

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Public Meeting held June 16, 2022

Docket Number: M-2022-3032405

BUREAU OF TECHNICAL UTILITY SERVICES
REPORT ON THE QUARTERLY EARNINGS
OF JURISDICTIONAL UTILITIES
FOR THE YEAR ENDED
December 31, 2021

Gladys Brown Dutrieuille, Chairman
John F. Coleman, Jr., Commissioner
Ralph V. Yanora, Commissioner

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Introduction:

On September 20, 1991, the Commission initiated a rulemaking at L-00910061 pertaining to earnings disclosures by the public utilities subject to its jurisdiction. At that docket, the Commission stated that the submission of accurate, reliable and complete earnings disclosure reports, at regular intervals, is essential to the fulfillment of the broad regulatory oversight responsibilities entrusted to the Commission by the Legislature in the Public Utility Code. The earnings disclosure regulations promulgated by the Commission were adopted October 1, 1992, and published January 23, 1993, at 23 Pa.B. 463. Based upon those regulations, codified at 52 Pa. Code, Chapter 71, a reporting format was developed and distributed to the jurisdictional fixed utilities of Pennsylvania.

All fixed utilities having jurisdictional revenues of \$1,000,000 or more, for a calendar year, are required to file the report by March 31 of each year. Such reports are to be based upon the results of operations for the 12-month period ending December 31 of the prior year. Utilities having more than \$10,000,000 in jurisdictional revenues are also required to file reports for the 12 months ending on March 31, June 30, and September 30 of each year. On November 30, 2004, however, the Pennsylvania General Assembly signed into law Act 183 concerning alternative telecommunications regulation and broadband deployment. As a result of Act 183, the reporting requirements for the PUC jurisdictional telecommunications companies of Pennsylvania have been streamlined at section 3015(e) of the Public Utility Code. A quarterly earnings report is not listed among those reports now required of PUC jurisdictional telecommunications utilities in Pennsylvania and, therefore, this report does not address telephone company earnings.

The reports have been filed for the period ended December 31, 2021.¹ The Finance Staff of the Bureau of Technical Utility Services has reviewed the reports and has prepared this summary report for public release. This report sets forth the achieved return on equity for each company, the last allowed return for that utility, a market return as determined through the analysis of the barometer group data and the most recent returns allowed, per industry, by the Pennsylvania Public Utility Commission and by other regulatory bodies. Where a utility has not filed a report, the reasons for not filing are indicated.

Questions pertaining to the preparation and contents of this Report should be directed to Ms. Erin Laudenslager, Manager - Finance, Bureau of Technical Utility Services, at (717) 705-4364.

¹ Aqua Pennsylvania, Inc., Aqua Pennsylvania Wastewater, Inc., Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Electric Division, and UGI Utilities, Inc. – Gas Division have rate filings at Docket Nos. R-2021-3027385, R-2021-3027386, R-2021-3024296, R-2021-3023618, and R-2021-3030218 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

The equity return summaries that follow in Attachment A are, for each quarter;

