

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Public Meeting held October 27, 2022

Docket Number: M-2022-3035196

BUREAU OF TECHNICAL UTILITY SERVICES

REPORT ON THE QUARTERLY EARNINGS

OF JURISDICTIONAL UTILITIES

FOR THE YEAR ENDED

June 30, 2022

Gladys Brown Dutrieuille, Chairman
Stephen M. DeFrank, Vice Chairman, Statement
Ralph V. Yanora, Joint Statement, Dissenting
Kathryn L. Zerfuss, Associates with Vice Chairman DeFrank Statement
John F. Coleman, Jr., Joint Statement, Dissenting

TABLE OF CONTENTS

| | <u>Page No.</u> |
|--|-----------------|
| Introduction | 4 |
| <p>* Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.</p> | |
| Attachment A – Summary of Equity Returns | 5 |
| Attachment B – Summary of Returns | 12 |
| <p>This chart depicts the overall and equity returns (actual and adjusted) for the filing utilities for the current quarter. The last authorized equity returns and the year authorized is also shown.</p> | |
| Attachment C – Allowed Rates of Return on Common Equity | 14 |
| <p>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.</p> | |
| Attachment D – Distribution System Improvement Charge Return on Equity | 15 |
| <p>Compares utility adjusted return on equity to Commission authorized return on equity for utilities with a Distribution System Improvement Charge.</p> | |
| Attachment E – Explanation of Return on Equity Methods | 16 |
| <p>Criteria for determining the industry barometer groups used in ROE calculations. Also, provides details of the Discounted Cash Flow equation and Capital Asset Pricing Model equation.</p> | |
| Attachment F – Market Based Returns on Equity – Electric | 18 |
| <p>The market indicated common equity cost rate range consists of data used from the electric barometer groups and is based on a series of calculations to average the DCF methods. Also, indicates Distribution System Improvement Charge Return.</p> | |
| Attachment F – Historic DCF and CAPM – Electric | 19 |
| <p>Historic barometer group DCF and CAPM average ROEs.</p> | |
| Attachment F – Electric Barometer Group Calculation of a Current and 52 Week Average Dividend Yield | 20-21 |
| <p>Electric barometer 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.</p> | |
| Attachment F – Development of a Representative Dividend Growth Rate | 22 |
| <p>Multiple sources of the gas barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.</p> | |
| Attachment G – Market Based Returns on Equity – Gas | 23 |
| <p>The market indicated common equity cost rate range consists of data used from the gas barometer groups and is based on a series of calculations to average the DCF methods. Also, indicates Distribution System Improvement Charge Return.</p> | |

Attachment G – Historic DCF and CAPM – Gas 24
Historic barometer group DCF and CAPM average ROEs, including a linear trend line graph.

Attachment G – Gas Barometer Group Calculation of a Current and 52 Week Average Dividend Yield..... 25
Gas barometer 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.

Attachment G – Development of a Representative Dividend Growth Rate..... 26
Multiple sources of the gas barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

Attachment H – Market Based Returns on Equity – Water..... 27
The market indicated common equity cost rate range consists of data used from the water barometer groups and is based on a series of calculations to average the DCF methods. Also, indicates Distribution System Improvement Charge Return.

Attachment H – Historic DCF and CAPM – Water 28
Historic barometer group DCF and CAPM average ROEs, including a linear trend line graph.

Attachment H – Water Barometer Group Calculation of a Current and 52 Week Average Dividend Yield..... 29
Water barometer 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.

Attachment H – Development of a Representative Dividend Growth Rate..... 30
Multiple sources of the water barometer companies projected 5-year Earnings Per Share are used to calculate the Group Average Dividend Growth Estimate.

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 June 30, 2022.¹ 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 Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 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

