikely that investors would employ the complicated structure and set of assumptions used by Mr. Hevert. Mr. Hevert presented no evidence that investors use such a model in forming their required returns for regulated utilities. He presented no evidence that investors use GDP growth in their evaluation of expected growth in dividends and earnings for electric utility companies. Neither did he show that investors utilize his assumptions regarding the transition period or payout ratio forecasts.

Q. IN YOUR OPINION, DID MR. HEVERT OVERSTATE EXPECTED GDP GROWTH?

A. Yes. There are two publicly available forecasts of GDP growth that have been relied upon by the Federal Energy Regulatory Commission ("FERC") in the determination of the second stage of the two-stage growth rate in its DCF return on equity formula. These forecasts come from the Energy Information Administration ("EIA"), and the Social

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Security Administration's ("SSA") Trustees Report.[9] The latest EIA GDP forecast shows expected growth in nominal GDP of 4.39%. The SSA Report forecasts nominal growth in GDP of 4.38%. I included the calculation of these two GDP growth rates on ORS Exhibit RAB-7. My calculations are based on my understanding of how the FERC Staff used the data contained in the EIA and SSA documents to calculate long-term GDP growth for the second stage of its two-stage DCF model.

These independent sources are forecasting nominal GDP growth to be substantially lower than the forecast developed by Mr. Hevert (4.38% vs. Mr. Hevert's forecast of 5.45%). In conclusion, Mr. Hevert's GDP forecast contributes to a significant overstatement of his multi-stage DCF results.

Q. DID YOU RECALCULATE MR. HEVERT'S TWO VERSIONS OF THE MULTI-STAGE DCF MODEL WITH THE LOWER GDP FORECASTS FROM EAI AND THE SSA?

A. Yes. ORS Exhibit RAB-8, pages 1 and 2 show the revised results from Mr. Hevert's multi-stage DCF models using the 180-day average prices and a long-term GDP growth forecast of 4.4%, which is the rounded average of the GDP forecasts from EAI and the SSA. ***The revised mean results from the two multi-stage DCF methods are 8.28% and 9.15%.***

If the Commission considers a two-stage, or multi-stage DCF approach in this case, then it should use the publicly available independent GDP forecasts I have provided, not the one developed by Mr. Hevert.

[9] Please see the Energy Information Administration, *Annual Energy Outlook 2018* and Social Security Administration, 2018 OASDI Trustees Report, Table VI.G6 - Selected Economic Variables.

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Risk Premium

Q. PLEASE SUMMARIZE MR. HEVERT'S RISK PREMIUM APPROACH.

A. Mr. Hevert developed a historical risk premium using Commission-allowed returns for regulated electric utility companies and 30-year Treasury bond yields from January 1980 through June 15, 2018. He used regression analysis to estimate the value of the inverse relationship between interest rates and risk premiums during that period. Applying the regression coefficients to the average risk premium and using current and projected 30-year Treasury yields I discussed earlier, Mr. Hevert's risk premium ROE estimate range is 9.96% - 10.28%.

Q. PLEASE RESPOND TO MR. HEVERT'S RISK PREMIUM ANALYSIS.

A. First, the bond yield plus risk premium approach is imprecise and can only provide very general guidance on the current authorized ROE for a regulated electric utility. Risk premiums can change substantially over time. As such, this approach is a "blunt instrument," if you will, for estimating the ROE in regulated proceedings. In my view, a properly formulated DCF model using current stock prices and growth forecasts is far more reliable and accurate than the bond yield plus risk premium approach, which relies on a historical risk premium analysis over a certain period of time.

Second, I recommend that the Commission reject the use of the forecasted Treasury bond yield for the same reasons I described in my response to Mr. Hevert's CAPM approach. Using a forecasted Treasury bond yield, rather than the current yield, will overestimate the investor required return.

Q. BEGINNING ON PAGE 44 OF HIS DIRECT TESTIMONY MR. HEVERT DISCUSSES HIS PERCEPTION OF THE CURRENT CAPITAL MARKET ENVIRONMENT. PLEASE RESPOND TO THIS DISCUSSION.

A. I presented my own view of current capital market conditions in Section II of my Direct Testimony. I would generally respond to Mr. Hevert by agreeing that it is likely that interest rates and bond yields will rise in the future. However, the expectations of investors regarding the probability and timing of this is already reflected in current prices that they are willing to pay for stocks and bonds. Given the efficiency of capital markets that I discussed earlier, the Commission does not need to use forecasted interest rates or use the high end of Mr. Hevert's DCF calculations for the allowed ROE for SCE&G.

Q. BEGINNING ON PAGE 60 MR. HEVERT PRESENTED A PROFORMA ANALYIS OF SCE&G'S EARNED RETURN ON EQUITY USING SEVERAL DIFFERENT SCENARIOS. ARE THESE ANALYSES RELEVANT TO YOUR RECOMMENDED ROE OR TO THE ORS'S RECOMMENDATIONS IN THIS CASE?

A. No. On page 62 of his Direct Testimony, Mr. Hevert explained that he considered four scenarios: The Customer Benefits Plan, The No Merger Benefits Plan, The Base Request, and Experimental rates under the Act, if made permanent. In this proceeding the ORS Staff has made its own analysis of prudent and allowable costs, including NND costs. The ORS position is summarized by Mr. Lane Kollen in his Direct Testimony. The Commission should adopt ORS's recommendations for recovery of revenue requirements, allowable NND costs, rate of return, and its position regarding the proposed Merger and related conditions.

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V. SERVICE QUALITY

Q. HAVE YOU TESTIFIED IN OTHER PROCEEDINGS REGARDING SERVICE QUALITY MEASURES AND REPORTING?

A. Yes. I have presented service quality testimony in the following recent cases:

- Docket No. 46238 before the Public Utility Commission of Texas. This case involved the proposed acquisition of Oncor Electric Delivery Company by NextEra Energy, Inc. I submitted Direct Testimony that addressed service and credit quality issues dated January 11, 2016.
- Combined Docket Nos. 39971 and 9574 before the Georgia Public Service Commission. This proceeding involved the acquisition of AGL Resources, Inc. by Southern Company. I submitted Direct Testimony on service and credit quality measures for Atlanta Gas Light and Georgia Power Company dated April 4, 2016.
- Combined Docket Nos. 16-G-0058 and 16-G-0059. These dockets involved rate proceedings for Keyspan Gas East Corp. and Brooklyn Union Gas Co. I addressed service quality standards and reporting in Direct Testimony dated May 20, 2016.
- Docket No. 16-057-01 before the Public Service Commission of Utah. This proceeding involved the proposed merger of Dominion Resources and Questar Corporation. I submitted Direct Testimony addressing the continuation of Questar's service quality standards and reporting dated July 7, 2016.

These proceedings all involved service quality standards and reporting requirements that had already been approved by state regulatory authorities. In South Carolina, the Commission has not yet set service quality standards and reporting requirements for SCE&G. Thus, the proposed acquisition by Dominion provides an excellent opportunity

for the Commission to review and establish service quality standards for SCE&G that will protect South Carolina ratepayers from possible degradation of service quality due to the proposed transaction with Dominion. Moreover, my service quality recommendations are intended to enhance SCE&G's service quality to its customers.

Q. DOES SCE&G MONITOR ANY MEASURES OF SERVICE QUALITY TO ITS SOUTH CAROLINA CUSTOMERS?

A. According to the Companies' response to ORS 4-49, SCE&G complies with the following "service quality measures and standards":

- Requirements noted in Chapter 103 of the 1976 Code, Article 3 Electric Systems and Article 4 Gas Systems.
- Compliance with its most recent *Electric General Terms and Conditions* and *Gas General Terms and Conditions.*
- *Termination of Service Due to Non-Payment Written Procedures for its Electric and Natural Gas Operations.*
- Bill of Rights for Residential electric and natural gas customers.
- The Company measures service levels in contact center operations (% of calls answered in a specific amount of time – not established or approved by the Commission. SCE&G did not provide any quantification of the percentage of calls answered in a specific amount of time.
- Customer contacts quality program – with attached *Quality Reference Guide* – not established or approved by the Commission.
- SCE&G "customer accuracy program" that reviews certain electric and gas customer transactions – not established or approved by the Commission

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- Tracking of SAIDI and SAIFI, with values provided from 2013 – 2017

I have provided SCE&G's complete response in ORS Exhibit RAB-9. Due to the voluminous nature of the attachments, I did not include them in the exhibit.

Q. PLEASE EXPLAIN THE TERMS "SAIDI" AND "SAIFI".

A. SAIDI is a measure of the length of time (duration) during a year that the average customer experienced an outage. SAIFI is a measure of how frequently customers were interrupted during the year. Table 3 below presents SCE&G's SAIDI and SAIFI values for the years 2013- 2017 and the 5-year average. These values were taken from the Companies' response to ORS 4-49.

TABLE 3

	SAIDI	SAIFI
2013	91.31	1.19
2014	96.60	1.44
2015	96.60	1.34
2016	90.50	1.27
2017	81.82	1.14
Average	91.37	1.28

For 2017, SCE&G's SAIDI was 81.82, which means that the average customer on SCE&G's system experienced 81.82 minutes of interrupted service during the year. For 2017, SCE&G's SAIFI was 1.14, meaning that the average customer was interrupted 1.14 times during 2017. Lower SAIDI and SAIFI number indicate interruptions of shorter duration and fewer interruptions, respectively.

Q. DOES DOMINION MEASURE AND REPORT ON SERVICE QUALITY METRICS FOR ITS REGULATED OPERATING SUBSIDIARIES?

A. Yes. The Companies' responses to ORS 4-47 and 4-48 provided the measures and standards followed and reported by Dominion's operating subsidiaries. The Company's response to ORS 4-48 provides numerous service quality and reliability standards that are in place for Dominion's gas operating subsidiaries. Dominion also provides regular service and reliability reports to the North Carolina and Virginia commissions for gas operations. Notably, there are no service standards in place for Dominion's electric operating subs, although Dominion follows SAIDI, SAIFI, and Average Speed of Answer ("ASA"). I have provided the Companies' responses to ORS 4-47 and 4-48 in ORS Exhibit RAB-10. Due to the voluminous amount of reports provided by the Companies in response to ORS 4-48, I did not include the reports themselves in ORS Exhibit RAB-10.

Q. EARLIER IN YOUR DIRECT TESTIMONY YOU LISTED A DOCKET IN WHICH DOMINION MERGED WITH QUESTAR CORPORATION. PLEASE DISCUSS THE SERVICE QUALITY STANDARDS THAT WERE IN PLACE FOR QUESTAR THAT DOMINION ACCEPTED AS PART OF THE MERGER.

A. Questar's Customer Satisfaction Standards ("CSS") reports covered a broad range of customer service and satisfaction components. This comprehensive set of service quality standards resulted from a Settlement agreed to by members of the Service Standards Task Force in Utah Public Service Commission Docket No. 02-057-02. Questar's CSS covered service quality in the following general areas:

- Overall impression of Questar Gas Company
- Customer care
- Customer affairs
- Service Calls - Ask-A-Tech

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- Service Calls
- Billing

Each component within the broad areas listed above had Annual Goals associated with performance. Please refer to ORS Exhibit RAB-11, which contains the 2017 CSS report from the Dominion subsidiary that took over the Questar Gas operations in Utah. The Companies filed this report as Attachment ORS 4-48 B.

Q. PLEASE PROVIDE SOME ADDITIONAL DETAILS REGARDING THE BROAD CUSTOMER SERVICE CATEGORIES YOU OUTLINED ABOVE.

A. Page 1 of ORS Exhibit RAB-11 shows 7 separate customer satisfaction categories under the main category entitled "Overall Impression of QGC" (QGC stands for Questar Gas Company). The responses are scored on a scale of 1 to 7, with 1 meaning "do not agree at all" and 7 meaning "strongly agree". The 2017 performance goal is shown along with the actual scores for each quarter and the 12 months ending 12/31/2017.

Page 2 of ORS Exhibit RAB-11 shows 11 customer care components. The first five standards have performance statistics associate with them. For example, "Percentage of emergency call answered within 60 seconds by agent" has a 2017 Annual Goal of 99%. Standards 6 through 11 are survey standards that are scored using the 1 through 7 scales.

Page 3 of ORS Exhibit RAB-11 shows the performance standards for Customer Affairs and Service Calls - Ask-A-Tech. The Ask-A-Tech standards are scored using the 1 - 7 scale.

Page 4 of ORS Exhibit RAB-11 contains 10 service standards pertaining to Service Calls. This first 5 are survey responses based on the 1 to 7 scale. Standards 6 through 10 have quantifiable performance standards with statistical goals. For example, "Emergency

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calls - company representative is onsite within 1 hour of call" has a performance standard of 95%.

Page 5 of ORS Exhibit RAB-11 shows 5 metrics for Billing. These standards are based on statistical performance compared to an annual goal. For example, "Read each meter monthly" has a goal of 99%.

Q. PLEASE EXPLAIN IN MORE DETAIL THE SERVICE QUALITY ELEMENTS THAT DOMINION'S ELECTRIC SUBSIDIARIES FOLLOW AND REPORT.

A. Please refer to ORS Exhibit RAB-12, which contains selected pages from the North Carolina Quarterly Service Reliability Data Report and the North Carolina Quarterly Call Center Performance Report. These reports were provided by the Companies as attachments to their response to ORS 4-48.

Page 1 of ORS Exhibit RAB-12 presents performance indicators SAIDI and SAIFI for Dominion North Carolina Power for the last quarter of 2017. This report shows:

- The five-year SAIDI and SAIFI averages including and excluding major storms.
- Quarterly and end of year SAIDI and SAIFI results for 2017.
- How the SAIDI and SAIFI numbers were calculated.
- The major event exclusion methodology

Page 2 of ORS Exhibit RAB-12 presents Call Center Performance Metrics for Dominion Energy North Carolina and Dominion Energy Virginia for the 4th Quarter of 2017. This report follows customer satisfaction measures for automated voice system and customer service representatives as well as average response time performance metrics that include answer rate and average speed of answer.

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Q. PLEASE EXPLAIN WHY THE COMMISSION SHOULD IMPOSE SERVICE QUALITY CONDITIONS AND REPORTING STANDARDS TO THE MERGER.

A. First, it is important that South Carolina ratepayers are assured of excellent quality of service. The proposed acquisition should not result in diminished quality of service to SCE&G customers should Dominion attempt to cut costs after the acquisition is completed. Service quality standards with regular reporting to the Commission will assure all stakeholders that the integrity of SCE&G's service quality will be maintained and even enhanced.

Second, SCE&G has no Commission-approved service quality standards and reporting requirements in place currently. Dominion's electric and gas operating subsidiaries do have such standards and reporting requirements. Thus, Dominion understands how to gather, evaluate, and report on service quality for its gas and electric operations. It would benefit customers if, as the new owner of SCE&G, Dominion employed this expertise in South Carolina.

Q. DO YOU HAVE CONCERNS REGARDING SCE&G'S QUALITY OF SERVICE FOR ELECTRIC OPERATIONS?

A. Yes. J.D. Power released its 2018 Electric Utility Residential Customer Satisfaction Study on July 11, 2018. I included the press release from J.D. Power in ORS Exhibit RAB-13. According to J.D. Power:

> "The J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study is based on responses from more than 104,000 online interviews conducted from July 2017 through May 2018 among residential customers of the 138 largest electric utility brands across the United States, which collectively represent more than 99 million households."

J.D. Power's survey ranked electric utility companies in terms of overall residential customer satisfaction by region. Please refer to page 8 of ORS Exhibit RAB-13, which

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shows J.D. Power's customer satisfaction index ranking of electric utilities in the South region. Of the 14 electric utilities included in the South region, SCE&G ranked next to last in residential customer satisfaction. Dominion received an average score. The highest-ranking utility was Georgia Power Company.

Based on J.D. Power's 2018 ranking of residential customer satisfaction, SCE&G has substantial room for improvement. My recommended service quality standards and reporting will provide an incentive for the Company to improve its quality of service to South Carolina ratepayers.

Q. PLEASE PRESENT THE SERVICE QUALITY MEASURES THAT THE COMMISSION SHOULD REQUIRE FOR SCE&G'S ELECTRIC OPERATIONS.

A. For SCE&G's electric operations, the standards should include:

- SAIDI and SAIFI reporting shown on ORS Exhibit RAB-12, page 1.
- Call Center Performance Metrics shown on ORS Exhibit RAB-12, page 2.
- Yearly plan for addressing the 5% worst performing feeders on the Company's system.

The Commission should require quarterly reporting similar to the reporting in Dominion's filings contained in ORS Exhibit RAB-12. Quarterly reporting to the Commission should begin no less than three (3) months after the close of the transaction.

The Commission should also require a yearly report from SCE&G with a plan for addressing its 5% worst performing feeders on the electric system. This should assist the Company and the Commission in making sure that SCE&G is making consistent improvement in its system reliability.

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Q. WHAT OTHER REPORTING SHOULD THE COMMISSION REQUIRE IF IT APPROVES THE PROPOSED MERGER?

A. Within six (6) months of closing the transaction, SCE&G should file a detailed report with the Commission identifying opportunities for improving the service quality to electric customers on SCE&G's system. The 2018 J.D. Power press release I provided to the Commission shows a low level of customer satisfaction with SCE&G's electric service. SCE&G should address this situation as soon as possible and provide the Commission, ORS, and other stakeholders a report showing how it intends to improve electric service customer satisfaction in South Carolina. This report should contain specific actions and metrics that could be included in the quarterly service quality reports that I recommend the Commission require SCE&G to provide.

I also recommend that the Commission open a docket within two (2) years from the filing of the service quality improvement report to evaluate SCE&G's progress on service quality. ORS and other stakeholders may intervene in this docket. SCE&G should be required to submit testimony to demonstrate its progress and experience with service quality since the close of the merger.

Q. PLEASE PRESENT THE SERVICE QUALITY MEASURES THAT THE COMMISSION SHOULD REQUIRE FOR SCE&G'S GAS OPERATIONS.

A. I recommend that SCE&G file quarterly service quality reports with the same service quality metrics shown in the report for Dominion contained in ORS Exhibit RAB-11. For purposes of this case, I recommend that the goals for each metric be the same as the current 2017 goals used by Dominion in Utah. Since Dominion already has experience

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with this kind of reporting and data gathering, it should be readily able to apply this expertise in South Carolina.

I recommend that quarterly reporting on the gas service quality metrics commence no less than six months after the close of the transaction between Dominion, SCANA, and SCE&G.

I also recommend that SCE&G file testimony regarding its experience with gas service quality in the service quality proceeding I recommended earlier for the electric operations in South Carolina. In this way, the Commission, ORS, and other stakeholders may fully evaluate the impact of the merger on the electric and gas service quality for South Carolina customers.

VI. CREDIT QUALITY CONDITIONS

Q. PLEASE PRESENT THE CREDIT QUALITY CONDITIONS THAT YOU RECOMMEND BE ADOPTED BY THE COMMISSION.

A. I recommend that the Commission approve the following credit quality conditions related to the proposed merger:

1. The ROE for SCE&G should be determined using a proxy group of investment grade regulated utilities. The Commission should not allow Dominion or SCE&G to pass through increases in the cost of equity due to adverse effects from the proposed acquisition or from any additional risk due to imprudent actions by SCANA and/or SCE&G.
2. The Commission should require that the cost of new long-term debt issued by or for SCE&G be set based on the lower of the prevailing cost of debt for an average

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investment grade regulated utility (rated BBB/Baa/A) or on SCE&G's actual cost of new long-term debt.

Q. PLEASE EXPLAIN WHY THE COMMISSION SHOULD DETERMINE THE COST OF EQUITY FOR SCE&G BASED ON A PROXY GROUP OF INVESTMENT GRADE REGULATED UTILITY COMPANIES.

A. The Commission should protect South Carolina's ratepayers from any adverse impacts from the proposed transaction on SCE&G's ROE. Although it is very likely that the acquisition by Dominion will improve SCE&G's credit quality, ratepayers must be protected from unforeseen circumstances that may result from the proposed acquisition. Both Mr. Robert Hevert and myself estimated the ROE for SCE&G based on a proxy group of investment grade regulated utilities, though our recommended ROEs are strikingly different. Nonetheless, our approaches of using a proxy group of regulated utilities is similar and should be followed in all subsequent proceedings before the Commission.

It is also very important that South Carolina ratepayers be shielded from any adverse financial consequences from SCANA's and SCE&G's involvement in the abandoned Summer nuclear project, including any findings of imprudent actions. Disallowances of costs from the abandoned NND project should not be partially or indirectly compensated for through a higher cost of capital.

Q. PLEASE ADDRESS WHY THE COST OF NEW LONG-TERM DEBT SHOULD BE BASED ON THE AVERAGE COST, OR YIELD, ON CURRENT INVESTMENT GRADE (BBB/Baa/A) LONG-TERM UTILITY DEBT.

A. If SCE&G/Dominion issues new long-term debt that is rated lower that SCE&G's current debt rating due to adverse consequences of the proposed merger, then ratepayers

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should not have to pay for the higher cost of the new lower credit quality debt. Tying the cost of SCE&G's new post-transaction long-term debt to the lower of actual cost or the cost of average investment grade long-term utility debt will help ensure ratepayer protection from lower post-transaction debt ratings for SCE&G.

Q. WILL YOU UPDATE YOUR TESTIMONY BASED ON INFORMATION THAT BECOMES AVAILABLE?

A. Yes. ORS fully reserves the right to revise its recommendation via supplemental testimony should new information become available not previously provided by the Joint Applicants, or from pending state and federal investigations and lawsuits.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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Office of Regulatory Staff
RICHARD BAUDINO
EXHIBIT LIST
South Carolina Electric & Gas Company and Dominion Energy, Inc.
Docket No. 2017-370-E

EXHIBIT NUMBER	DESCRIPTION
RAB-1	Resume and Expert Testimony Appearances
RAB-2	SCANA August 16, 2018 Debt Offering Announcement
RAB-3	SCE&G Proxy Group Average Price, Dividend, and Dividend Yield
RAB-4	SCE&G Proxy Group DCF Growth Rate Analysis and Return on Equity
RAB-5	SCE&G Proxy Group Capital Asset Pricing Model Analysis
RAB-6	SCE&G Proxy Group CAPM with Historic Market Risk Premium
RAB-7	FERC GDP Growth Rate
RAB-8	Hevert Multi-Stage DCF Model with 4.40% GDP Growth
RAB-9	Response to ORS Request 4-49
RAB-10	Response to ORS Requests 4-47 and 4-48
RAB-11	Customer Satisfaction Standards Quarterly Report
RAB-12	Pages from Attachment ORS 4-48 (RSW) 2 and 3
RAB-13	Press Release J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study

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RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-five years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

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RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Climax Molybdenum Company
Connecticut Industrial Energy Consumers
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
South Carolina Office of Regulatory Staff
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

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Expert Testimony Appearances
of
Richard A. Baudino
As of September 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

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Expert Testimony Appearances
of
Richard A. Baudino
As of September 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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Date	Case	Jurisdict.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Expert Testimony Appearances
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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T	WV	West Virginia Energy Users Group	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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Date	Case	Jurisdict.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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Date	Case	Jurisdict.	Party	Utility	Subject
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

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Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Co.	Return on equity, capital structure
8/18	18-05-16	CT	Connecticut Industrial Energy Consumers	Connecticut Natural Gas Co.	Cost and revenue allocation
9/18	9484	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design
9/18	2017-370-E	SC	South Carolina Office of Regulatory Staff	South Carolina Electric & Gas, Dominion Resources, SCANA	Return on equity, service quality standards, credit quality conditions

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South Carolina Electric & Gas Company Announces Debt Offering

Cayce, SC, August 16, 2018 --- South Carolina Electric & Gas Company (SCE&G), principal subsidiary of SCANA Corporation (NYSE:SCG), announced today that it sold, in a negotiated offering, a total of $700 million principal amount of its First Mortgage Bonds. The sale consisted of $300 million principal amount of its First Mortgage Bonds, 3.50 percent Series due August 15, 2021 and $400 million principal amount of its First Mortgage Bonds, 4.25 percent Series due August 15, 2028. The 3-year and 10-year bonds sold today are initially being offered to the public at 99.997 percent and 99.750 percent respectively. Merrill Lynch, Pierce, Fenner & Smith Incorporated, J.P. Morgan Securities LLC, Morgan Stanley & Co. LLC, and Wells Fargo Securities, LLC acted as joint book-running managers, and FTN Financial Securities Corp. and Synovus Securities, Inc. acted as co-managers for the transaction.

SCE&G intends to apply the net proceeds from the sale of the bonds to pay $550 million of First Mortgage Bonds with a maturity date of November 1, 2018. SCE&G may also apply the net proceeds from the sale of the bonds to repay borrowings under a credit agreement and other short-term debt and for general corporate purposes.

It is anticipated that these bonds will be issued on August 17, 2018. The transaction is subject to normal closing conditions.

Copies of a written prospectus and related prospectus supplement meeting the requirements of Section 10 of the Securities Act of 1933, as amended, relating to the offering of these bonds may be obtained by contacting: Merrill Lynch, Pierce, Fenner & Smith Incorporated, 200 North College Street, NC1-004-03-43, Charlotte, NC, 28255-0001, Attention: Prospectus Department, telephone: 1-800-294-1322, email: dg.prospectus_requests@baml.com; J.P. Morgan Securities LLC, 383 Madison Avenue, New York, New York 10179, Attn: Investment Grade Syndicate Desk, Telephone: 1-212-834-4533; Morgan Stanley & Co. LLC, 180 Varick Street, New York, New York 10014, Attention: Prospectus Department, telephone: 1-866-718-1649; Wells Fargo Securities, LLC, 608 2nd Avenue South, Suite 1000, Minneapolis, Minnesota 55402, telephone: 1-800-645-3751, email: wfscustomerservice@wellsfargo.com.

This news release does not constitute an offer to sell or a solicitation of an offer to buy any of the bonds or any other securities, nor will there be any sale of the bonds or any other securities in any state or jurisdiction in which such an offer, solicitation or sale is not permitted. A registration statement relating to these bonds has been filed with the Securities and Exchange Commission and is effective.

PROFILE

SCANA Corporation, headquartered in Cayce, S.C., is an energy-based holding company principally engaged, through subsidiaries, in electric and natural gas utility operations and other energy-related businesses. Information about SCANA and its businesses is available at www.scana.com.

SCE&G is a regulated public utility engaged in the generation, transmission, distribution and sale of electricity to approximately 727,000 customers in the central, southern and southwestern portions of South Carolina. The company also provides natural gas service to approximately 373,000 customers throughout South Carolina. More information about SCE&G is available at www.sceg.com.

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18
ALLETE	High Price ($)	72.800	77.450	79.860	78.620	80.780	79.420
	Low Price ($)	67.070	70.400	73.760	70.460	75.850	74.470
	Avg. Price ($)	69.935	73.925	76.810	74.540	78.315	76.945
	Dividend ($)	0.560	0.560	0.560	0.560	0.560	0.560
	Mo. Avg. Div.	3.20%	3.03%	2.92%	3.01%	2.86%	2.91%
	6 mos. Avg.	2.99%					
Alliant Energy	High Price ($)	41.040	43.270	43.470	42.780	43.950	43.840
	Low Price ($)	37.850	40.340	40.110	38.220	41.410	41.390
	Avg. Price ($)	39.445	41.805	41.790	40.500	42.680	42.615
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.40%	3.21%	3.21%	3.31%	3.14%	3.14%
	6 mos. Avg.	3.23%					
Ameren Corp.	High Price ($)	56.790	58.950	59.790	61.250	62.410	65.090
	Low Price ($)	53.080	55.010	55.720	55.210	59.150	60.780
	Avg. Price ($)	54.935	56.980	57.755	58.230	60.780	62.935
	Dividend ($)	0.458	0.458	0.458	0.458	0.458	0.458
	Mo. Avg. Div.	3.33%	3.21%	3.17%	3.14%	3.01%	2.91%
	6 mos. Avg.	3.13%					
American Electric Power	High Price ($)	69.240	70.980	69.990	70.300	71.890	72.910
	Low Price ($)	64.600	66.460	64.460	62.710	68.130	69.320
	Avg. Price ($)	66.920	68.720	67.225	66.505	70.010	71.115
	Dividend ($)	0.620	0.620	0.620	0.620	0.620	0.620
	Mo. Avg. Div.	3.71%	3.61%	3.69%	3.73%	3.54%	3.49%
	6 mos. Avg.	3.63%					
Avangrid, Inc.	High Price ($)	51.500	53.000	54.550	53.160	54.180	51.210
	Low Price ($)	47.540	49.585	51.310	49.600	48.750	49.000
	Avg. Price ($)	49.520	51.292	52.930	51.380	51.465	50.105
	Dividend ($)	0.432	0.432	0.432	0.432	0.432	0.432
	Mo. Avg. Div.	3.49%	3.37%	3.26%	3.36%	3.36%	3.45%
	6 mos. Avg.	3.38%					
Black Hills Corp.	High Price ($)	54.620	57.280	59.490	61.650	64.140	61.460
	Low Price ($)	50.490	52.630	55.530	55.070	59.010	58.620
	Avg. Price ($)	52.555	54.955	57.510	58.360	61.575	60.040
	Dividend ($)	0.475	0.475	0.475	0.475	0.475	0.475
	Mo. Avg. Div.	3.62%	3.46%	3.30%	3.26%	3.09%	3.16%
	6 mos. Avg.	3.31%					

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18
CMS Energy Corp.	High Price ($)	45.580	47.480	47.200	47.580	48.680	50.120
	Low Price ($)	41.980	43.790	43.720	42.520	46.250	47.180
	Avg. Price ($)	43.780	45.635	45.460	45.050	47.465	48.650
	Dividend ($)	0.358	0.358	0.358	0.358	0.358	0.358
	Mo. Avg. Div.	3.27%	3.13%	3.15%	3.17%	3.01%	2.94%
	6 mos. Avg.	3.11%					
DTE Energy Co.	High Price ($)	105.190	106.240	105.460	105.130	109.660	114.120
	Low Price ($)	99.520	101.820	99.000	94.250	101.880	106.270
	Avg. Price ($)	102.355	104.030	102.230	99.690	105.770	110.195
	Dividend ($)	0.883	0.883	0.883	0.883	0.883	0.883
	Mo. Avg. Div.	3.45%	3.39%	3.45%	3.54%	3.34%	3.20%
	6 mos. Avg.	3.40%					
Duke Energy Corp.	High Price ($)	77.910	80.850	80.410	80.150	81.750	82.720
	Low Price ($)	74.580	75.960	73.130	71.960	77.900	79.510
	Avg. Price ($)	76.245	78.405	76.770	76.055	79.825	81.115
	Dividend ($)	0.890	0.890	0.890	0.890	0.890	0.928
	Mo. Avg. Div.	4.67%	4.54%	4.64%	4.68%	4.46%	4.58%
	6 mos. Avg.	4.59%					
El Paso Electric Co.	High Price ($)	51.250	51.550	59.130	59.350	62.700	64.350
	Low Price ($)	48.050	48.500	49.450	54.750	58.250	60.950
	Avg. Price ($)	49.650	50.025	54.290	57.050	60.475	62.650
	Dividend ($)	0.335	0.335	0.335	0.360	0.360	0.360
	Mo. Avg. Div.	2.70%	2.68%	2.47%	2.52%	2.38%	2.30%
	6 mos. Avg.	2.51%					
Hawaiian Electric Ind.	High Price ($)	34.620	35.130	35.200	34.510	36.200	36.030
	Low Price ($)	32.580	33.790	32.880	32.590	34.140	34.160
	Avg. Price ($)	33.600	34.460	34.040	33.550	35.170	35.095
	Dividend ($)	0.310	0.310	0.310	0.310	0.310	0.310
	Mo. Avg. Div.	3.69%	3.60%	3.64%	3.70%	3.53%	3.53%
	6 mos. Avg.	3.61%					
IDACORP	High Price ($)	88.600	94.160	96.010	93.280	95.350	99.280
	Low Price ($)	80.290	84.820	87.340	85.230	90.920	92.030
	Avg. Price ($)	84.445	89.490	91.675	89.255	93.135	95.655
	Dividend ($)	0.590	0.590	0.590	0.590	0.590	0.590
	Mo. Avg. Div.	2.79%	2.64%	2.57%	2.64%	2.53%	2.47%
	6 mos. Avg.	2.61%					

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18
NextEra Energy, Inc.	High Price ($)	164.410	165.150	166.620	169.530	171.500	175.650
	Low Price ($)	151.340	158.650	155.220	155.060	163.510	165.450
	Avg. Price ($)	157.875	161.900	160.920	162.295	167.505	170.550
	Dividend ($)	1.110	1.110	1.110	1.110	1.110	1.110
	Mo. Avg. Div.	2.81%	2.74%	2.76%	2.74%	2.65%	2.60%
	6 mos. Avg.	2.72%					
Northwestern Corp.	High Price ($)	54.190	55.750	55.800	57.740	59.920	62.160
	Low Price ($)	50.460	52.430	52.770	51.530	55.980	58.030
	Avg. Price ($)	52.325	54.090	54.285	54.635	57.950	60.095
	Dividend ($)	0.550	0.550	0.550	0.550	0.550	0.550
	Mo. Avg. Div.	4.20%	4.07%	4.05%	4.03%	3.80%	3.66%
	6 mos. Avg.	3.97%					
OGE Energy Corp.	High Price ($)	32.830	33.390	35.420	35.540	36.590	37.690
	Low Price ($)	30.760	31.490	32.700	33.190	34.130	35.580
	Avg. Price ($)	31.795	32.440	34.060	34.365	35.360	36.635
	Dividend ($)	0.333	0.333	0.333	0.333	0.333	0.333
	Mo. Avg. Div.	4.18%	4.10%	3.90%	3.87%	3.76%	3.63%
	6 mos. Avg.	3.91%					
Otter Tail Corp.	High Price ($)	44.550	44.850	48.350	48.750	49.750	49.750
	Low Price ($)	39.650	42.300	42.550	44.800	47.000	47.350
	Avg. Price ($)	42.100	43.575	45.450	46.775	48.375	48.550
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.18%	3.08%	2.95%	2.86%	2.77%	2.76%
	6 mos. Avg.	2.93%					
Pinnacle West Capital	High Price ($)	80.210	81.850	80.730	81.250	83.050	82.830
	Low Price ($)	75.210	77.140	75.820	73.410	77.560	78.270
	Avg. Price ($)	77.710	79.495	78.275	77.330	80.305	80.550
	Dividend ($)	0.695	0.695	0.695	0.695	0.695	0.695
	Mo. Avg. Div.	3.58%	3.50%	3.55%	3.59%	3.46%	3.45%
	6 mos. Avg.	3.52%					
PNM Resources	High Price ($)	38.700	40.730	40.600	40.050	39.900	40.950
	Low Price ($)	34.950	37.100	37.600	34.950	37.170	38.250
	Avg. Price ($)	36.825	38.915	39.100	37.500	38.535	39.600
	Dividend ($)	0.265	0.265	0.265	0.265	0.265	0.265
	Mo. Avg. Div.	2.88%	2.72%	2.71%	2.83%	2.75%	2.68%
	6 mos. Avg.	2.76%					

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18
Portland General Electric	High Price ($)	41.060	42.700	42.930	43.290	46.000	47.560
	Low Price ($)	39.020	39.180	39.660	39.600	42.100	44.380
	Avg. Price ($)	40.040	40.940	41.295	41.445	44.050	45.970
	Dividend ($)	0.340	0.340	0.340	0.363	0.363	0.363
	Mo. Avg. Div.	3.40%	3.32%	3.29%	3.50%	3.29%	3.15%
	6 mos. Avg.	3.33%					
Southern Company	High Price ($)	45.100	46.750	46.580	46.850	48.650	49.430
	Low Price ($)	43.020	43.750	42.420	42.730	46.020	43.630
	Avg. Price ($)	44.060	45.250	44.500	44.790	47.335	46.530
	Dividend ($)	0.580	0.580	0.600	0.600	0.600	0.600
	Mo. Avg. Div.	5.27%	5.13%	5.39%	5.36%	5.07%	5.16%
	6 mos. Avg.	5.23%					
WEC Energy Group	High Price ($)	63.130	64.840	64.930	64.980	66.500	68.480
	Low Price ($)	58.920	61.390	59.960	58.480	63.190	64.920
	Avg. Price ($)	61.025	63.115	62.445	61.730	64.845	66.700
	Dividend ($)	0.553	0.553	0.553	0.553	0.553	0.553
	Mo. Avg. Div.	3.62%	3.50%	3.54%	3.58%	3.41%	3.31%
	6 mos. Avg.	3.49%					
Xcel Energy	High Price ($)	45.870	47.380	46.930	46.240	47.150	48.720
	Low Price ($)	42.570	43.930	43.280	41.990	44.540	45.870
	Avg. Price ($)	44.220	45.655	45.105	44.115	45.845	47.295
	Dividend ($)	0.380	0.380	0.380	0.380	0.380	0.380
	Mo. Avg. Div.	3.44%	3.33%	3.37%	3.45%	3.32%	3.21%
	6 mos. Avg.	3.35%					
Monthly Avg. Dividend Yield		3.54%	3.42%	3.41%	3.45%	3.30%	3.26%
6-month Avg. Dividend Yield		3.40%					

Source: Yahoo! Finance

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SCE&G PROXY GROUP
DCF Growth Rate Analysis

Company	(1) Value Line DPS	(2) Value Line EPS	(3) Zacks	(4) Yahoo! Finance
ALLETE, Inc.	4.50%	5.00%	6.00%	6.00%
Alliant Energy Corporation	6.00%	6.50%	5.49%	5.75%
Ameren Corp.	5.50%	7.50%	6.61%	6.90%
American Electric Power Co.	5.00%	4.50%	5.59%	5.59%
Avangrid, Inc.	5.00%	13.00%	9.14%	10.40%
Black Hills Corporation	6.00%	6.50%	3.98%	4.57%
CMS Energy Corporation	7.00%	7.00%	6.18%	6.92%
DTE Energy Company	6.50%	7.00%	5.33%	5.67%
Duke Energy	4.00%	5.50%	4.64%	4.13%
El Paso Electric Co.	7.00%	4.50%	4.67%	4.70%
Hawaiian Electric	2.00%	3.50%	7.09%	7.10%
IDACORP, Inc.	6.50%	3.00%	2.78%	3.40%
NextEra Energy, Inc.	11.00%	9.00%	8.38%	9.44%
Northwestern Corporation	4.50%	3.50%	2.27%	2.45%
OGE Energy Corp.	8.00%	6.00%	4.82%	4.70%
Otter Tail Corporation	3.50%	7.50%	N/A	9.00%
Pinnacle West Capital Corp.	5.50%	5.00%	4.47%	3.72%
PNM Resources, Inc.	7.00%	7.50%	4.64%	4.45%
Portland General Electric Company	6.00%	4.00%	3.13%	3.30%
Southern Company	3.50%	3.00%	4.50%	2.10%
WEC Energy Group	6.00%	7.00%	4.13%	4.54%
Xcel Energy Inc.	5.50%	5.50%	5.78%	5.95%
Averages	5.70%	5.98%	5.22%	5.49%
Median Values	5.75%	5.75%	4.82%	5.15%

Sources: **Value Line Investment Survey, June 15, July 27, and August 17, 2018**
Yahoo! Finance growth rates retrieved August 14, 2018
Zacks growth rates retrieved August 14, 2018

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SCE&G PROXY GROUP
DCF RETURN ON EQUITY

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) Zack's Earning Gr.	(4) Yahoo! Earning Gr.	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	3.40%	3.40%	3.40%	3.40%	3.40%
Average Growth Rate	5.70%	5.98%	5.22%	5.49%	5.60%
Expected Div. Yield	3.49%	3.50%	3.48%	3.49%	3.49%
DCF Return on Equity	***9.19%***	***9.48%***	***8.70%***	***8.98%***	***9.09%***
Method 2:					
Dividend Yield	3.40%	3.40%	3.40%	3.40%	3.40%
Median Growth Rate	5.75%	5.75%	4.82%	5.15%	5.37%
Expected Div. Yield	3.49%	3.49%	3.48%	3.48%	3.49%
DCF Return on Equity	***9.24%***	***9.24%***	***8.30%***	***8.63%***	***8.86%***

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SCE&G PROXY GROUP
Capital Asset Pricing Model Analysis

30-Year Treasury Bond, Value Line Beta

Line No.		Value Line
1	Market Required Return Estimate	10.62%
2	Risk-free Rate of Return, 30-Year Treasury Bond	
3	Average of Last Six Months	3.07%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.56%
6	Comparison Group Beta	0.66
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.02%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.08%

5-Year Treasury Bond, Value Line Beta

1	Market Required Return Estimate	10.62%
2	Risk-free Rate of Return, 5-Year Treasury Bond	
3	Average of Last Six Months	2.75%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.88%
6	Comparison Group Beta	0.66
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.23%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	7.97%

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SCE&G PROXY GROUP
Capital Asset Pricing Model Analysis

Supporting Data for CAPM Analyses

30 Year Treasury Bond Data

	Avg. Yield
March-18	3.09%
April-18	3.07%
May-18	3.13%
June-18	3.05%
July-18	3.01%
August-18	3.04%
6 month average	3.07%