ACTUAL

1. Based on actual results of operations

and

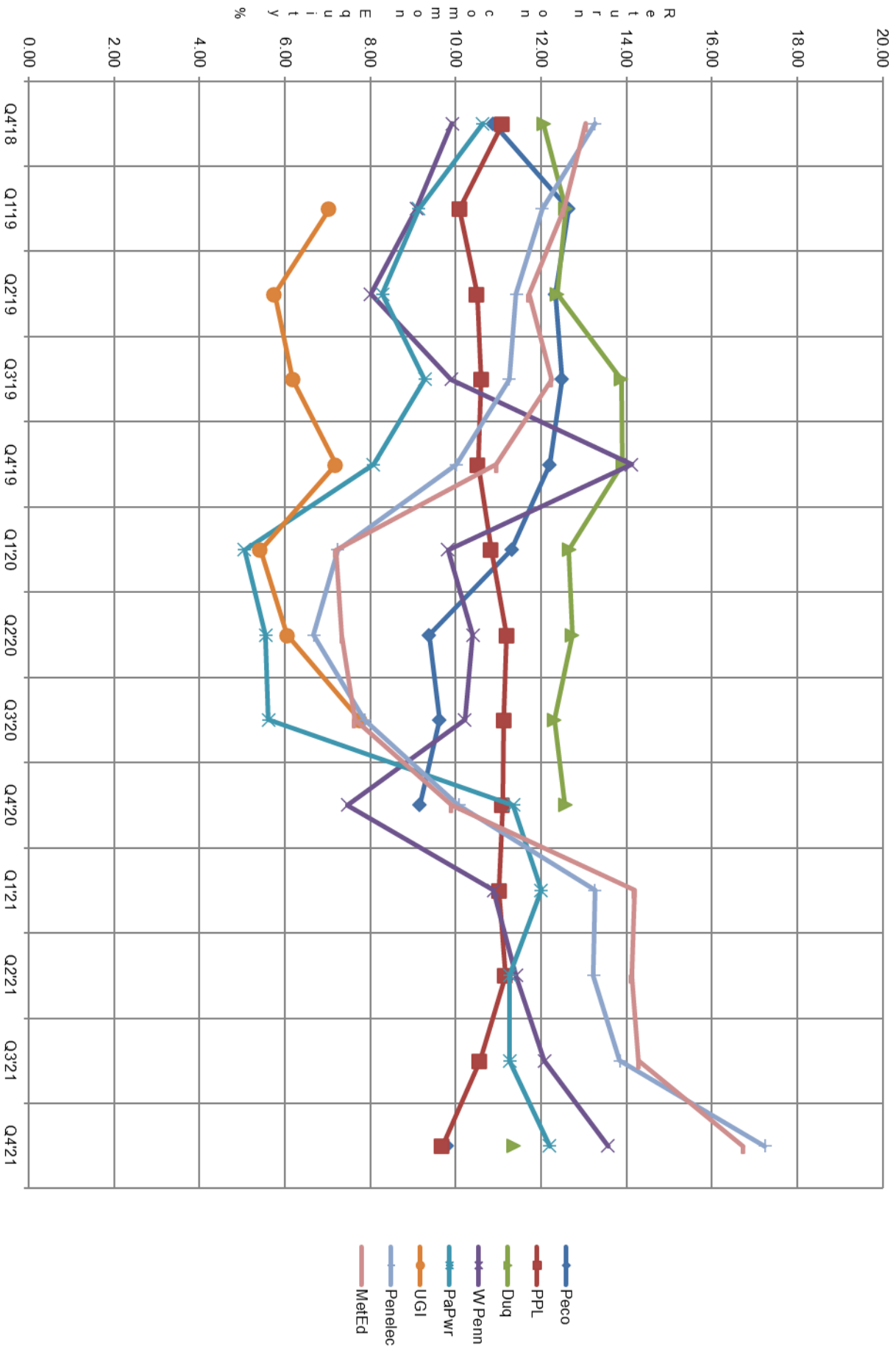
ADJUSTED

2. Based on company proposed pro forma and ratemaking adjustments

**ELECTRIC UTILITIES
EQUITY RETURNS BY QUARTER**

QTR	END	Peco		PPL		Duq		W Penn		PaPwr		UGI		Penelec		MetEd	
		ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ
2016	1	10.86	9.74	7.75	6.94	9.87	9.89					10.41	8.69				
	2	11.46	10.15	9.15	8.51	9.57	9.47					8.29	8.10				
	3	13.42	11.44	10.15	9.59	10.12	9.46					19.18	6.99				
	4	12.52	10.65	10.45	10.29	9.71	9.01					26.07	7.30				
2017	1	13.01	11.40	9.76	8.49	9.53	8.99					22.86	6.81				
	2	12.98	11.40	10.71	9.70	9.86	9.24	8.23	7.38	7.32	7.97	21.96	6.74	9.23	9.20	9.74	9.35
	3	12.84	10.52	10.15	9.30	9.53	9.23	7.63	7.24	8.32	9.08	16.13	5.22	9.61	9.50	11.37	10.97
	4	12.07	9.11	11.07	10.63			9.47	9.12	8.46	8.19			11.70	10.93	12.58	11.67
2018	1			12.53	11.36			10.35	9.08	9.03	8.08			11.84	9.93	12.77	11.38
	2			11.05	9.49			9.92	8.52	8.79	7.57			11.56	9.39	11.90	10.26
	3			11.19	9.83			11.41	6.74	10.30	5.80			13.97	8.44	14.46	9.62
	4	10.88	7.61	11.10	10.15	12.06	9.39	9.92	6.78	10.64	7.43			13.27	9.31	13.05	7.40
2019	1	12.65	7.93	10.10	8.96	12.58	9.73	9.08	6.62	9.14	7.61	7.05	5.22	12.03	8.07	12.54	7.66
	2	12.34	7.94	10.51	8.95	12.38	9.34	8.02	5.99	8.29	7.10	5.77	3.22	11.42	8.16	11.72	7.21
	3	12.49	7.96	10.61	8.99	13.88	9.33	9.90	7.87	9.28	7.76	6.20	2.04	11.26	8.78	12.25	7.77
	4	12.21	8.50	10.53	10.40	13.92	9.08	14.13	7.07	8.08	6.90	7.20	2.38	10.02	8.54	10.96	9.27
2020	1	11.31	8.35	10.84	11.20	12.66	8.31	9.82	5.54	5.06	6.71	5.43	2.26	7.24	8.74	7.20	8.31
	2	9.38	8.17	11.20	10.81	12.73	8.56	10.41	5.53	5.56	6.55	6.06	2.01	6.68	7.94	7.34	8.04
	3	9.62	8.56	11.14	11.20	12.32	8.08	10.22	5.42	5.62	6.74	7.76	0.41	7.87	8.75	7.64	8.37
	4	9.16	7.64	11.10	11.48	12.57	8.15	7.48	5.65	11.36	7.34			10.08	8.62	9.91	8.64
2021	1			11.03	11.76			10.89	6.64	12.01	7.01			13.27	8.96	14.19	9.44
	2			11.17	11.73			11.42	7.07	11.27	5.94			13.23	8.15	14.13	9.06
	3			10.57	10.65			12.08	7.91	11.27	5.91			13.85	8.67	14.29	9.38
	4	9.79	7.59	9.69	10.57	11.37	11.23	13.57	7.85	12.21	5.42			17.25	8.04	16.74	9.40

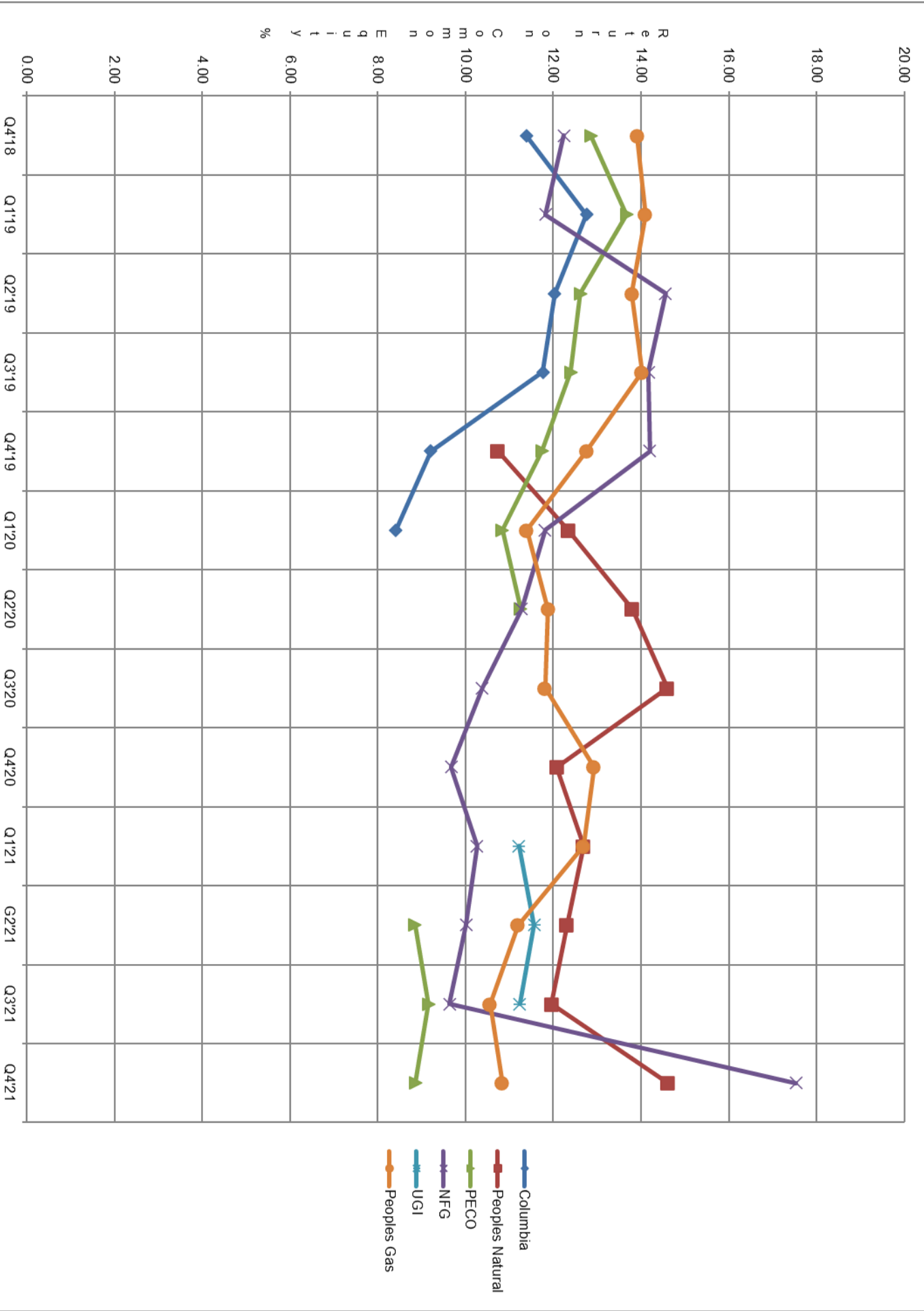
Major Pennsylvania Electric Utilities - Actual Equity Returns by Quarter