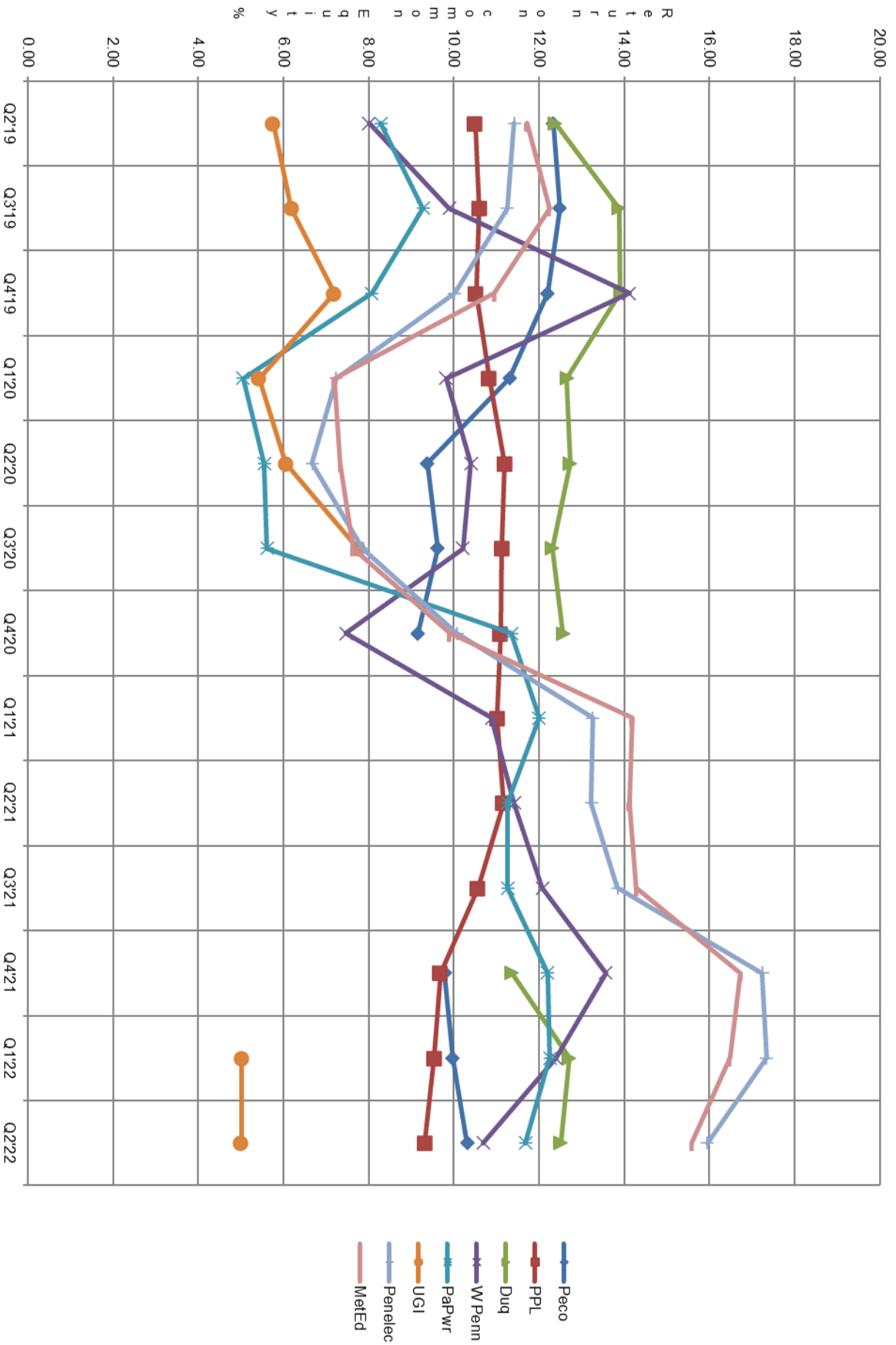
ADJUSTED

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 | 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 |
| 2022 | 1 | 9.98 | 6.99 | 9.55 | 9.49 | 12.71 | 10.91 | 12.40 | 6.99 | 12.26 | 5.30 | 5.03 | 4.93 | 17.35 | 7.83 | 16.48 | 9.40 |
| | 2 | 10.32 | 7.19 | 9.33 | 9.54 | 12.51 | 10.22 | 10.70 | 5.78 | 11.69 | 5.04 | 5.01 | 3.89 | 15.95 | 6.93 | 15.59 | 8.72 |

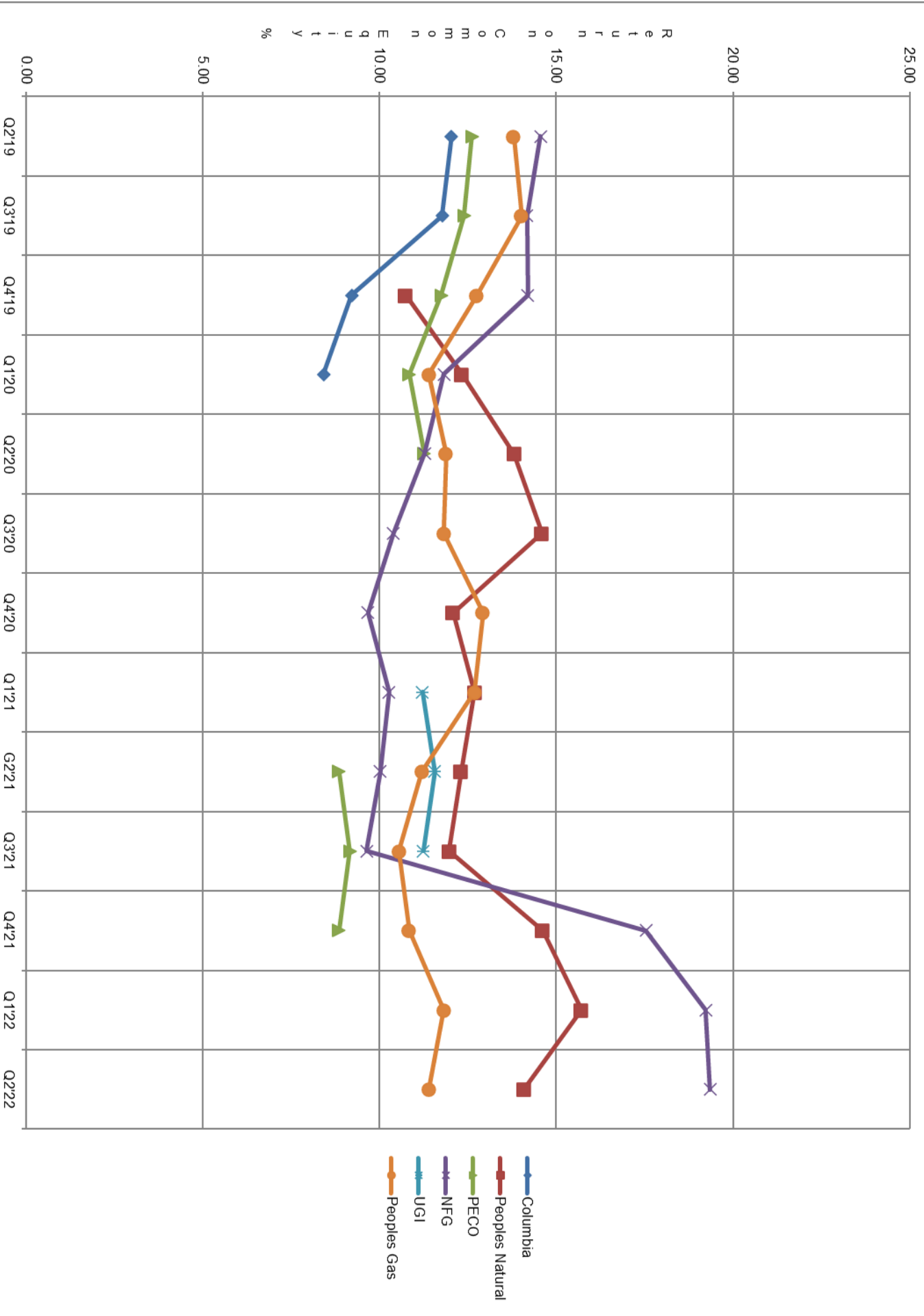
Major Pennsylvania Electric Utilities - Actual Equity Returns by Quarter