Source: www.federalreserve.gov/datadownload/

5 Year Treasury Bond Data

	Avg. Yield
March-18	2.63%
April-18	2.70%
May-18	2.82%
June-18	2.78%
July-18	2.78%
August-18	2.77%
6 month average	2.75%

Value Line Market Return Data:

Forecasted Data:	
Value Line Median Growth Rates:	
Earnings	12.00%
Book Value	8.50%
Average	10.25%
Average Dividend Yield	0.95%
Estimated Market Return	11.25%
Value Line Projected 3-5 Yr. Median Annual Total Return	10.00%
Average of Projected Mkt. Returns	10.62%

Source: Value Line Investment Survey for Windows retreived September 7, 2018

Comparison Group Betas:

	Value Line
ALLETE, Inc.	0.75
Alliant Energy Corporation	0.70
Ameren Corp.	0.65
American Electric Power Co.	0.65
Avangrid, Inc.	0.30
Black Hills Corporation	0.85
CMS Energy Corporation	0.65
DTE Energy Company	0.65
Duke Energy	0.55
El Paso Electric Co.	0.75
Hawaiian Electric	0.65
IDACORP, Inc.	0.65
NextEra Energy	0.60
Northwestern Corp.	0.65
OGE Energy Corp.	0.95
Otter Tail Corp.	0.85
Pinnacle West Capital Corp.	0.65
PNM Resources	0.75
Portland General Electric Company	0.65
Southern Company	0.50
WEC Energy Group	0.60
Xcel Energy Inc.	0.60
Average	0.66

SCE&G PROXY GROUP
Capital Asset Pricing Model Analysis
Historic Market Premium

	Geometric Mean	Arithmetic Mean	Adjusted Arithmetic Mean
Long-Term Annual Return on Stocks	10.20%	12.10%	
Long-Term Annual Income Return on Long-Term Treas. Bonds	5.00%	5.00%	
Historical Market Risk Premium	5.20%	7.10%	6.04%
Comparison Group Beta, Value Line	0.66	0.66	0.66
Beta * Market Premium	3.45%	4.71%	4.01%
Current 30-Year Treasury Bond Yield	3.07%	3.07%	3.07%
CAPM Cost of Equity, Value Line Beta	**6.52%**	**7.78%**	**7.07%**

Source: *2018 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation*, Duff and Phelps; pp. 6-17, 10-31

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FERC GDP GROWTH RATE

	2020	2050	2070	
Energy Information Administration				
Real GDP	18,335	33,205		
GDP Deflator	1.217	2.437		
	22,314	80,921		4.39%
SSA Trustees Report	22,288		189,838	4.38%
Average GDP Growth Rate				4.38%

Sources:

Energy Information Administration, *Annual Energy Outlook 2018* (Macroeconomic Indicators).
Social Security Administration, 2018 OASDI Trustees Report, Table VI.G6

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Hevert Multi-Stage Growth Discounted Cash Flow Model
180 Day Average Stock Price
Average EPS Growth Rate Estimate in First Stage, Revised GDP Growth Rate of 4.40%

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal
Company	Ticker	Price	Zacks	First Call	Value Line	Average	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	$74.39	6.00%	6.00%	5.00%	5.67%	4.40%	65.00%	64.00%	65.57%	($0.00)	7.69%	20.78	4.72
Alliant Energy Corporation	LNT	$41.41	5.60%	5.85%	6.50%	5.98%	4.40%	64.00%	64.00%	65.57%	($0.00)	8.24%	17.84	4.05
Ameren Corporation	AEE	$58.05	6.50%	6.30%	7.50%	6.77%	4.40%	60.00%	59.00%	65.57%	($0.00)	8.34%	17.35	3.94
American Electric Power Company, Inc.	AEP	$69.91	5.70%	5.79%	4.50%	5.33%	4.40%	67.00%	63.00%	65.57%	($0.00)	8.37%	17.24	3.92
Avangrid, Inc.	AGR	$50.25	9.10%	10.40%	13.00%	10.83%	4.40%	76.00%	66.00%	65.57%	($0.00)	8.07%	18.68	4.25
Black Hills Corporation	BKH	$57.41	4.10%	3.86%	5.00%	4.32%	4.40%	55.00%	60.00%	65.57%	($0.00)	8.54%	16.54	3.76
CMS Energy Corporation	CMS	$45.84	6.40%	7.05%	7.00%	6.82%	4.40%	61.00%	61.00%	65.57%	$0.00	8.35%	17.34	3.94
DTE Energy Company	DTE	$105.75	5.30%	5.59%	7.00%	5.96%	4.40%	61.00%	60.00%	65.57%	$0.00	8.67%	16.05	3.65
Duke Energy Corporation	DUK	$80.74	4.70%	4.22%	5.50%	4.81%	4.40%	76.00%	80.00%	65.57%	($0.00)	8.47%	16.81	3.82
El Paso Electric	EE	$54.16	5.10%	5.20%	4.50%	4.93%	4.40%	57.00%	61.00%	65.57%	($0.00)	7.69%	20.82	4.73
Hawaiian Electric Industries, Inc.	HE	$34.70	7.10%	9.10%	3.50%	6.57%	4.40%	66.00%	59.00%	65.57%	($0.00)	8.28%	17.62	4.01
IDACORP, Inc.	IDA	$89.13	3.90%	3.10%	3.50%	3.50%	4.40%	57.00%	63.00%	65.57%	$0.00	7.57%	21.56	4.90
NextEra Energy, Inc.	NEE	$156.22	8.60%	9.79%	8.50%	8.96%	4.40%	55.00%	63.00%	65.57%	$0.00	8.37%	17.24	3.92
NorthWestern Corporation	NWE	$55.80	3.00%	3.16%	3.50%	3.22%	4.40%	64.00%	64.00%	65.57%	($0.00)	8.40%	17.10	3.89
OGE Energy Corp.	OGE	$33.47	6.00%	4.30%	6.00%	5.43%	4.40%	69.00%	71.00%	65.57%	($0.00)	8.93%	15.10	3.43
Otter Tail Corporation	OTTR	$44.07	NA	9.00%	7.50%	8.25%	4.40%	66.00%	60.00%	65.57%	$0.00	8.27%	17.69	4.02
Pinnacle West Capital Corporation	PNW	$81.85	4.50%	3.78%	5.00%	4.43%	4.40%	63.00%	63.00%	65.57%	($0.00)	8.30%	17.57	3.99
PNM Resources, Inc.	PNM	$39.36	5.10%	4.30%	7.50%	5.63%	4.40%	53.00%	50.00%	65.57%	($0.00)	8.05%	18.74	4.26
Portland General Electric Company	POR	$43.26	2.80%	2.65%	4.00%	3.15%	4.40%	64.00%	63.00%	65.57%	$0.00	7.91%	19.52	4.44
Southern Company	SO	$46.80	4.50%	2.72%	3.00%	3.41%	4.40%	80.00%	74.00%	65.57%	($0.00)	9.31%	13.95	3.17
WEC Energy Group, Inc.	WEC	$63.81	4.10%	4.43%	7.00%	5.18%	4.40%	66.00%	64.00%	65.57%	$0.00	8.14%	18.31	4.16
Xcel Energy Inc.	XEL	$46.44	5.70%	5.89%	5.50%	5.70%	4.40%	62.00%	63.00%	65.57%	($0.00)	8.27%	17.71	4.02
											Mean	8.28%	17.80	
											Max	9.31%		
											Min	7.57%		

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Hevert Multi-Stage Growth Discounted Cash Flow Model - Terminal P/E Ratio Equals 20.54
180 Day Average Stock Price
Average EPS Growth Rate Estimate in First Stage, Revised GDP Growth Rate of 4.40%

Inputs		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Stock	EPS Growth Rate Estimates				Long-Term	Payout Ratio			Iterative Solution		Terminal	Terminal
Company	Ticker	Price	Zacks	First Call	Value Line	Average	Growth	2018	2022	2028	Proof	IRR	P/E Ratio	PEG Ratio
ALLETE, Inc.	ALE	$74.39	6.00%	6.00%	5.00%	5.67%	4.40%	65.00%	64.00%	65.57%	($0.00)	7.63%	20.54	4.67
Alliant Energy Corporation	LNT	$41.41	5.60%	5.85%	6.50%	5.98%	4.40%	64.00%	64.00%	65.57%	($0.00)	9.07%	20.54	4.67
Ameren Corporation	AEE	$58.05	6.50%	6.30%	7.50%	6.77%	4.40%	60.00%	59.00%	65.57%	$0.00	9.35%	20.54	4.67
American Electric Power Company, Inc.	AEP	$69.91	5.70%	5.79%	4.50%	5.33%	4.40%	67.00%	63.00%	65.57%	($0.00)	9.41%	20.54	4.67
Avangrid, Inc.	AGR	$50.25	9.10%	10.40%	13.00%	10.83%	4.40%	76.00%	66.00%	65.57%	$0.00	8.64%	20.54	4.67
Black Hills Corporation	BKH	$57.41	4.10%	3.86%	5.00%	4.32%	4.40%	55.00%	60.00%	65.57%	$0.00	9.82%	20.54	4.67
CMS Energy Corporation	CMS	$45.84	6.40%	7.05%	7.00%	6.82%	4.40%	61.00%	61.00%	65.57%	($0.00)	9.35%	20.54	4.67
DTE Energy Company	DTE	$105.75	5.30%	5.59%	7.00%	5.96%	4.40%	61.00%	60.00%	65.57%	($0.00)	10.12%	20.54	4.67
Duke Energy Corporation	DUK	$80.74	4.70%	4.22%	5.50%	4.81%	4.40%	76.00%	80.00%	65.57%	($0.00)	9.63%	20.54	4.67
El Paso Electric	EE	$54.16	5.10%	5.20%	4.50%	4.93%	4.40%	57.00%	61.00%	65.57%	$0.00	7.61%	20.54	4.67
Hawaiian Electric Industries, Inc.	HE	$34.70	7.10%	9.10%	3.50%	6.57%	4.40%	66.00%	59.00%	65.57%	($0.00)	9.20%	20.54	4.67
IDACORP, Inc.	IDA	$89.13	3.90%	3.10%	3.50%	3.50%	4.40%	57.00%	63.00%	65.57%	($0.00)	7.28%	20.54	4.67
NextEra Energy, Inc.	NEE	$156.22	8.60%	9.79%	8.50%	8.96%	4.40%	55.00%	63.00%	65.57%	$0.00	9.41%	20.54	4.67
NorthWestern Corporation	NWE	$55.80	3.00%	3.16%	3.50%	3.22%	4.40%	64.00%	64.00%	65.57%	($0.00)	9.48%	20.54	4.67
OGE Energy Corp.	OGE	$33.47	6.00%	4.30%	6.00%	5.43%	4.40%	69.00%	71.00%	65.57%	($0.00)	10.70%	20.54	4.67
Otter Tail Corporation	OTTR	$44.07	NA	9.00%	7.50%	8.25%	4.40%	66.00%	60.00%	65.57%	($0.00)	9.16%	20.54	4.67
Pinnacle West Capital Corporation	PNW	$81.85	4.50%	3.78%	5.00%	4.43%	4.40%	63.00%	63.00%	65.57%	($0.00)	9.22%	20.54	4.67
PNM Resources, Inc.	PNM	$39.36	5.10%	4.30%	7.50%	5.63%	4.40%	53.00%	50.00%	65.57%	($0.00)	8.61%	20.54	4.67
Portland General Electric Company	POR	$43.26	2.80%	2.65%	4.00%	3.15%	4.40%	64.00%	63.00%	65.57%	($0.00)	8.21%	20.54	4.67
Southern Company	SO	$46.80	4.50%	2.72%	3.00%	3.41%	4.40%	80.00%	74.00%	65.57%	$0.00	11.48%	20.54	4.67
WEC Energy Group, Inc.	WEC	$63.81	4.10%	4.43%	7.00%	5.18%	4.40%	66.00%	64.00%	65.57%	($0.00)	8.82%	20.54	4.67
Xcel Energy Inc.	XEL	$46.44	5.70%	5.89%	5.50%	5.70%	4.40%	62.00%	63.00%	65.57%	($0.00)	9.15%	20.54	4.67
											Mean	9.15%	20.54	
											Max	11.48%		
											Min	7.28%		

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SOUTH CAROLINA ELECTRIC & GAS COMPANY
OFFICE OF REGULATORY STAFF'S CONTINUING
AUDIT INFORMATION REQUEST
DOCKET NO. 2017-207-E (5th Continuing AIR)
DOCKET NO. 2017-305-E (4th Continuing AIR)
DOCKET NO. 2017-370-E (4th Continuing AIR)

REQUEST 4-49:

Provide all service quality measures and standards that are currently effective for SCE&G. Identify which of these measures and standards have been established and/or approved by the Commission.

RESPONSE 4-49:

The service quality measures and standards that are currently effective for SCE&G are:

- The Company complies with requirements noted in Chapter 103 of the 1976 Code (Public Service Commission (Statutory Authority: 1976 Code §§ 58–3–140, 58–23–10, 58–23–590, 58–23–1010, and 58–23–1830)) Article 3 Electric Systems and Article 4 Gas Systems. (Please see "Response 4-49 103 Electric" on the enclosed CD.)

- The Company complies with its most recent *Electric General Terms and Conditions* (Effective for Service Rendered On and After February 28, 2018) and its *Gas General Terms and Conditions* (Effective for bills rendered on and after January 1, 2016). The General Terms and Conditions for both the Electric and Gas businesses are required under Chapter 103. (Please see "Response 4-49 103 Gas" on the enclosed CD.)

- The Company adheres to its *Termination of Service Due to Non-Payment Written Procedures for its Electric and Natural Gas Operations* (Revision date: August 31, 2015). (Attached)

- The Company complies with its *Bill of Rights For Residential Customers of Electrical Utilities* and *Bill of Rights For Residential Customers of Natural Gas Utilities*. (Attached)

- The Company measures service levels in our contact center operations (% of calls answered within a specific amount of time). The measure is used to plan staffing needs for our contact centers. (Not established and/or approved by the Commission.)

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- The Company manages a customer contacts (calls and emails) quality program. The program focuses on the value of the customer's experience by identifying opportunities, maintaining quality standards, and encouraging employee engagement to improve the way we serve our customers – *Quality Reference Guide* (Attached).

  Key parts of the program include:

  - Quality Assessments - A sampling of calls and emails for each customer service representative is randomly selected and assessed every month in accordance with the Quality Reference Guide (a set of internal guidelines that identify expected behaviors during customer interactions).
  - Targeted Development – Quality metrics are used to identify opportunities for improvement in quality performance, as well as to deliver targeted training and coaching to our employees.

(The contacts quality program is not established and/or approved by the Commission.)

- SCE&G's customer accuracy program reviews certain electric and gas customer transactions to ensure accuracy and compliance and promote accountability.

  Key parts of the program include:

  - Errors occurring during the normal course of business (service orders, credit transactions/ credit arrangements, non-registering meters, etc.) are reported by various areas within the company to the Quality Assurance team. The Quality Assurance team reviews/ analyzes errors, with high priority placed on errors that may impact customers. Process and performance improvements focus on eliminating repeat error types.
  - Accuracy findings are used to provide improvements to employee training and development, coaching employees, customer information system (CIS) enhancements.

(The customer accuracy program is not established and/or approved by the Commission.)

- In addition to these service standards, SCE&G tracks both SAIDI (System Average Interruption Duration Index) and SAIFI (System Average Interruption Frequency Index) as industry endorsed measures of electric service reliability to customers.

SCE&G RELIABILITY STATISTICS

2013 - 2017

	2013	2014	2015	2016	2017
SAIDI*	91.31	96.60	96.60	90.50	81.82
SAIFI*	1.19	1.44	1.34	1.27	1.14

**values represent adjustment for MEDs*

Responsible person: Carol Clements

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SOUTH CAROLINA ELECTRIC & GAS COMPANY
OFFICE OF REGULATORY STAFF'S CONTINUING
AUDIT INFORMATION REQUEST
DOCKET NO. 2017-207-E (5th Continuing AIR)
DOCKET NO. 2017-305-E (4th Continuing AIR)
DOCKET NO. 2017-370-E (4th Continuing AIR)

REQUEST 4-47:

Provide all service quality measures and standards that are currently effective for each of Dominion's regulated utility operating companies.

RESPONSE 4-47:

Please see Response 4-48 for these measures and standards.

While the Company uses the following standard industry metrics to measure service quality, there are currently no standards in effect for Dominion Energy's electric utility operating company.

- System Average Interruption Duration Index ("SAIDI")
- System Average Interruption Frequency Index ("SAIFI")
- Average Speed of Answer ("ASA")

Responsible Persons: Robert Wright and Jeff Murphy

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SOUTH CAROLINA ELECTRIC & GAS COMPANY
OFFICE OF REGULATORY STAFF'S CONTINUING
AUDIT INFORMATION REQUEST
DOCKET NO. 2017-207-E (5th Continuing AIR)
DOCKET NO. 2017-305-E (4th Continuing AIR)
DOCKET NO. 2017-370-E (4th Continuing AIR)

REQUEST 4-48:

Provide a copy of all ongoing service quality and reliability reports filed with regulatory commissions by Dominion's regulated utility operating companies from 2015 through 2018.

RESPONSE 4-48:

The ongoing service quality and reliability reports filed with regulatory commissions by Dominion Energy's natural gas utility operating companies from 2015 through 2017 are included in Attachments ORS 4-48 A through F. No such reports are filed by Dominion's West Virginia natural gas utility, Hope Gas, Inc. d/b/a Dominion Energy West Virginia.

The ongoing service quality and reliability reports filed with regulatory commissions by Dominion Energy's electric utility operating company for the requested timeframe are provided in the following attachments:

- VA Quarterly Service Reliability Data Report – Attachment ORS 4-48 (RSW) 1 of 3
- NC Quarterly Service Reliability Data Report – Attachment ORS 4-48 (RSW) 2 of 3
- NC Quarterly Call Center Performance Report – Attachment ORS 4-48 (RSW) 3 of 3

Responsible Persons: Robert Wright and Jeff Murphy

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CUSTOMER SATISFACTION STANDARDS
QUARTERLY REPORT

	Service	2017 Annual Goal	Measurement Source	Q1 2017	Q2 2017	Q3 2017	Q4 2017	12 Mo. Ended 12/31/17
Overall Impression of QGC								
1	How satisfied are you with the product and services you receive	6.0	CSS	6.3	6.3	6.2	6.3	6.3
2	Delivers natural gas to my home/good value for price paid	5.5	CSS	5.8	5.9	5.9	5.8	5.8
3	Keeps me informed when/why natural gas rates change before it happens	5.0	CSS	5.4	5.5	5.2	5.2	5.3
4	Consistently delivers natural gas to my home without disruption	6.5	CSS	6.7	6.7	6.6	6.7	6.7
5	Is honest and open in its dealings	5.5	CSS	5.8	6.0	5.9	5.8	5.9
6	Safely delivers natural gas to my home	6.5	CSS	6.6	6.6	6.6	6.6	6.6
7	Demonstrates care and concern for people like me	5.0	CSS	5.7	5.8	5.6	5.6	5.7

(1 to 7 scale: 1= do not agree at all; 7= strongly agree)
CSS - Customer Satisfaction Survey

ORS EXHIBIT RAB-11
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CUSTOMER SATISFACTION STANDARDS
QUARTERLY REPORT

	Service	2017 Annual Goal	Measurement Source	Q1 2017	Q2 2017	Q3 2017	Q4 2017	12 Mo. Ended 12/31/17
Customer Care								
1	Percentage of calls answered within 60 seconds after customer chooses menu option	85%	Internal Statistics	84.4%	88.1%	92.0%	92.2%	89.2%
2	Percentage of emergency calls answered within 60 seconds by agent	99%	Internal Statistics	99.5%	99.4%	99.5%	99.4%	99.4%
3	Average wait for customer after menu selection	less than 45 seconds	Internal Statistics	70	51	33	29	46
4	Callers that hang up after menu choice is made	less than 2%	Internal Statistics	1.9%	1.5%	1.0%	0.9%	1.3%
5	Amount of time talking with customer and completing request	less than 5 minutes	Internal Statistics	5.1	5.0	4.8	4.9	5.0
6	The phone staff was courteous	6.0	CSS	6.6	6.7	6.7	6.6	6.7
7	The phone staff was knowledgeable	6.0	CSS	6.5	6.6	6.6	6.3	6.5
8	My call was answered quickly	5.5	CSS	6.1	6.4	6.2	6.1	6.2
9	The person I spoke with was able to resolve my issue	6.0	CSS	6.4	6.4	6.5	6.2	6.3
10	The automated menu was easy to use	5.7	CSS	6.0	6.2	5.9	6.0	6.0
11	How satisfied are you with the actions taken by Questar Gas in response to your call	5.8	CSS	6.2	6.3	6.4	6.1	6.2

(1 to 7 scale: 1= do not agree at all; 7= strongly agree)
CSS - Customer Satisfaction Survey

ORS EXHIBIT RAB-11
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CUSTOMER SATISFACTION STANDARDS
QUARTERLY REPORT

	Service	2017 Annual Goal	Measurement Source	Q1 2017	Q2 2017	Q3 2017	Q4 2017	12 Mo. Ended 12/31/17
Customer Affairs								
1	Respond to customer regarding any PSC complaint within 5 business days	100%	Public Service Commission Report	100%	100%	100%	100%	100%

	Service	2017 Annual Goal	Measurement Source	Q1 2017	Q2 2017	Q3 2017	Q4 2017	12 Mo. Ended 12/31/17
Service Calls - Ask-A-Tech								
1	The technician was courteous	6.2	CSS	6.7	6.8	6.8	6.8	6.8
2	The technician was knowledgeable	6.2	CSS	6.7	6.7	6.8	6.6	6.7
3	The technician was able to help me quickly	5.9	CSS	6.6	6.6	6.6	6.7	6.6
4	The technician was able to help me resolve my issue	5.9	CSS	6.5	6.3	6.5	6.6	6.5
5	The automated menu was easy to use	5.7	CSS	6.4	6.1	6.4	6.5	6.3
6	How satisfied are you with the technician's overall performance	6.0	CSS	6.7	6.5	6.5	6.5	6.5

(1 to 7 scale: 1= do not agree at all; 7= strongly agree)
CSS - Customer Satisfaction Survey

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CUSTOMER SATISFACTION STANDARDS
QUARTERLY REPORT

	Service	2017 Annual Goal	Measurement Source	Q1 2017	Q2 2017	Q3 2017	Q4 2017	12 Mo. Ended 12/31/17
Service Calls								
1	The service technician was courteous	6.4	CSS	7.0	6.8	6.8	6.8	6.8
2	The service technician was knowledgeable	6.4	CSS	6.9	6.8	6.7	6.7	6.8
3	The service technician was able to help me quickly	6.2	CSS	6.8	6.7	6.6	6.6	6.7
4	The service technician was able to help me resolve my issue	6.2	CSS	6.8	6.4	6.5	6.5	6.5
5	How satisfied are you with the service technician's overall performance	6.3	CSS	6.8	6.7	6.6	6.7	6.7
6	Emergency calls - company representative is onsite within 1 hour of call	95%	Internal Statistics	98.1%	98.3%	98.4%	98.3%	98.3%
7	Remove meter seal within 1 business day requested by customer for activation	95%	Internal Statistics	100.0%	100.0%	100.0%	100.0%	100.0%
8	Activate or reactivate customers' gas service within 3 business days	95%	Internal Statistics	100.0%	100.0%	100.0%	100.0%	100.0%
9	Keeping customer appointments	95%	Internal Statistics	100.0%	100.0%	98.9%	100.0%	99.7%
10	Restore interrupted service caused by system failure within 1 business day (except for service interruptions caused by natural disasters, force majeure events and significant third party actions)	24 hours	Internal Statistics	100%	100%	100%	100%	100%

(1 to 7 scale: 1= do not agree at all; 7= strongly agree)
CSS - Customer Satisfaction Survey

ORS EXHIBIT RAB-11
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CUSTOMER SATISFACTION STANDARDS
QUARTERLY REPORT

	Service	2017 Annual Goal	Measurement Source	Q1 2017	Q2 2017	Q3 2017	Q4 2017	12 Mo. Ended 12/31/17
Billing								
1	Read each meter monthly	99%	Billing Statistics	94.2%	97.4%	97.0%	93.8%	95.6%
2	Percent of adjustments	3% Annual	Billing Statistics	0.53%	0.53%	0.73%	0.60%	2.39%
3	Send corrected statement to customer	5 Business Days	Internal Report	1.75 days	2.21 days	1.75 days	3.24 days	2.33 days
4	Percentage of billing inquiries requiring investigation responded to within 7 business day	95%	Internal Statistics	99.7%	99.8%	99.8%	97.8%	99.3%
5	Response time to investigate meter problems and notify customer within 15 business days	95%	Internal Statistics	97%	94%	90%	84%	91%

ORS EXHIBIT RAB-11
Page 5 of 6

	Service	2008 Annual Goal	2004-2007 Results: Measurement Source	2004	2005	2006	2007
Customer Safety							
1	Line breaks caused by third parties	N/A	Internal Report	1462	1549	1745	1874
2	Number of gas leaks per 100 miles of main	10	DOT Report	4.8	4.9	5.2	5.2
3	Number of gas leaks per 100 miles of service	40	DOT Report	14.61	16.39	16.59	20.5
4	Number of gas leaks per 100 miles of transmission	1	DOT Report	0	0	0	0.3
5	Number of third party tear outs per number of Blue Stake calls	0.01	Internal Report	0.0045	0.0047	0.0049	0.0051

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Dominion North Carolina Power
Performance Indicators - North Carolina Service Territory

		Excluding Major Storms	Including Major Storms
Five-year History	**SAIFI**		
	Year-end 2012:	1.29	1.62
	Year-end 2013:	1.01	1.16
	Year-end 2014:	1.34	1.45
	Year-end 2015:	1.24	1.34
	Year-end 2016:	1.21	2.29
	5-Year Average Annual SAIFI:	1.22	1.57
	SAIFI		
	1st Quarter 2017:	0.16	0.26
	2nd Quarter 2017:	0.33	0.33
	3rd Quarter 2017:	0.26	0.26
	4th Quarter 2017:	0.15	0.15
	Total For Last 12 - Months	0.90	1.01

Five-year History	**SAIDI**		
	Year-end 2012:	118	197
	Year-end 2013:	116	149
	Year-end 2014:	138	185
	Year-end 2015:	134	168
	Year-end 2016:	140	1,120
	5-Year Average Annual SAIDI:	129	364
	SAIDI		
	1st Quarter 2017:	19	74
	2nd Quarter 2017:	34	34
	3rd Quarter 2017:	36	36
	4th Quarter 2017:	19	19
	Total For Last 12 - Months	108	163

Indices:

System average interruption frequency index (sustained interruptions):
SAIFI = Total Number of Customer Interruptions / Total Number of Customers Served = Average Interruptions/Customer

System average interruption duration index:
SAIDI = Sum of all Customer Interruption Durations / Total Number of Customers Served = Average Minutes Out/Customer

Major Event Exclusion Methodology
2013 to Present - Calculated using IEEE 1366 Methodology
2012 Calculated using the former storm exclusion methodology

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Call Center Regulatory Conditions

Call Center Performance Metrics for Dominion Energy North Carolina / Dominion Energy Virginia

Q4 2017 Update

This document relates to regulatory conditions from NC Docket No. E-100 Sub 138; Rule R8-4A.

Customer Satisfaction Metrics

The customer service representative score is specific to customers in North Carolina only, while the automated voice system is based on customers of both Dominion Energy Virginia and Dominion Energy North Carolina.

Please note that customers rating their satisfaction an '8, 9 or 10' are considered 'highly satisfied.'

CSAT with call center performance is measured through these two specific measures:

- **Automated voice system** *% rating satisfaction '8, 9, or 10' on 1-10 scale*
- **Customer service representative** *% rating satisfaction '8, 9, or 10' on 1-10 scale*

Customer Satisfaction Measure	Q4 – 17	Q3 – 17	Q2 – 17	Q1 – 17
Automated voice system ***(% 8-10)*** *(VA/NC)*	**94%**	**94%**	**94%**	**94%**
Customer service representative ***(% 8-10)*** *(NC)*	**96%**	**96%**	**96%**	**95%**

Average Response Time Performance

Answer rate and average speed of answer are based on customers of both Dominion Energy Virginia and Dominion Energy North Carolina.

Average Response Time Measures	12 months ending Q4 -2017
Answer Rate (live voice-handled calls) *(VA/NC)*	**94.3%**
Average Speed of Answer (live voice- and technology-handled calls) *(VA/NC)*	**27.3**

J.D. POWER

Press Release

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Residential Electric Utility Customer Satisfaction Increases for Seventh Consecutive Year, Driven by Proactive Communication, J.D. Power Finds

COSTA MESA, Calif.: 11 July 2018 — Overall customer satisfaction with residential electric utility companies shows a seventh consecutive year-over-year increase, according to the J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study,SM released today.

"Proactive communications, primarily delivered through digital channels, such as email, text message, or social media post, are having a significant positive impact on residential electric utility customer satisfaction," said **John Hazen, senior director of the energy practice at J.D. Power**. "Power outages are going to happen. The more proactive electric utilities are in clearly communicating information about the cause, anticipated duration, and repair of an outage, the more satisfied their customers will be with their overall service."

The study, now in its 20th year, measures customer satisfaction with electric utility companies by examining six factors: power quality & reliability; price; billing & payment; corporate citizenship; communications; and customer service.

Following are the highest-ranking utilities in each region:

- Cooperatives Segment: **Sawnee EMC**
- East Large Segment: **PPL Electric Utilities**
- East Midsize Segment: **Penn Power**
- Midwest Large Segment: **MidAmerican Energy**
- Midwest Midsize Segment: **Kentucky Utilities**
- South Large Segment: **Georgia Power**
- South Midsize Segment: **EPB**
- West Large Segment: **SRP**
- West Midsize Segment: **Clark Public Utilities**

The J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study is based on responses from more than 104,000 online interviews conducted from July 2017 through May 2018 among residential customers of the 138 largest electric utility brands across the United States, which collectively represent more than 99 million households.

For more information about the Electric Utility Residential Customer Satisfaction Study, visit http://www.jdpower.com/resource/electric-utility-residential-customer-satisfaction-study.

See the online press release at http://www.jdpower.com/pr-id/2018105.

J.D. Power is a global leader in consumer insights, advisory services and data and analytics. These capabilities enable J.D. Power to help its clients drive customer satisfaction, growth and profitability. Established in 1968, J.D. Power is headquartered in Costa Mesa, Calif., and has offices serving North/South America, Asia Pacific and Europe. J.D. Power is a portfolio company of XIO Group, a global alternative investments and private equity firm headquartered in London, and is led by its four founders: Athene Li, Joseph Pacini, Murphy Qiao and Carsten Geyer.

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# # #

NOTE: Nine charts follow.

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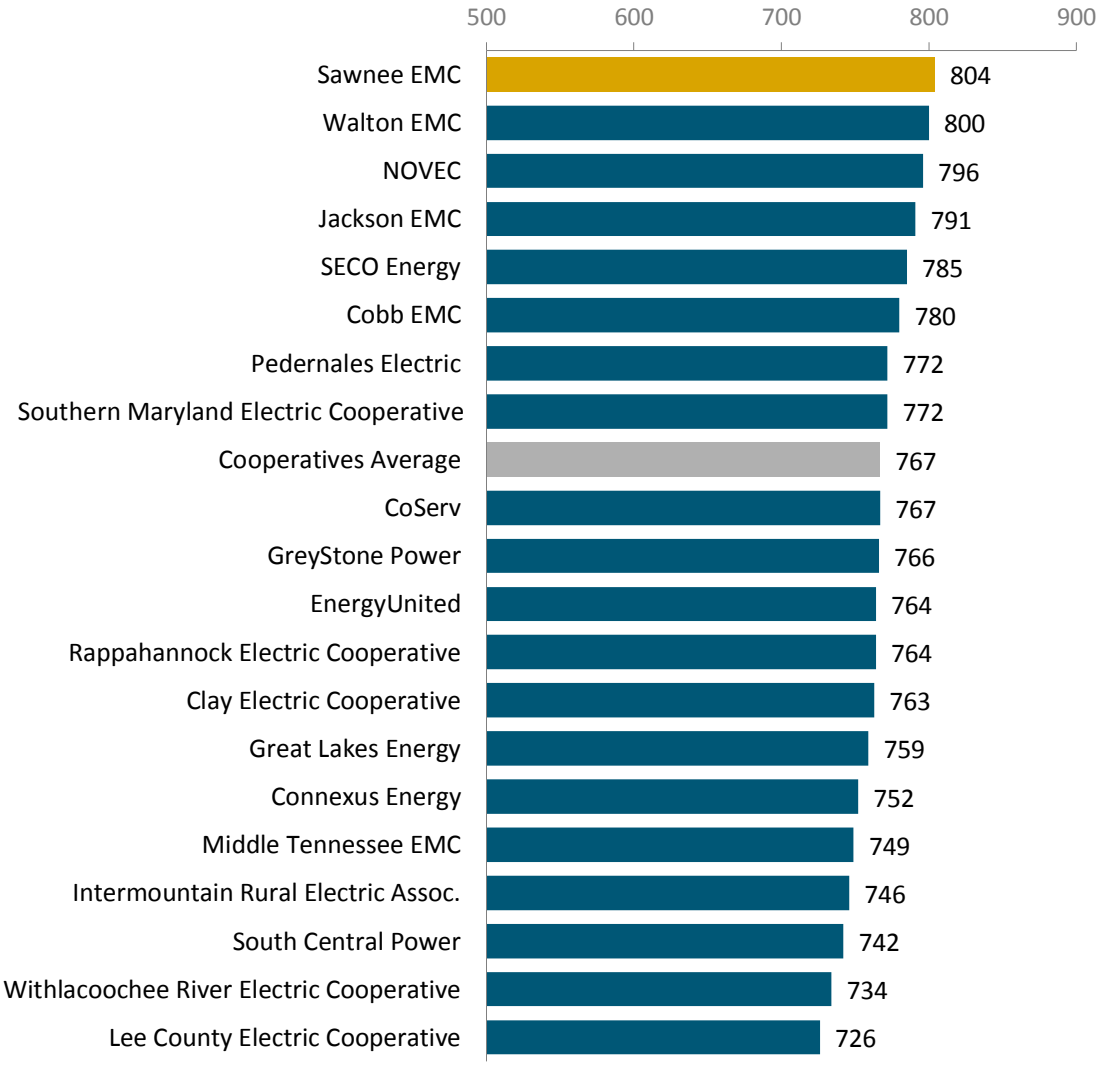
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]

Customer Satisfaction Index Ranking
Cooperatives Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study[SM]

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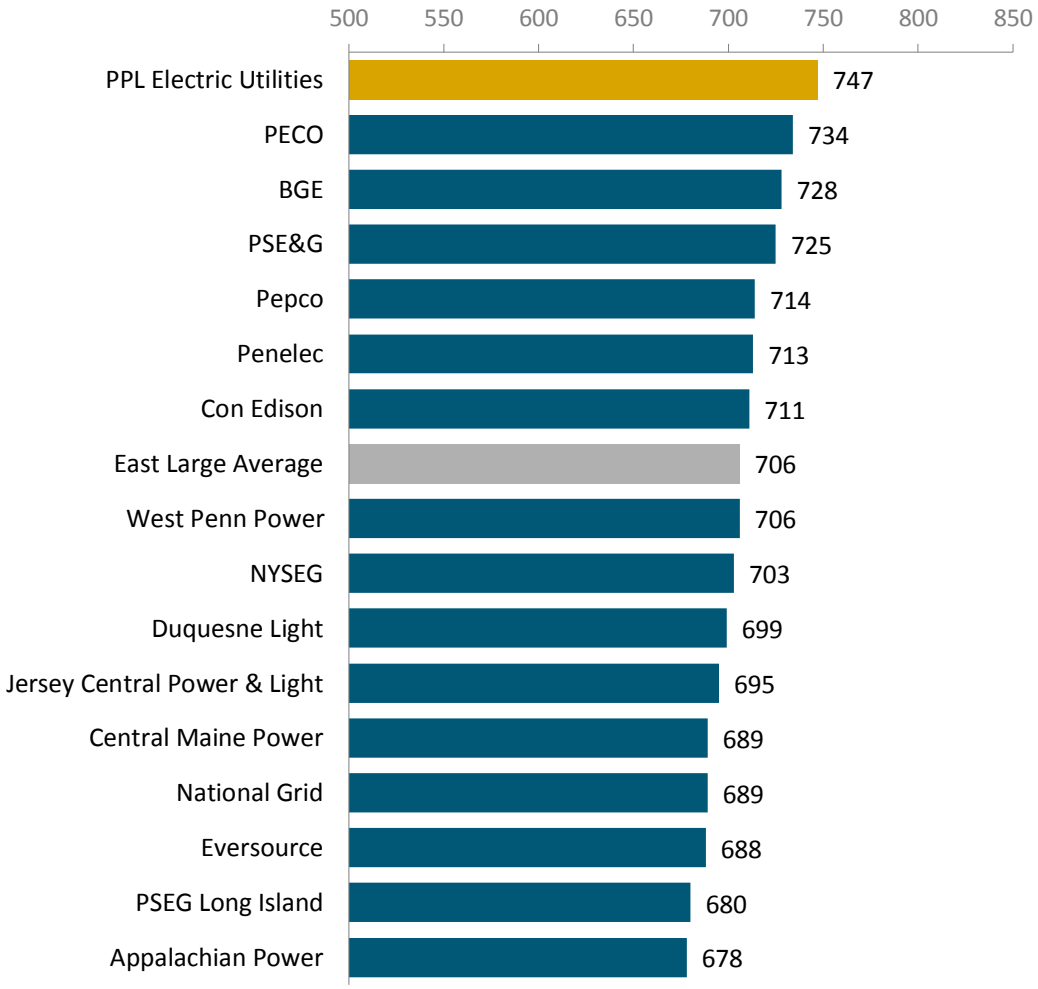
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]

Customer Satisfaction Index Ranking
East Region: Large Segment

(Based on a 1,000-point scale)



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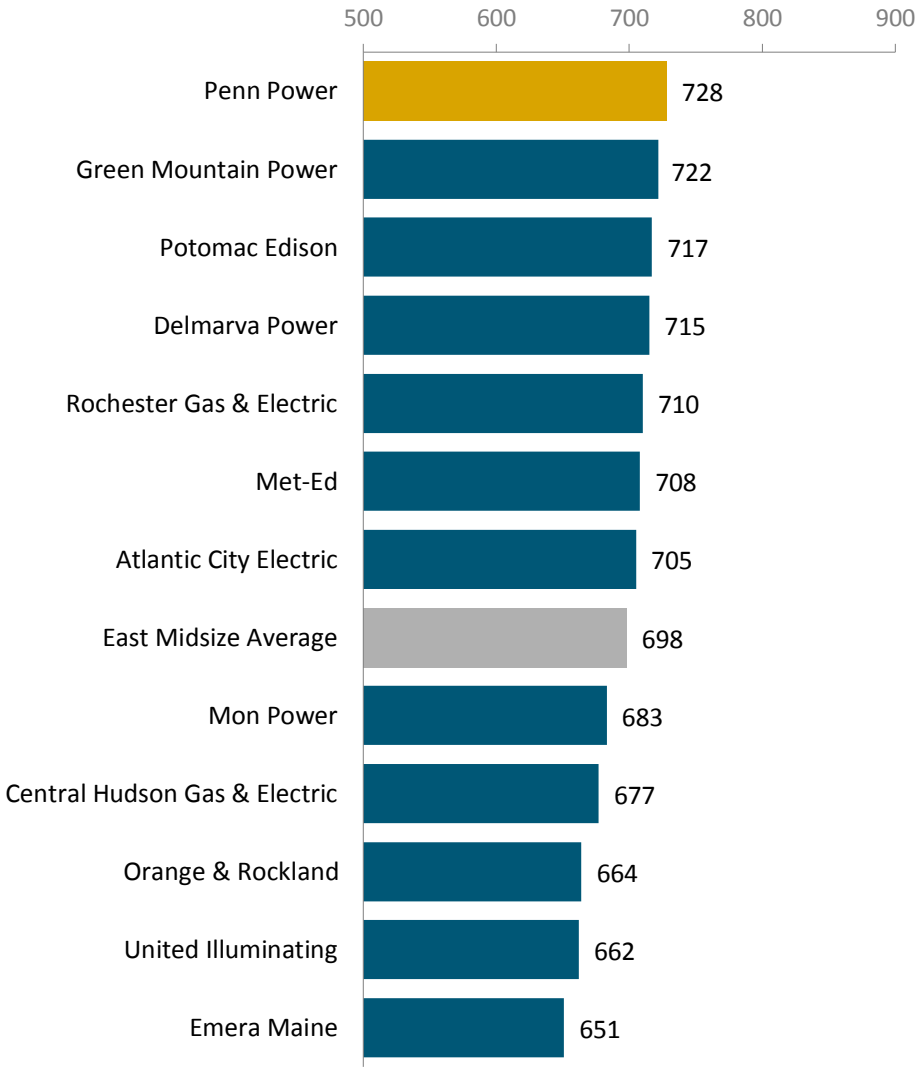
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]