**GAS UTILITIES
EQUITY RETURNS BY QUARTER**

QTR	Columbia		Peoples Natural		PECO		NFG		UGI		Peoples Gas		
	<u>END</u>	<u>ACT</u>	<u>ADJ</u>	<u>ACT</u>	<u>ADJ</u>	<u>ACT</u>	<u>ADJ</u>	<u>ACT</u>	<u>ADJ</u>	<u>ACT</u>	<u>ADJ</u>	<u>ACT</u>	<u>ADJ</u>
2016	1			7.01	10.02	10.73	13.58	12.60	10.97			8.54	10.48
	2			6.24	9.99	11.55	13.85	12.31	11.08			9.20	10.43
	3			6.93	9.34	12.09	14.40	13.00	10.34			9.07	12.02
	4	8.90	9.26	10.11	11.03	11.39	12.37	14.18	9.58			12.47	11.87
2017	1	10.52	10.17	9.96	9.27	11.45	12.55	12.84	9.26	21.08	10.09	11.82	12.34
	2	9.15	9.81	9.41	9.71	10.87	12.17	13.33	10.53	19.16	9.44	11.89	13.47
	3	8.15	8.77	6.69	6.40	11.26	10.92	10.92	10.00	13.34	9.03	12.04	13.36
	4	7.76	8.48	9.66	7.27	11.48	9.83	11.58	10.56	11.06	8.62	12.65	11.79
2018	1			11.42	7.00	12.65	9.77	14.40	10.20	12.82	7.90	14.02	10.17
	2			11.03	6.80	12.66	9.05	12.06	9.89	16.75	6.80	12.78	10.15
	3			10.21	7.43	12.54	8.36	12.52	10.12	18.69	8.04	13.03	10.20
	4	11.39	9.81			12.86	8.68	12.24	10.21			13.92	11.13
2019	1	12.76	10.22			13.68	9.06	11.83	10.93			14.10	10.71
	2	12.04	9.92			12.62	8.41	14.56	9.99			13.80	11.66
	3	11.77	9.85			12.40	8.31	14.17	9.75			14.02	11.63
	4	9.21	9.09	10.74	12.26	11.75	6.99	14.20	9.77			12.76	11.20
2020	1	8.42	9.11	12.34	12.34	10.84	7.68	11.82	9.92			11.40	11.07
	2			13.81	12.38	11.26	7.25	11.28	9.05			11.89	11.10
	3			14.60	12.77			10.39	8.25			11.82	11.50
	4			12.09	10.37			9.68	8.12			12.93	12.11
2021	1			12.69	10.43			10.27	8.47	11.22	7.70	12.69	11.76
	2			12.31	10.23	8.85	5.13	10.02	8.47	11.57	8.04	11.20	11.61
	3			11.97	10.27	9.16	5.27	9.64	8.45	11.24	6.97	10.56	11.38
	4			14.62	10.52	8.86	5.79	17.54	8.02			10.84	10.28

Major Pennsylvania Gas Utilities - Actual Equity Returns by Quarter

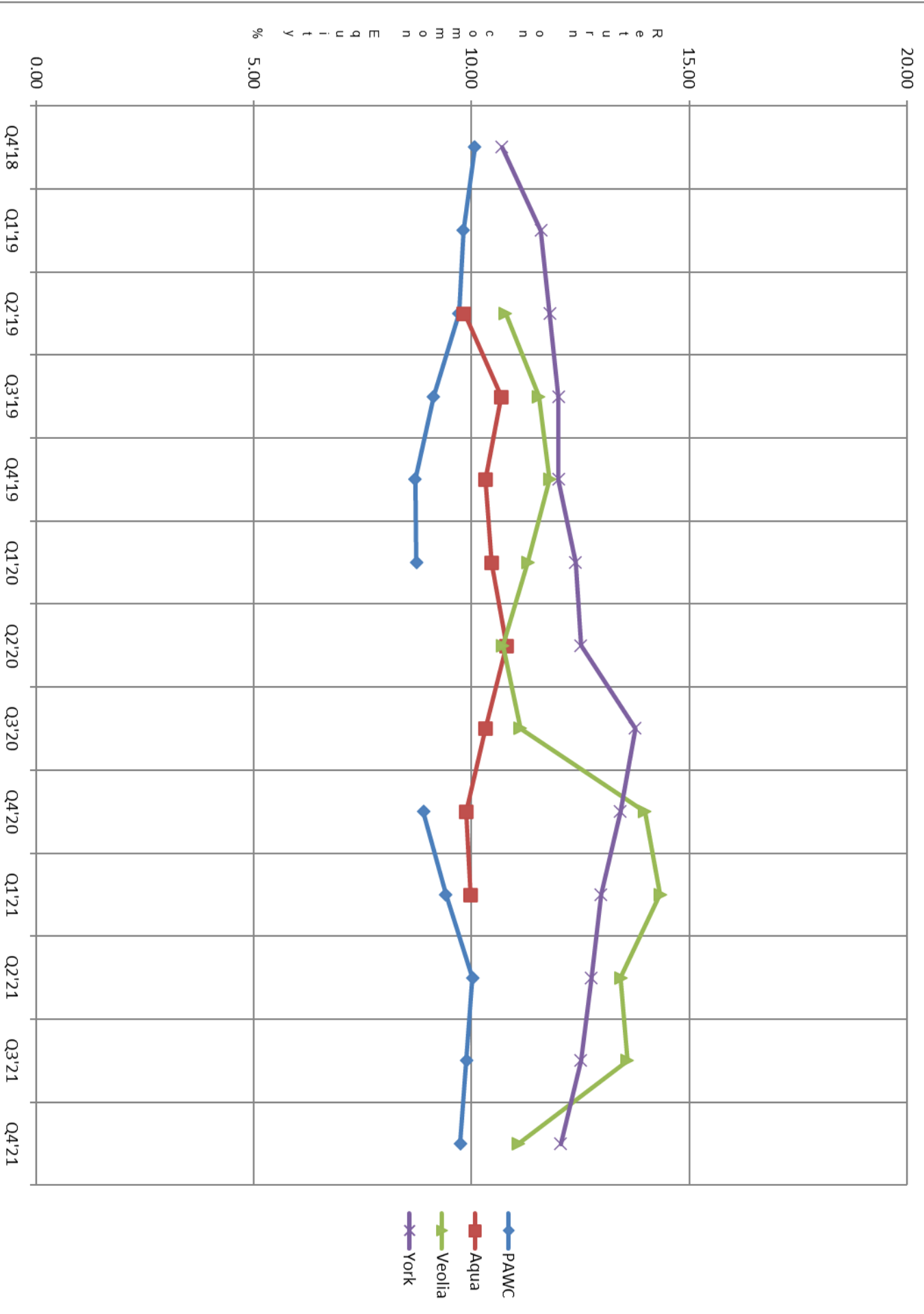


**WATER UTILITIES
EQUITY RETURNS BY QUARTER**

QTR	END	PAWC		Aqua		Veolia2		York	
		ACT	ADJ	ACT	ADJ	ACT	ADJ	ACT	ADJ
2016	1	10.12	8.68	12.31	11.71	9.27	10.19	12.40	10.90
	2	9.99	8.47	11.71	11.21	11.00	12.37	12.20	10.80
	3	9.82	8.47	11.55	10.32	8.23	9.99	12.20	11.00
	4	9.37	8.51	11.70	10.57	9.13	9.90	11.50	10.40
2017	1			11.34	10.04	9.22	9.60	11.61	9.50
	2			10.99	9.22	9.03	9.07	11.60	9.10
	3			10.99	9.23	8.57	8.57	11.60	8.70
	4			11.05	8.63	8.75	8.73	11.30	8.40
2018	1	9.55	8.97	10.94	8.41				
	2	10.27	9.65						
	3	11.03	9.48						
	4	10.08	9.03					10.70	10.30
2019	1	9.82	8.87					11.60	11.60
	2	9.72	8.90	9.84	9.04	10.78	10.36	11.80	11.80
	3	9.13	8.41	10.69	8.84	11.55	11.75	12.00	12.00
	4	8.71	8.09	10.33	8.24	11.80	12.15	12.00	9.80
2020	1	8.74	7.56	10.47	8.31	11.30	11.30	12.39	12.39
	2			10.81	8.57	10.72	10.69	12.51	12.51
	3			10.33	8.55	11.13	10.69	13.76	13.76
	4	8.90	8.15	9.89	8.30	13.98	10.17	13.42	9.94
2021	1	9.41	8.90	9.99	8.38	14.34	10.48	12.98	9.74
	2	10.03	9.28			13.43	9.83	12.76	9.66
	3	9.89	8.65			13.58	9.07	12.51	9.32
	4	9.75	8.05			11.08	9.75	12.05	8.86

² On April 11, 2022, the Commission permitted Suez Water Pennsylvania, Inc to change its name to Veolia Water Pennsylvania, Inc. Please see Docket No. A-2021-3026523 for additional information.