**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 | 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 |
| 2022 | 1 | | | 15.71 | 10.93 | | | 19.24 | 7.88 | | | 11.83 | 12.09 |
| | 2 | | | 14.09 | 11.67 | | | 19.36 | 6.87 | | | 11.40 | 12.19 |

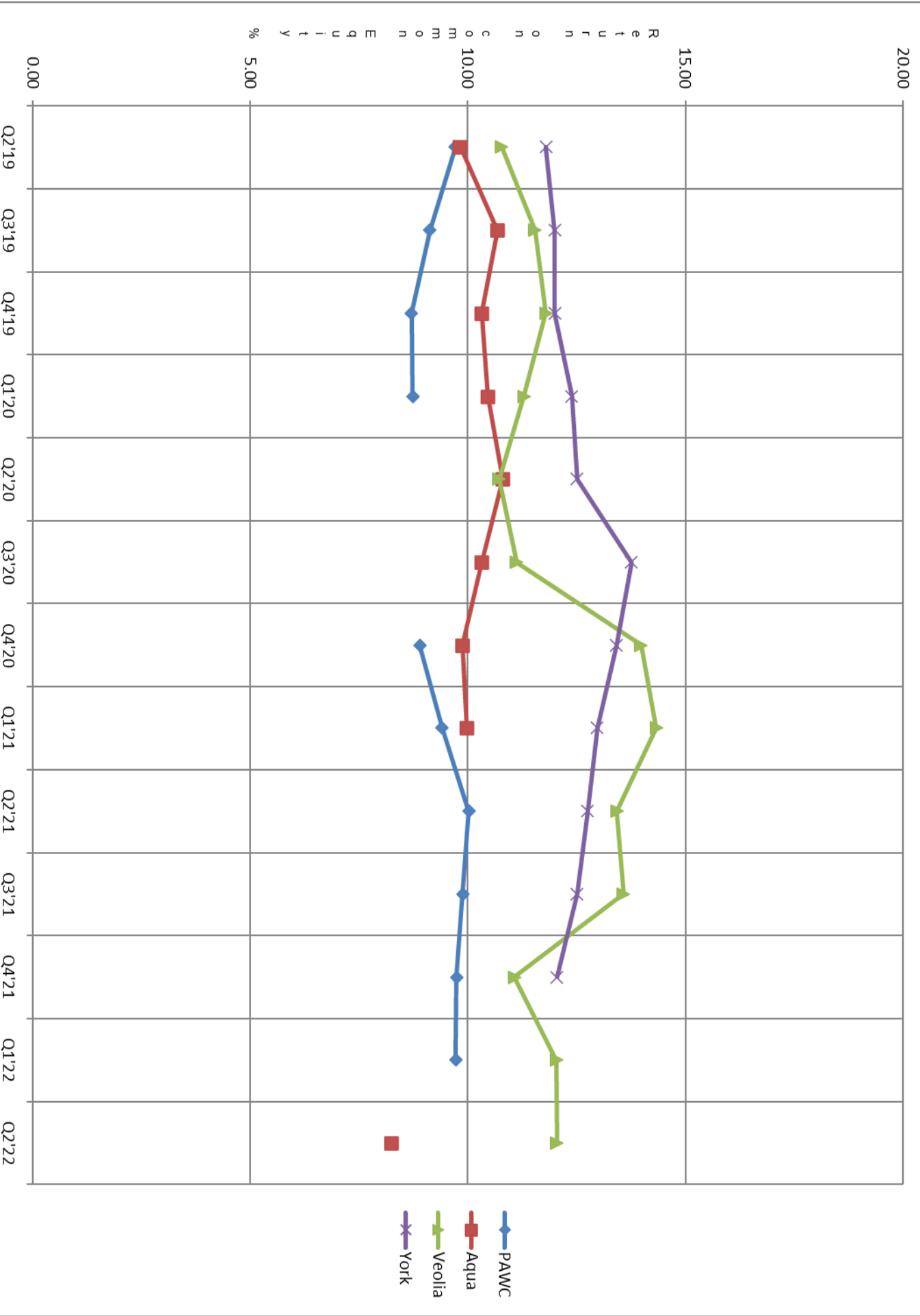
Major Pennsylvania Gas Utilities - Actual Equity Returns by Quarter



**WATER UTILITIES
EQUITY RETURNS BY QUARTER**

| QTR | END | PAWC | | Aqua | | Veolia | | York | |
|------------|------------|-------------|------------|-------------|------------|---------------|------------|-------------|------------|
| | | ACT | ADJ | ACT | ADJ | ACT | ADJ | ACT | ADJ |
| 2016 | 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 |
| 2022 | 1 | 9.73 | 7.82 | | | 12.04 | 9.68 | | |
| | 2 | | | 8.26 | 8.91 | 12.05 | 9.79 | | |