Customer Satisfaction Index Ranking
East Region: Midsize Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study[SM]

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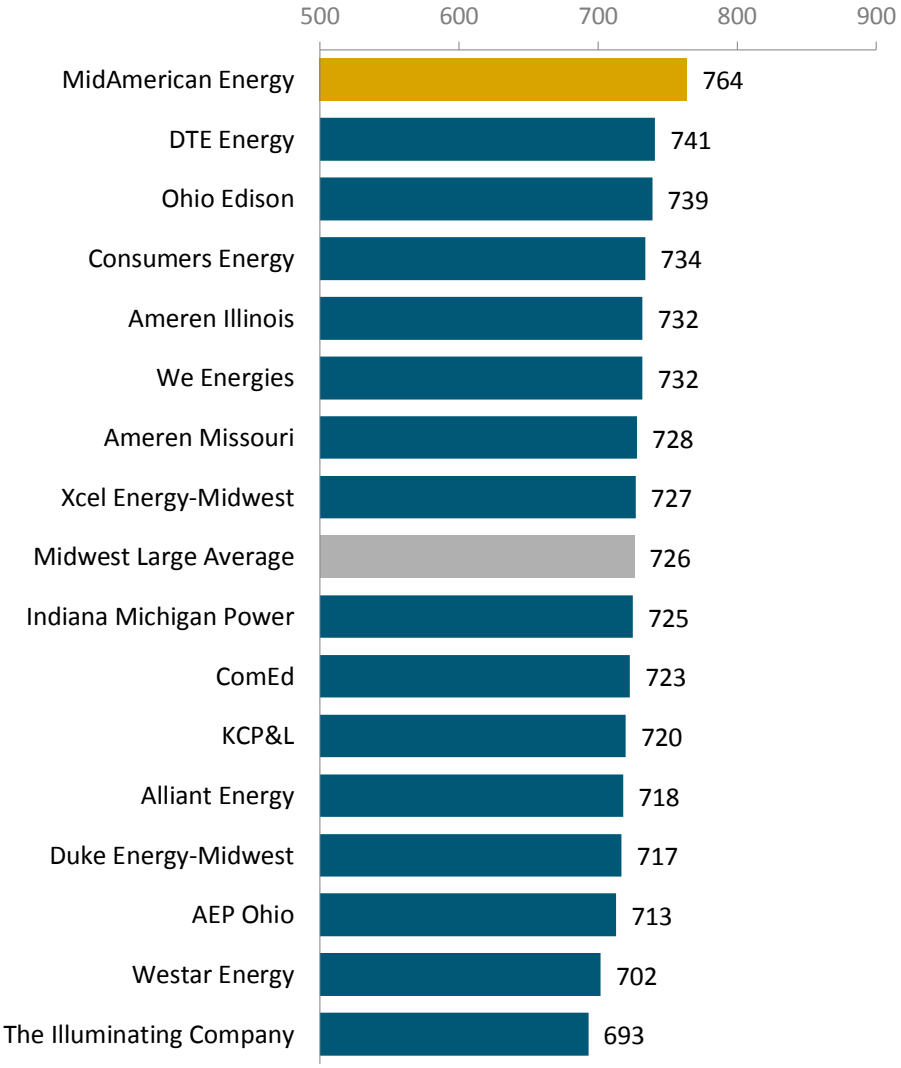
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]

Customer Satisfaction Index Ranking
Midwest Region: Large Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study[SM]

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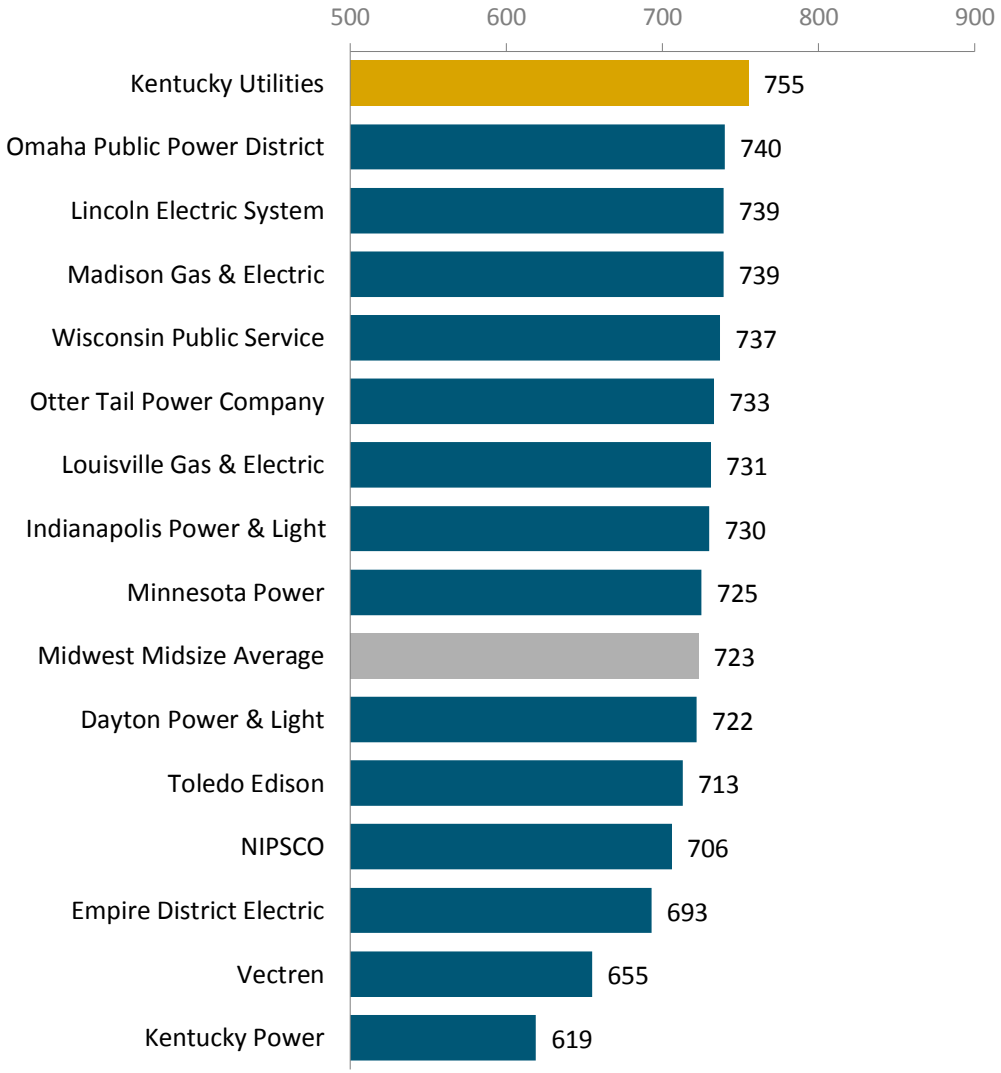
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study℠

Customer Satisfaction Index Ranking
Midwest Region: Midsize Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study℠

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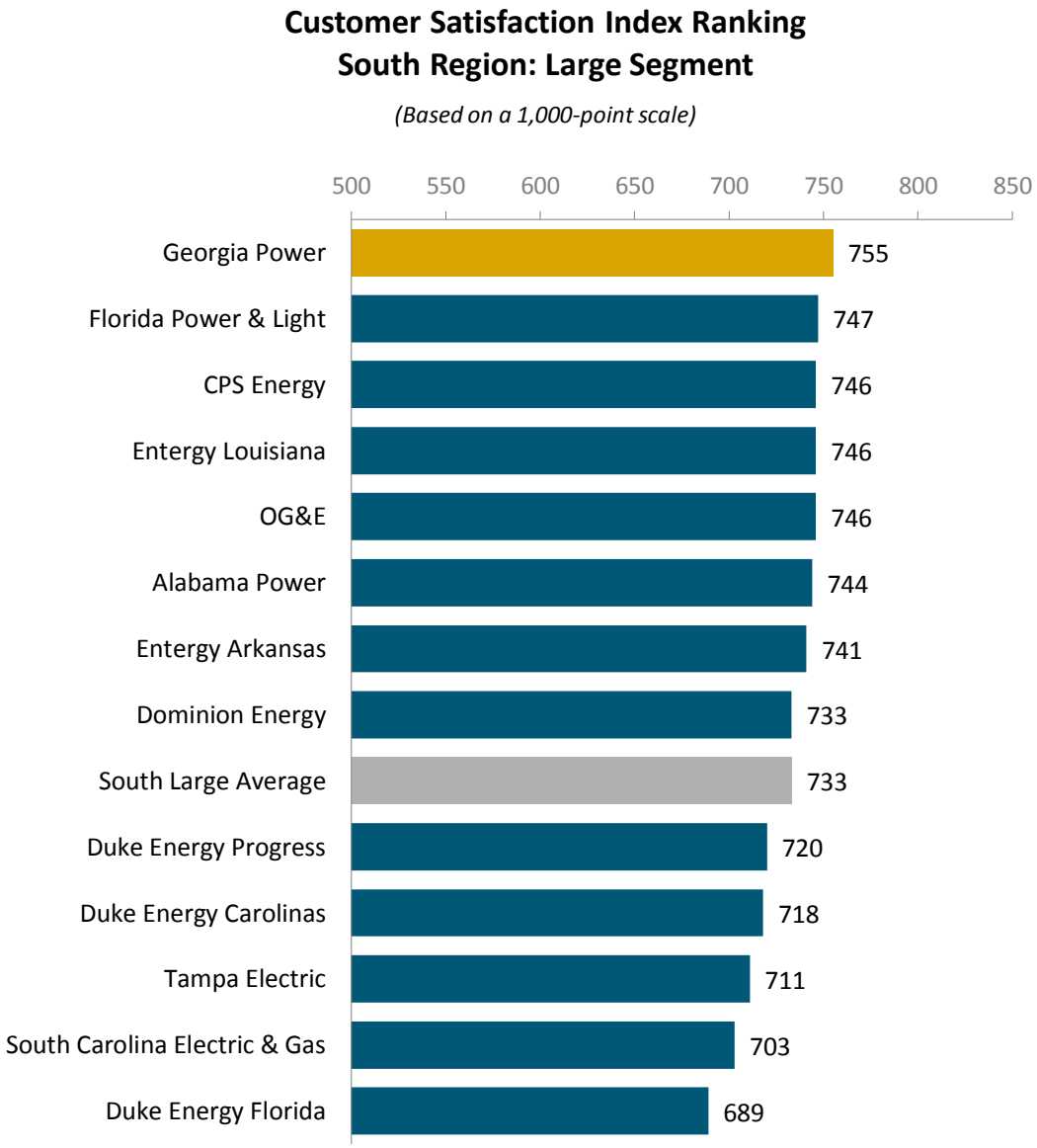
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study[SM]

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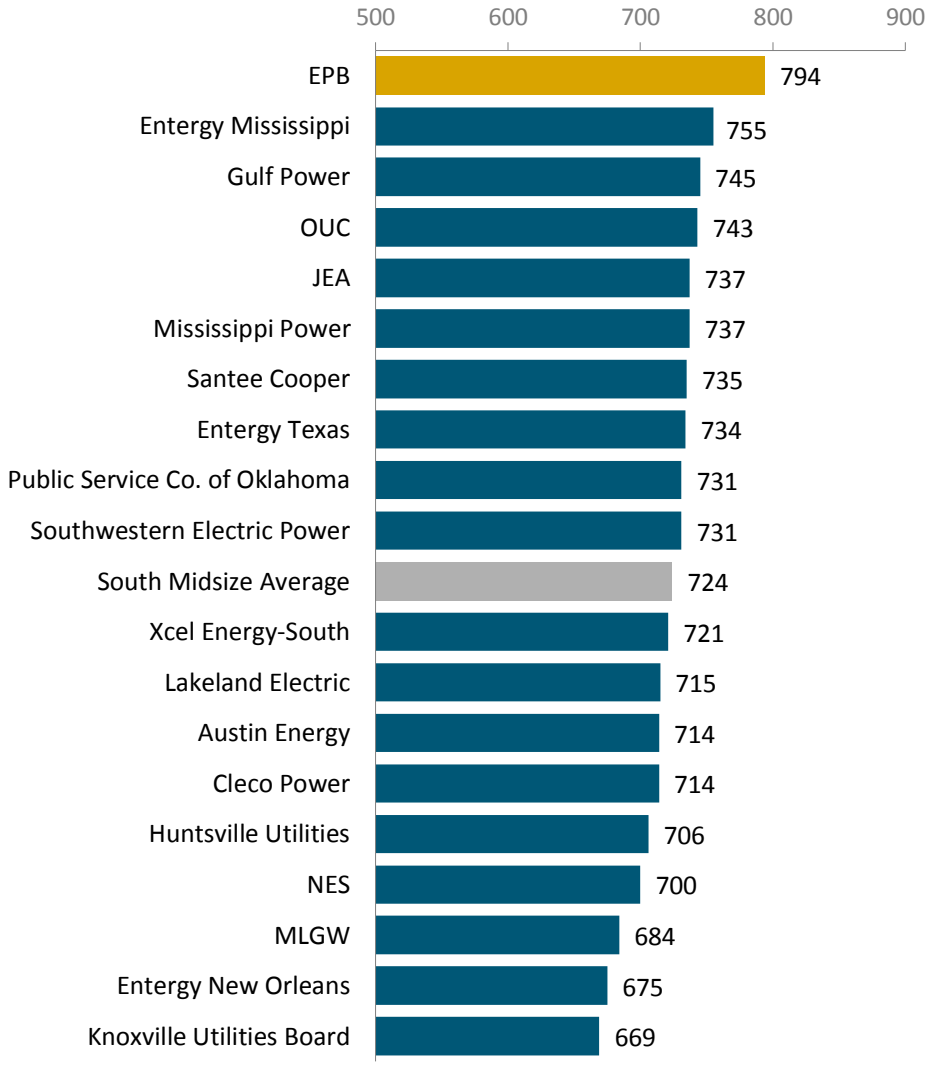
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]

Customer Satisfaction Index Ranking
South Region: Midsize Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study[SM]

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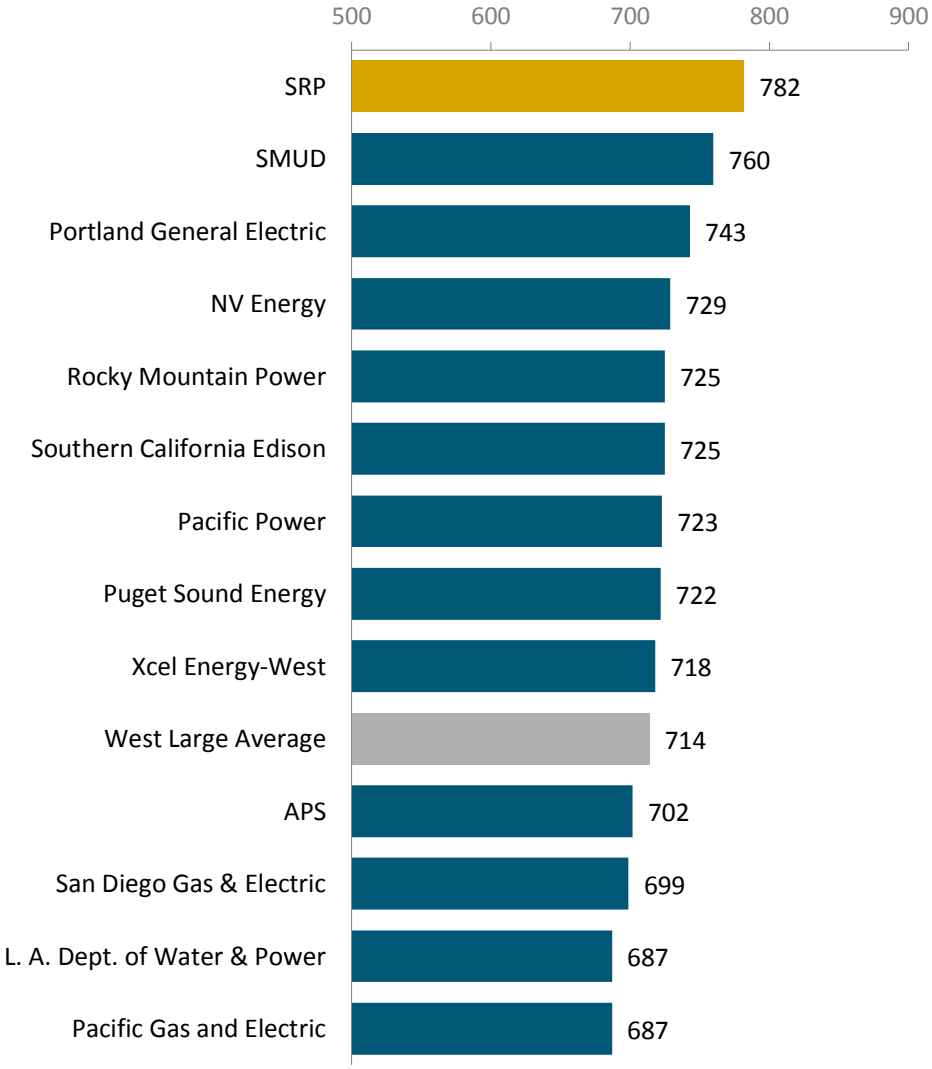
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study[SM]

Customer Satisfaction Index Ranking
West Region: Large Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study[SM]

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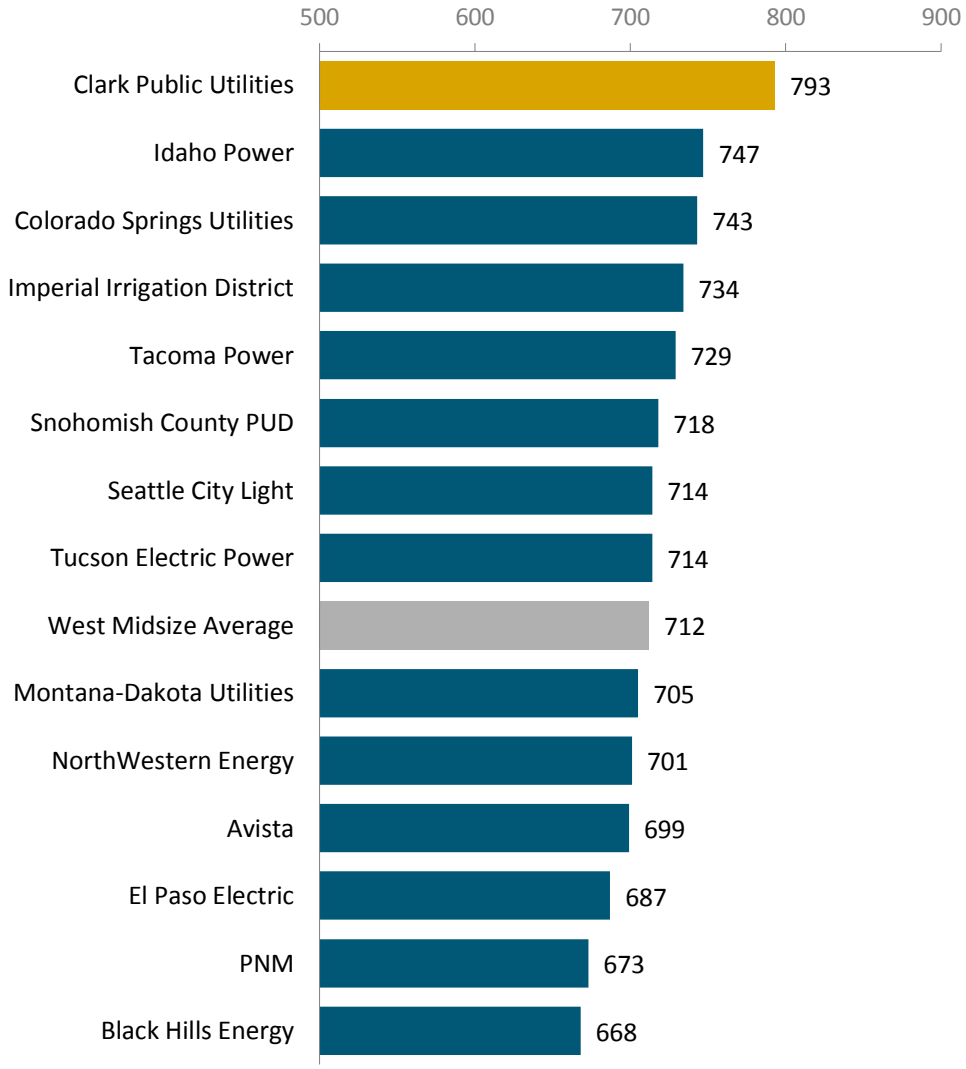
J.D. Power
2018 Electric Utility Residential Customer Satisfaction Study℠

Customer Satisfaction Index Ranking
West Region: Midsize Segment

(Based on a 1,000-point scale)



Source: J.D. Power 2018 Electric Utility Residential Customer Satisfaction Study℠

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STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 18-0974-TF

Tariff filing of Green Mountain Power Corporation requesting a 5.45% increase in its base rates effective with bills rendered January 1, 2019, to be fully offset by bill credits through September 30, 2019

PREFILED DIRECT TESTIMONY OF

RICHARD A. BAUDINO

ON BEHALF OF THE

VERMONT DEPARTMENT OF PUBLIC SERVICE

AUGUST 10, 2018

Summary: Mr. Baudino, of J. Kennedy Associates, provides expert testimony on behalf of the Vermont Department regarding Green Mountain Power's ("GMP's") proposed capital structure and cost-of-capital. Mr. Baudino finds that GMP's proposed rate of return on equity ("ROE") of 9.3% falls within the range of reasonableness. Mr. Baudino also recommends that GMP's proposed cost of debt be reduce from 5.07% to 5.03%.

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Mr. Baudino Sponsors the Following Exhibits:

PSD-RAB-1 – Professional Resume

PSD-RAB-2 – GMP Proxy Group – Average Price, Dividend, and Dividend Yield

PSD-RAB-3 – GMP Proxy Group – DCF Growth Rate Analysis

PSD-RAB-4 – GMP Proxy Group – CAPM Analysis (estimated returns)

PSD-RAB-5 – GMP Proxy Group – CAPM Analysis (historic market premium)

I. QUALIFICATIONS AND SUMMARY

Q1. Please state your name and business address.

A1. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q2. What is your occupation and by whom are you employed?

A2. I am a consultant with Kennedy and Associates.

Q3. Please describe your education and professional experience.

A3. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979.

I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

PSD-RAB-1 summarizes my expert testimony experience.

Q4. On whose behalf are you testifying?

A4. I am testifying on behalf of the Vermont Department of Public Service ("DPS").

Q5. What is the purpose of your Direct Testimony?

A5. The purpose of my Direct Testimony is to address the allowed return on equity for Green Mountain Power Corporation ("GMP" or "Company"). I will also address the Company's requested capital structure and the cost of short-term and long-term debt. Finally, I will respond to the Direct Testimony of Mr. James Coyne, witness for the Company.

Q6. Please summarize your conclusions and recommendations.

A6. First, my independent analyses of the return on equity for GMP indicate a reasonable investor required return on equity ("ROE") in the range of 8.70% - 9.35%. My recommended ROE for GMP in this proceeding would be 9.10%. I note, however,

that the 9.3% 2019 ROE that GMP seeks in this calls falls within the range of my DCF analyses in this proceeding and is quite close to my recommended ROE of 9.1%.

Second, I recommend that GMP's requested cost of short-term debt be accepted by the Commission.

Third, I recommend that GMP's requested cost of debt be reduced by the Commission. My recommendation includes lowering GMP's forecasted interest rates for three projected bond issuances in 2018 and 2019. My recommended cost of debt is 5.03%, slightly lower than GMP's requested 5.07% cost of debt.

Fourth, I recommend that the Commission adopt GMP's requested capital structure for the rate year.

Fifth, I recommend that the Commission adopt my recommended weighted cost of capital of 6.97%. This recommendation reflects the annualized rate year cost of equity and long-term debt.

Sixth, in Section IV of my testimony I will respond to GMP's witness Coyne's Direct Testimony and ROE recommendation.

II. REVIEW OF ECONOMIC AND FINANCIAL CONDITIONS

Q7. Mr. Baudino, what has the trend been in long-term capital costs over the last 10 years?

A7. Since 2007 and 2008, the overall trend in interest rates in the U.S. and the world economy has been sharply lower. This trend was precipitated by the 2007 financial crisis and severe recession that followed in December 2007. In response to this economic crisis, the Federal Reserve ("Fed") undertook an unprecedented series of steps to stabilize the economy, ease credit conditions, and lower unemployment and interest rates. These steps are commonly known as Quantitative Easing ("QE") and were implemented in three distinct stages: QE1, QE2, and QE3. The Fed's stated purpose of QE was "to support the liquidity of financial institutions and foster improved conditions in financial markets."[1]

Q8. Mr. Baudino, before you continue please provide a brief explanation of how the Fed uses interest rates to improve conditions in the financial markets.

A8. Generally, the Fed uses monetary policy to implement certain economic goals. The Fed explained its monetary policy as follows:

> Monetary policy in the United States comprises the Federal Reserve's actions and communications to promote maximum employment, stable prices, and moderate long-term interest rates--the three economic goals the Congress has instructed the Federal Reserve to pursue.

[1] (http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm).

> The Federal Reserve conducts the nation's monetary policy by managing the level of short-term interest rates and influencing the overall availability and cost of credit in the economy.[2]

One of the Fed's primary tools for conducting monetary policy is setting the federal funds rate. The federal funds rate is the interest rate set by the Fed that banks and credit unions charge each other for overnight loans of reserve balances. Traditionally the federal funds rate directly influences short-term interest rates, such as the Treasury bill rate and interest rates on savings and checking accounts. The federal funds rate has a more indirect effect on long-term interest rates, such as the 30-Year Treasury bond and private and corporate long-term debt. Long-term interest rates are set more by market forces that influence the supply and demand of loanable funds.

Q9. Please continue with your discussion of the Fed's quantitative easing programs.

A9. QE1 was implemented from November 2008 through approximately March 2010. During this time, the Fed cut its key Federal Funds Rate to nearly 0% and purchased $1.25 trillion of mortgage-backed securities and $175 billion of agency debt purchases. QE2 was implemented in November 2010 with the Fed announcing that it would purchase an additional $600 billion of Treasury securities by the second quarter of 2011.[3] Beginning in September 2011, the Fed initiated a "maturity extension program" in which it sold or redeemed $667 billion of shorter-term

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[2] From the Federal Reserve's web site and the section entitled "Monetary Policy".

[3] (http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm)

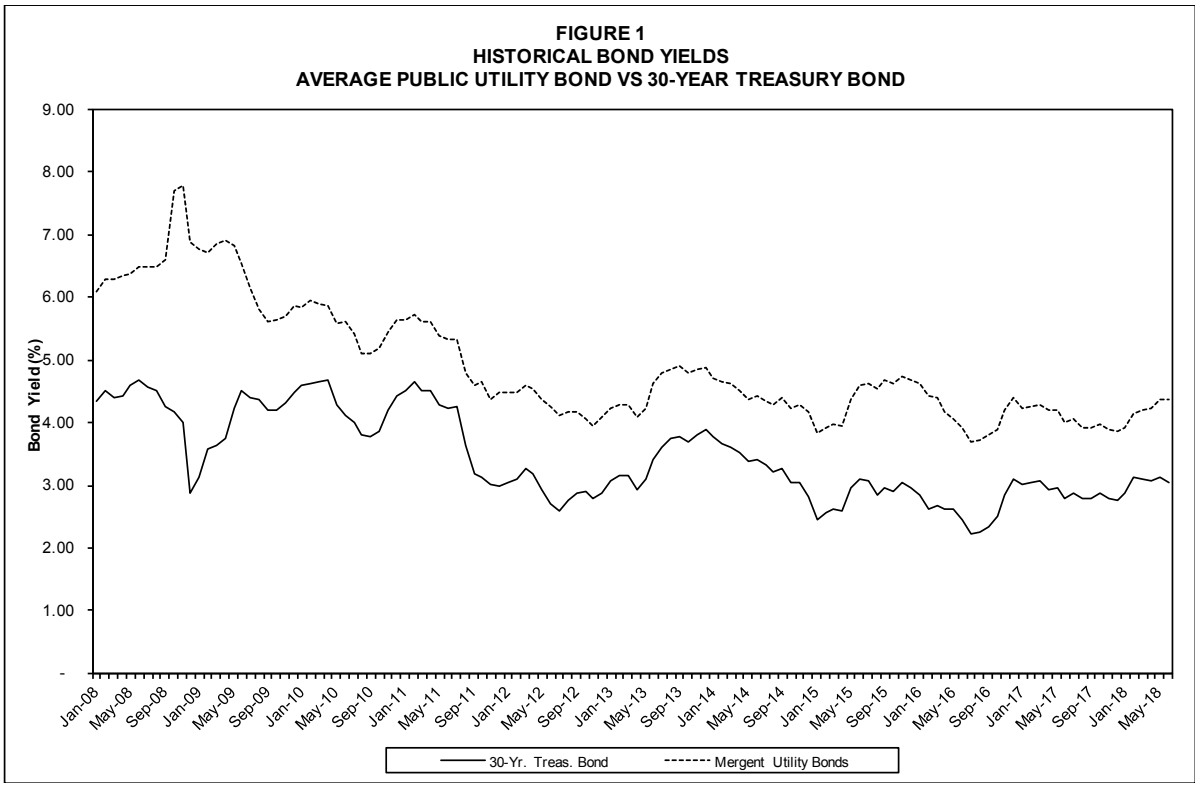
Treasury securities and used the proceeds to buy longer-term Treasury securities. This program, also known as "Operation Twist," was designed by the Fed to lower long-term interest rates and support the economic recovery. Finally, QE3 began in September 2012 with the Fed announcing an additional bond purchasing program of $40 billion per month of agency mortgage backed securities.

The Fed began to pare back its purchases of securities in the last few years. On January 29, 2014 the Fed stated that beginning in February 2014 it would reduce its purchases of long-term Treasury securities to $35 billion per month. The Fed continued to reduce these purchases throughout the year and in a press release issued October 29, 2014 announced that it decided to close this asset purchase program in October.[4]

Figure 1 below presents a graph that tracks the 30-Year Treasury Bond yield and the Mergent average utility bond yield.

[4] (http://www.federalreserve.gov/newsevents/press/monetary/20141029a.htm)

FIGURE 1
HISTORICAL BOND YIELDS
AVERAGE PUBLIC UTILITY BOND VS 30-YEAR TREASURY BOND



The Fed's QE program and federal funds rate cuts were effective in lowering the long-term cost of borrowing in the United States. The 30-Year Treasury Bond yield declined from 5.11% in July 2007 to a low of 2.59% in July 2012. The average utility bond yield also fell substantially, from 6.28% in July 2007 to 4.12% in July 2012. At the end of June 2018, the 30-Year Treasury yield stood at 3.05% and the average utility bond yield stood at 4.37%.

Q10. Has the Fed recently indicated any important changes to its monetary policy?

A10. Yes. In March 2016, the Fed began to raise its target range for the federal funds rate, increasing it to 1/4% to 1/2% from 0% to 1/4%. Since that time, the Fed increased

the federal funds rate several more times, with the most recent increase announced on June 13, 2018. The federal funds rate now stands in the range of 1.75% - 2.0%.

In its press release dated June 13, 2018 the Fed stated the following:

> Information received since the Federal Open Market Committee met in May indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. Job gains have been strong, on average, in recent months, and the unemployment rate has declined. Recent data suggest that growth of household spending has picked up, while business fixed investment has continued to grow strongly. On a 12-month basis, both overall inflation and inflation for items other than food and energy have moved close to 2 percent. Indicators of longer-term inflation expectations are little changed, on balance.
>
> Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that further gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective over the medium term. Risks to the economic outlook appear roughly balanced.
>
> In view of realized and expected labor market conditions and inflation, the Committee decided to raise the target range for the federal funds rate to 1-3/4 to 2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation."

The Fed also provided certain economic projections that accompanied its June 13, 2018 press release showing the following:

- Projected federal funds rate of 2.4% for 2018, 2.9% for 2019, 3.4% for 2020, and 2.9% for the longer run.
- Inflation running at 1.9% for 2018 and 2.1% for 2019 and 2020.

The Fed has signaled that it will likely continue increasing the federal funds rate this year and in 2019.

Q11. Mr. Baudino, why is it important to understand the Fed's actions over the last 10 years?

A11. The Fed's monetary policy actions since 2008 were deliberately undertaken to lower interest rates and support economic recovery. Even with several recent increases in the federal funds rate, the U.S. economy is still in a low interest rate environment. This environment has affected the common stocks of regulated utilities, which are interest rate sensitive due to their high concentration of fixed assets. Thus, as interest rates increase in the general economy, the prices of utility common stocks fall and their dividend yields rise. Alternatively, as interest rates fall, the dividend yields on utility common stocks tend to fall as their prices rise.

Q12. Are current interest rates indicative of investor expectations regarding the future direction of interest rates?

A12. Yes. Securities markets are efficient and most likely reflect investors' expectations about future interest rates. As Dr. Roger Morin pointed out in *New Regulatory Finance:*

> A considerable body of empirical evidence indicates that U.S. capital markets are efficient with respect to a broad set of information, including historical and publicly available information.[5]

[5] Morin, Roger A., *New Regulatory Finance,* Public Utilities Reports, Inc. (2006) at 279.

Dr. Morin also noted the following:

> There is extensive literature concerning the prediction of interest rates. From this evidence, it appears that the no-change model of interest rates frequently provides the most accurate forecasts of future interest rates while at other times, the experts are more accurate. Naïve extrapolations of current interest rates frequently outperform published forecasts. The literature suggests that on balance, the bond market is very efficient in that it is difficult to consistently forecast interest rates with greater accuracy than a no-change model. The latter model provides similar, and in some cases, superior accuracy than professional forecasts.[6]

Despite recent increases in the general level of short-term interest rates since the second half of 2016, the U.S. economy continues to operate in a low interest rate environment. It is important to realize that investor expectations of higher future interest rates, if any, are already likely already embodied in current securities prices, which include debt securities and stock prices.

Moreover, the current low interest rate environment still favors lower risk regulated utilities. Although the Fed anticipates raising the federal funds rate later this year and in 2019, I still firmly believe that it would not be advisable for utility regulators to raise ROEs in anticipation of higher forecasted interest rates that may or may not occur**.**

[6] *Ibid* at 172.

Q13. How has the increase in the federal funds rate since 2016 affected utility stocks in terms of bond yields and stock prices?

A13. Interestingly, the yield on the average utility bond is lower now than it was in January 2016. Likewise, the Dow Jones Utility Index is substantially higher than it was in January 2016. Table 1 shows the federal funds rate, the yield on the 30-Year Treasury bond, the yield on the average utility bond, and the Dow Jones Utility Average from January 2016 through June 2018.

TABLE 1

Bond Yields and DJUA

	Federal Funds Rate %	30-Year Treasury %	Avg. Utility Bond %	DJUA
2016				
January	0.34	2.86	4.62	611.35
February	0.38	2.62	4.44	620.70
March	0.36	2.68	4.40	668.57
April	0.37	2.62	4.16	654.44
May	0.37	2.63	4.06	659.44
June	0.38	2.45	3.93	716.52
July	0.39	2.23	3.70	711.42
August	0.40	2.26	3.73	666.87
September	0.40	2.35	3.80	668.13
October	0.40	2.50	3.90	675.23
November	0.41	2.86	4.21	632.67
December	0.54	3.11	4.39	645.86
2017				
January	0.65	3.02	4.24	668.87
February	0.66	3.03	4.25	703.16
March	0.79	3.08	4.30	697.28
April	0.90	2.94	4.19	704.35
May	0.91	2.96	4.19	726.62
June	1.04	2.80	4.01	706.91
July	1.15	2.88	4.06	726.48
August	1.16	2.80	3.92	743.24
September	1.15	2.78	3.93	723.60
October	1.15	2.88	3.97	753.20
November	1.16	2.80	3.88	770.39
December	1.30	2.77	3.85	723.37
2018				
January	1.41	2.88	3.91	699.25
February	1.42	3.13	4.15	668.81
March	1.51	3.09	4.21	692.63
April	1.69	3.07	4.24	707.01
May	1.70	3.13	4.36	695.21
June	1.82	3.05	4.37	707.87

Source: Federal Reserve, Mergent Bond Record, Yahoo! Finance

Note that as the federal funds rate rose from January through December 2017, the 30-Year Treasury yield declined. The DJUA rose throughout 2017, declined sharply in December and through February 2018, then began to rise again through June 2018. Although the federal funds rate steadily increased from 2016, the 30-Year Treasury yield was not much different in June 2018 than it was in January 2016. The average utility bond yield was lower in June 2018 (4.37%) than it was is January 2016 (4.62%), despite the steep increases in the federal funds rate.

Q14. How does the investment community regard the electric utility industry currently?

A14. The Value Line Investment Survey stated the following in its June 15, 2018 report on the Electric Utility (Central) industry:

> "This has not been a good year, so far, for most stocks in the Electric Utility Industry. Investors are concerned about the likelihood of rising interest rates. Beyond this, a pullback was likely anyway simply because 2017 was such a strong year for the group. Nevertheless, *interest rates are still low, by historical standards, and so is the average dividend yield of stocks in the Electric Utility Industry*. This is just 3.4%. For the 3- to 5-year period, the average total return potential is just 4%. Many stocks in this group are trading within their 2021-2023 Target Price Range." (italics added)

Q15. In 2018, the Edison Electric Institute ("EEI") published its *2017 Financial Review* of the investor-owned electric utility industry. Please summarize EEI's conclusions with respect to credit ratings for the electric utility industry.

A15. EEI's report noted the following favorable credit rating summary for 2017:

> The industry's average credit rating in 2017 was BBB+, remaining for a fourth straight year above the BBB average that

> has held since 2004. Ratings activity, at 53 changes, was below the industry's average for the last decade of 68 changes per year. Upgrades were 73.6% of total actions, the third-highest annual figure in our dataset and just above 2016's 73.1%. In fact, the last five years have produced the five highest upgrade percentages in our historical data.

EEI's report shows that the overall credit standing of the electric industry is still quite strong and has been improving over the last five years.

Q16. Please briefly describe the effect of the recently enacted Tax Cut and Jobs Act ("TCJA") of 2017.

A16. Generally speaking, the credit rating agencies noted that there would be some near-term pressure on the credit metrics of some utilities, with some longer term positive effects in the future. The main negative mentioned was reduced cash flow coverages due to the reduction in the federal income tax rate for corporations, which is one of the factors the rating agencies use to calculate these coverages. The lower the tax rate, the lower the overall cash coverage of interest expenses and funds from operations.

Fitch noted in a January 24, 2018 report noted that there could be some negative ratings actions "for issuers with limited headroom to absorb the leverage creep"[7]. However, Fitch also expected that the longer-term impact of the TCJA would be modestly positive for utilities, noting that the sector will retain the deductibility of

[7] *Tax Reform Impact on the U.S. Utilities, Power & Gas Sector,* Fitch Ratings, provided in response to DPS1.Q27.

interest expense and the exemption from 100% capital expenditure expensing. In addition, a reduction in income tax expense would lower the cost to customers that would provide the utilities "headroom to increase rates for capital investments," according to Fitch.

Moody's announced that it lowered the credit outlook for 25 U.S. regulated utilities primarily due to tax reform in a report dated January 19, 2018.[8] Moody's stated that the companies in this group of 25 "already had limited cushion in their rating for deterioration in financial performance." Green Mountain Power was not included in this group of 25 utilities.

Q17. What are the current credit ratings and bond ratings for GMP?

A17. GMP currently carries a strong, investment grade A- corporate credit rating and an A senior secured debt rating from Standard and Poor's ("S&P"). These are the same ratings GMP carried in its last rate proceeding before the Commission. S&P's January 4, 2018 report on GMP noted its excellent business risk profile and that its financial risk was significant. Among the credit strengths noted in the report were:

- Regulated electric operations provide stable cash flows
- Small percentage of non-utility investments

[8] *Moody's changes outlooks on 25 US regulated utilities primarily impacted by tax reform,* Moody's Investors Service, report provided in response to DPS1.Q27

- Operations limited to one state
- Small customer base not concentrated in a single customer class
- Effective management of regulatory risk in Vermont
- Ratings include uplift from ownership by Energir Inc.[9]

Since GMP's last rate case, the Company has maintained its strong credit ratings, which include a currently authorized 9.1% return on equity.

[9] See GMP response to DPS1.Q25, Attachment GMP.DPS1.Q25.a4

III. DETERMINATION OF FAIR RATE OF RETURN

Q18. Please describe the methods you employed in estimating a fair rate of return for GMP.

A18. I employed a Discounted Cash Flow ("DCF") analysis using the proxy group of 16 regulated electric utilities used by Mr. Coyne in the ROE analysis he submitted on behalf of the Company. My DCF analysis is the standard constant growth form of the model that employs four different growth rate forecasts from the Value Line Investment Survey, Yahoo! Finance, and Zacks. I also employed Capital Asset Pricing Model ("CAPM") analyses using both historical and forward-looking data. Although I did not rely on the CAPM for my recommended ROE for GMP, the results from the CAPM tend to support the reasonableness of my ROE recommendation for GMP.