Major Pennsylvania Water Companies - Actual Equity Returns by Quarter



Attachment B includes:

A. Overall Returns on rate base

1. Actual
2. Company proposed pro forma and ratemaking adjustments

and

B. Equity Returns

1. Actual
2. Company proposed pro forma and ratemaking adjustments

Summary of Returns
For the Year Ended December 31, 2021

COMPANY NAME	<u>OVERALL RETURN</u>		<u>EQUITY RETURN</u>		ROE	YEAR
	ACTUAL	ADJ	ACTUAL	ADJ	AUTH	AUTH
ELECTRIC						
<u>\$10,000,000 Revenues</u>						
PECO Energy - Electric Operations	7.04	5.81	9.79	7.59	Settled	2021
PPL Electric Utilities Corp.	6.96	7.45	9.69	10.57	Settled	2015
Duquesne Light Company	8.22	8.11	11.37	11.23	Settled	2021
West Penn Power Company	8.85	5.98	13.57	7.85	Settled	2017
Pennsylvania Power Company	8.91	5.37	12.21	5.42	Settled	2017
UGI Utilities, Inc. - Electric Division*					Settled	2021
Pennsylvania Electric Company	10.86	6.15	17.25	8.04	Settled	2017
Metropolitan Edison Company	10.63	6.83	16.74	9.40	Settled	2017
<u>Over \$1,000,000 Revenues</u>						
Citizens Electric Company	4.99	6.64	5.17	7.03	9.54	2020
Pike County Light & Power Co.	7.00	7.00	9.38	9.38	Settled	2014
Wellsboro Electric Company	7.17	7.17	15.24	15.27	9.31	2020
GAS						
<u>\$10,000,000 Revenues</u>						
Columbia Gas of PA, Inc.*					Settled	2021
Peoples Natural Gas Company LLC	9.46	7.24	14.62	10.52	Settled	2019
PECO Energy - Gas Operations	6.53	4.77	8.86	5.79	10.24	2021
National Fuel Gas Distribution Co.	10.95	6.12	17.54	8.02	Settled	2006
UGI Utilities, Inc. – Gas Division*					Settled	2020
Peoples Gas Company, LLC	7.43	7.07	10.84	10.28	Settled	2013
<u>\$1,000,000 to \$10,000,000 Revenues</u>						
North East Heat & Light Co.	9.85	9.85	10.08	10.10	11.00	2008
Valley Energy	-1.38	1.15	-3.65	-0.62	9.73	2020
Pike County Light & Power Co.	3.39	3.39	2.50	2.50	Settled	2014
Leatherstocking Gas Company	-0.06	-0.06	-17.99	-17.99	NA	NA
WATER						
<u>\$10,000,000 Revenues</u>						
PA American Water Company	7.29	6.37	9.75	8.05	Settled	2021
Aqua Pennsylvania*					10.00	2022
York Water Company	8.61	6.74	12.05	8.86	Settled	2019
SUEZ Water Pennsylvania, Inc.	7.87	7.15	11.08	9.75	Settled	2018
<u>\$1,000,000 to \$10,000,000 Revenues</u>						
Newtown Artesian Water Co.	8.77	8.99	10.68	11.02	Settled	2019
Columbia Water Company	4.10	4.10	4.31	4.31	Settled	2015
York Water Company- Wastewater	-2.45	-3.67	-6.62	-8.79	Settled	2019

* Aqua Pennsylvania, Inc., Aqua Pennsylvania Wastewater, Inc., Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Electric Division, and UGI Utilities, Inc. – Gas Division have rate filings at Docket Nos. R-2021-3027385, R-2021-3027386, R-2021-3024296, R-2021-3023618, and R-2021-3030218 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

ALLOWED RATES OF RETURN ON COMMON EQUITY

This is a historical chart that shows the most recent rate cases for select companies in electric, gas, and water. A docket number followed by their final return on equity and year is also given.

ELECTRIC

Docket Number **ROE (%)** **Year**

Recent PA PUC Allowed

Duquesne Light Company	R-2021-3024750	Settled	2021
PECO Energy Company	R-2021-3024601	Settled	2021
UGI – Electric	R-2021-3023618	Settled	2021
Pennsylvania Electric Company	R-2016-2537352	Settled	2017
Metropolitan Edison Company	R-2016-2537349	Settled	2017
Pennsylvania Power Company	R-2016-2537355	Settled	2017
West Penn Power Company	R-2016-2537359	Settled	2017

Current Market Indicated ROE as calculated by the Bureau of Technical Utility Services. **7.76-10.13**

GAS

Recent PA PUC Allowed

Columbia Gas of Pa.	R-2020-3024296	Settled	2021
PECO Energy	R-2020-3018929	10.24	2021
UGI Utilities, Inc. – Gas Division	R-2019-3015162	Settled	2020
Peoples Natural Gas Company	R-2018-3006818	Settled	2019
Peoples Gas Company	R-2013-2355886	Settled	2013

Current Market Indicated ROE as calculated by the Bureau of Technical Utility Services. **8.41-10.19**

WATER

Recent PA PUC Allowed

Aqua Pennsylvania	R-2021-3027385	10.00	2022
PA American Water	R-2020-3019369	Settled	2021
York Water	R-2018-3000019	Settled	2019
SUEZ Water	R-2018-3000834	Settled	2018
Columbia Water	R-2017-2598203	Settled	2017

Current Market Indicated ROE as calculated by the Bureau of Technical Utility Services. **6.74-10.19**

Distribution System Improvement Charge (DSIC) Eligible Utilities
Return on Equity (ROE) Summary

	Utility Adjusted ROE ³ (%)	Commission Approved ROE ⁴ (%)
ELECTRIC		
PECO Energy – Electric Operations	7.59	9.45
PPL Electric Utilities Corp.	10.57	9.45
Duquesne Light Company	11.23	9.45
West Penn Power Company	7.85	9.45
Pennsylvania Power Company	5.42	9.45
Pennsylvania Electric Company	8.04	9.45
Metropolitan Edison Company	9.40	9.45
UGI Utilities, Inc.- Electric Division*		9.45
GAS		
Columbia Gas of PA, Inc.*		10.15
Peoples Natural Gas Company LLC	10.52	10.15
PECO Energy – Gas Operations	5.79	10.24
Peoples Gas Company, LLC	10.28	10.15
UGI Utilities, Inc. – Gas Division*		10.15
WATER		
PA American Water Company	8.05	9.80
PA American – Wastewater	8.05	9.80
AQUA Pennsylvania*		10.00
AQUA Pennsylvania – Wastewater*		10.00
York Water Company	8.86	9.80
Veolia Water Pennsylvania, Inc.	9.75	9.80
Columbia Water Company	4.31	9.80
Newtown Artesian Water	11.02	9.80

* Aqua Pennsylvania, Inc., Aqua Pennsylvania Wastewater, Inc., Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Electric Division, and UGI Utilities, Inc. – Gas Division have rate filings at Docket Nos. R-2021-3027385, R-2021-3027386, R-2021-3024296, R-2021-3023618, and R-2021-3030218 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

3 Each utility lists adjustments on Schedule B of their quarterly financial report.

4 The ROE is approved in a utility's most recent fully litigated base rate proceeding for which a final order was entered not more than two years prior to the effective date of the DSIC. If more than two years have elapsed between the entry of a final order and the DSIC effective date, the ROE is from this report. If the base rate proceeding is settled, without a stipulated ROE, the ROE is from this report.