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 June 30, 2022

| COMPANY NAME | <u>OVERALL RETURN</u> | | <u>EQUITY RETURN</u> | | ROE AUTH | YEAR AUTH |
|--|-----------------------|------|----------------------|-------|-------------|--------------|
| | ACTUAL | ADJ | ACTUAL | ADJ | | |
| ELECTRIC | | | | | | |
| <u>\$10,000,000 Revenues</u> | | | | | | |
| PECO Energy - Electric Operations | 7.44 | 5.62 | 10.32 | 7.19 | Settled | 2021 |
| PPL Electric Utilities Corp. | 6.86 | 6.98 | 9.33 | 9.54 | Settled | 2015 |
| Duquesne Light Company | 8.86 | 7.57 | 12.51 | 10.22 | Settled | 2021 |
| West Penn Power Company | 7.91 | 5.10 | 10.70 | 5.78 | Settled | 2017 |
| Pennsylvania Power Company | 8.72 | 5.17 | 11.69 | 5.04 | Settled | 2017 |
| UGI Utilities, Inc. - Electric Division | 4.55 | 4.08 | 5.01 | 3.89 | Settled | 2021 |
| Pennsylvania Electric Company | 10.13 | 5.57 | 15.95 | 6.93 | Settled | 2017 |
| Metropolitan Edison Company | 10.09 | 6.50 | 15.59 | 8.72 | Settled | 2017 |
| GAS | | | | | | |
| <u>\$10,000,000 Revenues</u> | | | | | | |
| Columbia Gas of PA, Inc.* | | | | | Settled | 2021 |
| Peoples Natural Gas Company LLC | 9.01 | 7.81 | 14.09 | 11.67 | Settled | 2019 |
| PECO Energy - Gas Operations* | | | | | 10.24 | 2021 |
| National Fuel Gas Distribution Co. | 11.97 | 5.62 | 19.36 | 6.87 | Settled | 2006 |
| UGI Utilities, Inc. – Gas Division* | | | | | Settled | 2022 |
| Peoples Gas Company, LLC | 7.48 | 8.00 | 11.40 | 12.19 | Settled | 2013 |
| WATER | | | | | | |
| <u>\$10,000,000 Revenues</u> | | | | | | |
| PA American Water Company* | | | | | Settled | 2021 |
| Aqua Pennsylvania ² | 6.46 | 6.79 | 8.26 | 8.91 | 10.00 | 2022 |
| York Water Company* | | | | | Settled | 2019 |
| Veolia Water Pennsylvania, Inc. | 8.47 | 7.21 | 12.05 | 9.79 | Settled | 2018 |
| <u>\$1,000,000 to \$10,000,000 Revenues</u> | | | | | | |
| Newtown Artesian Water Co. | 8.01 | 5.05 | 10.71 | 5.16 | Settled | 2019 |
| Columbia Water Company | 3.49 | 3.49 | 3.61 | 3.61 | Settled | 2015 |

* Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 respectively, and filed a letter with the Secretary in place of a report in accordance with 52 Pa. Code § 71.4.

2 The authorized equity return of Aqua Pennsylvania, Inc. includes an additional adjustment of 0.25% for management effectiveness.

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. **7.11-10.14**

GAS

Recent PA PUC Allowed

| | | | |
|------------------------------------|----------------|---------|------|
| UGI Utilities, Inc. – Gas Division | R-2021-3030218 | Settled | 2022 |
| Columbia Gas of Pa. | R-2020-3024296 | Settled | 2021 |
| PECO Energy | R-2020-3018929 | 10.24 | 2021 |
| 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. **8.29-10.43**

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. **6.22-11.37**

Bureau of Technical Utility Services.

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 | 7.19 | 9.45 |
| PPL Electric Utilities Corp. | 9.54 | 9.45 |
| Duquesne Light Company | 10.22 | 9.45 |
| West Penn Power Company | 5.78 | 9.45 |
| Pennsylvania Power Company | 5.04 | 9.45 |
| Pennsylvania Electric Company | 6.93 | 9.45 |
| Metropolitan Edison Company | 8.72 | 9.45 |
| UGI Utilities, Inc.- Electric Division | 3.89 | 9.45 |
| GAS | | |
| Columbia Gas of PA, Inc.* | | 10.15 |
| Peoples Natural Gas Company LLC | 11.67 | 10.15 |
| PECO Energy – Gas Operations* | | 10.24 |
| Peoples Gas Company, LLC | 12.19 | 10.15 |
| UGI Utilities, Inc. – Gas Division* | | 10.15 |
| WATER | | |
| PA American Water Company* | | 9.75 |
| PA American – Wastewater* | | 9.75 |
| AQUA Pennsylvania ⁵ | 8.91 | 10.00 |
| AQUA Pennsylvania – Wastewater ⁶ | 8.91 | 10.00 |
| York Water Company* | | 9.75 |
| Veolia Water Pennsylvania, Inc. | 9.79 | 9.75 |
| Columbia Water Company | 3.61 | 9.75 |
| Newtown Artesian Water | 5.16 | 9.75 |

* Columbia Gas of Pennsylvania, Inc., UGI Utilities, Inc. – Gas Division, PECO Energy Company - Gas Division, The York Water Company, Pennsylvania-American Water Company, and Pennsylvania-American Water Company Wastewater Division have rate filings at Docket Nos. R-2021-3024296, R-2021-3030218, R-2022-3031113, R-2022-3031340, R-20223031672, and R-2022-3031673 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.