Q19. What are the main guidelines to which you adhere in estimating the cost of equity for a firm?

A19. The estimated cost of equity should be comparable to the returns of other firms with similar risk structures and should be sufficient for the firm to attract capital. These are the basic standards set out by the United States Supreme Court in *Federal Power Comm'n v. Hope Natural Gas Co*., 320 U.S. 591 (1944) and *Bluefield W.W. & Improv. Co. v. Public Service Comm'n*, 262 U.S. 679 (1922).

From an economist's perspective, the notion of "opportunity cost" plays a vital role in estimating the return on equity. One measures the opportunity cost of an

investment equal to what one would have obtained in the next best alternative. For example, let us suppose that an investor decides to purchase the stock of a publicly traded electric utility. That investor made the decision based on the expectation of dividend payments and perhaps some appreciation in the stock's value over time; however, that investor's opportunity cost is measured by what she or he could have invested in as the next best alternative. That alternative could have been another utility stock, a utility bond, a mutual fund, a money market fund, or any other number of investment vehicles.

The key determinant in deciding whether to invest, however, is based on comparative levels of risk. Our hypothetical investor would not invest in a particular electric company stock if it offered a return lower than other investments of similar risk. The opportunity cost simply would not justify such an investment. Thus, the task for the rate of return analyst is to estimate a return that is equal to the return being offered by other risk-comparable firms.

Q20. What are the major types of risk faced by utility companies?

A20. In general, risk associated with the holding of common stock can be separated into three major categories: business risk, financial risk, and liquidity risk. Business risk refers to risks inherent in the operation of the business. Volatility of the firm's sales, long-term demand for its product(s), the amount of operating leverage, and quality of management are all factors that affect business risk. The quality of regulation at the

state and federal levels also plays an important role in business risk for regulated utility companies.

Financial risk refers to the impact on a firm's future cash flows from the use of debt in the capital structure. Interest payments to bondholders represent a prior call on the firm's cash flows and must be met before income is available to the common shareholders. Additional debt means additional variability in the firm's earnings, leading to additional risk.

Liquidity risk refers to the ability of an investor to quickly sell an investment without a substantial price concession. The easier it is for an investor to sell an investment for cash, the lower the liquidity risk will be. Stock markets, such as the New York and American Stock Exchanges, help ease liquidity risk substantially. Investors who own stocks that are traded in these markets know on a daily basis what the market prices of their investments are and that they can sell these investments fairly quickly. Many electric utility stocks are traded on the New York Stock Exchange and are considered liquid investments.

Q21. Are there any sources available to investors that quantify the total risk of a company?

A21. Bond and credit ratings are tools that investors use to assess the risk comparability of firms. Bond rating agencies such as Moody's and Standard and Poor's perform

detailed analyses of factors that contribute to the risk of an investment. The result of their analyses is a bond and/or credit rating that reflect these risks.

Discounted Cash Flow ("DCF") Model

Q22. Please describe the basic DCF approach.

A22. The basic DCF approach is rooted in valuation theory. It is based on the premise that the value of a financial asset is determined by its ability to generate future net cash flows. In the case of a common stock, those future cash flows generally take the form of dividends and appreciation in stock price. The value of the stock to investors is the discounted present value of future cash flows. The general equation then is:

$$V = \frac{R}{(1+r)} + \frac{R}{(1+r)^2} + \frac{R}{(1+r)^3} + \cdots \frac{R}{(1+r)^n}$$

Where: *V = asset value*
R = yearly cash flows
r = discount rate

This is no different from determining the value of any asset from an economic point of view; however, the commonly employed DCF model makes certain simplifying assumptions. One is that the stream of income from the equity share is assumed to be perpetual; that is, there is no salvage or residual value at the end of some maturity date (as is the case with a bond). Another important assumption is that financial markets are reasonably efficient; that is, they correctly evaluate the cash flows relative to the appropriate discount rate, thus rendering the stock price efficient relative to other alternatives. Finally, the model I typically employ also assumes a

constant growth rate in dividends. The fundamental relationship employed in the DCF method is described by the formula:

$$k = {}^{D_1}/_{P_0} + g$$

Where: D_1 = *the next period dividend*
P_0 = *current stock price*
g = *expected growth rate*
k = *investor-required return*

Under the formula, it is apparent that "k" must reflect the investors' expected return. Use of the DCF method to determine an investor-required return is complicated by the need to express investors' expectations relative to dividends, earnings, and book value over an infinite time horizon. Financial theory suggests that stockholders purchase common stock on the assumption that there will be some change in the rate of dividend payments over time. We assume that the rate of growth in dividends is constant over the assumed time horizon, but the model could easily handle varying growth rates if we knew what they were. Finally, the relevant time frame is prospective rather than retrospective.

Q23. What was your first step in conducting your DCF analysis for GMP?

A23. My first step was to choose a proxy group of companies with a risk profile that is reasonably similar to GMP. In this case as in the last GMP rate case, I chose to use the same group of companies used by Company witness Coyne. Mr. Coyne described his selection criteria on pages 32 through 33 of his Direct Testimony. For purposes of this case, it is reasonable to proceed with the proxy group of 16 companies shown by Mr. Coyne in Figure 8 of his Prefiled Testimony.

Q24. How do the S&P credit ratings of Mr. Coyne's proxy group compare to GMP's credit rating?

A24. Table 2 below shows the current S&P credit ratings of the companies in the proxy group and GMP's current rating.

TABLE 2
S&P Credit Ratings
Proxy Group and GMP

ALLETE, Inc.	BBB+
Alliant Energy Corporation	A-
Ameren Corp.	BBB+
American Electric Power Co.	A-
Duke Energy	A-
El Paso Electric Co.	BBB
Hawaiian Electric	BBB-
IDACORP, Inc.	BBB
NextEra Energy, Inc.	A-
OGE Energy Corp.	BBB+
Pinnacle West Capital Corp.	A-
PNM Resources, Inc.	BBB+
Portland General Electric Company	BBB
PPL Corporation	A-
Southern Company	A-
Xcel Energy Inc.	A-
GMP	A-

Credit ratings retrieved July 2, 2018

The overall group credit rating is slightly lower than GMP's credit rating of A-. This is because 8 of the 16 companies have BBB/BBB+ credit ratings. This suggests that, other things equal, GMP has lower risk and a slightly lower expected ROE than the proxy group average.

Q25. What was your first step in determining the DCF return on equity for the proxy group?

A25. I first determined the current dividend yield, D_1/P_0, from the basic equation. My general practice is to use six months as the most reasonable period over which to estimate the dividend yield. The six-month period I used covered the months from January through June 2018. I obtained historical prices and dividends from Yahoo! Finance. The annualized dividend divided by the average monthly price represents the average dividend yield for each month in the period.

The resulting average dividend yield for the comparison group is 3.60%. These calculations are shown in PSD-RAB-2.

Q26. Having established the average dividend yield, how did you determine the investors' expected growth rate for the electric comparison group?

A26. The investors' expected growth rate, in theory, correctly forecasts the constant rate of growth in dividends. The dividend growth rate is a function of earnings growth and the payout ratio, neither of which is known precisely for the future. We refer to a perpetual growth rate since the DCF model has no arbitrary cut-off point. We must estimate the investors' expected growth rate because there is no way to know with absolute certainty what investors expect the growth rate to be in the short term, much less in perpetuity.

For my analysis in this proceeding, I used three major sources of analysts' forecasts for growth. These sources are The Value Line Investment Survey, Zacks, and Yahoo! Finance. These are the sources I typically use for estimating growth for my DCF calculations.

Q27. Please briefly describe Value Line, Zacks, and Yahoo! Finance.

A27. The Value Line Investment Survey is a widely used and respected source of investor information that covers approximately 1,700 companies in its Standard Edition and several thousand in its Plus Edition. It is updated quarterly and probably represents the most comprehensive of all investment information services. It provides both historical and forecasted information on a number of important data elements. Value Line neither participates in financial markets as a broker nor works for the utility industry in any capacity of which I am aware.

Zacks gathers opinions from a variety of analysts on earnings growth forecasts for numerous firms including regulated electric utilities. The estimates of the analysts responding are combined to produce consensus average estimates of earnings growth. I obtained Zacks' earnings growth forecasts from its web site.

Like Zacks, Yahoo! Finance also compiles reports consensus analysts' forecasts of earnings growth.

Q28. Why did you rely on analysts' forecasts in your analysis?

A28. Return on equity analysis is a forward-looking process. Five-year or ten-year historical growth rates may not accurately represent investor expectations for dividend growth. Analysts' forecasts for earnings and dividend growth provide better proxies for the expected growth component in the DCF model than historical growth rates. Analysts' forecasts are also widely available to investors and one can reasonably assume that they influence investor expectations.

Q29. Please explain how you used analysts' dividend and earnings growth forecasts in your constant growth DCF analysis.

A29. Page 1, Columns (1) through (4) of PSD-RAB-3 shows the forecasted dividend and earnings growth rates from Value Line and the earnings growth forecasts from Zacks and Yahoo! Finance. It is important to include dividend growth forecasts in the DCF model since the model calls for forecasted cash flows received by the investor. Value Line is the only sources of which I am aware that forecasts dividend growth and my approach gives this forecast equal weight with the three earnings growth forecasts.

Q30. How did you proceed to determine the DCF return of equity for the comparison group?

A30. To estimate the expected dividend yield (D_1), the current dividend yield must be moved forward in time to account for dividend increases over the next twelve

months. I estimated the expected dividend yield by multiplying the current dividend yield by one plus one-half the expected growth rate.

Page 2 of DPS-RAB-3 presents my standard method of calculating dividend yields, growth rates, and return on equity for the comparison group of companies. The DCF Return on Equity Calculation section shows the application of each of four growth rates I used in my analysis to the current group dividend yield of 3.62% to calculate the expected dividend yield. I then added the expected growth rates to the expected dividend yield. In evaluating investor expected growth rates, I use both the average and the median values for the group under consideration. Method 1 uses the group average expected growth rate and Method 2 uses the group median expected growth rate. The calculations of the resulting DCF returns on equity for both methods are presented on page 2 of DPS-RAB-3.

Q31. What are the results of your constant growth DCF model?

A31. For the average growth rates in Method 1, the results range from 8.81% to 9.33%, with the average of these results being 9.01%. Using the median growth rates in Method 2, the results range from 8.69% to 9.20%, with the average of these results being 8.95%.

Capital Asset Pricing Model

Q32. Briefly summarize the Capital Asset Pricing Model ("CAPM") approach.

A32. The theory underlying the CAPM approach is that investors, through diversified portfolios, may combine assets to minimize the total risk of the portfolio. Diversification allows investors to diversify away all risks specific to a particular company and be left only with market risk that affects all companies. Thus, the CAPM theory identifies two types of risks for a security: company-specific risk and market risk. Company-specific risk includes such events as strikes, management errors, marketing failures, lawsuits, and other events that are unique to a particular firm. Market risk includes inflation, business cycles, war, variations in interest rates, and changes in consumer confidence. Market risk tends to affect all stocks and cannot be diversified away. The idea behind the CAPM is that diversified investors are rewarded with returns based on market risk.

Within the CAPM framework, the expected return on a security is equal to the risk-free rate of return plus a risk premium that is proportional to the security's market, or non-diversifiable, risk. Beta is the factor that reflects the inherent market risk of a security and measures the volatility of a security relative to the overall market for securities. For example, a stock with a beta of 1.0 indicates that if the market rises by 15%, that stock will also rise by 15%. This stock moves in tandem with movements in the overall market. Stocks with a beta of 0.5 will only rise or fall 50% as much as the overall market. So with an increase in the market of 15%, this stock will only rise 7.5%. Stocks with betas greater than 1.0 will rise and fall more than

the overall market. Thus, beta is the measure of the relative risk of individual securities vis-à-vis the market.

Based on the foregoing discussion, the equation for determining the return for a security in the CAPM framework is:

$$K = Rf + \beta(MRP)$$

Where: K = *Required Return on equity*
Rf = *Risk-free rate*
MRP = *Market risk premium*
β = *Beta*

This equation tells us about the risk/return relationship posited by the CAPM. Investors are risk averse and will only accept higher risk if they expect to receive higher returns. These returns can be determined in relation to a stock's beta and the market risk premium. The general level of risk aversion in the economy determines the market risk premium. If the risk-free rate of return is 3.0% and the required return on the total market is 15%, then the risk premium is 12%. Any stock's required return can be determined by multiplying its beta by the market risk premium. Stocks with betas greater than 1.0 are considered riskier than the overall market and will have higher required returns. Conversely, stocks with betas less than 1.0 will have required returns lower than the market.

Q33. In general, are there concerns regarding the use of the CAPM in estimating the return on equity?

A33. Yes. There is some controversy surrounding the use of the CAPM.[10] There is evidence that beta is not the primary factor in determining the risk of a security. For example, Value Line's "Safety Rank" is a measure of total risk, not its calculated beta coefficient. Beta coefficients usually describe only a small amount of total investment risk.

There is also substantial judgment involved in estimating the required market return. In theory, the CAPM requires an estimate of the return on the total market for investments, including stocks, bonds, real estate, etc. It is nearly impossible for the analyst to estimate such a broad-based return. Often in utility cases, a market return is estimated using the S&P 500 or the return on Value Line's stock market composite. However, these are limited sources of information with respect to estimating the investor's required return for all investments. In practice, the total market return estimate faces significant limitations to its estimation and, ultimately, its usefulness in quantifying the investor required ROE.

In the final analysis, a considerable amount of judgment must be employed in determining the risk-free rate and market return portions of the CAPM equation. The analyst's application of judgment can significantly influence the results obtained

[10] For a more complete discussion of some of the controversy surrounding the use of the CAPM, refer to *A Random Walk Down Wall Street* by Burton Malkiel, pp. 206 - 211, 2007 edition.

from the CAPM. My experience with the CAPM indicates that it is prudent to use a wide variety of data in estimating investor-required returns. Of course, the range of results may also be wide, indicating the difficulty in obtaining a reliable estimate from the CAPM.

Q34. How did you estimate the market return portion of the CAPM?

A34. The first source I used was the Value Line Investment Analyzer Plus Edition, for July 25, 2018. This edition covers several thousand stocks. The Value Line Investment Analyzer provides a summary statistical report detailing, among other things, forecasted growth rates for earnings and book value for the companies Value Line follows as well as the projected total annual return over the next 3 to 5 years. I present these growth rates and Value Line's projected annual return on page 2 of PSD-RAB-4. I included median earnings and book value growth rates. The estimated market returns using Value Line's market data range from 10.00% to 10.83%. The average of these market returns is 10.41%.

Q35. Why did you use median growth rate estimates rather than the average growth rate estimates for the Value Line companies?

A35. Using median growth rates is likely a more accurate approach to estimating the central tendency of Value Line's large data set compared to the average growth rates. Average earnings and book value growth rates may be unduly influenced by very high or very low 3 - 5-year growth rates that are unsustainable in the long run. For example, Value Line's Statistical Summary shows both the highest and lowest value

for earnings and book value growth forecasts. For earnings growth, Value Line showed the highest earnings growth forecast to be 94.5% and the lowest growth rate to be -31%. With respect to book value, the highest growth rate was 85.5% and the lowest was a -26%. None of these growth rate projections is compatible with long-run growth prospects for the market as a whole. The median growth rate is not influenced by such extremes because it represents the middle value of a very wide range of earnings growth rates.

Q36. Please continue with your market return analysis.

A36. I also considered a supplemental check to the Value Line projected market return estimates. Duff and Phelps compiled a study of historical returns on the stock market in its 2018 SBBI Yearbook. Some analysts employ this historical data to estimate the market risk premium of stocks over the risk-free rate. The assumption is that a risk premium calculated over a long period of time is reflective of investor expectations going forward. PSD-RAB-5 presents the calculation of the market returns using the historical data.

Q37. Please explain how this historical risk premium is calculated.

A37. DPS-RAB-5 shows both the geometric and arithmetic average of yearly historical stock market returns over the historical period from 1926 - 2017. The average annual income return for 20-year Treasury bond is subtracted from these historical stocks returns to obtain the historical market risk premium of stock returns over

long-term Treasury bond income returns. The historical market risk premium range is 5.2% - 7.1%.

Q38. Did you add an additional measure of the historical risk premium in this case?

A38. Yes. Duff and Phelps reported the results of a study by Dr. Roger Ibbotson and Dr. Peng Chen indicating that the historical risk premium of stock returns over long-term government bond returns has been significantly influenced upward by substantial growth in the price/earnings ("P/E") ratio for stocks from 1980 through 2001.[11] Duff and Phelps noted that this growth in the P/E ratio for stocks was subtracted out of the historical risk premium because "it is not believed that P/E will continue to increase in the future." The adjusted historical arithmetic market risk premium is 6.04%, which I have also included in DPS-RAB-5. This risk premium estimate falls near the middle of the market risk premium range.

Q39. How did you determine the risk free rate?

A39. I used the average yields on the 30-year Treasury bond and five-year Treasury note over the six-month period from January through June 2018. This was the latest available data from the Federal Reserve's web site during the preparation of my Direct Testimony. The 30-year Treasury bond is often used by rate of return analysts as the risk-free rate, but it contains a significant amount of interest rate risk. The five-year Treasury note carries less interest rate risk than the 30-year bond and is

[11] *2018 SBBI Yearbook,* Duff and Phelps, pp. 10-28 through 10-30.

more stable than short-term Treasury bills. Therefore, I have employed both securities as proxies for the risk-free rate of return. This approach provides a reasonable range over which the CAPM return on equity may be estimated.

Q40. How did you determine the value for beta?

A40. I obtained the betas for the companies in the electric company comparison group from most recent Value Line reports. The average of the Value Line betas for the comparison group is 0.68.

Q41. Please summarize the CAPM results.

A41. For my forward-looking CAPM return on equity estimates, the CAPM results are 7.96% - 8.09%. Using historical risk premiums, the CAPM results are 6.62% - 7.92%.

Conclusions and Recommendations

Q42. Please summarize the cost of equity results for your DCF and CAPM analyses.

A42. Table 3 below summarizes my return on equity results using the DCF and CAPM for my comparison group of companies.

TABLE 3
SUMMARY OF ROE ESTIMATES

Baudino DCF Methodology:	
Average Growth Rates	
- High	9.33%
- Low	8.81%
- Average	9.01%
Median Growth Rates:	
- High	9.20%
- Low	8.69%
- Average	8.95%
CAPM:	
- 5-Year Treasury Bond	7.96%
- 30-Year Treasury Bond	8.09%
- Historical Returns	6.62% - 7.92%

Q43. What is your recommended return on equity for GMP?

A43. My independent analyses of the return on equity for GMP indicate a reasonable investor required return on equity ("ROE") in the range of 8.70% - 9.35% based on the DCF analyses I performed. My recommended ROE for GMP in this proceeding would be 9.10%, which is slightly above the midpoint of this range. In my opinion, a 9.1% ROE is reasonable for a low risk regulated electric company like GMP and properly considers the probability of higher interest rates later this year.

As I mentioned earlier in my Direct Testimony, the DPS and GMP entered a Memorandum of Understanding ("MOU") dated November 9, 2017 in Case No. 17-3112-INV. Paragraph 21 of the MOU contains an agreement by the parties that GMP's allowed ROE for 2018 shall be 9.1% and for 2019 shall be 9.3%. The 9.3% 2019 ROE from the MOU falls within the range of my DCF analyses in this

proceeding and is quite close to my recommended ROE of 9.1%. It is my understanding that the DPS wishes to adhere to the ROE agreement in the MOU. Therefore, I recommend that the Commission adopt the 9.3% from the MOU.

Q44. Did you review GMP's requested cost of short-term debt?

A44. Yes. The Company's requested a cost of short-term debt is 1.83%. My review of the Company's recent cost of short-term debt indicates that 1.83% is reasonable and I recommend that the Commission adopt 1.83% for the cost of short-term debt.

Q45. Did you review GMP's requested cost of long-term debt?

A45. Yes. GMP included several forecasted bond issuances in its requested capital structure and cost of debt. These four forecasted issuances were included as follows:

- $25 million in September 2018 at a 4.50% yield
- $20 million in December 2018 at a 5.05% yield
- $30 million in May 2019 at a 5.25% yield
- $60 million in June 2019 at a 5.255 yield

Q46. Do you agree with the cost of the projected issues of long-term debt?

A46. No, I do not agree with all of them. First, for now I recommend that the Commission accept the 4.50% yield for the September 2018 issuance. This yield is close to the current yield on average utility bonds that I presented in Table 1. However, I also recommend that this yield be updated when GMP closes the transaction and has the actual cost available from that September 2018 issuance.

Second, I recommend that the Commission reduce the cost of the three other projected issuances to 4.50%. My Table 1 demonstrated that the average rate for public utility debt in June 2018 was 4.37%. The 4.50% cost of new debt I recommend is reasonably close to the cost that GMP should achieve this year and is within the range of long-term utility debt cost so far in 2018.

I utilized the spreadsheet the Company provided with its filing entitled "Rate Year 2019 Capital Structure Preliminary", which presents the cost of capital for the test year and rate year, to recalculate the cost of the projected three issuances of long-term debt using 4.50%. The impact on the overall cost of long-term debt for GMP was relatively small. My recommend cost of debt for the test year is 5.03% and for the 9-month rate year is 3.79%.

Q47. What is your recommended weighted cost of capital?

A47. My recommended weighted cost of capital is 6.97% using the cost of debt and equity for the test year. Table 4 below presents the calculation. I accepted GMP's requested capital structure and, specifically, its requested equity percentage of 49.85%. Please note that the cost of debt of 5.03% is for a full 12-month rate year, which differs from the Company's use of a 9-month rate year in its filing. For the 9-month rate year the cost of debt would be 3.79%.

TABLE 4

Weighted Cost of Capital
Green Mountain Power

Source	Percentage	Cost	Weighted Cost
Bonds	44.35%	5.03%	2.23%
Bank Loans	5.80%	1.83%	0.11%
Equity	49.85%	9.30%	4.64%
Totals	100.00%		6.97%

1

2

IV. RESPONSE TO GREEN MOUNTAIN POWER ROE TESTIMONY

Q48. Have you reviewed the Direct Testimony of Mr. Coyne?

A48. Yes. Although Mr. Coyne and I disagree on our recommended cost of equity based on our respective analyses, we do agree that the cost of equity for purposes of this case should be 9.30% per the MOU between the Department and GMP. However, I will nonetheless respond to Mr. Coyne's ROE analyses and point out areas with which I have disagreements.

Q49. Please summarize Mr. Coyne's testimony and approach to return on equity.

A49. As he did in GMP's last rate case, Mr. Coyne employed four methods to estimate the investor required rate of return for GMP: (1) the constant growth DCF model, (2) the multi-stage DCF model, (3) the CAPM, and (4) the Risk Premium model.

For his constant growth DCF approach, Mr. Coyne used Value Line, Thomson First Call, and Zacks for the investor expected growth rate. Mr. Coyne's mean growth rate ROE results for his proxy group of companies ranged from 8.62% to 8.91%. GMP Witness Coyne Direct at 46, Figure 10.

With respect to his multi-stage DCF analysis, Mr. Coyne used the expected growth rates from his constant growth DCF analysis for years 1 – 5, two long-term GDP forecasts for the long-term growth rate for years 11 forward, and a transition period in years 6 – 10 using linear interpolations of near-term and long-term growth rates.

The mean results using projected and historical GDP growth ranged from 8.05% to 9.36%. Witness Coyne Direct at 49, Figure 11.

With respect to the CAPM, Mr. Coyne's results ranged from 10.33% to 11.60%. Witness Coyne Direct at 53, lines 12 – 16.

Mr. Coyne's formulation of the bond yield plus risk premium approach resulted in a ROE estimate range of 9.87% - 10.34%. Witness Coyne Direct at 56, Figure 13.

Mr. Coyne also discussed making an adjustment for flotation costs to his recommended ROE, but did not make an explicit adjustment. Witness Coyne Direct at 67.

Based on the results of his analyses and judgment, Mr. Coyne recommended a ROE range for GMP of 9.9% to 10.4%, with a recommendation of 10.0%.

Constant Growth DCF Analyses

Q50. How do the results of your constant growth DCF analyses compare with those of Mr. Coyne's?

A50. Our results are rather consistent in this case, although Mr. Coyne's results are somewhat lower. We used the same proxy group and sources for expected growth rates. I also included Value Line's forecasted dividend growth, while Mr. Coyne did not.

Q51. On pages 40 through 43 of his Prefiled Testimony, Mr. Coyne discussed the higher stock valuations and lower dividend yield for utility companies, concluding on page 43 that "the DCF models "are understating the cost of equity under current market conditions due to the low-interest-rate environment that has reduced dividend yields and raised valuations on utility shares to unsustainable levels." Please respond to Mr. Coyne's conclusion regarding the DCF model.

A51. I disagree with Mr. Coyne's conclusion regarding the accuracy of the DCF model in today's current economic environment. The fact that dividend yields are relatively low currently does not preclude the use of an accurately formulated DCF model to estimate the current cost of equity for GMP in particular and for regulated utilities generally. Here's why.

It is critically important to focus upon what investors are willing to pay right now for utility stocks when estimating and setting the allowed ROE for GMP. Indeed, current stock prices tell us how investors value utility stocks compared to all other available investment opportunities. This is the principle of "opportunity cost" that I described earlier in my testimony. The bidding upward of utility stock prices, with the concomitant reduction in dividend yields, is likely reflective of a lower required return generally in financial markets due to the low interest rate environment that both Mr. Coyne and I have described to the Commission. It also likely reflects investors' preference for the stability and lower risk that utility stocks provide

relative to the general market. This is supported by the average beta of the proxy group, 0.68, which is well below the market beta of 1.0.

Finally, with respect to Mr. Coyne's analysis of utility company P/E ratios, Mr. Coyne provided no guidance or opinion on what the utility industry P/E should be to the extent that it is allegedly inflated currently by low interest rates. Indeed, if investors in the common stock of utility companies expected stock prices to "correct" at some much lower level, then they would have already adjusted stock prices to that level in order to avoid capital losses.

Q52. On page 42 of his Prefiled Testimony, Mr. Coyne cited an Order from the Federal Energy Regulatory Commission ("FERC") that described so-called "anomalous conditions" in current capital markets. Please respond to Mr. Coyne's testimony on this point.

A52. I strongly disagree with the FERC's finding with respect to so-called "anomalous" market conditions and the alleged impact on the DCF model results. The FERC Order that Mr. Coyne cited in his footnote No. 37 was dated June 30, 2016. Referring to my Table 1, the January 2016 30-Year Treasury yield was 2.86%, only slightly lower than the yield in June 2018 (3.05%). Despite several recent increases to the federal funds rate, long-term interest rates today are not much different from the levels seen in January 2016. With two additional years since the FERC Order cited by Mr. Coyne, financial markets to date have experience several years of

relatively low interest rates. This situation can hardly be considered a short-term "aberration" or "anomalous".

Finally, simply because the FERC made a decision regarding the use of the DCF model does not mean that the Commission should follow suit and agree with the FERC in this case.

Q53. Is there support for the position that today's currently low interest rates is part of a long-term trend?

A53. Yes. In a weekly blog at the Brookings Institution, former Federal Reserve Chairman Ben Bernanke wrote the following:[12]

> Interest rates around the world, both short-term and long-term, are exceptionally low these days. The U.S. government can borrow for ten years at a rate of about 1.9 percent, and for thirty years at about 2.5 percent. Rates in other industrial countries are even lower: For example, the yield on ten-year government bonds is now around 0.2 percent in Germany, 0.3 percent in Japan, and 1.6 percent in the United Kingdom. In Switzerland, the ten-year yield is currently slightly negative, meaning that lenders must pay the Swiss government to hold their money! The interest rates paid by businesses and households are relatively higher, primarily because of credit risk, but are still very low on an historical basis.
>
> Low interest rates are not a short-term aberration, but part of a long-term trend. As the figure below shows, ten-year government bond yields in the United States were relatively low in the 1960s, rose to a peak above 15 percent in 1981, and have been declining ever since. That pattern is partly explained by the rise and fall of inflation, also shown in the figure. All else equal, investors demand higher yields when inflation is

[12] Ben S. Bernanke, "Why Are Interest Rates So Low", Weekly Blog, Brookings, March 30, 2015. https://www.brookings.edu/blog/ben-bernanke/2015/03/30/why-are-interest-rates-so-low/

> high to compensate them for the declining purchasing power of the dollars with which they expect to be repaid. But yields on inflation-protected bonds are also very low today; the real or inflation-adjusted return on lending to the U.S. government for five years is currently about *minus* 0.1 percent.

Q54. Mr. Baudino, should the Commission rely on the DCF results for its decision on the allowed ROE for GMP?

A54. Yes, most definitely. The DCF model employs current stock prices, which are the best indicators of investors' return requirements that we have. The DCF also includes earnings and dividend growth forecasts that influence investors' decision-making. The DCF model is the most reliable and accurate model for the Commission to rely upon in this proceeding and I continue to recommend its use.

Q55. Mr. Coyne also presented the low mean and high mean DCF results in Figure 10, page 46 of his Prefiled Testimony. Should the Commission rely on the low and high mean results of his DCF analyses?

A55. No. The high and low mean results have no real value for purposes of setting the ROE for GMP in this case. They merely report on the range around the mean, or average, results from Mr. Coyne's DCF analyses. Mr. Coyne made a similar presentation for his multi-stage DCF results. Rather, it is the mean results that are relevant for purposes of setting the ROE in this proceeding and it is this approach I used as Method 1 in presenting my DCF recommendation to the Commission. The median is another useful measure of central tendency for required ROEs and I used the median as Method 2 in my analyses.

Multi-stage DCF Model

Q56. On page 49 of his Prefiled Direct Testimony, Mr. Coyne presented the results of his multi-stage DCF model. What are your conclusions with respect to Mr. Coyne's analyses?

A56. The range of Mr. Coyne's mean estimates is 8.05% - 9.36%. Mr. Coyne's multi-stage DCF results are reasonably consistent with the constant growth DCF results. This due mainly to his estimates of long-term GDP growth, which range from 4.21% - 5.45%. These GDP growth rates are similar to the earnings growth rates he used in his constant growth DCF analyses.

Although I do not necessarily agree with all the assumptions in Mr. Coyne's analysis, his multi-stage DCF model show that relying on GDP growth for long-term earnings growth does not produce significantly different results from the constant growth DCF model.

CAPM

Q57. Briefly summarize the main elements of Mr. Coyne's CAPM approach.

A57. On page 35 of his Prefiled Testimony, Mr. Coyne testified that he used the projected yield on the 30-year Treasury bond from Blue Chip. This projected yield was 4.10%. Mr. Coyne did not consider any shorter maturity bonds, such as the 5-year Treasury note.

For the market risk premium, Mr. Coyne conducted a constant growth DCF analysis on each of the S&P 500 companies and then calculated the expected total market return weighted by the market capitalization for each company. He subtracted the total market return of 14.72% from the projected risk-free rate of 4.10% to derive his recommended market risk premium of 10.62%.

Mr. Coyne used two different estimates for beta from Bloomberg (0.587) and Value Line (0.706).

Q58. Is it appropriate to use forecasted or projected bond yields in the CAPM?

A58. Definitely not. Current interest rates and bond yields embody all of the relevant market data and expectations of investors, including expectations of changing future interest rates. The forecasted bond yield used by Mr. Coyne is speculative at best and may never come to pass. Current interest rates provide tangible and verifiable market evidence of investor return requirements today, and these are the interest rates and bond yields that should be used in both the CAPM and in the bond yield plus risk premium analyses. To the extent that investors give forecasted interest rates any weight at all, they are already incorporated in current securities prices.

Furthermore, Mr. Coyne's 4.10% forcasted 30-year Treasury Bond yield is grossly excessive compared to current long-term bond yields. As of June 2018, the yield on the 30-year Treasury Bond was 3.05%. Mr. Coyne's forecasted yield of 4.10% is 105 basis points greater than the current yield for 30-year Treasury bonds. Given

how far off the Blue Chip forecast is from current yields, I strongly recommend that Mr. Coyne's CAPM results be rejected out of hand.

Finally, as a practical matter it is not appropriate to rely on forecasted interest rates from Blue Chip Financial Forecasts in either the CAPM or the Risk Premium models. Forecasts are often wrong and should not be used to set the ROE in regulatory proceedings. Current interest rates already embody investors' expectations of future increases in interest rates, if any.

Q59. Should Mr. Coyne have considered shorter-term Treasury yields in his CAPM analyses?

A59. Yes. In theory, the risk-free rate should have no interest rate risk. 30-year Treasury Bonds do face this risk, which is the risk that interest rates could rise in the future and lead to a capital loss for the bondholder. Typically, the longer the duration of the bond, the greater the interest rate risk. The 5-year Treasury note has much less interest rate risk than 30-year Treasury Bonds and may be considered one reasonable proxy for a risk-free security.

Q60. Is the S&P 500 a good proxy for the market when estimating a CAPM return on equity?

A60. No. This is because the S&P 500 is limited to the stocks of the 500 largest companies in the United States. The market return portion of the CAPM should represent the most comprehensive estimate of the total return for all investment

alternatives, not just a small subset of publicly traded stocks. In practice, of course, finding such an estimate is difficult and is one of the thornier problems in estimating an accurate ROE when using the CAPM. If one limits the market return to stocks, then there are more comprehensive measures of the stock market available, such as the Value Line Investment Survey that I used in my CAPM analysis. Value Line's projected earnings growth used a sample of 2,019 stocks and its book value growth estimate used 1,562 stocks. Value Line's projected annual percentage return included 1,696 stocks. These are much broader samples than Mr. Coyne's limited sample of the S&P 500.

Q61. Do the market returns you used in your CAPM suggest that Mr. Coyne's estimated market returns are excessive?

A61. Yes, they certainly do. The market returns I estimated from Value Line ranged from 10.0% to 10.83%, far lower than Mr. Coyne's estimated return of 14.72% on the S&P 500.

In my opinion, the forecasted market growth rate of 12.70% in Mr. Coyne's analysis is greatly overstated. This is by no means a long-run sustainable growth rate. It is more than twice as large as Mr. Coyne's own long-term GDP forecasts (4.21% - 5.45%). If forecasted GDP growth is used as the long-term expected growth rate for the market, then both Mr. Coyne's and my own market return estimates would fall significantly.

Bond Yield Plus Risk Premium Analysis

Q62. Please summarize Mr. Coyne's risk premium approach.

A62. Mr. Coyne developed a historical risk premium using Commission-allowed returns for regulated electric utility companies and forecasted 30-year Treasury bond yields from 1992 through February 28, 2018. He used regression analysis to estimate the value of the inverse relationship between interest rates and risk premiums during that period. Applying the regression coefficients to the average risk premium and using both current and projected 30-year Treasury yields, Mr. Coyne's risk premium ROE estimate ranges from 9.87% to 10.34%. Witness Coyne Prefiled Testimony at 56.

Q63. Please respond to Mr. Coyne's risk premium analysis.

A63. First, the bond yield plus risk premium approach is imprecise and can only provide very general guidance on the current authorized ROE for a regulated electric utility. Risk premiums can change substantially over time. As such, this approach is a "blunt instrument" for estimating the ROE in regulated proceedings. In my view, a properly formulated DCF model using current stock prices and growth forecasts is far more reliable and accurate than the bond yield plus risk premium approach, which relies on a historical risk premium analysis over a certain period of time.

Second, I recommend that the Commission reject the use of the forecasted Treasury bond yields for the same reasons I described in my response to Mr. Coyne's CAPM approach. The Blue Chip Consensus 30-Year Treasury yield forecasts resulted in ROEs of 10.06 - 10.34%, the highest of the three results shown Mr. Coyne's Figure

8. Changing Mr. Coyne's analysis only to use the current 30-Year Treasury yield, without addressing other potential shortcomings of that analysis, would result in a ROE of 9.87%.

Business Risks and Flotation Costs

Q64. Beginning on page 57 of his Prefiled Testimony, Mr. Coyne discusses his view of how GMP's relatively small size affects its risk profile. Please respond to Mr. Coyne's testimony on this point.

A64. I agree with Mr. Coyne that economic literature recognizes that smaller companies may be considered riskier by investors and command higher required returns as a result. However, the fact that GMP is a regulated utility substantially reduce its risk compared to smaller, unregulated companies. Indeed, the Commission has approved regulatory mechanisms and rate treatment for GMP that reduces its risk of recovering its costs and earning its required return on equity. I would not recommend that the Commission consider GMP's size relative to the companies in the proxy group when deciding its allowed return on equity. Mr. Coyne also declined to make a size adjustment in his recommended ROE.

Q65. What do the S&P credit ratings tell us with respect to GMP's risk relative to the proxy group?

A65. My Table 2 shows that GMP's credit rating of A- is slightly higher than the proxy group. This suggests that GMP has somewhat lower risk relative to the proxy group average. It should be noted that any concerns with respect to size and regulatory risk

are already considered in the credit rating of GMP and the companies in the proxy group.

Q66. On page 67 of his Prefiled Testimony, Mr. Coyne discussed adding an adjustment for flotation costs, though he made no explicit adjustment to his recommendation. Should the Commission add a flotation cost adjustment to the cost of equity for GMP?

A66. No. In my opinion, it is likely that flotation costs are already accounted for in current stock prices and that adding an adjustment for flotation costs amounts to double counting. A DCF model using current stock prices should already account for investor expectations regarding the collection of flotation costs. Multiplying the dividend yield by a 4% flotation cost adjustment, for example, essentially assumes that the current stock price is wrong and that it must be adjusted downward to increase the dividend yield and the resulting cost of equity. I do not believe that this is an appropriate assumption. Current stock prices most likely already account for flotation costs, to the extent that such costs are even accounted for by investors.

Q67. On page 70 of his Prefiled Testimony, Mr. Coyne stated that GMP's requested ROE of 9.3% is "well below the low end of the reasonable range supported by my analysis, for the rate period January 1, 2019 to September 30, 2019." Please respond to Mr. Coyne's position with respect to the 9.3% ROE agreement in the MOU.

A67. The 9.3% ROE is definitely not below a reasonable ROE that an investor in today's stock market would require for a low-risk regulated electric utility like GMP. As I noted earlier, the 9.3% is near the top end of my DCF range and is at the top of the multi-stage DCF results calculated by Mr. Coyne. The lower bound of Mr. Coyne's recommended ROE range, 9.9%, obviously excludes the entirety of his DCF results. I disagree with Mr. Coyne's complete exclusion of the results of the valid and widely used DCF method. I would also note once again that GMP maintained its strong A- credit rating with a 9.1% ROE agreed to in the MOU.

Q68. Does this complete your Direct Testimony?

A68. Yes.