Explanation of Discounted Cash Flow (DCF) and Capital Asset Pricing Model (CAPM)

Barometer Group Criteria

The criteria used for determining the industry barometer groups used to calculate ROEs in this report are as follows:

- 50% or more of the company's assets must be related to the jurisdictional utility industry;
- The company's stock must be publicly traded and must have at least three years of earnings history;
- Companies targeted by merger and acquisition (M&A) activity will be excluded; companies involved in M&A activity may be excluded;
- Investment information for the company must be available to the Commission from more than one source;
- The barometer group companies must have an investment grade credit rating (S&P BBB- or better, Moody's Baa3 or better; and
- Geographic Regions:
 EDCs: *Value Line* East, Central, and West Group Electric Utility companies;
 NGDCs: *Value Line* Investment Survey's Natural Gas Utility industry group companies;
 Water/Wastewater: *Value Line* Investment Survey's Water Utility industry group companies.

The barometer group companies are reviewed by staff on a quarterly basis and make any changes to these companies based upon the criteria above.

ROE Calculations

The Commission consistently uses the DCF model to determine the appropriate cost of equity for utilities. In this report, the DSIC ROE is calculated using two DCF models.

TUS uses the following formula to calculate the current dividend DCF: $K = D_1/P_0 + G$

TUS uses the following formula to calculate the 52-week average dividend DCF: $K = D_0/P_a + G$

Definitions:

K	=	Cost of equity
D ₁	=	Dividend expected during the year
	=	$D_0 + \frac{1}{2}g$
D ₀	=	Latest indicated dividend, obtained from Yahoo! Finance
g	=	Expected 5-year dividend growth rate of barometer group obtained from Value Line Investment Survey.
P ₀	=	Current price of the stock, obtained from Yahoo! Finance
P _a	=	Average of high and low stock price over the latest 52-week period, obtained from Yahoo! Finance
G	=	Average of 5-year expected earnings growth rate forecasts obtained from Value Line, Zacks Investment Survey, Yahoo! Finance, and Morningstar.

The CAPM uses the yield of a risk-free interest-bearing obligation plus a rate of return premium that is proportional to the systematic risk of an investment.

TUS uses the following formula to calculate CAPM: $K = \beta(R_m - R_f)$

Three components are necessary to calculate the CAPM cost of equity:

- β = Beta, a measure of systematic risk for each stock
- R_f = The risk-free rate of return, 10-year U.S. Treasury yields are used for R_f . Yields are taken from the previous two quarters and forecasted next four quarters.
- R_m = Total return of the equity market as determined by the SBBI Yearbook

The Commission determines the ROE used for DSIC purposes based on the range of reasonableness from the DCF barometer group data, CAPM data, recent ROEs adjudicated by the Commission, and informed judgment.

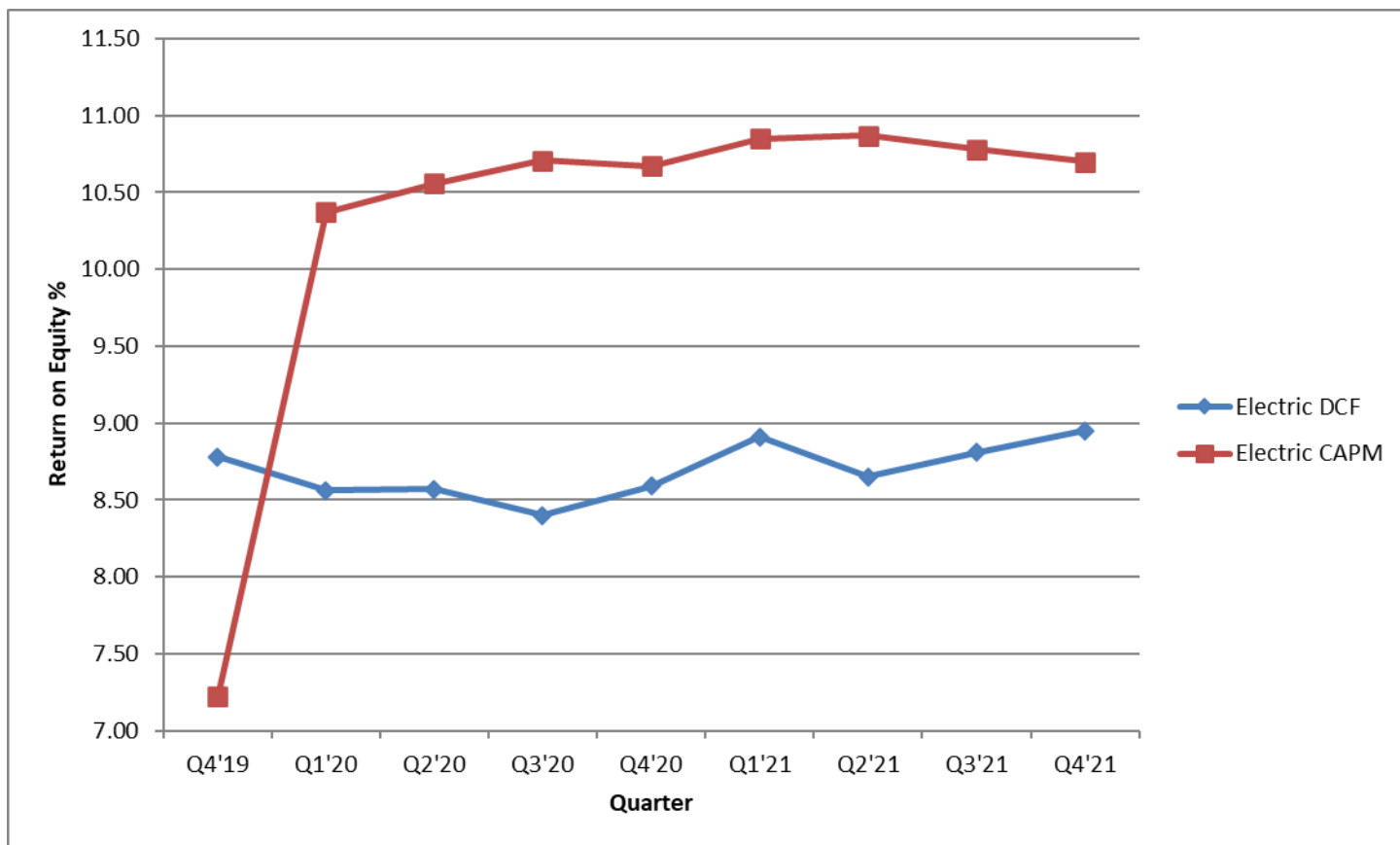
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity¹			
May 10, 2022			
<u>Electric Company Barometer Group</u>			
			Cost Rates
			<u>%</u>
(1)	Current DCF:		8.97
(2)	52-Week Average DCF:		<u>8.92</u>
(3)	Overall DCF ((1) + (2)) / 2 :		<u>8.95</u>
(4)	Market Indicated Common Equity Cost Rate Range: @ 1 standard deviation around the mean. ²		<u>7.76-10.13</u>
(5)	CAPM Check of DCF Reasonableness:		10.70
(6)	Recent Commission Approved ROEs ³ : *None within last two years		*
(7)	Distribution System Improvement Charge (DSIC) Return ⁴ :		<u>9.45%</u>
¹ As calculated by the Bureau of Technical Utility Services			
² Standard Deviation of 58 DCF observations			
³ Base rate case ROEs within last two years, fully litigated or stipulated for DSIC purposes			
⁴ Commission authorized Return on Equity (ROE) for DSIC purposes			
Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.			