⁵ The Commission approved ROE of Aqua Pennsylvania, Inc. includes an additional adjustment of 0.25% for management effectiveness.

⁶ The Commission approved ROE of Aqua Pennsylvania Wastewater, Inc. includes an additional adjustment of 0.25% for management effectiveness.

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* Investment Survey's 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, and Yahoo! Finance. |

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.

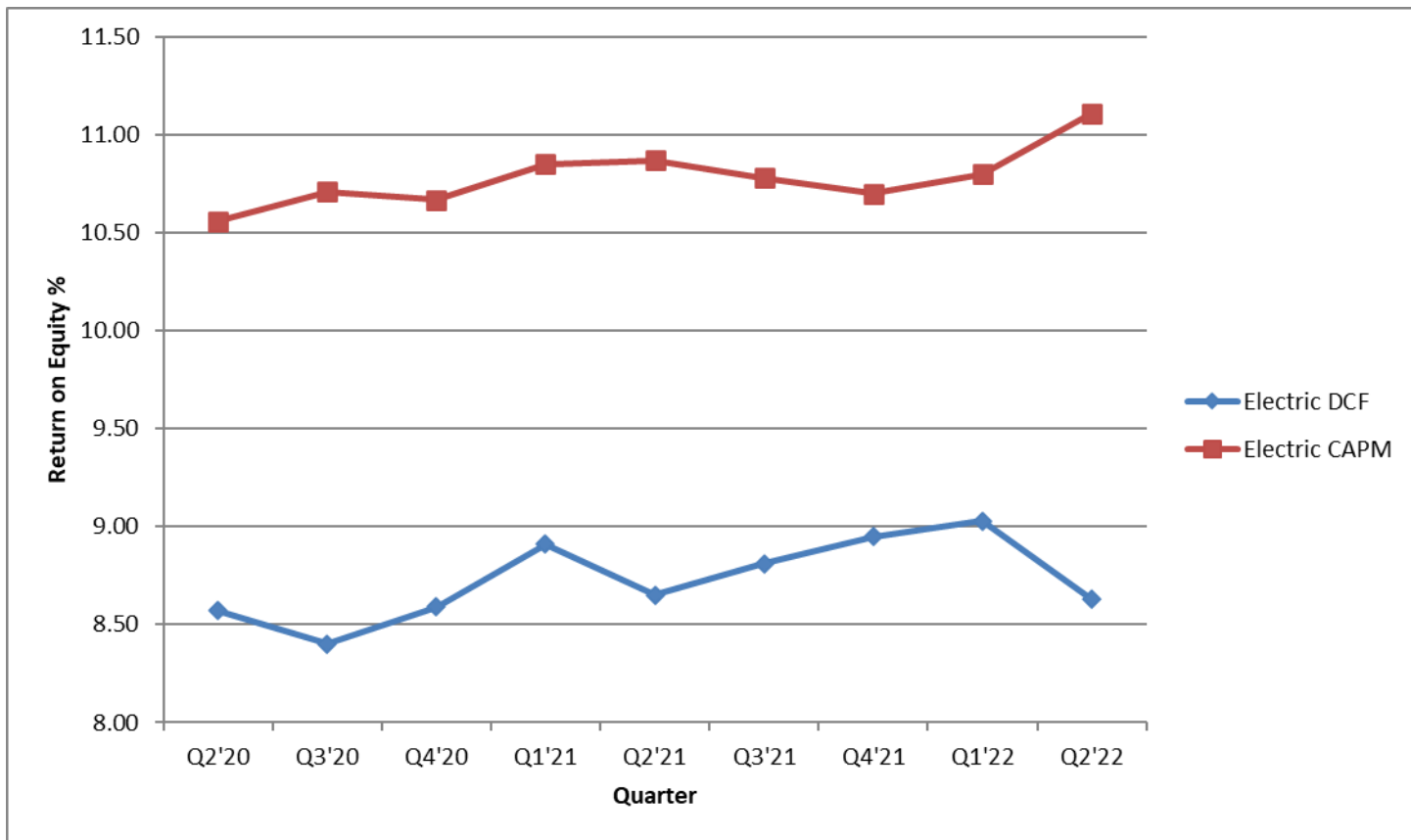
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

| Market Based Returns on Common Equity¹ | | | |
|---|---|--|-------------------|
| September 16, 2022 | | | |
| <u>Electric Company Barometer Group</u> | | | |
| | | | Cost Rates |
| | | | <u>%</u> |
| (1) | Current DCF: | | 8.64 |
| (2) | 52-Week Average DCF: | | <u>8.62</u> |
| (3) | Overall DCF ((1) + (2)) / 2 : | | <u>8.63</u> |
| (4) | Market Indicated Common Equity Cost Rate Range: @ 1 standard deviation around the mean. ² | | <u>7.11-10.14</u> |
| (5) | CAPM Check of DCF Reasonableness: | | 11.11 |
| (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 |
| 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 |
| Q1'22 | 9.03 | 10.80 |
| Q2'22 | 8.63 | 11.11 |