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-five years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Climax Molybdenum Company
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

Expert Testimony Appearances
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Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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Date	Case	Jurisdict.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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Date	Case	Jurisdict.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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Date	Case	Jurisdict.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Richard A. Baudino
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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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Date	Case	Jurisdict.	Party	Utility	Subject
03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

Expert Testimony Appearances
of
Richard A. Baudino
As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

Expert Testimony Appearances
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As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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Date	Case	Jurisdict.	Party	Utility	Subject
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

Expert Testimony Appearances
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As of August 2018

Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital

GMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
ALLETE	High Price ($)	74.420	72.550	72.800	77.450	79.860	78.620
	Low Price ($)	71.360	66.640	67.070	70.400	73.760	70.460
	Avg. Price ($)	72.890	69.595	69.935	73.925	76.810	74.540
	Dividend ($)	0.535	0.560	0.560	0.560	0.560	0.560
	Mo. Avg. Div.	2.94%	3.22%	3.20%	3.03%	2.92%	3.01%
	6 mos. Avg.	3.05%					
Alliant Energy	High Price ($)	42.720	39.900	41.040	43.270	43.470	42.780
	Low Price ($)	39.070	36.840	37.850	40.340	40.110	38.220
	Avg. Price ($)	40.895	38.370	39.445	41.805	41.790	40.500
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.28%	3.49%	3.40%	3.21%	3.21%	3.31%
	6 mos. Avg.	3.31%					
Ameren Corp.	High Price ($)	57.090	56.850	56.790	58.950	59.790	61.250
	Low Price ($)	54.830	51.890	53.080	55.010	55.720	55.210
	Avg. Price ($)	55.960	54.370	54.935	56.980	57.755	58.230
	Dividend ($)	0.458	0.458	0.458	0.458	0.458	0.458
	Mo. Avg. Div.	3.27%	3.37%	3.33%	3.22%	3.17%	3.15%
	6 mos. Avg.	3.25%					
American Electric Power	High Price ($)	73.420	68.980	69.240	70.980	69.990	70.300
	Low Price ($)	67.110	63.320	64.600	66.460	64.460	62.710
	Avg. Price ($)	70.265	66.150	66.920	68.720	67.225	66.505
	Dividend ($)	0.620	0.620	0.620	0.620	0.620	0.620
	Mo. Avg. Div.	3.53%	3.75%	3.71%	3.61%	3.69%	3.73%
	6 mos. Avg.	3.67%					
Duke Energy Corp.	High Price ($)	84.420	79.630	77.910	80.850	80.410	80.150
	Low Price ($)	76.640	72.930	74.580	75.960	73.130	71.960
	Avg. Price ($)	80.530	76.280	76.245	78.405	76.770	76.055
	Dividend ($)	0.890	0.890	0.890	0.890	0.890	0.890
	Mo. Avg. Div.	4.42%	4.67%	4.67%	4.54%	4.64%	4.68%
	6 mos. Avg.	4.60%					
El Paso Electric Co.	High Price ($)	55.750	52.300	51.250	51.550	59.130	59.350
	Low Price ($)	50.700	48.150	48.050	48.500	49.450	54.750
	Avg. Price ($)	53.225	50.225	49.650	50.025	54.290	57.050
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.360
	Mo. Avg. Div.	2.52%	2.67%	2.70%	2.68%	2.47%	2.52%
	6 mos. Avg.	2.59%					
Hawaiian Electric Ind.	High Price ($)	36.220	34.350	34.620	35.130	35.200	34.510
	Low Price ($)	33.730	31.720	32.580	33.790	32.880	32.590
	Avg. Price ($)	34.975	33.035	33.600	34.460	34.040	33.550
	Dividend ($)	0.310	0.310	0.310	0.310	0.310	0.310
	Mo. Avg. Div.	3.55%	3.75%	3.69%	3.60%	3.64%	3.70%
	6 mos. Avg.	3.65%					

GMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
IDACORP	High Price ($)	91.400	86.570	88.600	94.160	96.010	93.280
	Low Price ($)	82.080	79.590	80.290	84.820	87.340	85.230
	Avg. Price ($)	86.740	83.080	84.445	89.490	91.675	89.255
	Dividend ($)	0.590	0.590	0.590	0.590	0.590	0.590
	Mo. Avg. Div.	2.72%	2.84%	2.79%	2.64%	2.57%	2.64%
	6 mos. Avg.	2.70%					
NextEra Energy, Inc.	High Price ($)	159.230	159.640	164.410	165.150	166.620	169.530
	Low Price ($)	149.070	145.100	151.340	158.650	155.220	155.060
	Avg. Price ($)	154.150	152.370	157.875	161.900	160.920	162.295
	Dividend ($)	0.983	1.110	1.110	1.110	1.110	1.110
	Mo. Avg. Div.	2.55%	2.91%	2.81%	2.74%	2.76%	2.74%
	6 mos. Avg.	2.75%					
OGE Energy Corp.	High Price ($)	33.070	33.060	32.830	33.390	35.420	35.540
	Low Price ($)	30.700	29.590	30.760	31.490	32.700	33.190
	Avg. Price ($)	31.885	31.325	31.795	32.440	34.060	34.365
	Dividend ($)	0.333	0.333	0.333	0.333	0.333	0.333
	Mo. Avg. Div.	4.17%	4.25%	4.18%	4.10%	3.90%	3.87%
	6 mos. Avg.	4.08%					
Pinnacle West Capital	High Price ($)	85.550	80.830	80.210	81.850	80.730	81.250
	Low Price ($)	78.310	73.810	75.210	77.140	75.820	73.410
	Avg. Price ($)	81.930	77.320	77.710	79.495	78.275	77.330
	Dividend ($)	0.695	0.695	0.695	0.695	0.695	0.695
	Mo. Avg. Div.	3.39%	3.60%	3.58%	3.50%	3.55%	3.59%
	6 mos. Avg.	3.53%					
PNM Resources, Inc.	High Price ($)	40.550	38.050	38.700	40.730	40.600	40.050
	Low Price ($)	35.150	33.750	34.950	37.100	37.600	34.950
	Avg. Price ($)	37.850	35.900	36.825	38.915	39.100	37.500
	Dividend ($)	0.265	0.265	0.265	0.265	0.265	0.265
	Mo. Avg. Div.	2.80%	2.95%	2.88%	2.72%	2.71%	2.83%
	6 mos. Avg.	2.82%					
Portland General Electric	High Price ($)	45.650	42.470	41.060	42.700	42.930	43.290
	Low Price ($)	41.610	39.400	39.020	39.180	39.660	39.600
	Avg. Price ($)	43.630	40.935	40.040	40.940	41.295	41.445
	Dividend ($)	0.340	0.340	0.340	0.340	0.340	0.363
	Mo. Avg. Div.	3.12%	3.32%	3.40%	3.32%	3.29%	3.50%
	6 mos. Avg.	3.33%					
PPL Corporation	High Price ($)	32.450	31.930	28.980	29.710	29.210	28.950
	Low Price ($)	30.950	28.640	27.080	27.350	26.620	25.300
	Avg. Price ($)	31.700	30.285	28.030	28.530	27.915	27.125
	Dividend ($)	0.395	0.395	0.410	0.410	0.410	0.410
	Mo. Avg. Div.	4.98%	5.22%	5.85%	5.75%	5.87%	6.05%
	6 mos. Avg.	5.62%					

GMP PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Southern Company	High Price ($)	48.070	45.300	45.100	46.750	46.580	46.850
	Low Price ($)	43.160	42.380	43.020	43.750	42.420	42.730
	Avg. Price ($)	45.615	43.840	44.060	45.250	44.500	44.790
	Dividend ($)	0.580	0.580	0.580	0.580	0.600	0.600
	Mo. Avg. Div.	5.09%	5.29%	5.27%	5.13%	5.39%	5.36%
	6 mos. Avg.	5.25%					
Xcel Energy	High Price ($)	48.360	45.780	45.870	47.380	46.930	46.240
	Low Price ($)	44.740	41.510	42.570	43.930	43.280	41.990
	Avg. Price ($)	46.550	43.645	44.220	45.655	45.105	44.115
	Dividend ($)	0.360	0.360	0.380	0.380	0.380	0.380
	Mo. Avg. Div.	3.09%	3.30%	3.44%	3.33%	3.37%	3.45%
	6 mos. Avg.	3.33%					
Monthly Avg. Dividend Yield		3.46%	3.66%	3.68%	3.57%	3.57%	3.63%
6-month Avg. Dividend Yield		3.60%					

Source: Yahoo! Finance

GMP PROXY GROUP
DCF Growth Rate Analysis

Company	(1) Value Line DPS	(2) Value Line EPS	(3) Zacks	(4) Yahoo! Finance
ALLETE, Inc.	4.50%	5.00%	6.00%	6.00%
Alliant Energy Corporation	6.00%	6.50%	5.60%	5.85%
Ameren Corp.	5.50%	7.50%	6.50%	6.30%
American Electric Power Co.	5.00%	4.50%	5.70%	5.79%
Duke Energy	4.50%	5.50%	4.60%	4.22%
El Paso Electric Co.	7.00%	4.50%	5.10%	5.20%
Hawaiian Electric	2.00%	3.50%	7.10%	9.10%
IDACORP, Inc.	6.50%	3.50%	3.90%	3.55%
NextEra Energy, Inc.	11.00%	8.50%	8.60%	9.79%
OGE Energy Corp.	8.00%	6.00%	4.70%	4.30%
Pinnacle West Capital Corp.	5.50%	5.00%	4.50%	3.78%
PNM Resources, Inc.	7.00%	7.50%	5.10%	5.15%
Portland General Electric Company	6.00%	4.00%	2.80%	2.65%
PPL Corporation	2.50%	2.00%	6.00%	2.14%
Southern Company	3.50%	3.00%	4.50%	2.25%
Xcel Energy Inc.	5.50%	5.50%	5.70%	5.86%
Averages	5.63%	5.13%	5.40%	5.12%
Median Values	5.50%	5.00%	5.35%	5.18%

Sources: **Value Line Investment Survey, April 27, May 18, and June 15, 2018**
Yahoo! Finance growth rates retrieved July 8, 2018
Zacks growth rates retrieved July 8, 2018

GMP PROXY GROUP
DCF RETURN ON EQUITY

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) Zack's Earning Gr.	(4) First Call Earning Gr.	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	3.60%	3.60%	3.60%	3.60%	3.60%
Average Growth Rate	5.63%	5.13%	5.40%	5.12%	5.32%
Expected Div. Yield	3.70%	3.69%	3.69%	3.69%	3.69%
DCF Return on Equity	***9.33%***	***8.82%***	***9.09%***	***8.81%***	***9.01%***
Method 2:					
Dividend Yield	3.60%	3.60%	3.60%	3.60%	3.60%
Median Growth Rate	5.50%	5.00%	5.35%	5.18%	5.26%
Expected Div. Yield	3.70%	3.69%	3.69%	3.69%	3.69%
DCF Return on Equity	***9.20%***	***8.69%***	***9.04%***	***8.87%***	***8.95%***

GMP PROXY GROUP
Capital Asset Pricing Model Analysis

30-Year Treasury Bond, Value Line Beta

Line No.		Value Line
1	Market Required Return Estimate	10.41%
2	Risk-free Rate of Return, 30-Year Treasury Bond	
3	Average of Last Six Months	3.06%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.36%
6	Comparison Group Beta	0.68
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.03%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	8.09%

5-Year Treasury Bond, Value Line Beta

1	Market Required Return Estimate	10.41%
2	Risk-free Rate of Return, 5-Year Treasury Bond	
3	Average of Last Six Months	2.65%
4	Risk Premium	
5	(Line 1 minus Line 3)	7.76%
6	Comparison Group Beta	0.68
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	5.31%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	7.96%

GMP PROXY GROUP
Capital Asset Pricing Model Analysis

Supporting Data for CAPM Analyses

30 Year Treasury Bond Data

	Avg. Yield
January-18	2.88%
February-18	3.13%
March-18	3.09%
April-18	3.07%
May-18	3.13%
June-18	3.05%
6 month average	3.06%

Source: www.federalreserve.gov/datadownload/

5 Year Treasury Bond Data

	Avg. Yield
January-18	2.38%
February-18	2.60%
March-18	2.63%
April-18	2.70%
May-18	2.82%
June-18	2.78%
6 month average	2.65%

Value Line Market Return Data:

Forecasted Data:	
Value Line Median Growth Rates:	
Earnings	11.62%
Book Value	8.00%
Average	9.81%
Average Dividend Yield	0.97%
Estimated Market Return	10.83%
Value Line Projected 3-5 Yr. Median Annual Total Return	10.00%
Average of Projected Mkt. Returns	10.41%

Source: Value Line Investment Survey for Windows retreived June 25, 2018

Comparison Group Betas:

	Value Line
ALLETE, Inc.	0.75
Alliant Energy Corporation	0.70
Ameren Corp.	0.65
American Electric Power Co.	0.65
Duke Energy	0.60
El Paso Electric Co.	0.75
Hawaiian Electric	0.65
IDACORP, Inc.	0.70
NextEra Energy, Inc.	0.65
OGE Energy Corp.	0.95
Pinnacle West Capital Corp.	0.65
PNM Resources, Inc.	0.70
Portland General Electric Company	0.65
PPL Corporation	0.75
Southern Company	0.55
Xcel Energy Inc.	0.60
Average	0.68

Source: Value Line Investment Survey

GMP PROXY GROUP
Capital Asset Pricing Model Analysis
Historic Market Premium

	Geometric Mean	Arithmetic Mean	Adjusted Arithmetic Mean
Long-Term Annual Return on Stocks	10.20%	12.10%	
Long-Term Annual Income Return on Long-Term Treas. Bonds	5.00%	5.00%	
Historical Market Risk Premium	5.20%	7.10%	6.04%
Comparison Group Beta, Value Line	0.68	0.68	0.68
Beta * Market Premium	3.56%	4.86%	4.13%
Current 30-Year Treasury Bond Yield	3.06%	3.06%	3.06%
CAPM Cost of Equity, Value Line Beta	**6.62%**	**7.92%**	**7.19%**

Source: *2018 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation*, Duff and Phelps; pp. 6-17, 10-31

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION	:	
	:	
V.	:	Docket No. R-2018-3003558
	:	Docket No. R-2018-3003561
AQUA PENNSYLVANIA, INC. AND AQUA PENSYLVANIA WASTEWATER, INC.	:	

SURREBUTTAL TESTIMONY

OF

RICHARD A. BAUDINO

ON BEHALF OF

AQUA LARGE USERS GROUP

J. KENNEDY AND ASSOCIATES, INC.

JANUARY 2019

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION	:	
	:	
V.	:	**Docket No. R-2018-3003558**
	:	**Docket No. R-2018-3003561**
AQUA PENNSYLVANIA, INC. AND AQUA PENSYLVANIA WASTEWATER, INC.	:	

SURREBUTTAL TESTIMONY OF RICHARD A. BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant to Kennedy and Associates.

Q. Did you submit Rebuttal Testimony in this proceeding?

A. Yes. I submitted Rebuttal Testimony on behalf of the Aqua Large Users Group ("Aqua LUG").

Q. What is the purpose of your Surrebuttal Testimony?

A. The purpose of my Surrebuttal Testimony is to respond to the Rebuttal Testimony of Mr. Paul R. Herbert, witness for Aqua Pennsylvania, Inc. ("AP" or "Company").

Q. Please summarize Mr. Herbert's response to the revenue allocation proposal offered by Mr. Brian Kalcic, witness for the Office of Small Business Advocate ("OSBA").

A. On page 2, lines 11 through 18, Mr. Herbert testified that the Company "does not oppose" OSBA's recommended revenue allocation. Mr. Herbert noted that the

Company's proposed revenue allocation continued the same rates for commercial and public classes and that to implement OSBA's proposal, the link between those classes would have to be broken.

Q. Did Mr. Herbert adopt OSBA's proposed revenue distribution in his revised rate design and revenue allocation in Exhibit No. 5-A(a), Part II?

A. No. The revisions in Exhibit No. 5-A(a) did not adopt OSBA's proposed revenue allocation, but rather continued the Company's originally proposed revenue allocation and rate design. In other words, Aqua said it does not oppose OSBA's proposed revenue allocation, but the Company did not take any steps to show the impacts of implementing OSBA's proposed revenue allocation.

Q. Did either AP or OSBA provide any guidance on how the rate design link between the commercial and public classes should be broken in order to implement OSBA's proposed revenue distribution?

A. No.

Q. Should the Commission adopt Mr. Kalcic's proposed revenue distribution absent any guidance or quantification of how the rate design link between the commercial and public classes should be broken?

A. No. Aqua's rate design has a long-standing link between commercial and public class rates. Breaking this link without any guidance on how customer charges and consumption charges would be redesigned for the Commercial, Industrial, and Public classes would put the other parties at a severe disadvantage in terms of assessing how this new design would affect ratepayers at differing consumption levels and meter sizes. For example, there would be no way to assess how low load factor and high load factor customers would be affected within the Commercial and Industrial classes

and whether such intraclass changes are reasonable. I am not a lawyer, but it seems that procedure and due process would require that parties have an opportunity to review and examine the rate impacts of any revenue allocation changes adopted by the Company. If the Commission approves the recommendation of Mr. Herbert, customers will not see the revised rates until some point after the Commission issues its Final Order.

My Rebuttal Testimony outlined my reasons for opposing OSBA's proposed revenue allocation. Now, without illustrating how customer rates would be affected by Mr. Kalcic's revenue allocation proposal, AP has nonetheless indicated that it does not oppose OSBA's proposed revenue allocation. For these reasons, and excepting only the Private Fire revenue allocation adjustment addressed below, I recommend that the Commission reject the revenue allocation initially proposed by OSBA and now "not opposed" by AP.

Q. Do you still recommend that the Commission adopt the Company's original revenue allocation and rate design proposal?

A. Yes. Except for the revenue allocation to the Private Fire class, I continue to recommend that the Commission adopt the Company's revenue allocation proposal.

Q. What about the revenue allocation to the Private Fire class?

A. Both Mr. Kalcic and Mr. Herbert noted that the Private Fire class is significantly above its cost to serve and should not receive an increase beyond the roll-in of the Distribution System Improvement Charge ("DSIC") revenues. I agree with this proposal and further recommend that it be treated in the manner Mr. Herbert showed in Exhibit No. 5-A(a), Part II, Schedule 1(a), where Mr. Herbert reduced the Private Fire revenue allocation without modifying the allocations to other customer classes.

Specifically, this schedule shows the same approximate class increases originally proposed by the Company with certain corrections and a reduction to the original $1,068,526 million increase to Private Fire to a revised class increase of $13,898. Mr. Herbert summarized these changes on page 12, lines 1 through 5 of his Rebuttal Testimony.

Q. Do you have any other concerns with Mr. Herbert's Rebuttal Testimony?

A. Yes. I note that Mr. Herbert's Exhibit No. 5-A(a), Part II, Schedule 1(a) reflects a revenue requirement for Aqua's water system of $65,431,935 million, while Aqua Witness William C. Packer's Exhibit No. 1-A(a), Summary, shows a total revenue requirement for Aqua's water system of $65,928,392 million, a difference of $496,457. At this time, I am unable to identify the source of this discrepancy, although I understand from informal discussions with Mr. Herbert that Aqua is looking into the matter. As such, I reserve the right to update my testimony as new information becomes available.

Q. Does this conclude your Surrebuttal Testimony?

A. Yes.

BEFORE THE

PUBLIC SERVICE COMMISSION OF THE

COMMONWEALTH OF KENTUCKY

IN RE:	**APPLICATION OF ATMOS ENERGY CORPORATION FOR AN ADJUSTMENT OF RATES AND TARIFF MODIFICATIONS**	**)** **)** **)** **)**	**DOCKET NO. 2017-00349**

DIRECT TESTIMONY

AND EXHIBITS

OF

RICHARD A. BAUDINO

ON BEHALF OF THE

OFFICE OF THE ATTORNEY GENERAL

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

JANUARY 17, 2018

BEFORE THE

PUBLIC SERVICE COMMISSION OF THE

COMMONWEALTH OF KENTUCKY

IN RE:	**APPLICATION OF ATMOS ENERGY CORPORATION FOR AN ADJUSTMENT OF RATES AND TARIFF MODIFICATIONS**	**)** **)** **)** **)**	**DOCKET NO. 2017-00349**

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DIRECT TESTIMONY OF RICHARD A. BAUDINO

I. QUALIFICATIONS AND SUMMARY

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant with Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979.

I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

Exhibit No. ___(RAB-1) summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Office of the Attorney General of the Commonwealth of Kentucky ("AG").

Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to address the allowed return on equity for regulated gas distribution operations for Atmos Energy ("Atmos" or "Company"). I will also address certain capital structure issues as well as the cost of long-term and

short-term debt. Finally, I will respond to the Direct Testimony of Dr. James Vander Weide, witness for the Company.

Q. Please summarize your conclusions and recommendations.

A. My conclusions and recommendations are as follows.

First, I recommend that the Kentucky Public Service Commission ("KPSC" or "Commission") adopt a fair rate of return on equity of 8.80% for Atmos Energy. My recommended return on equity ("ROE") is based on a Discounted Cash Flow analysis using a proxy group consisting of gas distribution companies. This is the same proxy group used by Dr. Vander Weide in his Direct Testimony on behalf of Atmos, with one modification. My recommended 8.80% ROE is fully supported by current stock market data and expected growth rates and is consistent with the low interest rate environment that is present today.

Second, I recommend that the commitment and banking fees expenses that Atmos included in its cost of short-term debt be removed and placed into operations and maintenance expenses. I also recommend that the Commission adopt the Company's proposed cost of short-term debt, excluding the commitment and banking fees.

Third, I recommend that an 8.50% long-term debt issue that matures in March 2019 be adjusted downward to reflect the current average long-term utility debt yield. This high cost debt issue will be retired within Atmos' future test period and will likely be replaced by one at much lower cost to ratepayers. I made the assumption

that Atmos would replace this 8.50% debt issue with one that yields 4.0%, reflecting the approximate current average long-term utility debt yield. This lowered Atmos' requested cost of long-term debt from 5.11% to 4.55%.

Fourth, my recommended adjusted weighted cost of capital for Atmos is 6.62%.

Fifth, I recommend that the Commission reject Dr. Vander Weide's recommended 10.3% cost of equity. For reasons that I shall explain in Section IV of my testimony, a cost of equity of 10.3% is overstated, inconsistent with current market required returns, and would result in an excessive revenue requirement for Atmos.

II. REVIEW OF ECONOMIC AND FINANCIAL CONDITIONS

Q. Mr. Baudino, what has the trend been in long-term capital costs over the last few years?

A. Long-term capital costs as measured by the general level of interest rates in the economy have declined over the last few years. Exhibit No. ___(RAB-2) presents a graphic depiction of the trend in interest rates from January 2008 through November 2017. The interest rates shown in this exhibit are for the 20-year U.S. Treasury Bond and the average public utility bond from the Mergent Bond Record. In January 2008, the average public utility bond yield was 6.08% and the 20-year Treasury Bond yield was 4.35%. As of November 2017, the average public utility bond yield was 3.88%, representing a decline of 220 basis points, or 2.20%, from January 2008. Likewise, the 20-year Treasury bond stood at 2.60% in November 2017, a decline of 1.75% (175 basis points) from January 2008.

Bond yields did not change significantly in December 2017. The yield on the 20-Year Treasury bond was 2.60% at the end of December according to data from the Federal Reserve. Moody's Credit Trends reported on December 29, 2017 that the average utility bond yield was 3.81%.

Q. Was there a significant change in Federal Reserve policy during the historical period shown in Exhibit No. ___(RAB-2) that affected the general level of interest rates?

A. Yes. In response to the 2007 financial crisis and severe recession that followed in December 2007, the Federal Reserve ("Fed") undertook a series of steps to stabilize the economy, ease credit conditions, and lower unemployment and interest rates.

These steps are commonly known as Quantitative Easing ("QE") and were implemented in three distinct stages: QE1, QE2, and QE3. The Fed's stated purpose of QE was "to support the liquidity of financial institutions and foster improved conditions in financial markets."[1]

QE1 was implemented from November 2008 through approximately March 2010. During this time, the Fed cut its key Federal Funds Rate to nearly 0% and purchased $1.25 trillion of mortgage-backed securities and $175 billion of agency debt purchases.

QE2 was implemented in November 2010 with the Fed announcing that it would purchase an additional $600 billion of Treasury securities by the second quarter of 2011.[2]

Beginning in September 2011, the Fed initiated a "maturity extension program" in which it sold or redeemed $667 billion of shorter-term Treasury securities and used the proceeds to buy longer-term Treasury securities. This program, also known as "Operation Twist," was designed by the Fed to lower long-term interest rates and support the economic recovery.

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[1] (http://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm).

[2] (http://www.federalreserve.gov/newsevents/press/monetary/20101103a.htm)

QE3 began in September 2012 with the Fed announcing an additional bond purchasing program of $40 billion per month of agency mortgage backed securities. The Fed began to pare back its purchases of securities in the last few years. On January 29, 2014 the Fed stated that beginning in February 2014 it would reduce its purchases of long-term Treasury securities to $35 billion per month. The Fed continued to reduce these purchases throughout the year and in a press release issued October 29, 2014 announced that it decided to close this asset purchase program in October.[3]

Q. Has the Fed recently indicated any important changes to its monetary policy?

A. Yes. In March 2016, the Fed began to raise its target range for the federal funds rate, increasing it to 1/4% - 1/2% from 0% - 1/4%. The Fed further increased the target range to 1/2% to 3/4% in a press release dated December 14, 2016. On June 14, 2017, the Fed announced a further increase to 1% - 1 ¼%.

On December 13, 2017 the Fed announced yet another increase to the federal funds rate of ¼%. In its announcement, the Fed stated the following:

> Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding have affected economic activity, employment, and inflation in recent months but have not materially altered the outlook for the national economy. Consequently, the Committee continues to expect that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace and labor market conditions will remain strong. Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the economic outlook

[3] (http://www.federalreserve.gov/newsevents/press/monetary/20141029a.htm)

appear roughly balanced, but the Committee is monitoring inflation developments closely.

In view of realized and expected labor market conditions and inflation, the Committee decided to raise the target range for the federal funds rate to 1-1/4 to 1-1/2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation.

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected inflation developments relative to its symmetric inflation goal. *The Committee expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.* (italics added)[4]

Q. Mr. Baudino, why is it important to understand the Fed's actions since 2008?

A. The Fed's monetary policy actions since 2008 were deliberately undertaken to lower interest rates and support economic recovery. The Fed's actions have been successful in lowering interest rates given that the 20-year Treasury Bond yield in June 2007 was 5.29% and the public utility bond yield was 6.34%. The U.S. economy is currently in a low interest rate environment. As I will demonstrate later in my testimony, low interest rates have also significantly lowered investors' required return on equity for the stocks of regulated utilities.

[4] Federal Reserve press release, December 13, 2017 (**https://www.federalreserve.gov/newsevents/pressreleases/monetary20171213a.htm**).

Q. Are current interest rates indicative of investor expectations regarding the future direction of interest rates?

A. Yes. Securities markets are efficient and most likely reflect investors' expectations about future interest rates. As Dr. Morin pointed out in *New Regulatory Finance:*

> "A considerable body of empirical evidence indicates that U.S. capital markets are efficient with respect to a broad set of information, including historical and publicly available information."[5]

Dr. Morin also noted the following:

"There is extensive literature concerning the prediction of interest rates. From this evidence, it appears that the no-change model of interest rates frequently provides the most accurate forecasts of future interest rates while at other times, the experts are more accurate. Naïve extrapolations of current interest rates frequently outperform published forecasts. The literature suggests that on balance, the bond market is very efficient in that it is difficult to consistently forecast interest rates with greater accuracy than a no-change model. The latter model provides similar, and in some cases, superior accuracy than professional forecasts."[6]

The U.S. economy continues to operate in a low interest rate environment. It is important to realize that investor expectations of higher future interest rates, if any, are already embodied in current securities prices, which include debt securities and stock prices.

Moreover, the current low interest rate environment favors lower risk regulated utilities. It would not be advisable for utility regulators to raise ROEs in anticipation of higher interest rates that may or may not occur**.**

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[5] Morin, Roger A., *New Regulatory Finance*, Public Utilities Reports, Inc. (2006) at 279.

[6] *Ibid* at 172.

Q. How has the increase in interest rates last year affected utility stocks in terms of bond yields and stock prices?

A. Table 1 below tracks movements in the 20-year Treasury bond yield, the Mergent average utility bond yield, and the Dow Jones Utilities Average ("DJUA") from January 2016 through November 2017.

TABLE 1

Bond Yields and DJUA

	20-Year Treasury %	Avg. Utility Bond %	DJUA
2016			
January	2.49	4.62	611.35
February	2.20	4.44	620.70
March	2.28	4.40	668.57
April	2.21	4.16	654.44
May	2.22	4.06	659.44
June	2.02	3.93	716.52
July	1.82	3.70	711.42
August	1.89	3.73	666.87
September	2.02	3.80	668.13
October	2.17	3.90	675.23
November	2.54	4.21	632.67
December	2.84	4.39	645.86
2017			
January	2.75	4.24	668.87
February	2.76	4.25	703.16
March	2.83	4.30	697.28
April	2.67	4.19	704.35
May	2.70	4.19	726.62
June	2.54	4.01	706.91
July	2.65	4.06	726.48
August	2.55	3.92	743.24
September	2.53	3.93	723.60
October	2.65	3.97	753.20
November	2.60	3.88	770.39

Table 1 shows that the 20-year Treasury bond yield was slightly higher in November 2017 than it was in January 2016 before the Fed began raising short-term interest

rates. However, the yield on the Mergent average public utility bond was substantially lower in November 2017 (3.88%) than in January 2016 (4.62%). Similarly, the DJUA was substantially higher in November 2017 (770.39) than it was in January 2016 (611.35). Further, I noted earlier that long-term interest rates did not change significantly in December. The DJUA finished December 2017 at 723.37, somewhat lower than November.

My conclusion from this data is that even though the Federal Reserve has raised short-term interest rates since March 2016, utility bond yields are lower and the DJUA is higher than they were at the beginning of 2016. Utility stocks and bonds have not been adversely affected by the Fed's raising of the federal funds rate.

Q. How does the investment community regard the regulated gas distribution industry as a whole?

A. The Value Line Investment Survey's December 1, 2017 summary report on the Natural Gas Utility industry noted the following:

> Many stocks in Value Line's Natural Gas Utility Industry have been trading at relatively high levels of late. We believe those price movements are attributable partially to improved corporate earnings during 2017, and expectations of more good things in the coming year. A better performance across the financial markets has also provided a boost. It's worth mentioning that several of the equities in our category are favorably ranked for Timeliness. But the main draw here is the attractive dividends, which tend to act like an anchor, so to speak, when the financial markets encounter heightened volatility, which is sometimes the case. Of course, no sector (even the most defensive) is invulnerable.

Q. What do you conclude from the aforementioned quote from Value Line?

A. Utilities in general and gas utilities in particular continue to be safe, solid stock choices for investors. Even with the Federal Reserve slowly increasing short-term interest rates, utilities' prices have made solid gains since the beginning of 2016. It

appears that the Fed will continue a relatively accommodating stance with respect to monetary policy in 2018.

Q. What are the current credit ratings and bond ratings for Atmos Energy?

A. Atmos Energy's current credit ratings are A from Standard and Poor's ("S&P") and A2 from Moody's. These are strong investment grade ratings for the Company.

Q. Please present recent statements to investment analysts from Atmos Energy's December 2017 Analyst Update.

A. Please refer to Exhibit No. ___(RAB-3) for two selected pages from Atmos Energy's December 2017 Analyst Update. I downloaded this document from the Company's web site. Atmos highlighted its "[a]ttractive total return proposition of 8% - 10%", the fact that its earnings are "100% regulated and rate base driven", and its "[h]igh investment-grade credit ratings (A, A2) with ample liquidity." I note that my recommended ROE for Atmos of 8.80% is near the middle of the total return proposition cited in this document from the Company.

III. DETERMINATION OF FAIR RATE OF RETURN

Q. Please describe the methods you employed in estimating a fair rate of return for Atmos.

A. I employed a Discounted Cash Flow ("DCF") analysis using a proxy group of regulated gas distribution utilities. With one adjustment, this is the same group used by Dr. Vander Weide in his Direct Testimony. My DCF analysis is my standard constant growth form of the model that employs four different growth rate forecasts from the Value Line Investment Survey, Yahoo! Finance, and Zacks. I also employed Capital Asset Pricing Model ("CAPM") analyses using both historical and forward-looking data. Although I did not rely on the CAPM for my recommended 8.80% ROE for Atmos, the results from the CAPM tend to support this recommendation.

Q. What are the main guidelines to which you adhere in estimating the cost of equity for a firm?

A. Generally speaking, the estimated cost of equity should be comparable to the returns of other firms with similar risk structures and should be sufficient for the firm to attract capital. These are the basic standards set out by the United States Supreme Court in *Federal Power Comm'n v. Hope Natural Gas Co*., 320 U.S. 591 (1944) and *Bluefield W.W. & Improv. Co. v. Public Service Comm'n*, 262 U.S. 679 (1922).

From an economist's perspective, the notion of "opportunity cost" plays a vital role in estimating the return on equity. One measures the opportunity cost of an investment equal to what one would have obtained in the next best alternative. For example, let us suppose that an investor decides to purchase the stock of a publicly

traded electric utility. That investor made the decision based on the expectation of dividend payments and perhaps some appreciation in the stock's value over time; however, that investor's opportunity cost is measured by what she or he could have invested in as the next best alternative. That alternative could have been another utility stock, a utility bond, a mutual fund, a money market fund, or any other number of investment vehicles.

The key determinant in deciding whether to invest, however, is based on comparative levels of risk. Our hypothetical investor would not invest in a particular utility company stock if it offered a return lower than other investments of similar risk. The opportunity cost simply would not justify such an investment. Thus, the task for the rate of return analyst is to estimate a return that is equal to the return being offered by other risk-comparable firms.

Q. What are the major types of risk faced by utility companies?

A. In general, risk associated with the holding of common stock can be separated into three major categories: business risk, financial risk, and liquidity risk. Business risk refers to risks inherent in the operation of the business. Volatility of the firm's sales, long-term demand for its product(s), the amount of operating leverage, and quality of management are all factors that affect business risk. The quality of regulation at the state and federal levels also plays an important role in business risk for regulated utility companies.

Financial risk refers to the impact on a firm's future cash flows from the use of debt in the capital structure. Interest payments to bondholders represent a prior call on the firm's cash flows and must be met before income is available to the common shareholders. Additional debt means additional variability in the firm's earnings, leading to additional risk.

Liquidity risk refers to the ability of an investor to quickly sell an investment without a substantial price concession. The easier it is for an investor to sell an investment for cash, the lower the liquidity risk will be. Stock markets, such as the New York and American Stock Exchanges, help ease liquidity risk substantially. Investors who own stocks that are traded in these markets know on a daily basis what the market prices of their investments are and that they can sell these investments fairly quickly. Many regulated gas distribution utility stocks are traded on the New York Stock Exchange and are considered liquid investments.

Q. Are there any sources available to investors that quantify the total risk of a company?

A. Bond and credit ratings are tools that investors use to assess the risk comparability of firms. Bond rating agencies such as Moody's and Standard and Poor's perform detailed analyses of factors that contribute to the risk of a particular investment. The end result of their analyses is a bond and/or credit rating that reflect these risks.

<u>Discounted Cash Flow ("DCF") Model</u>

Q. Please describe the basic DCF approach.

A. The basic DCF approach is rooted in valuation theory. It is based on the premise that the value of a financial asset is determined by its ability to generate future net cash flows. In the case of a common stock, those future cash flows generally take the form of dividends and appreciation in stock price. The value of the stock to investors is the discounted present value of future cash flows. The general equation then is:

$$V = \frac{R}{(1+r)} + \frac{R}{(1+r)^2} + \frac{R}{(1+r)^3} + \cdots \frac{R}{(1+r)^n}$$

Where: *V = asset value*
R = yearly cash flows
r = discount rate

This is no difference from determining the value of any asset from an economic point of view; however, the commonly employed DCF model makes certain simplifying assumptions. One is that the stream of income from the equity share is assumed to be perpetual; that is, there is no salvage or residual value at the end of some maturity date (as is the case with a bond). Another important assumption is that financial markets are reasonably efficient; that is, they correctly evaluate the cash flows relative to the appropriate discount rate, thus rendering the stock price efficient relative to other alternatives. Finally, the model I typically employ also assumes a constant growth rate in dividends. The fundamental relationship employed in the DCF method is described by the formula:

$$k = {}^{D_1}/_{P_0} + g$$

Where: D_1 *= the next period dividend*
P_0 *= current stock price*
g *= expected growth rate*
k *= investor-required return*

Embodied in this formula, it is assumed that "k" reflects the investors' expected return. Use of the DCF method to determine an investor-required return is complicated by the need to express investors' expectations relative to dividends, earnings, and book value over an infinite time horizon. Financial theory suggests that stockholders purchase common stock on the assumption that there will be some change in the rate of dividend payments over time. We assume that the rate of growth in dividends is constant over the assumed time horizon, but the model could easily handle varying growth rates if we knew what they were. Finally, the relevant time frame is prospective rather than retrospective.

Q. What was your first step in conducting your DCF analysis for Atmos?

A. My first step was to construct a proxy group of companies with a risk profile that is reasonably similar to Atmos. I reviewed the proxy group used by Dr. Vander Weide and found it to be a reasonable basis for estimating the investor required ROE for Atmos.

Q. Did you make any adjustments to the proxy group used by Dr. Vander Weide?

A. Yes. In constructing his proxy group, Dr. Vander Weide excluded companies from his group that were involved in merger activity, a selection criterion that I also use. Since Dr. Vander Weide filed his Direct Testimony, South Jersey Industries, a member of the proxy group, announced a significant $1.5 billion acquisition of

Elizabethtown Gas Company. Given South Jersey Industries' current total capital of $2.5 billion, this acquisition will significantly expand the company and affect its stock price and its dividend and earnings growth prospects. Therefore, I excluded South Jersey Industries from my proxy group.

Q. What was your first step in determining the DCF return on equity for the proxy group?

A. I first determined the current dividend yield, D_1/P_0, from the basic equation. My general practice is to use six months as the most reasonable period over which to estimate the dividend yield. The six-month period I used covered the months from July through December 2017. I obtained historical prices and dividends from Yahoo! Finance. The annualized dividend divided by the average monthly price represents the average dividend yield for each month in the period.

The resulting average dividend yield for the proxy group is 2.37%. These calculations are shown in Exhibit No. ___(RAB-4).

Q. Having established the average dividend yield, how did you determine the investors' expected growth rate for the proxy group?

A. The investors' expected growth rate, in theory, correctly forecasts the constant rate of growth in dividends. The dividend growth rate is a function of earnings growth and the payout ratio, neither of which is known precisely for the future. We refer to a perpetual growth rate since the DCF model has no arbitrary cut-off point. We must estimate the investors' expected growth rate because there is no way to know with absolute certainty what investors expect the growth rate to be in the short term, much less in perpetuity.

For my analysis in this proceeding, I used three major sources of analysts' forecasts for growth. These sources are The Value Line Investment Survey, Zacks, and Yahoo! Finance. This is the method I typically use for estimating growth for my DCF calculations.

Q. Please briefly describe Value Line, Zacks, and Yahoo! Finance.

A. The Value Line Investment Survey is a widely used and respected source of investor information that covers approximately 1,700 companies in its Standard Edition and several thousand in its Plus Edition. It is updated quarterly and probably represents the most comprehensive of all investment information services. It provides both historical and forecasted information on a number of important data elements. Value Line neither participates in financial markets as a broker nor works for the utility industry in any capacity of which I am aware.

Zacks gathers opinions from a variety of analysts on earnings growth forecasts for numerous firms including regulated electric utilities. The estimates of the analysts responding are combined to produce consensus average estimates of earnings growth. I obtained Zacks' earnings growth forecasts from its web site.

Like Zacks, Yahoo! Finance also compiles and reports consensus analysts' forecasts of earnings growth.

Q. Why did you rely on analysts' forecasts in your analysis?

A. Return on equity analysis is a forward-looking process. Five-year or ten-year historical growth rates may not accurately represent investor expectations for future dividend growth. Analysts' forecasts for earnings and dividend growth provide better proxies for the expected growth component in the DCF model than historical growth rates. Analysts' forecasts are also widely available to investors and one can reasonably assume that they influence investor expectations. In this regard, I am in agreement with Dr. Vander Weide.

Q. Please explain how you used analysts' dividend and earnings growth forecasts in your constant growth DCF analysis.

Q. Columns (1) through (5) of Exhibit No.____(RAB-5) show the forecasted dividend, earnings, and retention growth rates from Value Line and the earnings growth forecasts from Yahoo! Finance and Zacks. In my analyses I used four of these growth rates: dividend and earnings growth from Value Line and earnings growth from Zacks and Yahoo! Finance. It is important to include dividend growth forecasts in the DCF model since the model calls for forecasted cash flows. Value Line is the only source of which I am aware that forecasts dividend growth and my approach gives this forecast equal weight with each of the three earnings growth forecasts.

Q. How did you proceed to determine the DCF return on equity for the proxy group?

A. To estimate the expected dividend yield (D_1), the current dividend yield must be moved forward in time to account for dividend increases over the next twelve months. I estimated the expected dividend yield by multiplying the current dividend yield by one plus one-half the expected growth rate.

Exhibit No.___(RAB-5) presents my standard method of calculating dividend yields, growth rates, and return on equity for the proxy group. The DCF Return on Equity Calculation section shows the application of each of four growth rates I used in my analysis to the current group dividend yield of 2.37% to calculate the expected dividend yield. I then added the expected growth rates to the expected dividend yield. In evaluating investor expected growth rates, I use both the average and the median values.

Q. What are the results of your constant growth DCF model?

A. Referring to Exhibit No.____(RAB-5), for the average growth rates the results range from 8.13% to 9.01%, with the average of these results being 8.48%. Using the median growth rates, the results range from 7.68% to 9.20%, with the average of these results being 8.45%.

Capital Asset Pricing Model

Q. Briefly summarize the Capital Asset Pricing Model ("CAPM") approach.

A. The theory underlying the CAPM approach is that investors, through diversified portfolios, may combine assets to minimize the total risk of the portfolio. Diversification allows investors to diversify away all risks specific to a particular company and be left only with market risk that affects all companies. Thus, the CAPM theory identifies two types of risks for a security: company-specific risk and market risk. Company-specific risk includes such events as strikes, management errors, marketing failures, lawsuits, and other events that are unique to a particular firm. Market risk includes inflation, business cycles, war, variations in interest rates,

and changes in consumer confidence. Market risk tends to affect all stocks and cannot be diversified away. The idea behind the CAPM is that diversified investors are rewarded with returns based on market risk.

Within the CAPM framework, the expected return on a security is equal to the risk-free rate of return plus a risk premium that is proportional to the security's market, or non-diversifiable, risk. Beta is the factor that reflects the inherent market risk of a security and measures the volatility of a particular security relative to the overall market for securities. For example, a stock with a beta of 1.0 indicates that if the market rises by 15%, that stock will also rise by 15%. This stock moves in tandem with movements in the overall market. Stocks with a beta of 0.5 will only rise or fall 50% as much as the overall market. So with an increase in the market of 15%, this stock will only rise 7.5%. Stocks with betas greater than 1.0 will rise and fall more than the overall market. Thus, beta is the measure of the relative risk of individual securities vis-à-vis the market.