Historic Electric Industry Barometer Group DCF and CAPM Average ROEs

Electric		
	DCF	CAPM
Q4'19	8.78	7.22
Q1'20	8.56	10.37
Q2'20	8.57	10.56
Q3'20	8.40	10.71
Q4'20	8.59	10.67
Q1'21	8.91	10.85
Q2'21	8.65	10.87
Q3'21	8.81	10.78
Q4'21	8.95	10.70

Chart of Historic Electric Industry DCF and CAPM Average ROEs



Barometer electric companies are used to calculate a current DCF in the first chart. The second chart demonstrates the companies 52-week average DCF. A final average of the two calculations is also shown at the bottom.

Electric Company Barometer Group					
Calculation of a Current Dividend Yield					
	Closing	Latest	Ind. Div.		
	Market	Indicated	Plus 1/2	Current	
	Price (Po)	Dividend	Div. Growth	Dividend	
	<u>5/10/2022</u>	<u>(Do)</u>	<u>Rate (D1)</u>	<u>Yield(D1/Po)</u>	<u>DCF</u>
	(\$)	(\$)	(\$)	(%)	(%)
Allete, Inc.	59.25	2.60	2.65	4.46	10.30
Alliant Energy Corp	58.03	1.71	1.76	3.04	8.49
Ameren Corp	92.89	2.20	2.28	2.45	9.85
American Electric Power	99.08	3.12	3.21	3.24	9.17
AVANGRID, Inc.	44.12	1.76	1.77	4.01	9.88
Avista Corp	42.27	1.69	1.72	4.08	9.08
CMS Energy Corp	68.28	1.84	1.90	2.78	9.68
Consolidated Edison	92.65	3.10	3.14	3.39	6.29
Dominion Energy	81.96	2.52	2.51	3.07	9.73
DTE Energy Company	128.41	3.54	3.59	2.80	8.65
Duke Energy Company	108.91	3.94	3.98	3.65	9.00
Edison International	67.49	2.80	2.88	4.26	8.83
Entergy Corp.	116.31	4.04	4.14	3.56	8.79
Evergy Inc	66.45	2.29	2.37	3.57	9.65
Eversource Energy	89.13	2.41	2.48	2.79	9.36
FirstEnergy Corp	42.05	1.56	1.58	3.77	10.53
Fortis Inc.	49.12	1.66	1.71	3.48	8.86
IDACORP, Inc..	106.95	3.00	3.10	2.90	7.16
MGE Energy, Inc.	80.13	1.55	1.58	1.98	7.48
NextEra Energy, Inc.	69.99	1.54	1.62	2.31	11.69
NorthWestern Corp	58.58	2.52	2.55	4.34	7.74
OGE Energy Corp	38.74	1.64	1.66	4.30	9.30
Otter Tail Corp	62.30	1.65	1.70	2.73	9.48
Pinnacle West Capital Corp	72.62	3.40	3.45	4.75	6.25
Portland General Electric Co.	47.25	1.72	1.77	3.75	10.01
Public Service Enterprise Group	68.33	2.04	2.09	3.06	7.20
Southern Company	73.20	2.64	2.68	3.66	9.14
WEC Energy Group, Inc.	100.66	2.91	3.01	2.99	9.37
Xcel Energy Inc.	73.49	1.83	1.89	2.57	9.00
Group Average	74.44	2.39	2.44	3.37	8.96
Group Average G				5.60	
DCF				8.97	

Electric Company Barometer Group						
52-week Average Dividend Yield Calculation						
				Latest Indicated	Average Dividend	
	<u>High</u>	<u>Low</u>	<u>Average (Pa)</u>	<u>Dividend (Do)</u>	<u>Yield (Do/Pa)</u>	<u>DCF</u>
	(\$)	(\$)	(\$)	(\$)	(%)	(%)
Allete, Inc.	73.10	56.84	64.97	2.60	4.00	9.84
Alliant Energy Corp	65.37	54.46	59.92	1.71	2.85	8.30
Ameren Corp	99.20	79.35	89.28	2.20	2.46	9.86
American Electric Power	104.81	80.22	92.52	3.12	3.37	9.30
AVANGRID, Inc.	55.57	42.20	48.89	1.76	3.60	9.48
Avista Corp	47.39	37.73	42.56	1.69	3.97	8.97
CMS Energy Corp	73.76	57.92	65.84	1.84	2.79	9.70
Consolidated Edison	99.22	71.17	85.20	3.10	3.64	6.54
Dominion Energy	88.78	70.37	79.58	2.52	3.17	9.83
DTE Energy Company	140.23	108.22	124.23	3.54	2.85	8.70
Duke Energy Company	116.33	95.48	105.91	3.94	3.72	9.07
Edison International	73.32	54.14	63.73	2.80	4.39	8.96
Entergy Corp.	126.82	98.50	112.66	4.04	3.59	8.81
Evergy Inc	73.13	59.46	66.30	2.29	3.45	9.53
Eversource Energy	94.63	78.44	86.54	2.41	2.79	9.36
FirstEnergy Corp	48.85	35.42	42.14	1.56	3.70	10.47
Fortis Inc.	51.66	43.12	47.39	1.66	3.50	8.88
IDACORP, Inc..	118.92	95.26	107.09	3.00	2.80	7.07
MGE Energy, Inc.	84.97	69.23	77.10	1.55	2.01	7.51
NextEra Energy, Inc.	93.73	68.52	81.13	1.54	1.90	11.27
NorthWestern Corp	66.49	53.66	60.08	2.52	4.19	7.59
OGE Energy Corp	42.74	32.49	37.62	1.64	4.36	9.36
Otter Tail Corp	71.89	45.85	58.87	1.65	2.80	9.55
Pinnacle West Capital Corp	88.34	62.78	75.56	3.40	4.50	6.00
Portland General Electric Co.	57.03	45.40	51.22	1.72	3.36	9.62
Public Service Enterprise Group	75.61	58.96	67.29	2.04	3.03	7.17
Southern Company	77.24	60.12	68.68	2.64	3.84	9.32
WEC Energy Group, Inc.	106.82	86.84	96.83	2.91	3.01	9.38
Xcel Energy Inc.	76.05	61.16	68.61	1.83	2.67	9.09
Group Average	82.48	64.25	73.37	2.39	3.32	8.92
Group Average G					5.60	
DCF					8.92	
					8.95	