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>9/16/2022</u> | <u>(Do)</u> | <u>Rate (D1)</u> | <u>Yield(D1/Po)</u> | <u>DCF</u> |
| | (\$) | (\$) | (\$) | (%) | (%) |
| Allete, Inc. | 58.13 | 2.60 | 2.65 | 4.55 | 12.15 |
| Alliant Energy Corp | 60.86 | 1.71 | 1.76 | 2.89 | 8.76 |
| Ameren Corp | 91.73 | 2.36 | 2.44 | 2.66 | 9.38 |
| American Electric Power | 100.36 | 3.12 | 3.21 | 3.20 | 9.52 |
| AVANGRID, Inc. | 49.32 | 1.76 | 1.77 | 3.60 | 8.50 |
| Avista Corp | 40.80 | 1.76 | 1.80 | 4.40 | 9.17 |
| CMS Energy Corp | 66.84 | 1.84 | 1.90 | 2.84 | 10.60 |
| Consolidated Edison | 97.41 | 3.16 | 3.20 | 3.28 | 7.01 |
| Dominion Energy | 80.82 | 2.67 | 2.68 | 3.32 | 9.26 |
| DTE Energy Company | 129.90 | 3.54 | 3.59 | 2.77 | 7.59 |
| Duke Energy Company | 106.11 | 4.02 | 4.06 | 3.83 | 9.47 |
| Edison International | 67.52 | 2.80 | 2.88 | 4.26 | 8.26 |
| Entergy Corp. | 115.42 | 4.04 | 4.14 | 3.59 | 9.17 |
| Evergy Inc | 67.07 | 2.29 | 2.37 | 3.53 | 9.42 |
| Eversource Energy | 88.80 | 2.55 | 2.63 | 2.96 | 9.45 |
| FirstEnergy Corp | 41.20 | 1.56 | 1.58 | 3.83 | 8.53 |
| Fortis Inc. | 42.85 | 1.63 | 1.68 | 3.92 | 8.37 |
| IDACORP, Inc.. | 108.76 | 3.00 | 3.10 | 2.85 | 6.05 |
| NextEra Energy, Inc. | 84.79 | 1.66 | 1.74 | 2.06 | 11.65 |
| NorthWestern Corp | 53.66 | 2.52 | 2.55 | 4.74 | 8.01 |
| OGE Energy Corp | 40.91 | 1.64 | 1.66 | 4.07 | 8.04 |
| Otter Tail Corp | 69.80 | 1.65 | 1.71 | 2.45 | 9.20 |
| PPL Corporation | 28.92 | 0.90 | 0.88 | 3.03 | 6.03 |
| Pinnacle West Capital Corp | 73.63 | 3.40 | 3.44 | 4.68 | 4.98 |
| Portland General Electric Co. | 50.15 | 1.81 | 1.86 | 3.72 | 7.53 |
| Public Service Enterprise Group | 66.36 | 2.16 | 2.22 | 3.34 | 6.74 |
| Southern Company | 77.25 | 2.72 | 2.77 | 3.58 | 9.12 |
| WEC Energy Group, Inc. | 101.29 | 2.91 | 3.01 | 2.97 | 9.01 |
| Xcel Energy Inc. | 73.90 | 1.95 | 2.01 | 2.72 | 9.37 |
| Group Average | 73.61 | 2.40 | 2.46 | 3.44 | 8.63 |
| Group Average G | | | | 5.20 | |
| DCF | | | | 8.64 | |

| 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. | 68.61 | 56.55 | 62.58 | 2.60 | 4.15 | 11.75 |
| Alliant Energy Corp | 65.37 | 54.20 | 59.79 | 1.71 | 2.86 | 8.73 |
| Ameren Corp | 99.20 | 80.27 | 89.74 | 2.36 | 2.63 | 9.35 |
| American Electric Power | 105.60 | 80.22 | 92.91 | 3.12 | 3.36 | 9.67 |
| AVANGRID, Inc. | 53.95 | 42.20 | 48.08 | 1.76 | 3.66 | 8.56 |
| Avista Corp | 46.90 | 37.73 | 42.32 | 1.76 | 4.16 | 8.93 |
| CMS Energy Corp | 73.76 | 58.51 | 66.14 | 1.84 | 2.78 | 10.54 |
| Consolidated Edison | 102.21 | 71.52 | 86.87 | 3.16 | 3.64 | 7.36 |
| Dominion Energy | 88.78 | 70.37 | 79.58 | 2.67 | 3.36 | 9.30 |
| DTE Energy Company | 140.23 | 108.22 | 124.23 | 3.54 | 2.85 | 7.67 |
| Duke Energy Company | 116.33 | 95.48 | 105.91 | 4.02 | 3.80 | 9.44 |
| Edison International | 73.32 | 54.98 | 64.15 | 2.80 | 4.36 | 8.36 |
| Entergy Corp. | 126.82 | 98.50 | 112.66 | 4.04 | 3.59 | 9.17 |
| Evergy Inc | 73.13 | 59.34 | 66.24 | 2.29 | 3.46 | 9.34 |
| Eversource Energy | 94.63 | 77.07 | 85.85 | 2.55 | 2.97 | 9.46 |
| FirstEnergy Corp | 48.85 | 35.32 | 42.09 | 1.56 | 3.71 | 8.41 |
| Fortis Inc. | 51.66 | 42.42 | 47.04 | 1.63 | 3.47 | 7.92 |
| IDACORP, Inc.. | 118.92 | 95.26 | 107.09 | 3.00 | 2.80 | 6.00 |
| NextEra Energy, Inc. | 93.73 | 67.22 | 80.48 | 1.66 | 2.06 | 11.65 |
| NorthWestern Corp | 63.06 | 52.71 | 57.89 | 2.52 | 4.35 | 7.62 |
| OGE Energy Corp | 42.91 | 32.49 | 37.70 | 1.64 | 4.35 | 8.32 |
| Otter Tail Corp | 82.46 | 54.14 | 68.30 | 1.65 | 2.42 | 9.17 |
| PPL Corporation | 30.99 | 24.98 | 27.99 | 0.90 | 3.22 | 6.22 |
| Pinnacle West Capital Corp | 80.51 | 62.78 | 71.65 | 3.40 | 4.75 | 5.05 |
| Portland General Electric Co. | 57.03 | 45.02 | 51.03 | 1.81 | 3.55 | 7.36 |
| Public Service Enterprise Group | 75.61 | 58.19 | 66.90 | 2.16 | 3.23 | 6.63 |
| Southern Company | 80.57 | 60.99 | 70.78 | 2.72 | 3.84 | 9.38 |
| WEC Energy Group, Inc. | 108.39 | 86.84 | 97.62 | 2.91 | 2.98 | 9.02 |
| Xcel Energy Inc. | 77.66 | 61.16 | 69.41 | 1.95 | 2.81 | 9.46 |
| Group Average | 80.73 | 62.92 | 71.83 | 2.40 | 3.42 | 8.61 |
| Group Average G | | | | | 5.20 | |
| DCF | | | | | 8.62 | |
| | | | | | | |
| | | | | | 8.63 | |