Based on the foregoing discussion, the equation for determining the return for a security in the CAPM framework is:

$$K = Rf + \beta(MRP)$$

Where: K = *Required Return on equity*
Rf = *Risk-free rate*
MRP = *Market risk premium*
β = *Beta*

This equation tells us about the risk/return relationship posited by the CAPM. Investors are risk averse and will only accept higher risk if they expect to receive higher returns. These returns can be determined in relation to a stock's beta and the market risk premium. The general level of risk aversion in the economy determines the market risk premium. If the risk-free rate of return is 3.0% and the required return on the total market is 15%, then the risk premium is 12%. Any stock's required return can be determined by multiplying its beta by the market risk premium. Stocks with betas greater than 1.0 are considered riskier than the overall market and will have higher required returns. Conversely, stocks with betas less than 1.0 will have required returns lower than the market as a whole.

Q. In general, are there concerns regarding the use of the CAPM in estimating the return on equity?

A. Yes. There is some controversy surrounding the use of the CAPM.[7] There is evidence that beta is not the primary factor for determining the risk of a security. For example, Value Line's "Safety Rank" is a measure of total risk, not its calculated beta coefficient. Beta coefficients usually describe only a small amount of total investment risk.

There is also substantial judgment involved in estimating the required market return. In theory, the CAPM requires an estimate of the return on the total market for investments, including stocks, bonds, real estate, etc. It is nearly impossible for the

[7] For a more complete discussion of some of the controversy surrounding the use of the CAPM, refer to *A Random Walk Down Wall Street* by Burton Malkiel, pp. 206 - 211, 2007 edition.

analyst to estimate such a broad-based return. Often in utility cases, a market return is estimated using the S&P 500 or the return on Value Line's stock market composite. However, these are limited sources of information with respect to estimating the investor's required return for all investments. In practice, the total market return estimate faces significant limitations to its estimation and, ultimately, its usefulness in quantifying the investor required ROE.

In the final analysis, a considerable amount of judgment must be employed in determining the risk-free rate and market return portions of the CAPM equation. The analyst's application of judgment can significantly influence the results obtained from the CAPM. My past experience with the CAPM indicates that it is prudent to use a wide variety of data in estimating investor-required returns. Of course, the range of results may also be wide, indicating the difficulty in obtaining a reliable estimate from the CAPM.

Q. How did you estimate the market return portion of the CAPM?

A. The first source I used was the Value Line Investment Analyzer, Plus Edition, for November 30, 2017. This edition covers several thousand stocks. The Value Line Investment Analyzer provides a summary statistical report detailing, among other things, forecasted growth rates for earnings and book value for the companies Value Line follows as well as the projected total annual return over the next 3 to 5 years. I present these growth rates and Value Line's projected annual return on page 2 of Exhibit No. ___(RAB-6). I included median earnings and book value growth rates.

The estimated market returns using Value Line's market data range from 8.80% to 9.90%. The average of these market returns is 9.35%.

Q. Why did you use median growth rate estimates rather than the average growth rate estimates for the Value Line companies?

A. Using median growth rates is likely a more accurate method of estimating the central tendency of Value Line's large data set compared to the average growth rates. Average earnings and book value growth rates may be unduly influenced by very high or very low 3 - 5-year growth rates that are unsustainable in the long run. For example, Value Line's Statistical Summary shows both the highest and lowest value for earnings and book value growth forecasts. For earnings growth, Value Line showed the highest earnings growth forecast to be 90.5% and the lowest growth rate to be -26.5%. The highest book value growth rate was 96.5% and the lowest was -26%. None of these levels of growth is compatible with long-run growth prospects for the market. The median growth rate is not influenced by such extremes because it represents the middle value of a very wide range of earnings growth rates.

Q. Please continue with your market return analysis.

A. I also considered a supplemental check to the Value Line projected market return estimates. Duff and Phelps compiled a study of historical returns on the stock market in its 2017 SBBI Yearbook. Some analysts employ this historical data to estimate the market risk premium of stocks over the risk-free rate. The assumption is that a risk premium calculated over a long period is reflective of investor expectations going forward. Exhibit No. ___(RAB-7) presents the calculation of the market returns using the historical data.

Q. Please explain how this historical risk premium is calculated.

A. Exhibit No. ___(RAB-7) shows both the geometric and arithmetic average of yearly historical stock market returns over the historical period from 1926 - 2016. The average annual income return for 20-year Treasury bond is subtracted from these historical stocks returns to obtain the historical market risk premium of stock returns over long-term Treasury bond income returns. The historical market risk premium range is 5.0% - 7.0%.

Q. Did you add an additional measure of the historical risk premium in this case?

A. Yes. Duff and Phelps reported the results of a study by Dr. Roger Ibbotson and Dr. Peng Chen indicating that the historical risk premium of stock returns over long-term government bond returns has been significantly influenced upward by substantial growth in the price/earnings ("P/E") ratio for stocks from 1980 through 2001.[8] Duff and Phelps noted that this growth in the P/E ratio for stocks was subtracted out of the historical risk premium because "it is not believed that P/E will continue to increase in the future." The adjusted historical arithmetic market risk premium is 5.97%, which I have also included in Exhibit No. ___(RAB-7). This risk premium estimate falls near the middle of the market risk premium range.

Q. How did you determine the risk free rate?

A. I used the average yields on the 20-year Treasury bond and five-year Treasury note over the six-month period from June through November 2017. The 20-year and 30-

[8] *2017 SBBI Yearbook*, Duff and Phelps, pp. 10-28 through 10-30.

year Treasury bonds are often used by rate of return analysts as the risk-free rate, but they contain a significant amount of interest rate risk. The five-year Treasury note carries less interest rate risk than the 20-year bond and is more stable than three-month Treasury bills. Therefore, I have employed both securities as proxies for the risk-free rate of return in my forward-looking CAPM analysis in Exhibit No. ___(RAB-6). This approach provides a reasonable range over which the CAPM return on equity may be estimated.

Q. How did you determine the value for beta?

A. I obtained the betas for the companies in the proxy group from most recent Value Line reports. The average of the Value Line betas for the proxy group is 0.73.

Q. Please summarize the CAPM results.

A. For my forward-looking CAPM return on equity estimates, the CAPM results are 7.29% - 7.49%. Using historical risk premiums, the CAPM results are 6.21% - 7.66%.

ROE Conclusions and Recommendations

Q. Please summarize the cost of equity results for your DCF and CAPM analyses.

A. Table 2 below summarizes my return on equity results using the DCF and CAPM for my comparison group of companies.

TABLE 2

ATMOS ENERGY
PROXY GROUP
ROE RESULTS SUMMARY

DCF Results:	
Method 1, Avg. Growth Rates	
- High	9.01%
- Low	8.13%
- Average	8.48%
Method 2, Median Growth Rates	
- High	9.20%
- Low	7.68%
- Average	8.45%
CAPM:	
- 5-Year Treasury Bond	7.29%
- 20-Year Treasury Bond	7.49%
- Historical Returns	6.21% - 7.66%

Q. What is your recommended return on equity for Atmos?

A. I recommend that the Commission approve an 8.80% return on equity for Atmos. My recommendation is higher than the proxy group DCF results for Methods 1 and 2. In this case, the low-end results for Methods 1 and 2, 8.13% and 7.68%, respectively, appear to be understated given the range of the DCF results using earnings growth forecasts. Therefore, I have not considered those low-end results in my recommendation. The remaining DCF estimates reflect investor required returns of 8.24% - 9.20%. My 8.80% is near the midpoint of that range. Based on current

market evidence, an 8.80% return on equity is fair and reasonable for an A/A2-rated regulated gas distribution company like Atmos.

Q. Mr. Baudino, are you concerned that your recommended cost of equity is too low?

A. No. All the market evidence I examined fully supports my ROE recommendation for Atmos in this proceeding. As I described in Section II of my testimony, the U. S. economy is in a low interest rate environment, one that has been supported in a deliberate and considered fashion by Federal Reserve monetary policy. Both my DCF and CAPM ROE estimates show that the investor required ROE for Atmos, as well as other regulated gas and water utilities, reflect this low interest rate environment. An 8.80% ROE recommendation for Atmos is by no means too low in the current economic and financial environment.

Cost of Short-Term Debt

Q. Please explain how you adjusted the Company's cost of short-term debt.

A. According to Schedule J-2 F Atmos included commitment fees of $2.604 million in its requested cost of short-term debt. These fixed fees should not be included in the cost of short-term debt. Including these largely fixed fees in short-term debt costs requires the Commission to recalculate the percentage cost of short-term debt whenever it changes the rate base or modifies the amount of short-term debt.

Instead, I recommend that these fees be collected in O&M expenses. In this manner, the Commission ensures that the Company fully recovers these fixed expenses. At the same time, only the short-term debt interest rate itself is reflected in the weighted

cost of capital regardless of the adjustments to rate base or the modifications to the capital structure.

Excluding commitment fees, Atmos' cost of short-term debt is 0.92%. This is the cost rate I recommend the Commission adopt for the Company's weighted cost of capital in this case.

Cost of Long-term Debt

Q. Does Atmos' requested cost of long-term debt require an adjustment?

A. Yes. In its cost of debt calculation in Schedule J-3 F Atmos included a $450 million senior note maturing on March 15, 2019 with a coupon rate of 8.50%. This coupon rate for this debt issue is significantly higher than the current cost of debt for an A-rated company like Atmos Energy. For example, according to Moody's Credit Outlook as of December 29, 2017 the average long-term utility bond yield was 3.81%. The 8.50% debt issue matures within the future test year. Thus, it is reasonable to assume that Atmos Energy will refinance this debt issue with one at a significantly lower cost to ratepayers. For purposes of this case, I assumed that this issue would be refinanced in its entirety at a coupon rate of 4.0%. This lowered the cost of debt from 5.11% as filed by the Company to 4.45%. I recommend that the Commission approve this lower adjusted cost of debt for Atmos in this case.

Capital Structure and Weighted Cost of Capital

Q. What is your recommended weighted cost of capital?

A. My weighted cost of capital recommendation is 6.62%. It is based on an adjusted short-term debt cost of 0.92%, and adjusted long-term debt cost of 4.45%, and my recommended ROE of 8.80%.

TABLE 3

ATMOS ENERGY
WEIGHTED COST OF CAPITAL

	Percentage	Cost	Wtd. Cost
Short-term Debt	3.48%	0.92%	0.03%
Long-term Debt	43.95%	4.45%	1.96%
Common Equity	52.57%	8.80%	4.63%
Total	100.00%		6.62%

IV. RESPONSE TO ATMOS ENERGY TESTIMONY

Q. Please summarize your conclusions with respect to Dr. Vander Weide's testimony and return on equity recommendation.

A. My conclusions regarding Dr. Vander Weide's testimony and return on equity recommendations are as follows.

First, Dr. Vander Weide's recommended ROE of 10.3% is overstated and does not reflect the return requirement of investors in today' marketplace.

Second, Dr. Vander Weide's DCF results are overstated. This overstatement is due mainly to the use of quarterly compounding and the inclusion of flotation costs.

Third, Dr. Vander Weide's risk premium results are grossly overstated and should be rejected. Dr. Vander Weide's use of a forecasted A-rated utility bond yield inflated his risk premium results. For reasons I will explain later, the use of forecasted bond yields in the risk premium and CAPM estimates of the allowed ROE should be rejected.

Fourth, Dr. Vander Weide included a size adjustment that inflated his CAPM results. He also testified that the CAPM results are likely understated for companies such as regulated utilities that have betas less than 1.0. I disagree with this conclusion.

Q. Please summarize Dr. Vander Weide's approach to the DCF model and its results.

A. As I stated earlier in my testimony, Dr. Vander Weide employed a proxy group of gas distribution companies to estimate the cost of equity for Atmos. Dr. Vander Weide confined his growth rate analysis to earnings forecasts from IBES for the proxy utility group. He also utilized quarterly compounding and included a 5% adjustment for flotation costs in his DCF calculations.

Q. On page 19, Dr. Vander Weide rejected the annual DCF model and recommended that the Commission accept a quarterly DCF calculation. Is a quarterly version of the DCF model appropriate for determining the allowed ROE for regulated utility companies?

A. No. The quarterly DCF model proposed by Dr. Vander Weide is unnecessary, overcompensates investors, and results in excessive costs for ratepayers.

Dividends are paid quarterly and, of course, investors can reinvest those dividends. This means that through quarterly compounding, if a utility company is allowed a 10% return on equity then investors will realize slightly more than a 10% return due to their ability to reinvest quarterly dividends. However, this effect should not be added to the annual model that uses the 1 + 0.5 times growth adjustment, which I used in my DCF calculations. Quarterly compounding is likely already accounted for in a company's stock price since investors know that dividends are paid quarterly and that they may reinvest those cash flows. Adding an incremental return for quarterly compounding merely serves to inappropriately and unnecessarily enhance the expected return on equity.

Q. Beginning on page 24 of his Direct Testimony, Dr. Vander Weide discussed his inclusion of a flotation cost adjustment in his DCF analyses. Do you agree with a flotation cost adjustment?

A. No, definitely not. I recommend that the Commission reject a flotation cost adjustment in setting the cost of equity for Atmos.

In my opinion it is likely that flotation costs are already accounted for in current stock prices and that adding an adjustment for flotation costs amounts to double counting. A DCF model using current stock prices should already account for investor expectations, if any, regarding the collection of flotation costs. Multiplying the dividend yield by a 5% flotation cost adjustment as Dr. Vander Weide did essentially assumes that the current stock price is wrong and that it must be adjusted downward to increase the dividend yield and the resulting cost of equity. I do not believe that this is an appropriate assumption. Current stock prices most likely already account for flotation costs, to the extent that such costs are even accounted for by investors.

Q. What is the overstatement of Dr. Vander Weide's DCF results due to the inclusion of quarterly compounding and flotation costs?

A. I eliminated quarterly compounding and flotation costs and recalculated Dr. Vander Weide's DCF results from his Schedule 1. These revisions resulted in a DCF ROE range of 8.8% - 9.3%. This is quite close to my recommended ROE of 8.80% for Atmos.

Risk Premium Model

Q. Please present your conclusions regarding the results of Dr. Vander Weide's ex-ante risk premium analyses.

A. Dr. Vander Weide's ex-ante risk premium results are grossly overstated and should not be relied upon by the Commission for setting Atmos' allowed ROE in this case. His results are overstated due to:

1. Use of a "forecasted" A-rated bond yield.
2. Inclusion of flotation costs.
3. Use of quarterly compounding in his DCF calculation.

I have already discussed items 2 and 3 previously in my testimony and this discussion also applies to the way Dr. Vander Weide calculated the DCF return for his portfolio of proxy companies using the ex-ante risk premium method. Dr. Vander Weide's inclusion of flotation costs and quarterly compounding inflates his proxy group DCF results, thereby overstating the risk premium he used in his analysis.

Q. How does the use of a forecasted A-rated bond yield overstate the risk premium return on equity?

A. Dr. Vander Weide's use of a forecasted A-rated utility bond yield should be rejected.

Current, observable bond yields should be used for any risk premium analysis. Current bond yields reflect all relevant current market information, including expectations about future interest rates. If investors really expected A-rated utility bonds to be significantly higher than they are now, they likely would have already adjusted the current bond yield to avoid or minimize capital losses in the future.

Q. How does the forecasted A-rated utility bond yield used by Dr. Vander Weide compare to current A-rated utility bond yields?

A. The December 29, 2017 yield on Moody's average public utility bond was 3.81%. Dr. Vander Weide's forecasted A-rated utility bond yield is 5.80%, *which is about 200 basis points higher than the current yield on the average public utility bond*. On

its face, Dr. Vander Weide's forecasted bond yield is so far removed from current interest rates that the Commission should simply reject his risk premium analysis out of hand.

Q. Did Dr. Vander Weide recommend the use of a forecasted bond yield in Atmos Energy's last rate case?

A. Yes. In Case No. 2015-00343 Dr. Vander Weide recommended that the Commission employ a forecasted A-rated utility bond yield of 6.2% in the risk premium ROE. Obviously, this forecasted A-rated bond yield was substantially incorrect given today's public utility bond yields. In recommending his forecasted A-rated utility bond yield of 6.2% in that case, Dr. Vander Weide testified as follows:

> Because current interest rates are depressed as a result of the Federal Reserve's extraordinary efforts to keep interest rates low in an effort to stimulate the economy, current interest rates at this time are likely a poor indicator of future interest rates. Economists project that future interest rates will be higher than current interest rates as the Federal Reserve allows interest rates to rise in order to prevent inflation. Thus, the use of forecasted interest rates is consistent with the fair rate of return standard, whereas the use of current interest rates at this time is not.[9]

Experience shows that Dr. Vander Weide's forecasted A-rated bond yield back in 2015 significantly overshot actual bond yields today. Increases in the federal funds rate since 2015 did not have the anticipated effect on long-term interest rates that economic forecasts predicted. Reliance on forecasted interest rates would have resulted in an inflated ROE that, if adopted, would have significantly harmed Kentucky ratepayers.

[9] Direct Testimony of Dr. James Vander Weide, Docket No. 2015-00343, page 32, line 18 through page 33, line 2.

Q. What are your conclusions with respect to Dr. Vander Weide's ex-post risk premium approach?

A. First, it is risky to assume that investors require an unchanging risk premium based on long-term historical returns of stocks over bonds. Changing economic conditions will likely affect investors' risk premium requirement. What investors require today may be quite different from a long-term historical risk premium.

Second, Dr. Vander Weide calculated an historical risk premium using the S&P 500 stock portfolio. Investor expected risk premiums for gas distribution utility stocks over bonds are likely much lower than the expected risk premium for unregulated companies in the S&P 500. Indeed, Dr. Vander Weide's risk premium for the S&P Utility stock portfolio, 4.0%, is lower than the S&P 500 risk premium of 4.6%. Using the S&P 500 risk premium overstated the risk premium ROE for a lower-risk gas company such as Atmos.

Third, Dr. Vander Weide's ex-post risk premium results are significantly overstated due to his inappropriate use of a forecasted A-rated bond. *Using the December 29, 2017 average utility bond yield of 3.81% and adding this to his risk premium range of 4.0% - 4.6% results in an ex-post risk premium return on equity range of 7.81% - 8.41%.*

CAPM Analysis

Q. On pages 35 and 36 of his Direct Testimony Dr. Vander Weide described his approach to using a forecasted 20-year Treasury bond yield in his CAPM

analyses. Is it appropriate to use a forecasted Treasury bond yield for the CAPM?

A. No. My arguments for rejecting Dr. Vander Weide's forecasted A-rated utility bond yield apply equally with respect to using a forecasted Treasury bond yield. The Commission should reject the use of forecasted bond yields in this proceeding.

Q. On page 38 of his Direct Testimony Dr. Vander Weide presented a CAPM ROE of 10.6% that included an adjustment to account for the smaller size of gas distribution companies as measured by market capitalization. Is this an appropriate adjustment?

A. No. Dr. Vander Weide provided no evidence to suggest that a size premium applies to smaller regulated utility companies, which on average are quite different from the groups of companies included in the Duff and Phelps' research on size premiums. I reviewed the discussion of size premiums from Chapter 7 of the *2017 SBBI Yearbook,* the source I used for my historical CAPM analyses. The data from Duff and Phelps shows the following betas for groups of smaller capitalization stocks[10]:

Mid-level capitalization	1.12
Low capitalization	1.22
Micro-capitalization	1.35

The groups of smaller capitalization stocks have much higher betas than regulated utility companies. The average beta for my proxy group is 0.73, which is far below even the mid-level capitalization groups of stocks studied by Duff and Phelps. The low and micro capitalization stocks have even higher betas. This shows that the many unregulated stocks included in the Duff and Phelps study are far more risky

[10] *2017 SBBI Yearbook,* Duff and Phelps, pg. 7-16.

than regulated utilities like Atmos. I recommend that the Commission reject Dr. Vander Weide's size premium adjustment in the CAPM.

Q. On pages 39 through 41 of his Direct Testimony, Dr. Vander Weide cited several studies in support of his proposition that the CAPM underestimates required returns for securities with betas less than 1.0. Please address Dr. Vander Weide's testimony in this area.

A. Although Dr. Vander Weide cited a number of studies on page 39, the problem is that there is no evidence that the CAPM bias he alleges has any applicability to regulated utility companies. Regulated gas utilities have betas lower than 1.0 because they are lower in risk than the market as a whole. Thus, the average gas utility group beta from my proxy group, 0.73, reflects the lower risk of regulated gas distribution operations vis-à-vis the unregulated market.

Q. On page 41 of his Direct Testimony, Dr. Vander Weide presented an analysis of historical risk premiums for the S&P Utilities stock index that supported his conclusion that the CAPM understated the expected ROE for regulated utilities. He recommended using a beta of 0.90, rather than the proxy group beta of 0.74 to estimate the CAPM ROE for Atmos. Please comment on Dr. Vander Weide's analysis.

A. I would counsel extreme caution on using a beta of 0.90 for regulated gas distribution companies. Value Line's published betas are widely available to investors and one may reasonably assume that they influence investor expectations and rate of return requirements. Using a much higher beta of 0.90 based on historical returns assumes that Value Line's published betas are incorrect and that investors should not rely on them. It also assumes that utility stocks are more volatile and more risky relative to the market as a whole than they really are. In my opinion, realized returns and risk premiums may not be indicative of investor expectations and future return requirements. There is also no evidence that investors

expect or rely upon Dr. Vander Weide's calculated beta of 0.90 for regulated gas utilities.

I would further note than even if one used a beta of 0.90 in Dr. Vander Weide's CAPM, it is still grossly overstated due to the inappropriate use of a forecasted 20-year Treasury bond yield. Using the November 2017 20-year Treasury yield of 2.60%, the CAPM using a 0.90 beta would yield the following result:

$$2.60\% + (0.90 \times 6.9) = 8.81\%$$

Note that I excluded Dr. Vander Weide's proposed flotation cost adjustment of 0.14 from the CAPM calculation. For the reasons I explained earlier, flotation costs should not be added to the CAPM ROE calculation.

Q. On pages 42 and 43 of his Direct Testimony Dr. Vander Weide discussed his CAPM analyses and results using a DCF return on the S&P 500. Please comment on this portion of Dr. Vander Weide's testimony.

A. Dr. Vander Weide's second CAPM formulation also suffers from the use of a forecasted 20-year Treasury yield, a beta of 0.90, and the inclusion of flotation costs. Using the more current 20-year Treasury yield, a proxy group beta of 0.74, and excluding flotation costs, Dr. Vander Weide's DCF-based CAPM results are:

$$2.60\% + .74 * (11.9\% - 2.60\%) = 9.48\%$$

Q. On page 44 of his Direct Testimony, Dr. Vander Weide stated that his recommended ROE of 10.3% was conservative because the market value capital structure of his proxy companies contains a higher equity percentage than Atmos' book value capital structure. Please comment on Dr. Vander Weide's testimony on this point.

A. I disagree with Dr. Vander Weide on this point. First, ratemaking does not use the market value equity ratio for Atmos or any of the other companies in the proxy group that Dr. Vander Weide and I used to estimate the cost of equity. Regulation uses book value equity ratios to calculate the regulated cost of capital. In this sense, Atmos is no different from the utilities in the gas company proxy group. Thus, Dr. Vander Weide's discussion of the market value of his proxy companies is irrelevant with respect to the allowed ROE in this proceeding. Atmos Energy's A/A2 rating is a solid investment grade rating and Atmos' requested 52.57% equity ratio supports that rating. A further upward adjustment to Atmos' ROE in this proceeding is unwarranted and would result in excessive costs for Kentucky ratepayers.

Q. Does this complete your Direct Testimony?

A. Yes.

AFFIDAVIT

STATE OF GEORGIA)

COUNTY OF FULTON)

RICHARD A. BAUDINO, being duly sworn, deposes and states: that the attached is his sworn testimony and that the statements contained are true and correct to the best of his knowledge, information and belief.

Richard A. Baudino

Richard A. Baudino

Sworn to and subscribed before me on this
16th day of January 2018.

Jessica K. Inman

Notary Public

JESSICA K INMAN
NOTARY PUBLIC
CHEROKEE COUNTY, GEORGIA
MY COMMISSION EXPIRES
JULY 31, 2019

BEFORE THE

PUBLIC SERVICE COMMISSION OF THE

COMMONWEALTH OF KENTUCKY

IN RE:	**APPLICATION OF ATMOS ENERGY CORPORATION FOR AN ADJUSTMENT OF RATES AND TARIFF MODIFICATIONS**	**)** **)** **)** **)**	**DOCKET NO. 2017-00349**

EXHIBITS

OF

RICHARD A. BAUDINO

ON BEHALF OF THE

OFFICE OF THE ATTORNEY GENERAL

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

JANUARY 17, 2018

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-two years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Climax Molybdenum Company
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

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Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

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01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD & United States	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T	WV	West Virginia Energy Users Group	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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03/10	09-1352-	WV E-42T	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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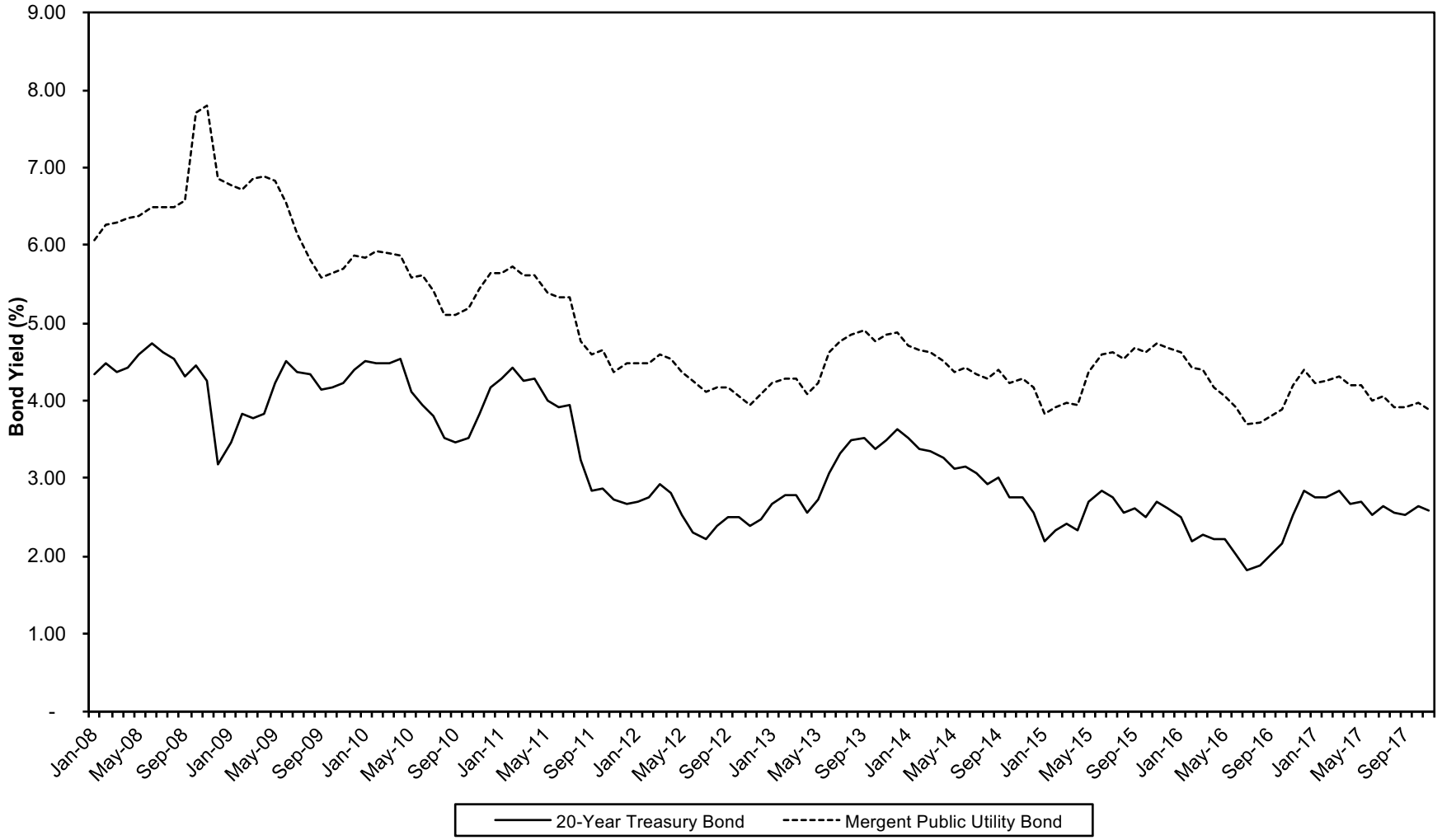
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

Expert Testimony Appearances
of
Richard A. Baudino
As of January 2018

Date	Case	Jurisdict.	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital

HISTORICAL BOND YIELDS
AVERAGE PUBLIC UTILITY BOND VS 20-YEAR TREASURY BOND



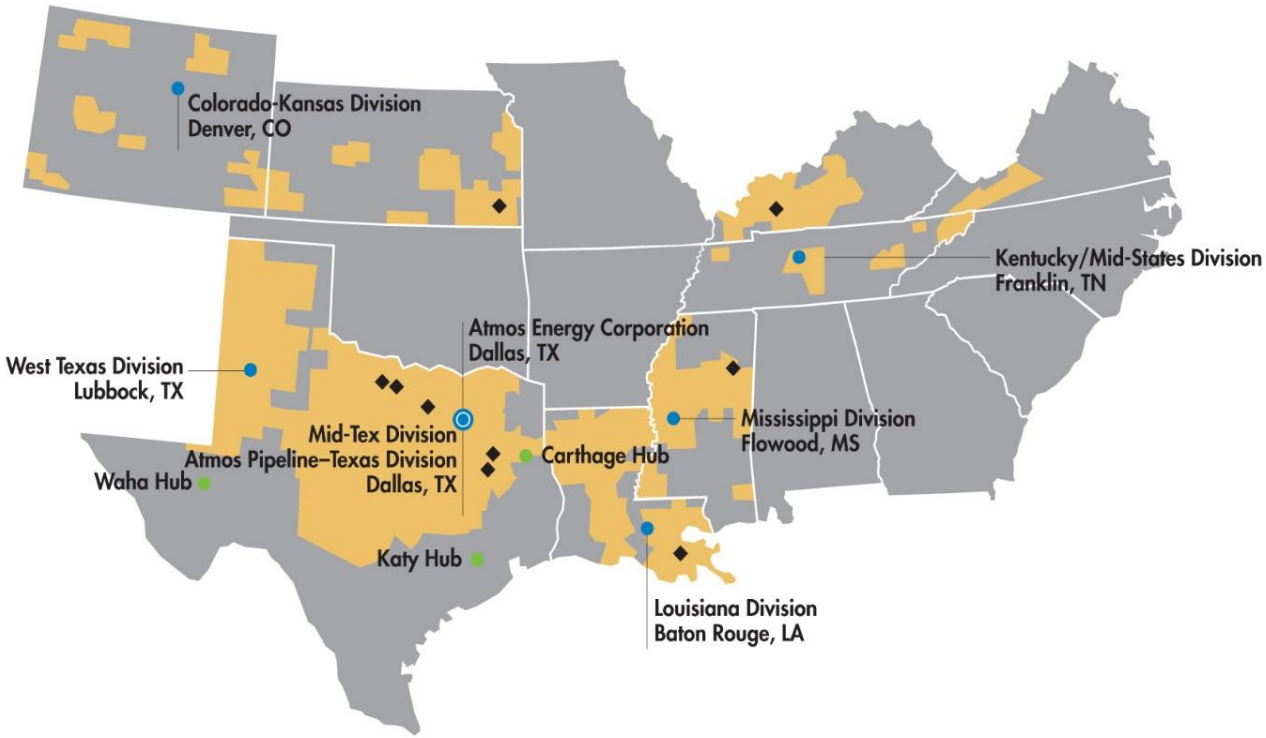
Atmos Energy Corporation

Delivering clean, safe and economical energy to over 3 million homes and businesses

ATO
LISTED
NYSE

Atmos Energy

A multi-state regulated natural gas delivery company achieving strong financial growth through infrastructure investment, enhancing the safety and reliability of our system



ATMOS energy

December 2017

Investment Highlights

A Pure-Play, High-Growth Natural Gas Delivery Investment Proposition

Attractive pure-play total return

- Attractive total return proposition of 8 - 10%
- 6 - 8% forecasted EPS growth through Fiscal 2022; attractive dividend yield
- Earnings are 100% regulated and rate base driven

Diversified asset base with constructive regulation

- Regulated distribution assets in 8 states serving over 3 million customers
- Favorably positioned regulated pipeline spans Texas shale gas supply basins
- Constructive rate mechanisms reduce or eliminate regulatory lag

Strong rate base growth

- Strong forecasted rate base growth through Fiscal 2022
- Annual capital expenditures of ~$1.3 billion - $1.9 billion through Fiscal 2022; ~80% spent on safety and reliability
- Earning on over 95% of annual capex within 6 months; ~99% within 12 months

Strong financial foundation with consistent track record

- 15 consecutive years of EPS growth; 34 consecutive years of dividend growth
- 7.8% indicated dividend increase for 2018E
- High investment-grade credit ratings (A, A2) with ample liquidity

As of November 8, 2017

ATMOS ENERGY
PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
Atmos Energy	High Price ($)	87.220	89.000	88.620	87.640	92.410	93.560
	Low Price ($)	82.140	86.300	83.370	83.600	86.330	84.520
	Avg. Price ($)	84.680	87.650	85.995	85.620	89.370	89.040
	Dividend ($)	0.450	0.450	0.450	0.450	0.485	0.485
	Mo. Avg. Div.	2.13%	2.05%	2.09%	2.10%	2.17%	2.18%
	6 mos. Avg.	2.12%					
Chesapeake Utilities	High Price ($)	77.600	81.100	81.950	82.150	86.350	86.000
	Low Price ($)	74.800	77.150	76.950	77.650	78.600	75.000
	Avg. Price ($)	76.200	79.125	79.450	79.900	82.475	80.500
	Dividend ($)	0.325	0.325	0.325	0.325	0.325	0.325
	Mo. Avg. Div.	1.71%	1.64%	1.64%	1.63%	1.58%	1.61%
	6 mos. Avg.	1.63%					
New Jersey Resources	High Price ($)	42.530	44.300	43.850	44.650	45.450	45.400
	Low Price ($)	39.500	42.100	41.450	41.900	42.350	38.600
	Avg. Price ($)	41.015	43.200	42.650	43.275	43.900	42.000
	Dividend ($)	0.255	0.255	0.273	0.273	0.273	0.273
	Mo. Avg. Div.	2.49%	2.36%	2.56%	2.52%	2.49%	2.60%
	6 mos. Avg.	2.50%					
NiSource Inc.	High Price ($)	26.560	27.250	27.290	26.860	27.760	27.680
	Low Price ($)	24.960	25.750	25.220	25.250	26.390	24.630
	Avg. Price ($)	25.760	26.500	26.255	26.055	27.075	26.155
	Dividend ($)	0.175	0.175	0.175	0.175	0.175	0.175
	Mo. Avg. Div.	2.72%	2.64%	2.67%	2.69%	2.59%	2.68%
	6 mos. Avg.	2.66%					
Northwest Natural Gas	High Price ($)	63.500	66.600	68.600	67.000	69.500	69.400
	Low Price ($)	59.150	62.950	64.080	64.280	65.150	58.550
	Avg. Price ($)	61.325	64.775	66.340	65.640	67.325	63.975
	Dividend ($)	0.470	0.470	0.470	0.473	0.473	0.473
	Mo. Avg. Div.	3.07%	2.90%	2.83%	2.88%	2.81%	2.96%
	6 mos. Avg.	2.91%					
ONE Gas Inc.	High Price ($)	73.340	76.060	75.750	78.260	79.510	79.460
	Low Price ($)	68.450	71.600	73.550	70.660	75.830	72.260
	Avg. Price ($)	70.895	73.830	74.650	74.460	77.670	75.860
	Dividend ($)	0.420	0.420	0.420	0.420	0.420	0.420
	Mo. Avg. Div.	2.37%	2.28%	2.25%	2.26%	2.16%	2.21%
	6 mos. Avg.	2.25%					
Spire Inc.	High Price ($)	72.950	78.000	77.630	79.350	82.380	82.850
	Low Price ($)	68.300	72.550	73.750	74.300	76.800	73.650
	Avg. Price ($)	70.625	75.275	75.690	76.825	79.590	78.250
	Dividend ($)	0.525	0.525	0.525	0.525	0.525	0.563
	Mo. Avg. Div.	2.97%	2.79%	2.77%	2.73%	2.64%	2.88%
	6 mos. Avg.	2.80%					

ATMOS ENERGY
PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
UGI Corp.	High Price ($)	51.110	51.100	49.750	48.610	49.060	49.770
	Low Price ($)	47.520	47.760	46.590	46.570	47.330	46.430
	Avg. Price ($)	49.315	49.430	48.170	47.590	48.195	48.100
	Dividend ($)	0.250	0.250	0.250	0.250	0.250	0.250
	Mo. Avg. Div.	2.03%	2.02%	2.08%	2.10%	2.07%	2.08%
	6 mos. Avg.	2.06%					

Average Dividend Yield 2.37%

Source: Yahoo! Finance

ATMOS ENERGY
PROXY GROUP
DCF Growth Rate Analysis

Company	(1) Value Line DPS	(2) Value Line EPS	(3) Value Line B x R	(4) Zacks	(5) Yahoo! Finance
Atmos Energy	6.50%	6.00%	5.50%	7.00%	6.50%
Chesapeake Utilities	5.50%	8.00%	8.00%	6.00%	8.10%
New Jersey Resources	3.50%	2.00%	5.50%	6.00%	6.00%
NiSource Inc.	6.50%	5.50%	2.50%	5.90%	7.70%
Northwest Natural Gas	1.00%	7.00%	3.50%	4.50%	4.00%
ONE Gas Inc.	13.50%	9.50%	4.00%	5.80%	6.00%
Spire Inc.	5.00%	8.00%	4.50%	5.00%	4.52%
UGI Corp.	4.00%	6.50%	8.00%	6.20%	6.20%
Average Growth Rates	5.69%	6.56%	5.19%	5.80%	6.13%
Median Growth Rates	5.25%	6.75%	5.00%	5.95%	6.10%

Sources: Zacks and Yahoo! Finance earnings growth rates retrieved December 28, 2017
Yahoo! Finance growth rate was used for UGI's Zacks growth rate, which was not available
Value Line Investment Survey, December 1, 2017

ATMOS ENERGY
PROXY GROUP
DCF RETURN ON EQUITY CALCULATION

	(1) Value Line Dividend Gr.	(2) Value Line Earnings Gr.	(3) Zack's Earning Gr.	(4) Yahoo! Earning Gr.	(5) Average of All Gr. Rates
Method 1:					
Dividend Yield	2.37%	2.37%	2.37%	2.37%	2.37%
Average Growth Rate	5.69%	6.56%	5.80%	6.13%	6.04%
Expected Div. Yield	2.44%	2.45%	2.44%	2.44%	2.44%
DCF Return on Equity	***8.13%***	***9.01%***	***8.24%***	***8.57%***	***8.48%***
Method 2:					
Dividend Yield	2.37%	2.37%	2.37%	2.37%	2.37%
Median Growth Rate	5.25%	6.75%	5.95%	6.10%	6.01%
Expected Div. Yield	2.43%	2.45%	2.44%	2.44%	2.44%
DCF Return on Equity	***7.68%***	***9.20%***	***8.39%***	***8.54%***	***8.45%***

PROXY GROUP
Capital Asset Pricing Model Analysis

20-Year Treasury Bond, Value Line Beta

Line No.		
1	Market Required Return Estimate	9.35%
2	Risk-free Rate of Return, 20-Year Treasury Bond	
3	Average of Last Six Months	2.59%
4	Risk Premium	
5	(Line 1 minus Line 3)	6.76%
6	Comparison Group Beta	0.73
7	Comparison Group Beta * Risk Premium	
8	(Line 5 * Line 6)	4.90%
9	CAPM Return on Equity	
10	(Line 3 plus Line 8)	7.49%

5-Year Treasury Bond, Value Line Beta

11	Market Required Return Estimate	9.35%
12	Risk-free Rate of Return, 5-Year Treasury Bond	
13	Average of Last Six Months	1.88%
14	Risk Premium	
15	(Line 1 minus Line 3)	7.47%
16	Comparison Group Beta	0.73
17	Comparison Group Beta * Risk Premium	
18	(Line 5 * Line 6)	5.42%
19	CAPM Return on Equity	
20	(Line 3 plus Line 8)	7.29%

PROXY GROUP
Capital Asset Pricing Model Analysis

Supporting Data for CAPM Analyses

20 Year Treasury Bond Data

	Avg. Yield
June-17	2.54%
July-17	2.65%
August-17	2.55%
September-17	2.53%
October-17	2.65%
November-17	2.60%
6 month average	2.59%

Source: www.federalreserve.gov

5 Year Treasury Bond Data

	Avg. Yield
June-17	1.77%
July-17	1.87%
August-17	1.78%
September-17	1.80%
October-17	1.98%
November-17	2.05%
6 month average	1.88%

Value Line Market Return Data:

Forecasted Data:

Value Line Median Growth Rates:	
Earnings	10.50%
Book Value	7.50%
Average	9.00%
Average Dividend Yield	0.86%
Estimated Market Return	9.90%
Value Line Projected 3-5 Yr. Median Annual Total Return	8.00%
Average Annual Total Return	9.60%
Average	8.80%
Average of Projected Mkt. Returns	9.35%

Source: Value Line Investment Survey for Windows retreived Nov. 30, 2017

Comparison Group Betas:

Atmos Energy	0.70
Chesapeake Utilities	0.70
New Jersey Resources	0.80
NiSource Inc.	0.60
Northwest Natural Gas	0.70
ONE Gas Inc.	0.70
Spire Inc.	0.70
UGI Corp.	0.90
Average	0.73

Source: Value Line Investment Survey, December 1, 2017

PROXY GROUP
CAPITAL ASSET PRICING MODEL ANALYSIS
Historic Market Premium

	Geometric Mean	Arithmetic Mean	Adjusted Arithmetic Mean
Long-Term Annual Return on Stocks	10.00%	12.00%	
Long-Term Annual Income Return on Long-Term Treas	5.00%	5.00%	
Historical Market Risk Premium	5.00%	7.00%	5.97%
Gas Distribution Group Beta, Value Line	0.73	0.73	0.73
Beta * Market Premium	3.63%	5.08%	4.33%
Current 20-Year Treasury Bond Yield	2.59%	2.59%	2.59%
CAPM Cost of Equity, Value Line Beta	**6.21%**	**7.66%**	**6.91%**

Source: *2017 SBBI Yearbook, Stocks, Bonds, Bills, and Inflation*, Duff and Phelps; pp. 2-6, 6-17, 10-30

BEFORE THE
PUBLIC SERVICE COMMISSION OF MARYLAND

IN THE MATTER OF THE APPLICATION OF BALTIMORE GAS AND ELECTRIC COMPANY FOR ADJUSTMENTS TO ITS GAS BASE RATES	**:**	**Case No. 9484**

DIRECT TESTIMONY AND EXHIBITS

OF

RICHARD A. BAUDINO

ON BEHALF OF THE

MARYLAND ENERGY GROUP

J. KENNEDY AND ASSOCIATES, INC.

SEPTEMBER 14, 2018

BEFORE THE
PUBLIC SERVICE COMMISSION OF MARYLAND

IN THE MATTER OF THE APPLICATION OF BALTIMORE GAS AND ELECTRIC COMPANY FOR ADJUSTMENTS TO ITS GAS BASE RATES	**:**	**Case No. 9484**

DIRECT TESTIMONY OF RICHARD BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant to Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979.