Multiple sources of the Barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Development of a Representative Dividend Growth Rate for the Barometer Group of Electric Companies							
	5 Year Forecast						
	Value Line	Value Line	Zack's	Yahoo	Morningstar	Average	
	<u>DPS</u>	<u>EPS</u>	<u>EPS</u>	<u>EPS</u>	<u>EPS</u>	<u>Earnings</u>	<u>Growth</u>
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Allete, Inc.	3.50	6.00	NA	5.67	NA	5.84	5.84
Alliant Energy Corp	6.00	4.50	5.70	5.80	5.80	5.45	5.45
Ameren Corp	7.00	6.50	7.20	7.90	8.00	7.40	7.40
American Electric Power	6.00	6.50	5.90	5.50	5.80	5.93	5.93
AVANGRID, Inc.	1.00	3.00	6.00	8.10	6.40	5.88	5.88
Avista Corp	4.00	3.00	5.80	6.20	NA	5.00	5.00
CMS Energy Corp	6.00	6.50	8.40	5.62	7.10	6.91	6.91
Consolidated Edison	2.50	3.50	2.00	2.00	4.10	2.90	2.90
Dominion Energy	-0.50	11.50	6.30	6.90	6.80	7.88	6.67
DTE Energy Company	3.00	4.50	6.00	6.72	6.20	5.86	5.86
Duke Energy Company	2.00	7.00	6.20	2.50	5.70	5.35	5.35
Edison International	5.50	NA	3.90	5.80	4.00	4.57	4.57
Entergy Corp.	5.00	3.00	6.10	6.00	5.80	5.23	5.23
Eversource Energy	6.00	5.50	6.20	6.70	7.90	6.58	6.58
FirstEnergy Corp	3.00	10.00	6.40	-6.60	3.90	3.43	6.77
Fortis Inc.	6.00	5.00	5.90	4.42	6.20	5.38	5.38
IDACORP, Inc..	6.50	4.00	4.40	4.40	NA	4.27	4.27
MGE Energy, Inc.	4.50	4.50	6.10	5.90	NA	5.50	5.50
NextEra Energy, Inc.	10.00	11.00	8.80	9.95	10.70	10.11	9.38
NorthWestern Corp	2.00	3.00	2.70	4.50	NA	3.40	3.40
OGE Energy Corp	3.00	6.50	3.50	3.90	6.10	5.00	5.00
Otter Tail Corp	6.00	4.50	NA	9.00	NA	6.75	6.75
Pinnacle West Capital Corp	3.00	1.50	NA	0.10	-1.20	0.13	1.50
Portland General Electric Co.	6.00	7.50	4.40	7.15	6.00	6.26	6.26
Public Service Enterprise Group	5.00	4.00	4.20	3.27	5.10	4.14	4.14
Southern Company	3.00	5.50	4.00	6.20	6.20	5.48	5.48
WEC Energy Group, Inc.	7.00	6.00	6.10	6.60	6.80	6.38	6.38
Xcel Energy Inc.	6.50	6.00	6.40	6.90	6.40	6.43	6.43
Group Average	4.67	5.63	5.57	5.25	5.89	5.50	5.59
USE							5.60
Sources:	Value Line Investment Survey May 4, 2022						
	Zacks, May 11, 2022 (www.zacks.com)						
	Yahoo!, May 11, 2022 (http://finance.yahoo.com/)						
	Morningstar, May 11, 2022 (http://financials.morningstar.com)						
	* NA signifies that a forecast was not available						

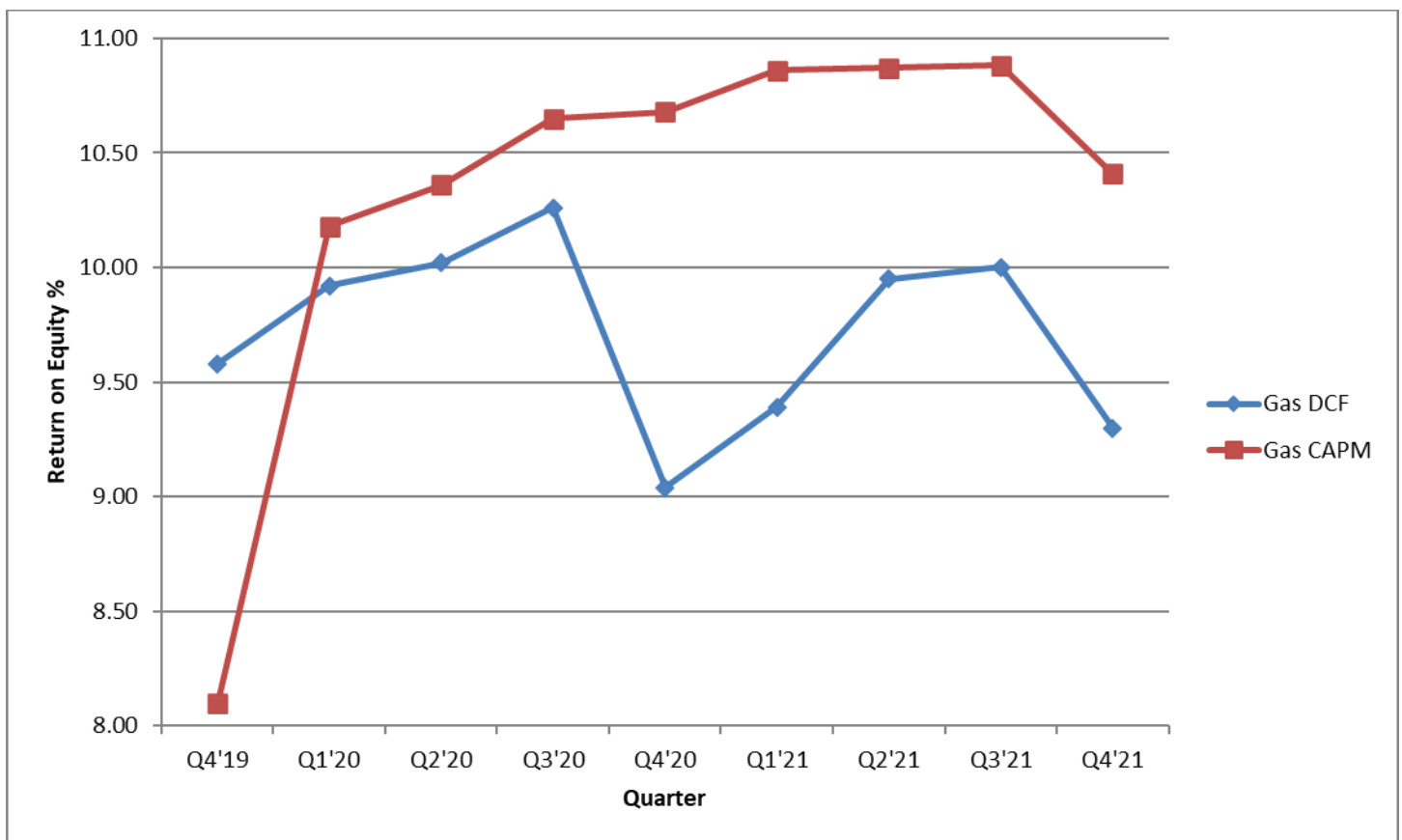
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity¹				
May 10, 2022				
<u>Gas Distribution Company Barometer Group</u>				
				Cost Rates
				%
(1)	Current DCF:			9.27
(2)	52-Week Average DCF:			<u>9.34</u>
(3)	Overall DCF ((1) + (2)) / 2 :			<u>9.30</u>
(4)	Market Indicated Common Equity Cost Rate Range: @ 1 standard deviation around the mean. ²			<u>8.41-10.19</u>
(5)	CAPM Check of DCF Reasonableness:			10.41
(6)	Recent Commission Approved ROEs ³ :			
	Columbia Gas of Pennsylvania, Inc. R-2020-3018835			9.86
	PECO Energy Company R-2020-3018929			10.24
(7)	Distribution System Improvement Charge (DSIC) Return ⁴ :			<u>10.15%</u>
¹ As calculated by the Bureau of Technical Utility Services				
² Standard Deviation of 14 DCF observations				
³ Base rate case ROEs within last two years, fully litigated or stipulated for DSIC purposes				
⁴ Commission authorized Return on Equity (ROE) for DSIC purposes				
Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.				