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 | | | | Average Earnings Growth | Growth Estimate |
| | Value Line | Value Line | Zack's | Yahoo | | |
| | <u>DPS</u> | <u>EPS</u> | <u>EPS</u> | <u>EPS</u> | | |
| | (%) | (%) | (%) | (%) | | |
| Allete, Inc. | 3.50 | 6.00 | 8.10 | 8.70 | 7.60 | 7.60 |
| Alliant Energy Corp | 6.00 | 6.00 | 6.20 | 5.40 | 5.87 | 5.87 |
| Ameren Corp | 7.00 | 6.50 | 7.20 | 6.46 | 6.72 | 6.72 |
| American Electric Power | 6.00 | 6.50 | 6.10 | 6.35 | 6.32 | 6.32 |
| AVANGRID, Inc. | 1.50 | 3.00 | 5.90 | 5.80 | 4.90 | 4.90 |
| Avista Corp | 4.00 | 3.00 | 5.40 | 5.90 | 4.77 | 4.77 |
| CMS Energy Corp | 6.00 | 6.50 | 8.30 | 8.48 | 7.76 | 7.76 |
| Consolidated Edison | 2.50 | 4.00 | 2.00 | 5.17 | 3.72 | 3.72 |
| Dominion Energy | 1.00 | 5.00 | 6.30 | 6.53 | 5.94 | 5.94 |
| DTE Energy Company | 3.00 | 4.50 | 6.00 | 3.96 | 4.82 | 4.82 |
| Duke Energy Company | 2.00 | 5.00 | 6.10 | 5.82 | 5.64 | 5.64 |
| Edison International | 5.50 | 16.00 | 3.00 | 5.00 | 8.00 | 4.00 |
| Entergy Corp. | 5.00 | 4.00 | 6.70 | 6.04 | 5.58 | 5.58 |
| Evergy Inc | 7.00 | 7.50 | 5.20 | 4.95 | 5.88 | 5.88 |
| Eversource Energy | 6.50 | 6.50 | 6.30 | 6.67 | 6.49 | 6.49 |
| FirstEnergy Corp | 2.50 | 3.00 | 6.40 | -2.42 | 2.33 | 4.70 |
| Fortis Inc. | 6.00 | 5.00 | 5.40 | 2.96 | 4.45 | 4.45 |
| IDACORP, Inc.. | 6.50 | 4.00 | 2.80 | 2.80 | 3.20 | 3.20 |
| NextEra Energy, Inc. | 10.00 | 10.00 | 9.70 | 9.07 | 9.59 | 9.59 |
| NorthWestern Corp | 2.00 | 3.00 | 2.30 | 4.50 | 3.27 | 3.27 |
| OGE Energy Corp | 3.00 | 6.50 | 3.50 | 1.90 | 3.97 | 3.97 |
| Otter Tail Corp | 7.00 | 4.50 | NA | 9.00 | 6.75 | 6.75 |
| PPL Corporation | -5.50 | 3.00 | NA | 17.56 | 10.28 | 3.00 |
| Pinnacle West Capital Corp | 2.50 | 0.50 | NA | 0.10 | 0.30 | 0.30 |
| Portland General Electric Co. | 6.00 | 4.50 | 3.70 | 3.23 | 3.81 | 3.81 |
| Public Service Enterprise Group | 5.50 | 4.00 | 3.10 | 3.10 | 3.40 | 3.40 |
| Southern Company | 3.50 | 6.50 | 4.00 | 6.12 | 5.54 | 5.54 |
| WEC Energy Group, Inc. | 7.00 | 6.00 | 6.10 | 6.01 | 6.04 | 6.04 |
| Xcel Energy Inc. | 6.50 | 6.00 | 6.90 | 7.04 | 6.65 | 6.65 |
| Group Average | 4.45 | 5.40 | 5.49 | 5.59 | 5.50 | 5.20 |
| USE | | | | | | 5.20 |
| Sources: | Value Line Investment Survey September 19, 2022 | | | | | |
| | Zacks, September 20, 2022 (www.zacks.com) | | | | | |
| | Yahoo!, September 19, 2022 (http://finance.yahoo.com/) | | | | | |
| | * NA signifies that a forecast was not available | | | | | |