I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

Attachment No. 1 (RAB-1) summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Maryland Energy Group ("MEG").

Q. What is the purpose of your testimony?

A. The purpose of my Direct Testimony is to make recommendations with respect to the proper rate design for Schedule IS. In so doing, I will address the rate design proposals proffered by Baltimore Gas and Electric Company ("BGE" or "Company") witness Jason Manuel.

Q. Did you review Mr. Manuel's proposed customer class revenue allocation?

A. Yes. Mr. Manuel followed the Company's past method of class revenue allocation using a two-step approach that moves each class' rate of return within a band of 10% around the system average rate of return. Step 1 moved Schedules C and IS to a relative rate of return within 0.90 – 1.10 of the system average return. Step 2 involved allocating the remainder of the proposed revenue increase to all classes in proportion to each class' share of test year base revenues, except for Schedule PLG.

Mr. Manuel's class revenue allocation is consistent with past Commission practice.

Q. How did Mr. Manuel design rates for Schedule IS?

A. Mr. Manuel presented his proposed rate design for Schedule IS in Company Exhibit JMBM-2, Sheet G-5. Mr. Manuel proposed no increase in the customer charge and information fee, a 9.4% increase in the demand price, and a 33.0% increase in the delivery price.

Q. Should the Commission adopt Mr. Manuel's proposed rate design for Schedule IS?

A. No. Mr. Manuel's rate design collects far too much of the IS revenue requirement in the delivery price and too little in the demand price.

Q. Please explain why more of the IS revenue requirement should be collected in the demand price.

A. Customer rates should be based on the costs they are designed to collect. Mr. Manuel had a discussion of this point on page 7, lines 6 through 15 of his Direct

Testimony. BGE's IS rates are designed with a customer charge, a demand price, and a delivery price. In general, a customer charge is fixed and designed to collect costs associated with connecting customers to its distribution system. Such costs include the costs of a meter, associated services, and certain administrative and customer service operations and maintenance costs. A demand charge is also a fixed charge and is designed to recover the fixed costs of the Company's distribution system. These fixed costs are related to the peak demands placed on the system by customers and include capital costs for fixed production facilities, transmission and storage plant, distribution mains, and other distribution plant not associated with customer costs. For a typical gas distribution company such as BGE, the large majority of the cost of service is demand related. Finally, the delivery, or commodity price is associated with variable costs, the major component of which is the cost of gas.

In BGE's case, the Company and the Commission have seen fit to collect some of the fixed demand costs for IS and ISS customers in the delivery price, which is a variable per dekatherm ("dth") charge applied to the volume of gas consumed. The demand price is based on the IS customer's per dth peak day billing demand. Currently, about 45% of total Schedule IS revenues are collected in the delivery price. This means that a significant amount of the Company's fixed costs to serve IS customers is being collected in a variable charge, not the fixed demand price. Mr. Manuel's proposed rate design would collect an even greater percentage of IS revenues in the delivery price (50%). In terms of rate design, Mr. Manuel's proposed IS rates are going in the wrong direction.

Q. Did Mr. Manuel discuss the collection of fixed costs in fixed charges in his Direct Testimony?

A. Yes. On page 5 of his Direct Testimony Mr. Manuel stated the following:

"The Company's rate design should be consistent with the nature of the costs incurred in providing service to customers. In other words, fixed and demand-related costs (or costs that do not vary with the total amount of gas delivered) should be recovered through fixed monthly rates and rates that reflect a customer's demand on the system, respectively, and variable costs (or costs that increase or decrease as the total amount of gas delivered changes) should be recovered through rates that do vary based on the total amount of gas delivered to a customer."

On page 6, Mr. Manuel also stated:

"However, the rate schedules for all customer classes (except Private Area Lighting, or "PLG") include a volumetric component that currently recovers a significant amount of the distribution portion of the customer bill (approximately 65% for the average gas residential customer) – a much greater percentage than what the GCOSS supports being recovered through volumetric rates. In other words, when customers reduce their consumption they save money through reduced delivery service charges, but the overall costs to support the distribution system are not correspondingly reduced as they are primarily fixed or demand-related. This creates intra-class inequities and those costs will be unfairly borne by those customers whose consumption is higher than the class average."

I agree with Mr. Manuel's discussion on these points and, in my opinion, they apply to the situation for customers within the IS class. High load factor customers, who use natural gas more evenly throughout the year, pay more than their fair share of demand-related costs because the volumetric charge, *i.e.*, the delivery price, is too high. This also means that low load factor customers are paying less than their share of demand related costs because the demand charge is too low.

Q. Do incorrectly designed demand prices result in economic inefficiency?

A. Yes, they do. A demand price that is too low tells customers that the cost of capacity on BGE's system is lower than it really is. Alternatively, a delivery price that is too high signals customers that the Company's variable costs are higher than they actually are. This will likely cause customers to cut back on their consumption, rather than their system demands. The result is that customers will use gas less efficiently than they otherwise would if demand and delivery prices were based on costs. This could also result in a worsening of BGE's system load factor.

Q. Would collecting more of the Company's revenue requirement through the demand price contribute to greater stability in BGE's revenue stream?

A. Yes. If more of BGE's revenues were properly collected through fixed charges, the Company would be less affected by weather fluctuations and possible declines in consumption in a given year.

Q. Please present your proposed IS rate design to the Commission.

A. It would be reasonable for all of the revenue increase for Schedule IS to be collected through the demand price. However, for purposes of this case I recommend that the demand price and the delivery price be given the same percentage increase. Please refer to Attachment No. 2 (RAB-2), which presents my proposed rate design for Schedule IS. Attachment No. 2 (RAB-2) was developed from Mr. Manuel's spreadsheet that supporting Sheet G-5, which I updated with actuals from Mr. Manuel's Supplemental Direct Testimony. At the Company's original proposed revenue increase the demand price and delivery

price would be increased by 20.7%. This results in 52% of the increase being collected in the demand price and 48% being collected in the delivery price. I believe that this proposal is conservative relative to the increase that should be applied to the demand price, but still results in reasonable rates for Schedule IS customers. It is also consistent with past BGE proposals to collect 50% of the revenue increase in the Demand Price and 50% of the increase in the Delivery Price.

Q. Does this conclude your Direct Testimony?

A. Yes.

Attachment No. 1 (RAB-1)

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-five years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Cities Served by Texas-New Mexico Power Co.
Climax Molybdenum Company
Connecticut Industrial Energy Consumers
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

Expert Testimony Appearances
of
Richard A. Baudino
As of September 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of September 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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03/10	09-1352-E-42T	WV	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

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05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation
8/18	18-0974-TF	VT	Vt. Dept. of Public Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
8/18	48401	TX	Cities Served by Texas-New Mexico Power Company	Texas-New Mexico Power Co.	Return on equity, capital structure
8/18	18-05-16	CT	Connecticut Industrial Energy Consumers	Connecticut Natural Gas Co.	Cost and revenue allocation
9/16	9484	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design

Attachment No. 2 (RAB-2)

Exhibit No. ___(RAB-2)

BALTIMORE GAS AND ELECTRIC COMPANY
MEG RECOMMENDED RATE DESIGN
SCHEDULE IS - INTERRUPTIBLE SERVICE

BASED ON 12 MONTHS ACTUAL ENDING JULY 2018

	REVENUE AT CURRENT RATES			PROPOSED CHANGE IN REVENUE				
	TEST YEAR BILLING DETERMINANTS (1)	CURRENT RATES (a) (2)	REVENUE AT CURRENT RATES (3) = (1) x (2)	TEST YEAR BILLING DETERMINANTS (4)	PROPOSED RATES (5)	REVENUE AT PROPOSED RATES (6) = (4) x (5)	CHANGE IN BASE REVENUE REVENUE (7) = (6) - (3)	CHANGE IN BASE REVENUE PERCENT (8) = (7) / (3)
	BILLS			BILLS				
1. CUSTOMER CHARGE	1,116	$ 1,250.00	$ 1,395,000	1,116	$ 1,250.00	$ 1,395,000	$ -	0.0%
2. INFORMATION FEE	1,116	$ 65.00	$ 72,540	1,116	$ 65.00	$ 72,540	$ -	0.0%
	TH/DAY	$/TH		TH/DAY	$/TH			
3. DEMAND PRICE	19,128,663	0.5959	$ 11,398,770	19,128,663	0.7173	$ 13,720,459	$ 2,321,689	20.4%
	THERMS	$/TH		THERMS	$/TH			
4. DELIVERY PRICE	240,105,089	0.0443	$ 10,636,655	240,105,089	0.0533	$ 12,803,117	$ 2,166,462	20.4%
Optional Firm Delivery Service	THERMS	$/TH		THERMS	$/TH			
5. FIRST 10,000 THERMS	851,520	0.2520	$ 214,583	851,520	0.2865	$ 243,960	$ 29,377	
6. ALL OVER 10,000 THERMS	2,129,280	0.0850	$ 180,989	2,129,280	0.0878	$ 186,951	$ 5,962	
			$ 395,572			$ 430,911	$ 35,339	8.9%
7. TOTAL REVENUE			$ 23,898,537			$ 28,422,027	$ 4,523,490	18.9%
8. TOTAL REVENUE ALLOCATED							$ 4,523,197	
9. DIFFERENCE FROM REVENUE ALLOCATED							$ 293	

BEFORE THE
PUBLIC SERVICE COMMISSION OF MARYLAND

IN THE MATTER OF THE APPLICATION OF BALTIMORE GAS AND ELECTRIC COMPANY FOR ADJUSTMENTS TO ITS GAS BASE RATES	**:** **:** **:** **:**	**Case No. 9484**

REBUTTAL TESTIMONY

OF

RICHARD A. BAUDINO

ON BEHALF OF THE

MARYLAND ENERGY GROUP

J. KENNEDY AND ASSOCIATES, INC.

OCTOBER 12, 2018

BEFORE THE
PUBLIC SERVICE COMMISSION OF MARYLAND

IN THE MATTER OF THE APPLICATION OF BALTIMORE GAS AND ELECTRIC COMPANY FOR ADJUSTMENTS TO ITS GAS BASE RATES	**:**	**Case No. 9484**

REBUTTAL TESTIMONY OF RICHARD BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant to Kennedy and Associates.

Q. Did you provide Direct Testimony in this proceeding?

A. Yes. I provided Direct Testimony on behalf of the Maryland Energy Group ("MEG").

Q. What is the purpose of your Rebuttal Testimony?

A. The purpose of my Rebuttal Testimony is to respond to the Direct Testimony of Public Service Commission Staff ("Staff") witness Jason Cross and Maryland Office of People's Counsel ("OPC") witness Glenn Watkins.

Response to Staff Witness Cross

Q. Please summarize Mr. Cross' conclusions with respect to Baltimore Gas and Electric's ("BGE" or "Company") use of 5-Year and 1-Year non-coincident peak ("NCP") allocation factors.

A. Mr. Cross opposed the use of 5-year average NCP allocation factors for Schedules D and C. Mr. Cross instead advocated the use of the 1-year NCP allocator for these classes. Mr. Cross concluded that "Staff is unable to ascertain whether the NCP calculations and resulting class RRORs are weather sensitive, whether any perceived benefits of the modified allocators are permanent or simply the result of these particular test years, whether any perceived effect is the result of weather or another exogenous factor, whether there are any unidentified weaknesses to the methodology, whether this methodology is preferable to the traditional one year allocators or any other methodologies, or the effect these allocators could have on other gas distribution companies in the State." Cross Direct 19:8-20.

Q. Please respond to Mr. Cross' conclusions with respect to the use of a 5-Year average NCP allocation factor for Schedules D and C.

A. I reviewed the analysis presented by Mr. Cross and the analyses provided by BGE witness Lynn Fiery in her Direct Testimony. I conclude that witness Fiery's use of a 5-year average NCP allocator for Schedules D and C is reasonable and should be adopted by the Commission in this proceeding.

Q. Why is it appropriate for the Commission to depart from its past practice of using 1-year NCP allocators for Schedules D and C in this proceeding and use a 5-year average instead?

A. Ms. Fiery's analysis of the 5-year NCP and heating degree days ("HDD") contained in her Company Exhibit LKF-4 show that the largest deviation from normal HDDs occurred in 2017 (10.2% below normal). Not surprisingly, the lowest NCP allocator for Schedule D was in 2017 (56.1%) and the highest relative rate of return ("RROR") for Schedule D was also in 2017 (1.14). In the more normal HDD year 2015, Scheduled D's RROR was 1.04, the lowest of any RRORs in the 5-year study period and its highest NCP allocator was 60.8%, also in 2015. BGE's 5-year average NCP allocator for Schedule D comes in between the normal HDD year of 2015 and the lowest HDD year of 2017. In my opinion, BGE's use of a 5-year average HDD is reasonable and may well be conservative for Schedule D considering the 2015 results.

Ms. Fiery pointed out on page 10, lines 17 through 18 of her Direct Testimony that "due to decoupling, Schedules D and C revenues are not driven by weather so it is only reasonable that the demand should not be as well." Using a 5-year average will be more consistent with decoupling for these classes than the 1-year 2017 NCPs for Schedules D and C.

Mr. Cross' statistical analyses do not necessarily refute BGE's analysis, as one would certainly expect the residential class to be far more sensitive to weather than the customers in Schedules IS and ISS, since the residential class uses gas primarily for heating in the winter. This is just common sense in terms of how BGE's

customer classes use gas during the year. Mr. Cross did appropriately show that the relationship between HDDs and Schedule D's and C's NCPs did not seem to be consistent in years 2013 and 2014. I may supplement my testimony on this subject based on BGE's response in its Rebuttal Testimony.

To conclude, I continue to support BGE's gas cost of service study ("CCOSS") using the 5-year average NCP for Schedules D and C.

Response to OPC Witness Watkins

Q. On page 2 of his Direct Testimony Mr. Watkins recommended using a Peak and Average CCOSS in conjunction with the Company's CCOSS. Is a Peak and Average CCOSS reasonable to use for purposes of cost allocation for a gas distribution utility?

A. It definitely is not appropriate. The two main functions of distribution mains are to deliver gas during the system winter peak and to connect customers to the system. Peak winter demand is one of the primary drivers of BGE's investment in gas distribution mains. The Company must have sufficient capacity available on its system to satisfy the peak winter heating demand, which is caused mainly by residential customers. If the peak winter demand increases, the Company may need to invest in additional mains to serve the load. During the non-winter months, substantial excess capacity exists on the system. Use of the Company's distribution system during these months does not cause additional fixed costs to be incurred by the Company. In fact, high load factor customers that consume gas more evenly throughout the year provide valuable margins to the Company during off-peak months when the heating demand generally is much lower. In a similar manner to

peak winter demand, if the number of customers increases, the Company may need to expand its distribution system investment. Thus, the number of customers connected to the distribution system is another important causative factor in distribution main investment.

Q. Is it appropriate to classify and allocate a portion of the costs of mains on the basis of total throughput as Mr. Watkins recommends?

A. No. Peak winter demands and the number of customers drive investment in distribution mains, not gas consumption throughout the year. If the peak winter demand increases, the Company may need to invest in additional mains to serve the load. Likewise, if the number of customers increases, the Company may need to expand its distribution system investment. In my view, this is just obvious common sense in terms of the two factors that drive a gas distribution company's main costs. Throughput, which varies substantially during the year, is not what causes BGE's investment in the *fixed costs* of distribution mains. The NARUC Gas Distribution Rate Design Manual, pages 23 and 24, also states the following with respect to demand or capacity related costs:

> "Demand or capacity costs vary with the quantity or size of plant and equipment. They are related to maximum system requirements which the system is designed to serve during short intervals and do not directly vary with the number of customers or their annual usage. Included in these costs are: the capital costs associated with production, transmission and storage plant and their related expenses; the demand cost of gas; and most of the capital costs and expenses associated with that part of distribution plant not allocated to customer costs, such as the costs associated with distribution mains in excess of the minimum size."

Q. On page 18 of his Direct Testimony, Mr. Watkins concluded that Ms. Fiery's CCOSS over-assigned cost responsibility to the ISS class and under-assigned cost responsibility to the IS class. Is this conclusion correct?

A. No, it is not. Mr. Watkins based this conclusion on the results of his faulty Peak and Average CCOSS. For the reasons I discussed earlier, average usage or throughput should not be used to allocate any portion of BGE's fixed costs of its distribution system. Further, the Commission has long relied on the NCP-based CCOSS for BGE's cost and revenue allocation.

Q. Did Mr. Watkins provide any basis for weighting the Peak and Average components by 50%?

A. No. Mr. Watkins provided no analytical support for the 50/50 weighting of peak demand and average usage. In my opinion, this weighting appears to be based on unsupported judgement. Indeed, if one were to assign weighting factors based on the relative importance of peak and average usage for a gas distribution system, one would assign 100% to peak demand and 0% to average usage or throughput.

Q. Have you performed an analysis that shows how much throughput is consumed during the peak winter months in comparison to yearly throughput?

A. Yes. Rebuttal Table 1 below shows 2017 monthly throughput in dekatherms ("Dth") for Schedule D (residential), Schedule IS, and for total BGE. These monthly throughput numbers were taken from Ms. Fiery's work papers that were submitted in response to Staff DR01-02.

Rebuttal Table 1
2017 Throughput Analysis (Dth)

	Schedule D	Schedule IS	Total BGE
January	7,065,016	2,089,076	15,511,812
February	4,994,169	1,777,050	12,828,275
March	6,057,811	2,111,937	14,360,276
April	1,351,210	1,526,622	5,148,187
May	1,475,381	1,587,709	4,937,338
June	786,518	1,716,595	3,816,943
July	743,348	1,831,367	3,822,317
August	798,133	1,750,304	3,868,508
September	853,430	1,714,443	3,834,866
October	1,361,566	1,646,361	4,586,089
November	4,581,483	1,847,910	10,194,969
December	7,602,665	2,588,395	15,669,632
Total	37,670,730	22,187,768	98,579,212
Winter Dth	30,301,144	10,414,368	68,564,964
Pct. Of Winter to Total Dth	80.4%	46.9%	69.6%

My Rebuttal Table 1 shows that Schedule D customers consume 80.4% of their total throughput in the five winter months of November through March. In a similar fashion, BGE's system throughput during the winter represents almost 70% of total yearly system throughput. Clearly, it is the peak winter heating season that drives BGE's system capacity planning in that the Company must have adequate capacity to serve winter loads. Non-winter months have much lower consumption and, as such, do not place any strain on BGE's available capacity. Since winter peak requirements drive BGE's system capacity costs, those fixed costs should be allocated based on each class' contribution to system peak or NCP. Rebuttal Table 1

clearly shows that yearly throughput should not be weighted by 50%, or by any percentage, when allocating BGE's fixed demand costs to customer classes.

Q. On page 21, Mr. Watkins presented his recommended class revenue allocations in his Table 7. Should the Commission reject Mr. Watkins' proposed revenue allocation?

A. Yes. Mr. Watkins based his recommended class revenue allocations in Table 7 on the average allocation results of his Peak and Average CCOSS and BGE's CCOSS. Since the Commission should reject his Peak and Average CCOSS it should also reject his revenue allocation recommendation.

Q. Would Mr. Watkins' recommended revenue allocation harm IS customers?

A. Yes, most definitely. Basing any cost and revenue allocation method on average consumption would harm IS customers by assigning far too much cost responsibility to them. By the same token, Schedule D customers would receive a significant subsidy from other classes of customers using the Peak and Average method.

Q. Does this conclude your Rebuttal Testimony?

A. Yes.

BEFORE THE

PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

IN RE: APPLICATION OF THE	**:**	
PHILADELPHIA WATER DEPARTMENT	**:**	**FISCAL YEARS 2019-2021**
FOR INCREASED RATES AND CHARGES	**:**	

REBUTTAL TESTIMONY

AND EXHIBITS

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE PHILADELPHIA LARGE USERS GROUP

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

MAY 4, 2018

BEFORE THE

PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

IN RE: APPLICATION OF THE	**:**	
PHILADELPHIA WATER DEPARTMENT	**:**	**FISCAL YEARS 2019-2021**
FOR INCREASED RATES AND CHARGES	**:**	

REBUTTAL TESTIMONY OF RICHARD A. BAUDINO

Q. Please state your name and business address.

A. My name is Richard A. Baudino. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 570 Colonial Park Drive, Suite 305, Roswell, Georgia 30075.

Q. What is your occupation and by whom are you employed?

A. I am a consultant with Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Master of Arts degree with a major in Economics and a minor in Statistics from New Mexico State University in 1982. I also received my Bachelor of Arts Degree with majors in Economics and English from New Mexico State in 1979.

I began my professional career with the New Mexico Public Service Commission Staff in October 1982 and was employed there as a Utility Economist. During my employment with the Staff, my responsibilities included the analysis of a broad range of issues in the ratemaking field. Areas in which I testified included cost of service, rate of return, rate design, revenue requirements, analysis of sale/leasebacks of generating plants, utility finance issues, and generating plant phase-ins.

In October 1989, I joined the utility consulting firm of Kennedy and Associates as a Senior Consultant where my duties and responsibilities covered substantially the same areas as those during my tenure with the New Mexico Public Service Commission Staff. I became Manager in July 1992 and was named Director of Consulting in January 1995. Currently, I am a consultant with Kennedy and Associates.

Exhibit No. ___(RAB-1) summarizes my expert testimony experience.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of Philadelphia Large Users Group ("PLUG").

Q. What is the purpose of your Rebuttal Testimony?

A. I will address the cost and revenue allocation proposals sponsored by Mr. Jerome Mierzwa, witness for the Public Advocate.

Q. On page 3 of his Direct Testimony, Mr. Mierzwa concluded that while the Philadelphia Water Department's ("PWD") class cost of service study ("CCOSS") was generally reasonable, the system-wide maximum day and maximum hour extra-capacity factors "should be revised to reflect more recent actual experience." Do you agree with Mr. Mierzwa's conclusion?

A. No. The system-wide maximum day and maximum hour extra-capacity factors used in the Black and Veatch CCOSS are based on the PWD's actual historical experience, are reasonable, and should be adopted for purposes of the CCOSS used in this proceeding. Mr. Mierzwa's recommendations should be rejected.

Q. Please present and discuss the historical demands that were relied upon by Black and Veatch to develop the maximum day and maximum hour percentages in its CCOSS.

A. Please refer to Exhibit No. ____(RAB-2), which includes the PWD's response to PA-II-8. The maximum day and maximum hour demands presented in this response were referenced by Mr. Mierzwa on pages 13 and 14 of his Direct Testimony. On page 1 on Exhibit No. ____(RAB-2) the PWD presented the historical average and maximum day values and ratios from 2012 through 2016. The highest maximum day ratio was 1.41 and Black and Veatch used 1.40 as the maximum day factor in its CCOSS consistent with the highest maximum day value in the five-year period shown on page 1 of Exhibit No. ____(RAB-2).

On page 2 of Exhibit No. ____(RAB-2), the PWD presented maximum hour to average day ratios for 2012 through 2016. The ratios shown in the USE row, 1.25 and 1.90, were relied upon by the Company in its CCOSS to develop its maximum hour extra capacity allocation factors.

Q. In your opinion, it is reasonable for Black and Veatch to use the maximum day and maximum hour allocation factors shown in Exhibit No. ____(RAB-2)

A. Yes. The factors used by Black and Veatch in its CCOSS were the highest ratios in the 2012-2016 study period and, as such, are the ones that are most likely to represent maximum day and maximum hour demands on the PWD system. Mr. Mierzwa's recommended 1.30 maximum day factor does not represent the maximum day ratio that occurred during the five-year study period used by Black and Veatch.

Q. Does the Direct Testimony from Black and Veatch discuss using the 1.40 maximum day and 1.90 maximum hour values shown in Exhibit No. ____(RAB-2)?

A. No. There appears to be an inconsistency in the Black and Veatch Direct Testimony with the numbers that were used in the CCOSS as pointed out by Mr. Mierzwa in his Direct Testimony on pages 13 and 14. Black and Veatch's Direct Testimony may be in error in its description of the maximum day and maximum hour values that were used. I will review the Rebuttal Testimony from Black and Veatch after it is filed and I reserve the right to amend my Rebuttal Testimony if Black and Veatch provide additional evidence that would cause me to revise my conclusions.

Q. On page 15, lines 8 through 10, Mr. Mierzwa testified that he developed extra-capacity factors using the procedures described under the "AWWA Method." Please respond to Mr. Mierzwa's use of the AWWA Method for calculating extra-capacity factors.

A. It should be noted that Appendix A of the AWWA M1 Manual provides examples of how extra capacity factors may be calculated if a customer class demand study is not available. The examples provided by the AWWA are by no means requirements. The concluding paragraphs of Appendix A of the AWWA M1 Manual state the following:

> "The examples and explanations regarding the determination of customer class maximum-day and maximum-hour peaking factors discussed in this appendix are intended to add clarity to this aspect of the cost-of-service process. As may be inferred from the examples, to make these determinations, it is imperative that the utility maintain adequate system demand and customer class billing records to complete the calculations that are necessary for the development of these factors.

> An important technical decision in completing cost allocations by customer class as described in this appendix is whether to use noncoincident or coincident peaking factors by customer class in the cost-of-service analysis. The resulting allocations using the two sets of factors could be materially different, depending on the water demand characteristics of a system and its customers. Therefore, the choice of which method to use is important with respect to rate-making principles, data and costs required to conduct the analysis, and assumptions that may need to be made. *Selection of the appropriate methodology for determining customer class peaking factors should be considered on an individual utility basis*." (italics added)[1]

Q. Are the customer demand factors used in the Black and Veatch CCOSS similar to the customer demand factors used in the PWD's 2016 rate case?

A. It is my understanding that the customer demand factors are fairly similar to the 2016 rate case, although Black and Veatch updated three of these demand factors in this case. Please refer to Exhibit No. ____(RAB-3), which contains the PWD's response to PA-ADV-35. This request from the Public Advocate sought information on changes made to the water customer class demand factors compared to the 2016 rate proceeding. The PWD responded that there were three changes as follows:

- Peaking factors for the commercial customer type were revised to reflect the inclusion of City and City leased properties.
- Allocation of fire protection.
- Private Fire City was revised to include average day metered demand.

I conclude from this response that Black and Veatch did not significantly change its water customer demand factors from the last rate proceeding.

[1] *Principles of Water Rates, Fees, and Charges, AWWA Manual M1 Sixth Edition,* American Water Works Association, Appendix A, page 321.

Q. On page 16 of his Direct Testimony, Mr. Mierzwa presented the results of his revised CCOSS. Should the Philadelphia Water Sewer and Storm Water Rate Board ("Rate Board") accept Mr. Mierzwa's CCOSS as a basis for revenue allocation in this proceeding?

A. No. As I mentioned earlier in my Rebuttal Testimony, Mr. Mierzwa did not use the appropriate maximum day factor and the appropriate customer demand factors for his CCOSS analysis. Furthermore, Mr. Mierzwa did not provide any detailed CCOSS results in his exhibits for the Rate Board and the parties to review. I have requested Mr. Mierzwa's CCOSS and work papers, but they will not be available until after my Rebuttal Testimony is filed. I reserve the right to amend my Rebuttal Testimony if necessary based on further review of Mr. Mierzwa's work papers.

Based on my review so far, I recommend that the Rate Board utilize the Black and Veatch CCOSS in this case for purposes of revenue allocation.

Q. On page 18 of his Direct Testimony Mr. Mierzwa proposed an alternative revenue allocation whereby the rate in the existing consumption block of 0 – 2 Mcf be maintained throughout the 2019 – 2021 rate period. Is this a reasonable recommendation?

A. Absolutely not. The Black and Veatch CCOSS provides no basis whatsoever for holding the 0 – 2 consumption block rate constant. Furthermore, Mr. Mierzwa provided the Rate Board and the parties no estimate of the rate impact on other customers from this radical proposal. The Residential class is by far the largest class on the PWD system with current revenues of $161.4 million compared to total current retail revenues of $268.97 million. This means that total Residential revenues represent 60% of current total retail revenues. Not all Residential class

consumption falls within the 0 – 2 Mcf consumption block, but as Mr. Mierzwa pointed on page 18, most of it does. Thus, holding rates constant for the 0 – 2 Mcf block could likely result in rate shock to other customers depending on the revenue increase that is approved in this proceeding. The Rate Board should avoid the possibility of this adverse outcome for non-Residential customers on PWD's system. I strongly recommend that the Rate Board reject Mr. Mierzwa's alternative revenue allocation proposal.

Q. Can you estimate the approximate impact of Mr. Mierzwa's proposal to hold the 0-2 Mcf Residential consumption block constant?

A. I can provide the Rate Board an approximate impact from Mr. Mierzwa's proposal assuming a Residential increase of 10%. I reviewed PWD Exhibit 6, which contains supporting data for Black and Veatch's analyses in this proceeding. Page No. 791 shows that 85.26% of Residential consumption occurs in the 0 -2 Mcf rate block. For purposes of my analysis here, I will assume that 85.26% of the revenues from the Residential class, which includes meter revenues, is generated from usage in the 0 – 2 Mcf block. Thus, I estimate that 85.3% of total current Residential revenues ($161.4 million) is $137.6 million coming from the 0 -2 Mcf rate block.

As a hypothetical, let us now assume that the Rate Board approves a 10% FY 2019 increase for the Residential class using Black and Veatch CCOSS as a guide for revenue allocation. This would result in an increase to the Residential class revenue requirement of $16.14 million. If the Rate Board adopted Mr. Mierzwa's alternative revenue allocation and held rates constant in the 0 – 2 Mcf block, only 14.7% of Residential revenues would receive a 10% increase, which results in an increase of only $2.37 million for Residential customer usage outside the 0 – 2 Mcf block. That

leaves $13.77 million of $16.14 million to be collected from the rest of the PWD's non-Residential customers.

Current total retail service revenues less total Residential service revenues are $107.56 million. Collecting an extra $13.77 million from these customers would result in an ***additional*** increase of 12.8% on non-Residential customers on top of the cost of service increase determined by the Rate Board. If the non-Residential customers would have also received a CCOSS revenue allocation of 10%, then the additional 12.8% reallocated from Residential customers would result in a total increase of 22.8%. Obviously this is an inequitable and unreasonable result that would substantially harm non-Residential customers.

Q. Does this complete your Rebuttal Testimony?

A. Yes.

BEFORE THE

PHILADELPHIA WATER SEWER AND STORM WATER RATE BOARD

IN RE: APPLICATION OF THE	**:**	
PHILADELPHIA WATER DEPARTMENT	**:**	**FISCAL YEARS 2019-2021**
FOR INCREASED RATES AND CHARGES	**:**	

EXHIBITS

OF

RICHARD A. BAUDINO

ON BEHALF OF

THE PHILADELPHIA LARGE USERS GROUP

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

MAY 4, 2018

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.
Major in Economics
Minor in Statistics

New Mexico State University, B.A.
Economics
English

Thirty-two years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies
Electric, Gas, and Water Utility Cost Allocation and Rate Design
Revenue Requirements
Gas and Electric industry restructuring and competition
Fuel cost auditing
Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to 1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System
Air Products and Chemicals, Inc.
Arkansas Electric Energy Consumers
Arkansas Gas Consumers
AK Steel
Armco Steel Company, L.P.
Assn. of Business Advocating Tariff Equity
Atmos Cities Steering Committee
Canadian Federation of Independent Businesses
CF&I Steel, L.P.
Cities of Midland, McAllen, and Colorado City
Climax Molybdenum Company
Cripple Creek & Victor Gold Mining Co.
General Electric Company
Holcim (U.S.) Inc.
IBM Corporation
Industrial Energy Consumers
Kentucky Industrial Utility Consumers
Kentucky Office of the Attorney General
Lexington-Fayette Urban County Government
Large Electric Consumers Organization
Newport Steel
Northwest Arkansas Gas Consumers
Maryland Energy Group
Occidental Chemical
PSI Industrial Group
Large Power Intervenors (Minnesota)
Tyson Foods
West Virginia Energy Users Group
The Commercial Group
Wisconsin Industrial Energy Group
South Florida Hospital and Health Care Assn.
PP&L Industrial Customer Alliance
Philadelphia Area Industrial Energy Users Gp.
Philadelphia Large Users Group
West Penn Power Intervenors
Duquesne Industrial Intervenors
Met-Ed Industrial Users Gp.
Penelec Industrial Customer Alliance
Penn Power Users Group
Columbia Industrial Intervenors
U.S. Steel & Univ. of Pittsburg Medical Ctr.
Multiple Intervenors
Maine Office of Public Advocate
Missouri Office of Public Counsel
University of Massachusetts - Amherst
WCF Hospital Utility Alliance
West Travis County Public Utility Agency
Steering Committee of Cities Served by Oncor
Utah Office of Consumer Services
Healthcare Council of the National Capital Area
Vermont Department of Public Service

Expert Testimony Appearances
of
Richard A. Baudino
As of May 2018

Date	Case	Jurisdict.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

Expert Testimony Appearances
of
Richard A. Baudino
As of May 2018

Date	Case	Jurisdict.	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

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09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/ GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343-000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.,Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenors	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States,Inc.	Cost of debt.

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10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD & United States	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HeallthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

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Date	Case	Jurisdict.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdict.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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Date	Case	Jurisdict.	Party	Utility	Subject
03/10	09-1352-	WV E-42T	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR-09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E-GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009-2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010-2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010-2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010-2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010-2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010-2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699-E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010-2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011-2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co,	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

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05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation

PA-II-8. REFERENCE PWD STATEMENT NO. 9A, PAGE 59, LINES 15-24, AND PAGE 60, LINES 1-2. PLEASE PROVIDE THE HISTORICAL DEMANDS EXPERIENCED AND RELIED UPON TO DEVELOP THE MAXIMUM DAY AND HOUR PERCENTAGES.

RESPONSE:

The maximum day demands experienced and relied upon for the development of the maximum day extra capacity allocation factors is based on the system maximum day raw water pumping data.

Fiscal Year	Average Day	Maximum Day	Maximum Day to Average Day Ratio
2012	257.9 mgd	362.7 mgd	1.41
2013	259.8 mgd	338.6 mgd	1.30
2014	260.1 mgd	343.5 mgd	1.32
2015	250.9 mgd	305.3 mgd	1.22
2016	243.2 mgd	276.8 mgd	1.14
Peak Flow			1.41
USE			1.40

Note: These flows and supporting analysis are provided in PWD Exhibit 6 Supplemental Financial, Engineering and Other Data Black & Veatch Workpapers WCOS17_19.xls Wpltallo-3 (page 750).

The maximum hour demands experienced and relied upon for the development of the maximum hour extra capacity allocation factors are based on the system maximum hour water production data.

Fiscal Year	Average Day	Maximum Day	Maximum Hour	Maximum Day to Average Day Ratio	Maximum Hour to Average Day Ratio
2012	245.8 mgd	292.0 mgd	370.4 mgd	1.19	1.51
2013	244.5 mgd	286.2 mgd	365.0 mgd	1.17	1.49
2014	250.0 mgd	313.6 mgd	433.8 mgd	1.25	1.74
2015	230.8 mgd	291.8 mgd	365.5 mgd	1.26	1.58
2016	223.8 mgd	258.2 mgd	430.8 mgd	1.15	1.92
Peak Flow				1.26	1.92
USE				1.25	1.90

Note: These flows and supporting analysis are provided in PWD Exhibit 6 Supplemental Financial, Engineering and Other Data Black & Veatch Workpapers WCOS17_19.xls Wpltallo-4 (page 751).

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC

PA-ADV-35. PLEASE EXPLAIN IN DETAIL THE BASIS FOR ANY CHANGES IN THE WATER CUSTOMER CLASS DEMAND FACTORS COMPARED TO THE 2016 RATE PROCEEDING.

RESPONSE:

The following water customer demand factors were changed since the last rate case:

- Commercial – the peaking factors for the commercial customer type were revised to reflect the inclusion of City and City leased properties. The following table provides the basis for the consolidated commercial customer type peaking factors.

Customer Type	Average Daily Water Use	Maximum Day		Maximum Hour	
		Capacity Factor	Total Capacity	Capacity Factor	Total Capacity
	Mcf/Day		Mcf/Day		Mcf/Day
Commercial	3,470	180	6,250	270	9,370
City Leased	20	180	40	235	50
City	650	180	1,170	235	1,530
Total	4,140	180	7,460	264	10,950
USE		180		265	

- Fire Protection. Consistent with prior cost of service and rate proceedings, we used a maximum day fire demand of 1,110 thousand cubic feet per day (Mcf/Day) and a maximum hour fire demand of 2,890 Mcf/Day. These system wide fire protection demands reflect two simultaneous fires, one requiring 10,000 gallons per minute (gpm) fire flow demand for 10 hours and the second requiring 5,000 gpm for 8 hours. These demands are allocated between standard pressure public fire service and private fire service based upon equivalent 6-inch connections for each of the two fire service classes. The following table provides the basis of the allocation of fire protection capacity to public and private fire protection.

Customer Type	Equivalent 6" Meters	Distribution	Maximum Day Capacity	Maximum Hour Capacity
			Mcf/Day	Mcf/Day
Public Fire Protection	25,364	88.1%	980	2,550
Private Fire Protection	3,410	11.9%	130	340
Total Fire Protection	28,776	100.0%	1,110	2,890

The Private Fire Capacity is further adjusted to include the average day metered demand. The following table provides the total maximum day and maximm hour capacities and extra capacities.

Private Fire Meter Demand	Average Daily Use	Maximum Day Capacity	Maximum Day Extra Capacity	Maximum Hour Capacity	Maximum Hour Extra Capacity
	Mcf/Day	Mcf/Day	Mcf/Day	Mcf/Day	Mcf/Day
Private Fire Protection		130	130	340	210
Metered Demand	30	30	0	30	0
Total Fire Protection	30	160	130	370	210

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC

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SURREBUTTAL TESTIMONY AND EXHIBIT OF

RICHARD BAUDINO

ON BEHALF OF

THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF

DOCKET NOS. 2017-207, 305, 370-E

IN RE: JOINT APPLICATION AND PETITION OF SOUTH CAROLINA ELECTRIC & GAS COMPANY AND DOMINION ENERGY, INCORPORATED FOR REVIEW AND APPROVAL OF A PROPOSED BUSINESS COMBINATION BETWEEN SCANA CORPORATION AND DOMINION ENERGY, INCORPORATED, AS MAY BE REQUIRED, AND FOR A PRUDENCY DETERMINATION REGARDING THE ABANDONMENT OF THE V.C. SUMMER UNITS 2 & 3 PROJECT AND ASSOCIATED CUSTOMER BENEFITS AND COST RECOVERY PLANS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.