Historic Gas Industry DCF and CAPM Average ROEs

Gas		
	DCF	CAPM
Q4'19	9.58	8.10
Q1'20	9.92	10.18
Q2'20	10.02	10.36
Q3'20	10.26	10.65
Q4'20	9.04	10.68
Q1'21	9.39	10.86
Q2'21	9.95	10.87
Q3'21	10.00	10.88
Q4'21	9.30	10.41

Graph of Historic Gas Industry DCF and CAPM Average ROEs



Multiple sources of the Barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Development of a Representative Dividend Growth Rate for the Barometer Group of Gas Companies							
5 Yr Forecast							
	Value Line	Value Line	Zack's	Yahoo	Morningstar	Average	Growth
	<u>DPS</u>	<u>EPS</u>	<u>EPS</u>	<u>EPS</u>	<u>EPS</u>	<u>Growth</u>	<u>Estimate</u>
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Atmos Energy	7.00	7.50	7.30	7.20	7.30	7.33	7.33
Chesapeake Utilities Corporation	8.00	8.00	NA	4.74	8.10	6.95	6.95
New Jersey Resources	5.00	4.50	6.00	6.00	8.50	6.25	6.25
NiSource Inc.	4.50	10.50	7.20	3.52	7.50	7.18	6.07
Northwest Natural Gas	0.50	6.00	4.50	5.70	5.00	5.30	5.30
ONE Gas, Inc.	6.50	6.00	5.00	2.90	NA	4.63	4.63
Spire Inc.	5.00	9.00	5.00	7.31	5.40	6.68	6.68
Group Average	5.21	7.36	5.83	5.34	6.97	6.33	6.17
USE							6.20
Sources:	Value Line Investment Survey May 4, 2022						
	Zacks, May 11, 2022 (www.zacks.com)						
	Yahoo!, May 11, 2022 (http://finance.yahoo.com/)						
	Morningstar, May 11, 2022 (http://financials.morningstar.com)						
	* NA signifies that a forecast was not available						

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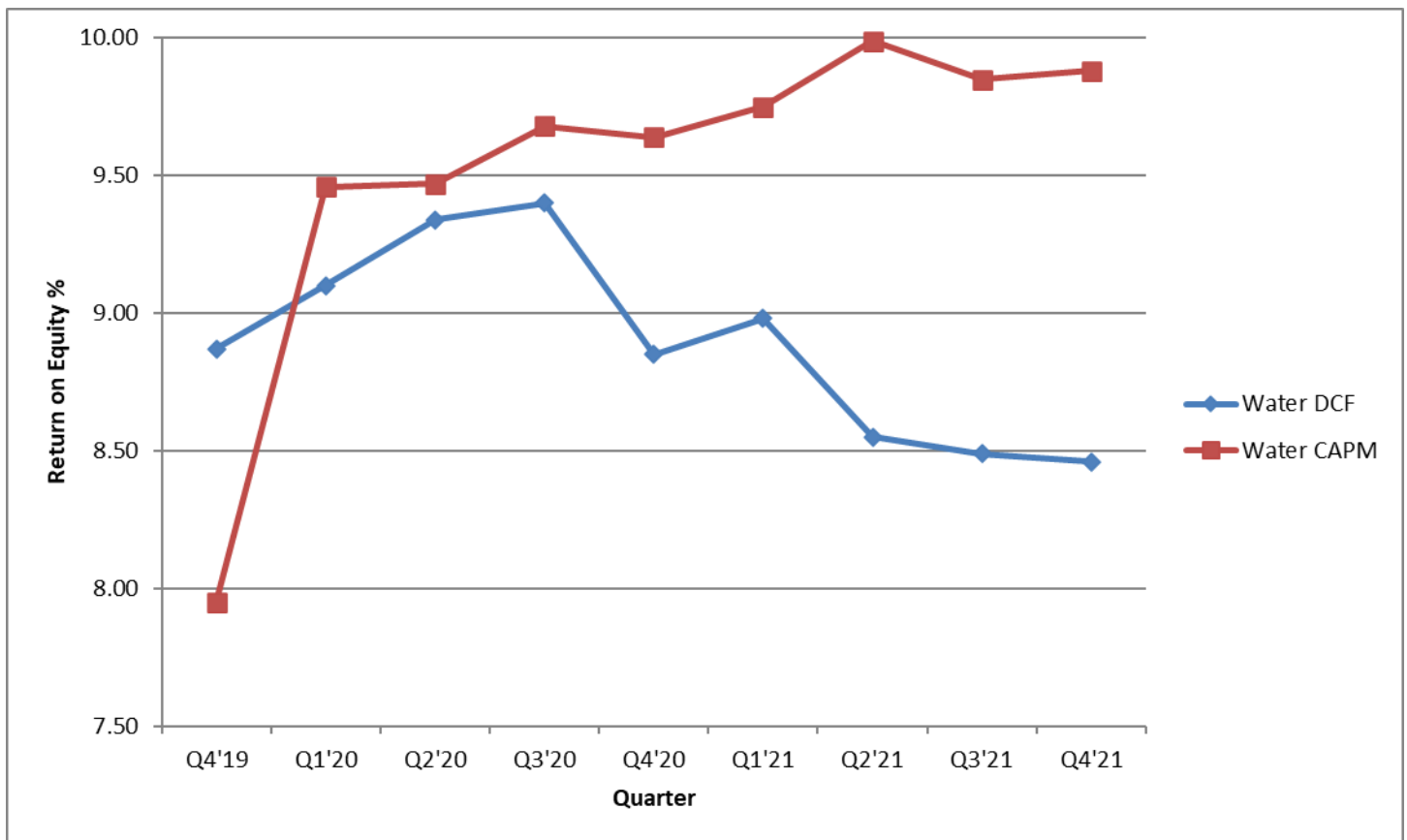
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity ¹				
May 10, 2022				
<u>Water Company Barometer Group</u>				
				Cost Rates
				<u>%</u>
(1)	Current DCF			8.63
(2)	52-Week Average DCF			8.30
(3)	Average DCF			<u>8.46</u>
(4)	Market Indicated Common Equity Cost Rate Range @ 1 standard deviation around the mean. ²			<u>6.74-10.19</u>
(5)	CAPM Check of DCF Reasonableness			9.88
(6)	Recent Commission Approved ROEs ³ : *Aqua Pennsylvania, Inc., R-2021-3027385, does not include 0.25% management effectiveness adjustment			9.75*
(7)	Distribution System Improvement Charge (DSIC) Return ⁴ :			<u>9.80%</u>
¹ As calculated by the Bureau of Technical Utility Services				
² Standard Deviation of 14 DCF observations				
³ ROEs from base rate cases within last two years, fully litigated or stipulated for DSIC purposes				
⁴ Commission authorized Return on Equity (ROE) for DSIC purposes				
Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.				

Historic Water Industry DCF and CAPM Average ROEs

Water		
	DCF	CAPM
Q4'19	8.87	7.95
Q1'20	9.10	9.46
Q2'20	9.34	9.47
Q3'20	9.40	9.68
Q4'20	8.85	9.64
Q1'21	8.98	9.75
Q2'21	8.55	9.99
Q3'21	8.49	9.85
Q4'21	8.46	9.88

Chart of Historic Water Industry DCF and CAPM Average ROEs



Multiple sources of the Barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Development of a Representative Dividend Growth Rate for the Barometer Group of Water Companies							
	5 Yr Forecast					Average Earnings Growth	Growth Estimate
	Value Line DPS (%)	Value Line EPS (%)	Zacks EPS (%)	Yahoo EPS (%)	Morningstar EPS (%)		
American States Water Company	9.50	6.50	NA	6.70	4.90	6.03	6.03
American Water Works Co., Inc.	8.50	8.50	8.10	8.20	7.80	8.15	8.15
California Water Service Group	6.50	8.50	NA	11.70	4.20	8.13	8.13
Essential Utilities, Inc.	7.50	10.00	6.10	6.40	7.30	7.45	7.45
Middlesex Water Company	5.50	5.00	NA	2.70	NA	3.85	3.85
SJW Group	5.50	14.00	NA	5.70	8.70	9.47	7.20
The York Water Company	6.00	6.50	NA	4.90	NA	5.70	5.70
Group Average	7.00	8.43	7.10	6.61	6.58	6.97	6.65
USE							6.60
Sources:	Value Line Investment Survey May 4, 2022						
	Zacks, May 11, 2022 (www.zacks.com)						
	Yahoo!, May 11, 2022 (http://finance.yahoo.com/)						
	Morningstar, May 11, 2022 (http://financials.morningstar.com)						
	* NA signifies that a forecast was not available						