A. My name is Richard A. Baudino, a Consultant with J. Kennedy and Associates, Inc., an economic consulting firm specializing in utility ratemaking and planning issues. My business address is 570 Colonial Park Drive, Suite 305, Roswell, Georgia.

Q. DID YOU FILE DIRECT TESTIMONY AND EXHIBITS IN THIS PROCEEDING?

A. Yes. I filed Direct Testimony and 13 exhibits with the Public Service Commission of South Carolina ("Commission") on September 24, 2018.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my testimony is to respond to the Rebuttal Testimonies filed by Mr. Robert Hevert and Ms. Ellen Lapson, witnesses for South Carolina Electric and Gas Company ("SCE&G" or "Company"). In so doing, I will also address recent conditions in

the financial markets and their effect, if any, on my recommended 9.10% investor required return on equity ("ROE") for SCE&G's allowable new nuclear development ("NND") costs. I will also respond to the Rebuttal Testimonies of Dominion Energy witness Robert Blue and SCE&G witness John Raftery regarding service quality conditions associated with the proposed business combination.

RESPONSE TO SCE&G WITNESS HEVERT'S REBUTTAL TESTIMONY

Q. DID MR. HEVERT PROVIDE AN UPDATE TO HIS ROE ANALYSES THAT HE PRESENTED IN HIS DIRECT TESTIMONY?

A. Yes. Mr. Hevert presented updates to his Constant Growth Discounted Cash Flow ("DCF"), Multi-Stage DCF, Capital Asset Pricing Model ("CAPM"), Empirical CAPM ("ECAPM"), and Risk Premium analyses. He presented these results in Rebuttal Exhibit No. ___(RBH-1) through Rebuttal Exhibit No.___(RBH-6).

Q. DID MR. HEVERT PROVIDE A SUMMARY TABLE OF HIS UPDATED RESULTS LIKE HIS TABLES 1A AND 1B IN HIS DIRECT TESTIMONY?

A. No, he did not. I created Surrebuttal Table 1 to summarize Mr. Hevert's updated results below. For ease of presentation, I have only included the mean and median results of Mr. Hevert's DCF studies and did not include high and low ROE estimates.

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Surrebuttal Table 1

Hevert Updated ROE Results

Constant Growth DCF:	
Mean DCF Results	9.01% - 9.04%
Median DCF Results	8.89% - 9.05%
Multi-stage DCF:	
Average EPS Growth Rate in First Stage	9.08% - 9.21%
Multi-Stage DCF - Terminal P/E Ratio 18.65:	
Average EPS Growth Rate in First Stage	8.82% - 9.25%
CAPM:	
Bloomberg Beta Mean Results	8.89% - 9.54%
Value Line Beta Mean Results	11.11% - 12.02%
ECAPM:	
Bloomberg Beta Mean Results	10.53% - 11.37%
Value Line Beta Mean Results	12.19% - 13.23%
Risk Premium ROE	9.97% - 10.27%

What stands out in Surrebuttal Table 1 is how much lower Mr. Hevert's CAPM results are using the Bloomberg betas for the proxy group. In his Direct Testimony, the mean Bloomberg beta CAPM ROE results ranged from 10.32% - 10.52%. In his update, the Bloomberg beta CAPM results now range from 8.89% - 9.54%. This change was due mostly to lower betas for the proxy group. Mr. Hevert's updated Bloomberg CAPM results are much closer to my 9.1% ROE recommendation. The set of CAPM results from Mr. Hevert's rebuttal testimony no longer supports Mr. Hevert's low end ROE range of 10.25%, much less his 10.75% ROE recommendation.

In my Direct Testimony, I noted that Mr. Hevert seemed to rely mostly on the CAPM results for his recommendation, while completely disregarding the DCF results. Now in his update, the Bloomberg CAPM results not only fail to support the low end of

his recommended range, they are more consistent with the DCF results and with my 9.10% ROE recommendation.

Q. ON PAGE 4 OF HIS REBUTTAL TESTIMONY, MR. HEVERT PRESENTED CHART 1, WHICH SHOWS A COMPARISON OF COMMISSION-ALLOWED RETURNS AND HIS CALCULATION OF DCF RESULTS FOR HIS PROXY GROUP. PLEASE COMMENT ON THIS ANALYSIS.

A. On page 4 of his Rebuttal Testimony, Mr. Hevert criticized the DCF as being inconsistent with decisions reached by regulatory commissions over the last several years. Mr. Hevert attempted to make this point using data he presented in Chart 1. However, reviewing the data in Chart 1 shows that the DCF is much closer to authorized ROEs than Mr. Hevert's recommended 10.75% ROE. In fact, Mr. Hevert's 10.75% ROE is, quite literally, off the chart given that the top ROE on Chart 1 is 10.50%. The most recent authorized ROE shown on Mr. Hevert's Chart 1 is slightly above 9.50%, which is much closer to my recommended 9.10% ROE than Mr. Hevert's 10.75% ROE.

To provide a clearer picture of recent authorized ROEs for the Commission, I reviewed the data presented by Mr. Hevert in his Rebuttal Exhibit No.__(RBH-6). Surrebuttal Table 2 below presents the authorized ROEs presented by Mr. Hevert in this exhibit for 2018 as well as the average authorized ROE for the year and from August 2018.

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Surrebuttal Table 2
2018 Allowed ROEs
Rebuttal Exhibit No. ___(RBH-6)

Date	Return on Equity (%)
1/18/18	9.70%
1/31/18	9.30%
2/2/18	9.98%
2/23/18	9.90%
3/12/18	9.25%
3/15/18	9.00%
3/29/18	10.00%
4/12/18	9.90%
4/13/18	9.73%
4/18/18	9.25%
4/18/18	10.00%
4/26/18	9.50%
5/30/18	9.95%
5/31/18	9.50%
6/14/18	8.80%
6/22/18	9.50%
6/22/18	9.90%
6/28/18	9.35%
6/29/18	9.50%
8/8/18	9.53%
8/21/18	9.70%
8/24/18	9.28%
9/5/18	9.10%
9/14/18	10.00%
9/20/18	9.80%
9/26/18	9.77%
9/26/18	10.00%
9/27/18	9.30%
10/4/18	9.85%
Average (2018 YTD)	9.60%
Avg. From August 2018	9.63%
Highest ROE Award	10.00%
Lowest ROE award	8.80%

This table shows quite clearly how far out of the mainstream Mr. Hevert's 10.75% ROE recommendation is. According to the data presented by Mr. Hevert, the highest ROE

award in 2018 was 10%, while the lowest was 8.80%. Although my 9.10% is near the low end of this range, it is within the range. Mr. Hevert's recommended 10.75% significantly exceeds the upper end of the range (10%) of allowed returns in 2018.

Q. IN YOUR OPINION, IS MR. HEVERT'S REJECTION OF THE MEAN AND MEDIAN DCF RESULTS RESPONSIBLE FOR HIS EXCESSIVELY HIGH 10.75% ROE RECOMMENDATION?

A. Yes, most definitely. Surrebuttal Table 1 shows that the mean and median DCF results are more consistent with recent allowed returns than nearly all of Mr. Hevert's CAPM and ECAPM results, apart from the Bloomberg CAPM ROEs.

Q. WHAT IS YOUR CONCLUSION WITH RESPECT TO MR. HEVERT'S UPDATED ROE ANALYSES?

A. My conclusion is that Mr. Hevert's updated analyses do not support his excessive ROE recommendation of 10.75%. His mean and median DCF analyses and his Bloomberg CAPM analysis support a much lower investor required ROE and are more consistent with my recommended ROE of 9.10%. Mr. Hevert's ECAPM results continue to be extraordinarily high and should be rejected for the reasons I explained in my Direct Testimony. Even Mr. Hevert's Risk Premium results, which are based on his analysis of Commission-allowed returns, do not remotely support a 10.75% ROE for SCE&G or for any other investment grade regulated utility company.

Mr. Hevert's ROE recommendation of 10.75% should be rejected by the Commission.

Q. DID YOU CALCULATE THE ADDITIONAL REVENUES THAT WOULD HAVE TO BE COLLECTED FROM SOUTH CAROLINA RATEPAYERS UNDER THE

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ORS OPTIMAL PLAN USING MR. HEVERT'S RECOMMENDED 10.75% ROE COMPARED TO YOUR RECOMMENDED 9.10% ROE?

A. Yes. At my request, ORS calculated the revenue requirement impact of a 1 basis point (0.01%) change in the ROE under the ORS Optimal Plan. Each basis point change in the ROE results in a change in the levelized Capital Cost Recovery ("CCR") Rider revenue requirement of approximately $38,000. The basis point difference between my recommended ROE of 9.10% and Mr. Hevert's 10.75% is 165 basis points, or 1.65%.

Mr. Hevert's recommended ROE of 10.75% would result in an additional yearly levelized CCR Rider revenue requirement increase to South Carolina ratepayers of approximately $6.3 million compared to my recommended ROE of 9.10%.

Q. SHOULD THE COMMISSION BASE ITS ALLOWED ROE IN THIS PROCEEDING ON THE DECISIONS OF OTHER REGULATORY COMMISSIONS?

A. No. Although allowed returns in other jurisdictions may provide general background for the Commission's deliberations in this case, I recommend that the Commission base its ROE determination for SCE&G's allowable NND costs on the information presented in this proceeding. The overview of other regulatory commissions clearly demonstrates that Mr. Hevert's ROE recommendation is out of step with current allowed ROEs, is inconsistent with market evidence presented in the DCF model, and is grossly overstated with respect to the CAPM and ECAPM results.

Q. REGARDING ALLOWED RETURNS, ARE YOU AWARE OF THE ROE RECENTLY ALLOWED BY THE VIRGINIA STATE CORPORATION COMMISSION ("SCC") FOR DOMINION ENERGY VIRGINIA?

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A. Yes. According to Dominion Energy's 2017 10-K report, page 21, the Virginia SCC authorized an allowed ROE of 9.2% for rate adjustment clauses. Further, on page 135 of Dominion Energy's 10-K, Dominion noted that the Virginia SCC authorized a 9.2% ROE for Rider GV effective April 1, 2018. Rider GV is designed to collect costs associated with the Greenville County Power Station, which is a combined cycle electric generating facility.

I provide this additional information to the Commission in support of my recommendation to authorize a 9.10% ROE for the ORS recommended allowable NND costs in this proceeding. These NND costs would be collected through the ORS proposed Capital Cost Recovery ("CCR") rider. Although Dominion Energy Virginia's Rider GV and the ORS proposed CCR rider are not totally comparable, they both are designed to collect the costs of generating facilities. In SCE&G's case, however, the generation costs are the allowable NND costs associated with the cancelled Summer nuclear plant that will not provide any power to South Carolina ratepayers. The comparison to the 9.20% allowed ROE for Dominion Energy Virginia's Rate GV provides further support that my recommended 9.10% ROE for SCE&G's allowed NND costs is reasonable.

Q. BEGINNING ON PAGE 44 OF HIS REBUTTAL TESTIMONY, MR. HEVERT RESPONDS TO YOUR POSITION WITH RESPECT TO USING CURRENT INTEREST RATES AS OPPOSED TO FORECASTED INTEREST RATES. HAVE INTEREST RATES INCREASED SINCE YOU FILED YOUR DIRECT TESTIMONY?

A. Yes. Since the end of August 2018, both short-term and long-term interest rates have increased. On September 26, 2018, the Federal Reserve announced another increase

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in its benchmark short-term interest rate, the federal funds rate, to the target range of 2% - 2.25%. The month of October has also seen increases in the long-term 10-year and 30-year Treasury bond rate. As of October 23, 2018, the yield on the 30-year Treasury Bond was 3.37%, 33 basis points higher than the August yield of 3.04% I reported in Table 1 of my Direct Testimony. The average public utility bond yield stood at 4.58% as of the same date, up 25 basis points from the August yield of 4.33%.

Q. GIVEN THAT THE STOCKS OF REGULATED UTILITIES TEND TO BE SENSITIVE TO INTEREST RATE CHANGES, HAS THE RECENT RUN-UP IN INTEREST RATES NEGATIVELY AFFECTED THEIR PRICES?

A. No. In general utility stock prices have not been negatively affected by the recent uptick in long-term interest rates. In fact, the Dow Jones Utility Average ("DJUA") is higher as of the preparation of my Surrebuttal Testimony that it was at the end of August. As of August 31, 2018, the DJUA closed at 726.41. On October 23, the DJUA closed at 742.02. This represents an increase of 2.1% in the DJUA from the end of August. Obviously, the DJUA has not been harmed by this recent increase in the 30-year Treasury Bond yield, the recent increase in the federal funds rate by the Federal Reserve, or the uptick in utility bond yields.

Moreover, the dividend yield of my proxy group of regulated utilities did not significantly increase in October. ORS Surrebuttal Exhibit RAB-1 shows the proxy group dividend yields from March 2018 through October 19, 2018. Note that the proxy group dividend yield is the same for September and October 2018, 3.29%, and is still lower than the group dividend yield from March through May 2018.

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Q. WHY, IN YOUR VIEW, HAVE UTILITY STOCKS NOT BEEN ADVERSELY AFFECTED BY THE RECENT INCREASE IN SHORT- AND LONG-TERM INTEREST RATES IN OCTOBER?

A. In my opinion, investors are turning to lower risk, regulated utility investments to protect against current market volatility despite higher interest rates. This view was supported in an October 10, 2018 article by Tom DiChristopher of CNBC, who opined:

> ***"****If there is one market force powerful enough to boost utility stocks in rising rate environment, it appears to be the rush to safety in dark times. The recent rally in utility stocks — the sector is up nearly 4 percent over the last three months — got knocked off track as the U.S. 10-year Treasury yield began to march higher. A rising 10-year yield typically draws investors out of utility stocks, often called "bond proxies" for their bond-like qualities, including steady dividends and stability.*
>
> *But despite the 10-year yield sitting near a seven-year high, the S&P 500 utility sector has rallied from its September lows and is now up 2.5 percent in October. Meanwhile, every other sector is in the red and the broader S&P 500 is down 4.4-percent month to date.*
>
> *Given the stock market slump this month, investors are prioritizing another benefit of utility names: their status as a relatively safe haven. "In a market like this, in a dramatic sell-off, the rotational effects will be higher than the interest rate effect," said Jay Hatfield, portfolio manager at Infrastructure Capital Management."*

I conclude from the current state of financial markets that investors appear to be rotating into safer, more predictable regulated utility stocks to protect themselves from current market volatility. In my view, this means that they are willing to accept lower total returns that are safer rather than risk losses in the broader stock market. I believe that this is further support for maintaining my recommended 9.10% ROE recommendation despite current increases in long- and short-term interest rates since I filed my Direct Testimony.

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Q. AT PAGE 7 OF HIS REBUTTAL TESTIMONY, MR. HEVERT PROVIDED AN EXCERPT FROM DR. ROGER A. MORIN'S BOOK *NEW REGULATORY FINANCE*. ARE YOU FAMILIAR WITH THIS TEXT?

A. Yes, I am.

Q. PLEASE RESTATE THE FIRST SENTENCE OF THE EXCERPT MR. HEVERT PROVIDED FROM THIS TEXT.

A. Dr. Morin is quoted as stating, "Each methodology requires the exercise of considerable judgment on the reasonableness of the assumptions underlying the methodology and on the reasonableness of the proxies used to validate the theory."[1]

Q. IN YOUR OPINION, DID MR. HEVERT EXERCISE "CONSIDERABLE JUDGMENT ON THE REASONABLENESS OF THE ASSUMPTIONS" IN HIS DETERMINATION OF A RECOMMENDED ROE OF 10.75%?

A. Mr. Hevert certainly exercised considerable judgement, but his recommended ROE range as well as his recommended 10.75% ROE for SCE&G is unreasonable.

Mr. Hevert's DCF analysis, as provided in his Direct Testimony and the revised DCF analysis as provided in his Rebuttal Testimony, indicate ROE ranges that are much more in line with recently authorized ROEs than the range of 10.25% to 11.0% he ultimately recognized. In fact, Mr. Hevert's revised Constant Growth DCF analysis provided in Rebuttal Exhibit No. ___(RBH-1) indicates slightly lower low, mean, and high ROE estimates based on updated 30-day and 90-day average stock prices than initially cited in his Direct Testimony. Mr. Hevert's CAPM and ECAPM analyses indicate ROEs

[1] Rebuttal Testimony of Robert B. Hevert, page 7, citing Morin, R. A. (2006). *New Regulatory Finance*. Public Utility Reports, Inc., at 428.

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that are far above these levels and thus substantially overstate the ROE appropriate for SCE&G given current financial and market conditions.

Q. ON PAGE 12 OF HIS REBUTTAL TESTIMONY, MR. HEVERT DISAGREES WITH YOUR USE OF PROJECTED DIVIDEND GROWTH FROM VALUE LINE IN YOUR DCF ANALYSES. PLEASE RESPOND TO MR. HEVERT'S POSITION ON THIS ASPECT OF YOUR ANALYSIS.

A. The bulk of academic literature support using earnings growth rates in the DCF model and I gave earnings growth a 75% weighting in my DCF analysis. However, since the Value Line Investment Survey presents forecasted dividend growth in its reports on regulated utility companies and, since dividends are a major source of income for investors in utility stocks, it is reasonable to include Value Line's dividend growth forecast in my DCF analysis. Further, the DCF results using forecasted dividend growth were 9.19% - 9.24% and are higher than several of my DCF estimates using forecasted earnings growth.

Q. BEGINNING ON PAGE 23 OF HIS REBUTTAL TESTIMONY, MR. HEVERT RESPONDED TO YOUR CRITICISM OF HIS 5.45% LONG-TERM GROWTH RATE FOR GROSS DOMESTIC PRODUCT ("GDP"). PLEASE RESPOND TO MR. HEVERT'S TESTIMONY ON THIS POINT.

A. My reading of Mr. Hevert's testimony suggests that he did not dispute that his own projection of 5.45% GDP growth was significantly greater than the Social Security Administration forecast or that of the Energy Information Administration. Further, other publicly available sources are also far lower than Mr. Hevert's GDP projection. For example, the most recent economic projections issued by the Federal Reserve Board on September 26, 2018, show a long-run growth in real GDP of 1.8% and an inflation

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projection of 2.0%. Adding these together results in a long-run nominal GDP growth rate of 3.8%. Likewise, the August 2018 update to the Congressional Budget Office's economic projections for calendar years 2018 through 2028 show a projected growth rate in nominal GDP of 3.9%. These publicly available sources of information are all significantly lower than Mr. Hevert's 5.45% GDP projection.

Q. ON PAGE 57 OF HIS REBUTTAL TESTIMONY, MR. HEVERT RESPONDED TO YOUR COMPARISON OF YOUR RECOMMENDED ROE OF 9.1% TO THE EARNED RETURNS OF THE OPERATING COMPANIES HE PRESENTED IN CHART 8 IN HIS DIRECT TESTIMONY. PLEASE RESPOND TO MR. HEVERT'S REBUTTAL TESTIMONY ON THIS POINT.

A. My comparison does not assume that the historical earned returns in Chart 8 of Mr. Hevert's Direct Testimony "should equal the investor-required Cost of Equity" as Mr. Hevert stated on page 57, line 10 of his rebuttal testimony. Mr. Hevert's statement is simply incorrect. My recommended ROE is based on current market evidence, not historical earned returns.

In my direct testimony at page 33, I observed that my recommended ROE of 9.1% is in line with the 9.17% earned return for companies in the proxy group in 2017. Further, I observed that my recommended ROE is close to the 5-year average of 9.54%. In contrast, Mr. Hevert's recommended ROE of 10.75% is roughly 160 and 120 basis points higher than each of these measures, respectively.

Q. BEGINNING ON PAGE 60 OF HIS REBUTTAL TESTIMONY, MR. HEVERT PRESENTED TABLE 6, WHICH INCLUDES VALUE LINE'S PROJECTED RETURN ON COMMON EQUITY FOR THE COMPANIES IN THE PROXY

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GROUP. SHOULD THE COMMISSION USE THESE PROJECTED EARNED RETURNS ON COMMON EQUITY TO SET THE ALLOWED RETURN FOR SCE&G IN THIS PROCEEDING?

A. No. These are Value Line's projected earned returns for the proxy group 3 – 5 years from now. They do not represent required returns today as measured in the financial markets. I continue to recommend the Commission use the current market evidence presented in my DCF results for its authorized ROE for SCE&G in this proceeding.

RESPONSE TO SCE&G WITNESS MS. LAPSON'S REBUTTAL TESTIMONY

Q. ON PAGE 8 OF HER REBUTTAL TESTIMONY, MS. LAPSON DISAGREED WITH YOUR PROPOSAL THAT THE COMMISSION SHOULD AUTHORIZE A ROE FOR SCE&G BASED ON INVESTMENT GRADE UTILITIES. PLEASE RESPOND TO MS. LAPSON'S POSITION.

A. On page 8, lines 9 – 11, Ms. Lapson testified that "the equity return determined based upon the less risky proxy group should be supplemented to reflect the greater financial risk." I disagree with Ms. Lapson's position. I explained in my Direct Testimony that South Carolina ratepayers should be protected from any adverse credit conditions due to SCE&G's involvement in the abandoned V.C. Summer Units 2 and 3. This includes, of course, a higher required ROE that reflects the uncertainty regarding the ultimate disposition of NND cost recovery as well as cost disallowances due to imprudence.

It is important to keep in mind it was the actions of SCE&G's management that are responsible for the Company's current credit ratings, not the ORS recommendations in this case. Under the ORS recommendations, ratepayers will pay for the allowable NND costs with a full rate of return that is based on a ROE commensurate with an investment grade

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proxy group of utilities. If the disallowance of NND costs causes further deterioration in SCE&G's credit rating, South Carolina ratepayers should not have to foot the bill for a higher ROE on top of the allowable NND costs for a generation project that will never produce a single kilowatt of electricity. The ORS approach is a fair balancing of interests in this proceeding.

Q. PLEASE ADDRESS THE STATEMENT MADE BY MS. LAPSON ON PAGE 9, LINES 7 THROUGH 13 OF HER REBUTTAL TESTIMONY.

A. Ms. Lapson testified as follows:

"Mr. Baudino also asserts that the ORS Plan will create greater certainty which will cure the Company's credit problems."

I did testify that adoption of the ORS Plan would create greater certainty with respect to the treatment of SCE&G's NND costs, but I did not testify that it would cure the Company's credit problems. Ms. Lapson's testimony is incorrect. I did not evaluate the impact of the ORS Plan on the Company's credit ratings.

On lines 10 and 11 of page 8 of her rebuttal testimony, Ms. Lapson further stated that I "mischaracterized" credit rating reports. I strongly disagree. In fact, I quoted from reports by Standard & Poor's and Moody's that clearly discuss uncertainties regarding the treatment of abandoned NND costs on pages 15 and 16 of my Direct Testimony. These quotes speak for themselves.

Q. ON PAGE 11, LINES 3 THROUGH 4 OF HER REBUTTAL TESTIMONY MS. LAPSON CLAIMED THAT YOU MADE A "FAULTY AND MISLEADING COMPARISON" BETWEEN RECENTLY ISSUED BONDS BY SCE&G AND THE

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AUGUST 2018 YIELD ON AVERAGE UTILITY BONDS. PLEASE ADDRESS MS. LAPSON'S TESTIMONY ON THIS POINT.

A. I disagree that my comparison was "faulty and misleading." However, I do agree with Ms. Lapson that the average utility bond yield from the Mergent Bond Record and SCE&G's shorter term 10-year issuance are not comparable given the difference in maturities. To provide the Commission more detailed information, I reviewed the September 2018 issue of the Mergent Bond Record regarding utility bond yields and their ratings. For August 2018, the Mergent Bond Record provided the following information:

- A-rated bond yield – 4.26%
- Baa-rated bond yield – 4.64%

Ms. Lapson's Table EL-1 shows that SCE&G's 4.25% coupon bond was rated Baa1, which is at the top of the Baa rating category. With a long-term Baa bond yield at 4.64% in August, one would expect a lower yield for a shorter-term 10-year Baa-rated bond as Ms. Lapson correctly pointed out in her Rebuttal Testimony. The other utility bonds shown in Table EL-1 are generally higher rated than SCE&G's bond, so again, one would expect a somewhat higher bond yield for SCE&G compared to those companies. I also would agree that it is likely that SCE&G's cost of new debt has been affected by the Company's unsuccessful involvement in the abandoned NND project as well as the uncertainty regarding cost recovery of that facility.

Q. BEGINNING ON PAGE 14, LINE 14 OF HER REBUTTAL TESTIMONY, MS. LAPSON CRITICIZES YOU FOR NOT PROVIDING EVIDENCE REGARDING SCE&G'S FINANCIAL FUTURE IF THE ORS OPTIMAL PLAN IS IMPLEMENTED. PLEASE RESPOND TO HER CRITICISM.

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A. I was not retained to make that kind of assessment. My responsibility was to provide a cost of equity and a cost of debt to be applied to the return on the ORS recommended amount of allowable NND costs and to provide conditions regarding service quality and credit quality if the Commission approves Dominion's acquisition of SCE&G. Overall, the ORS Optimal Plan represents its recommendation to the Commission for proper ratemaking treatment of the costs of the abandoned Summer nuclear facility. I strongly recommend that the Commission reject any attempt by SCE&G to leverage its current financial condition, caused by management decisions, into a significantly higher ROE in this proceeding.

Q. ON PAGE 16, LINES 1 THROUGH 2 OF HER REBUTTAL TESTIMONY, MS. LAPSON TESTIFIED THAT IT IS NOT REASONABLE TO INCLUDE AN ADJUSTMENT TO SCE&G'S LONG-TERM DEBT COST TO INCLUDE THE TWO NEW AUGUST 2018 ISSUANCES. PLEASE ADDRESS MS. LAPSON'S POSITION.

A. Ms. Lapson testified that it is not appropriate to make such an adjustment to long-term debt costs "after the end of the test period." However, this proceeding is not a traditional base rate case. Rather, it is a proceeding that will determine, among other things, the level of allowable NND costs to be collected from South Carolina ratepayers. To that end, ORS is recommending a full rate of return on the allowable NND costs to be included in the proposed CCR rider. Part of my responsibility in this case is to recommend an appropriate cost of debt for that rate of return. For greater accuracy, the cost of debt should be reflective of known and measureable current debt issues for SCE&G and that should include the two new August 2018 debt issuances I referenced in my Direct Testimony.

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Q. ON PAGE 16, BEGINNING ON LINE 19 MS. LAPSON REJECTED YOUR RECOMMENDED CREDIT QUALITY CONDITIONS. PLEASE ADDRESS MS. LAPSON'S POSITION ON YOUR CREDIT QUALITY CONDITIONS.

A. My recommended credit quality conditions are an essential part of the proposed business combination should the Commission decide to approve it. My credit quality conditions will protect South Carolina ratepayers if the cost of equity and debt increase because of the proposed combination. However, I acknowledge it is likely that the acquisition of SCE&G by a financially stronger company would likely improve the credit condition for SCE&G.

RESPONSE TO SERVICE QUALITY REBUTTAL TESTIMONY

Q. DOMINION WITNESS BLUE AND SCE&G WITNESS RAFTERY BOTH OPPOSE YOUR PROPOSED SERVICE QUALITY CONDITIONS IN THEIR REBUTTAL TESTIMONIES. PLEASE RESPOND TO THEIR POSITIONS REGARDING SERVICE QUALITY CONDITIONS.

A. Although neither Dominion nor SCE&G support the ORS recommendations related to service quality improvement and reporting, the merger should maintain and strive to improve service quality. My proposed service quality conditions hold the Company accountable for quantifiable standards and regular reporting to the Commission. As stated in my Direct Testimony, Dominion is already providing service quality reporting in its other jurisdictions, so there is no good reason for Dominion to oppose the conditions I propose in this case. I support specific merger conditions that contain attainable and measurable goals focused on maintaining and improving service for the customers in South Carolina.

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Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
ALLETE	High Price ($)	72.800	77.450	79.860	78.620	80.780	79.420	77.330	78.600
	Low Price ($)	67.070	70.400	73.760	70.460	75.850	74.470	73.390	73.490
	Avg. Price ($)	69.935	73.925	76.810	74.540	78.315	76.945	75.360	76.045
	Dividend ($)	0.560	0.560	0.560	0.560	0.560	0.560	0.560	0.560
	Mo. Avg. Div.	3.20%	3.03%	2.92%	3.01%	2.86%	2.91%	2.97%	2.95%
	6 mos. Avg.	2.99%							
Alliant Energy	High Price ($)	41.040	43.270	43.470	42.780	43.950	43.840	44.180	44.700
	Low Price ($)	37.850	40.340	40.110	38.220	41.410	41.390	41.730	42.010
	Avg. Price ($)	39.445	41.805	41.790	40.500	42.680	42.615	42.955	43.355
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.40%	3.21%	3.21%	3.31%	3.14%	3.14%	3.12%	3.09%
	6 mos. Avg.	3.23%							
Ameren Corp.	High Price ($)	56.790	58.950	59.790	61.250	62.410	65.090	66.110	67.060
	Low Price ($)	53.080	55.010	55.720	55.210	59.150	60.780	62.060	62.700
	Avg. Price ($)	54.935	56.980	57.755	58.230	60.780	62.935	64.085	64.880
	Dividend ($)	0.458	0.458	0.458	0.458	0.458	0.458	0.458	0.458
	Mo. Avg. Div.	3.33%	3.21%	3.17%	3.14%	3.01%	2.91%	2.86%	2.82%
	6 mos. Avg.	3.13%							
American Electric Power	High Price ($)	69.240	70.980	69.990	70.300	71.890	72.910	73.740	73.890
	Low Price ($)	64.600	66.460	64.460	62.710	68.130	69.320	68.920	69.310
	Avg. Price ($)	66.920	68.720	67.225	66.505	70.010	71.115	71.330	71.600
	Dividend ($)	0.620	0.620	0.620	0.620	0.620	0.620	0.620	0.620
	Mo. Avg. Div.	3.71%	3.61%	3.69%	3.73%	3.54%	3.49%	3.48%	3.46%
	6 mos. Avg.	3.63%							
Avangrid, Inc.	High Price ($)	51.500	53.000	54.550	53.160	54.180	51.210	50.670	49.010
	Low Price ($)	47.540	49.585	51.310	49.600	48.750	49.000	46.960	45.810
	Avg. Price ($)	49.520	51.292	52.930	51.380	51.465	50.105	48.815	47.410
	Dividend ($)	0.432	0.432	0.432	0.432	0.432	0.432	0.440	0.440
	Mo. Avg. Div.	3.49%	3.37%	3.26%	3.36%	3.36%	3.45%	3.61%	3.71%
	6 mos. Avg.	3.38%							
Black Hills Corp.	High Price ($)	54.620	57.280	59.490	61.650	64.140	61.460	59.980	63.090
	Low Price ($)	50.490	52.630	55.530	55.070	59.010	58.620	56.420	57.070
	Avg. Price ($)	52.555	54.955	57.510	58.360	61.575	60.040	58.200	60.080
	Dividend ($)	0.475	0.475	0.475	0.475	0.475	0.475	0.475	0.475
	Mo. Avg. Div.	3.62%	3.46%	3.30%	3.26%	3.09%	3.16%	3.26%	3.16%
	6 mos. Avg.	3.31%							

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
CMS Energy Corp.	High Price ($)	45.580	47.480	47.200	47.580	48.680	50.120	50.810	51.360
	Low Price ($)	41.980	43.790	43.720	42.520	46.250	47.180	47.700	48.130
	Avg. Price ($)	43.780	45.635	45.460	45.050	47.465	48.650	49.255	49.745
	Dividend ($)	0.358	0.358	0.358	0.358	0.358	0.358	0.358	0.358
	Mo. Avg. Div.	3.27%	3.13%	3.15%	3.17%	3.01%	2.94%	2.90%	2.87%
	6 mos. Avg.	3.11%							
DTE Energy Co.	High Price ($)	105.190	106.240	105.460	105.130	109.660	114.120	114.310	114.840
	Low Price ($)	99.520	101.820	99.000	94.250	101.880	106.270	106.410	107.390
	Avg. Price ($)	102.355	104.030	102.230	99.690	105.770	110.195	110.360	111.115
	Dividend ($)	0.883	0.883	0.883	0.883	0.883	0.883	0.883	0.883
	Mo. Avg. Div.	3.45%	3.39%	3.45%	3.54%	3.34%	3.20%	3.20%	3.18%
	6 mos. Avg.	3.40%							
Duke Energy Corp.	High Price ($)	77.910	80.850	80.410	80.150	81.750	82.720	83.770	83.420
	Low Price ($)	74.580	75.960	73.130	71.960	77.900	79.510	78.000	78.520
	Avg. Price ($)	76.245	78.405	76.770	76.055	79.825	81.115	80.885	80.970
	Dividend ($)	0.890	0.890	0.890	0.890	0.890	0.928	0.928	0.928
	Mo. Avg. Div.	4.67%	4.54%	4.64%	4.68%	4.46%	4.58%	4.59%	4.58%
	6 mos. Avg.	4.59%							
El Paso Electric Co.	High Price ($)	51.250	51.550	59.130	59.350	62.700	64.350	63.050	60.140
	Low Price ($)	48.050	48.500	49.450	54.750	58.250	60.950	56.880	55.950
	Avg. Price ($)	49.650	50.025	54.290	57.050	60.475	62.650	59.965	58.045
	Dividend ($)	0.335	0.335	0.335	0.360	0.360	0.360	0.360	0.360
	Mo. Avg. Div.	2.70%	2.68%	2.47%	2.52%	2.38%	2.30%	2.40%	2.48%
	6 mos. Avg.	2.51%							
Hawaiian Electric Ind.	High Price ($)	34.620	35.130	35.200	34.510	36.200	36.030	36.330	36.380
	Low Price ($)	32.580	33.790	32.880	32.590	34.140	34.160	34.780	34.880
	Avg. Price ($)	33.600	34.460	34.040	33.550	35.170	35.095	35.555	35.630
	Dividend ($)	0.310	0.310	0.310	0.310	0.310	0.310	0.310	0.310
	Mo. Avg. Div.	3.69%	3.60%	3.64%	3.70%	3.53%	3.53%	3.49%	3.48%
	6 mos. Avg.	3.61%							
IDACORP	High Price ($)	88.600	94.160	96.010	93.280	95.350	99.280	101.490	101.890
	Low Price ($)	80.290	84.820	87.340	85.230	90.920	92.030	96.810	94.790
	Avg. Price ($)	84.445	89.490	91.675	89.255	93.135	95.655	99.150	98.340
	Dividend ($)	0.590	0.590	0.590	0.590	0.590	0.590	0.590	0.590
	Mo. Avg. Div.	2.79%	2.64%	2.57%	2.64%	2.53%	2.47%	2.38%	2.40%
	6 mos. Avg.	2.61%							

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
NextEra Energy, Inc.	High Price ($)	164.410	165.150	166.620	169.530	171.500	175.650	174.810	175.660
	Low Price ($)	151.340	158.650	155.220	155.060	163.510	165.450	164.250	166.190
	Avg. Price ($)	157.875	161.900	160.920	162.295	167.505	170.550	169.530	170.925
	Dividend ($)	1.110	1.110	1.110	1.110	1.110	1.110	1.110	1.110
	Mo. Avg. Div.	2.81%	2.74%	2.76%	2.74%	2.65%	2.60%	2.62%	2.60%
	6 mos. Avg.	2.72%							
Northwestern Corp.	High Price ($)	54.190	55.750	55.800	57.740	59.920	62.160	60.970	62.190
	Low Price ($)	50.460	52.430	52.770	51.530	55.980	58.030	56.930	58.060
	Avg. Price ($)	52.325	54.090	54.285	54.635	57.950	60.095	58.950	60.125
	Dividend ($)	0.550	0.550	0.550	0.550	0.550	0.550	0.550	0.550
	Mo. Avg. Div.	4.20%	4.07%	4.05%	4.03%	3.80%	3.66%	3.73%	3.66%
	6 mos. Avg.	3.97%							
OGE Energy Corp.	High Price ($)	32.830	33.390	35.420	35.540	36.590	37.690	37.740	38.130
	Low Price ($)	30.760	31.490	32.700	33.190	34.130	35.580	35.290	35.910
	Avg. Price ($)	31.795	32.440	34.060	34.365	35.360	36.635	36.515	37.020
	Dividend ($)	0.333	0.333	0.333	0.333	0.333	0.333	0.333	0.365
	Mo. Avg. Div.	4.18%	4.10%	3.90%	3.87%	3.76%	3.63%	3.64%	3.94%
	6 mos. Avg.	3.91%							
Otter Tail Corp.	High Price ($)	44.550	44.850	48.350	48.750	49.750	49.750	49.350	48.740
	Low Price ($)	39.650	42.300	42.550	44.800	47.000	47.350	46.850	44.820
	Avg. Price ($)	42.100	43.575	45.450	46.775	48.375	48.550	48.100	46.780
	Dividend ($)	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335
	Mo. Avg. Div.	3.18%	3.08%	2.95%	2.86%	2.77%	2.76%	2.79%	2.86%
	6 mos. Avg.	2.93%							
Pinnacle West Capital	High Price ($)	80.210	81.850	80.730	81.250	83.050	82.830	81.120	85.680
	Low Price ($)	75.210	77.140	75.820	73.410	77.560	78.270	77.190	78.110
	Avg. Price ($)	77.710	79.495	78.275	77.330	80.305	80.550	79.155	81.895
	Dividend ($)	0.695	0.695	0.695	0.695	0.695	0.695	0.695	0.695
	Mo. Avg. Div.	3.58%	3.50%	3.55%	3.59%	3.46%	3.45%	3.51%	3.39%
	6 mos. Avg.	3.52%							
PNM Resources	High Price ($)	38.700	40.730	40.600	40.050	39.900	40.950	40.750	40.590
	Low Price ($)	34.950	37.100	37.600	34.950	37.170	38.250	38.150	37.900
	Avg. Price ($)	36.825	38.915	39.100	37.500	38.535	39.600	39.450	39.245
	Dividend ($)	0.265	0.265	0.265	0.265	0.265	0.265	0.265	0.265
	Mo. Avg. Div.	2.88%	2.72%	2.71%	2.83%	2.75%	2.68%	2.69%	2.70%
	6 mos. Avg.	2.76%							

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SCE&G PROXY GROUP
AVERAGE PRICE, DIVIDEND AND DIVIDEND YIELD

		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
Portland General Electric	High Price ($)	41.060	42.700	42.930	43.290	46.000	47.560	47.540	47.530
	Low Price ($)	39.020	39.180	39.660	39.600	42.100	44.380	44.440	44.670
	Avg. Price ($)	40.040	40.940	41.295	41.445	44.050	45.970	45.990	46.100
	Dividend ($)	0.340	0.340	0.340	0.363	0.363	0.363	0.363	0.363
	Mo. Avg. Div.	3.40%	3.32%	3.29%	3.50%	3.29%	3.15%	3.15%	3.15%
	6 mos. Avg.	3.33%							
Southern Company	High Price ($)	45.100	46.750	46.580	46.850	48.650	49.430	45.980	45.580
	Low Price ($)	43.020	43.750	42.420	42.730	46.020	43.630	42.570	42.510
	Avg. Price ($)	44.060	45.250	44.500	44.790	47.335	46.530	44.275	44.045
	Dividend ($)	0.580	0.580	0.600	0.600	0.600	0.600	0.600	0.600
	Mo. Avg. Div.	5.27%	5.13%	5.39%	5.36%	5.07%	5.16%	5.42%	5.45%
	6 mos. Avg.	5.23%							
WEC Energy Group	High Price ($)	63.130	64.840	64.930	64.980	66.500	68.480	69.520	70.870
	Low Price ($)	58.920	61.390	59.960	58.480	63.190	64.920	64.960	66.160
	Avg. Price ($)	61.025	63.115	62.445	61.730	64.845	66.700	67.240	68.515
	Dividend ($)	0.553	0.553	0.553	0.553	0.553	0.553	0.553	0.553
	Mo. Avg. Div.	3.62%	3.50%	3.54%	3.58%	3.41%	3.31%	3.29%	3.23%
	6 mos. Avg.	3.49%							
Xcel Energy	High Price ($)	45.870	47.380	46.930	46.240	47.150	48.720	49.490	49.740
	Low Price ($)	42.570	43.930	43.280	41.990	44.540	45.870	46.010	46.520
	Avg. Price ($)	44.220	45.655	45.105	44.115	45.845	47.295	47.750	48.130
	Dividend ($)	0.380	0.380	0.380	0.380	0.380	0.380	0.380	0.380
	Mo. Avg. Div.	3.44%	3.33%	3.37%	3.45%	3.32%	3.21%	3.18%	3.16%
	6 mos. Avg.	3.35%							
Monthly Avg. Dividend Yield		3.54%	3.42%	3.41%	3.45%	3.30%	3.26%	3.29%	3.29%

Source: Yahoo! Finance