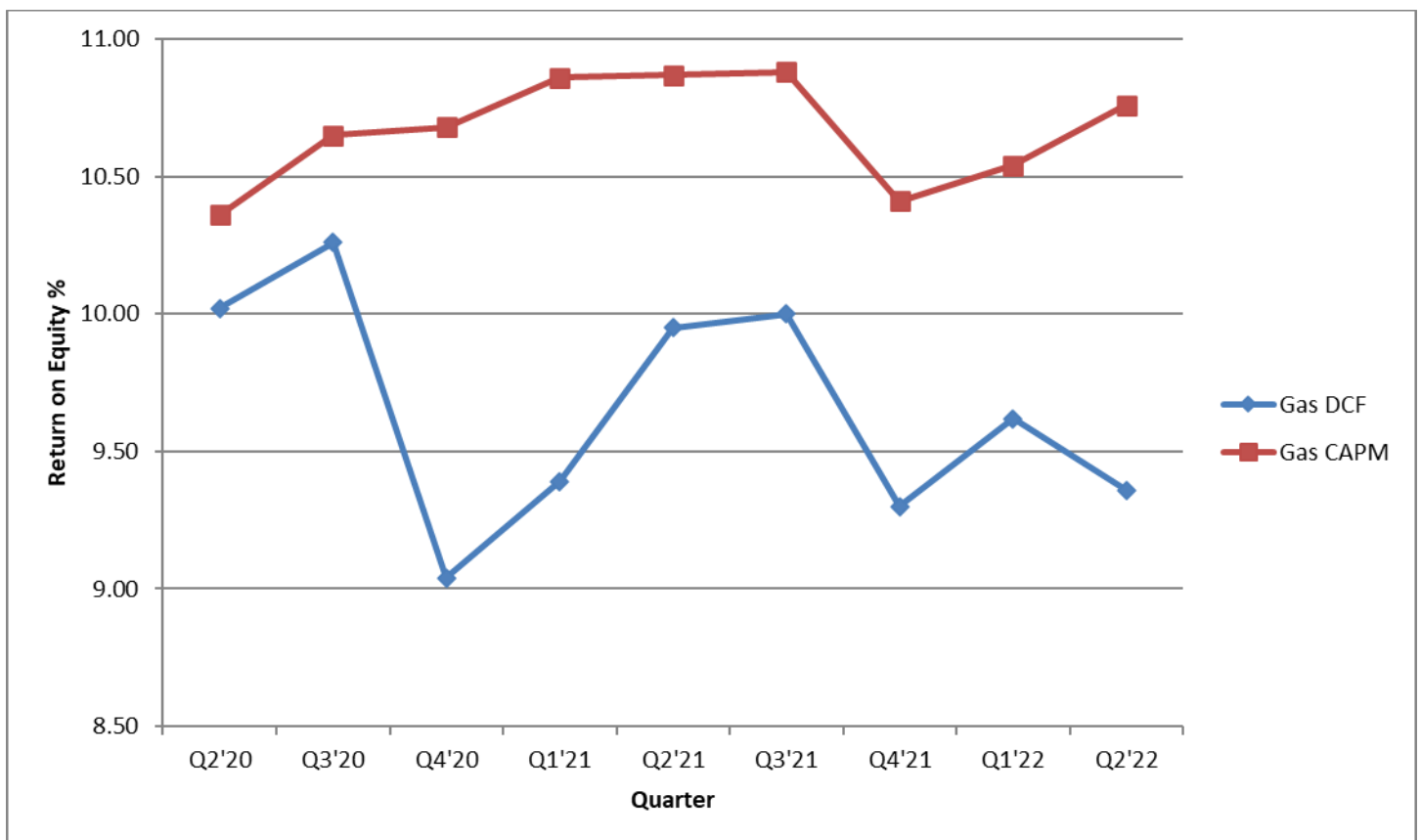
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

| Market Based Returns on Common Equity¹ | | | | |
|---|---|--|--|----------------------|
| September 16, 2022 | | | | |
| <u>Gas Distribution Company Barometer Group</u> | | | | |
| | | | | Cost Rates |
| | | | | <u>%</u> |
| (1) | Current DCF: | | | 9.36 |
| (2) | 52-Week Average DCF: | | | <u>9.35</u> |
| (3) | Overall DCF ((1) + (2)) / 2 : | | | <u>9.36</u> |
| (4) | Market Indicated Common Equity Cost Rate Range: @ 1 standard deviation around the mean. ² | | | <u>8.29-10.43</u> |
| (5) | CAPM Check of DCF Reasonableness: | | | 10.76 |
| (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 16 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 |
| 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 |
| Q1'22 | 9.62 | 10.54 |
| Q2'22 | 9.36 | 10.76 |

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 | Average | Growth |
| | <u>DPS</u> | <u>EPS</u> | <u>EPS</u> | <u>EPS</u> | <u>Growth</u> | <u>Estimate</u> |
| | (%) | (%) | (%) | (%) | (%) | (%) |
| Atmos Energy | 7.00 | 7.50 | 7.50 | 7.70 | 7.57 | 7.57 |
| Chesapeake Utilities Corporation | 8.50 | 7.50 | NA | 7.00 | 7.25 | 7.25 |
| New Jersey Resources | 5.00 | 5.00 | 6.00 | 6.00 | 5.67 | 5.67 |
| NiSource Inc. | 4.50 | 9.50 | 7.20 | 7.15 | 7.95 | 7.95 |
| Northwest Natural Gas | 0.50 | 6.50 | 4.30 | 4.30 | 5.03 | 5.03 |
| ONE Gas, Inc. | 6.50 | 6.50 | 5.00 | 5.00 | 5.50 | 5.50 |
| Southwest Gas | 5.50 | 10.00 | 5.00 | 4.00 | 6.33 | 4.50 |
| Spire Inc. | 5.00 | 9.00 | 5.00 | 4.30 | 6.10 | 6.10 |
| Group Average | 5.31 | 7.69 | 5.71 | 5.68 | 6.43 | 6.20 |
| USE | | | | | | 6.20 |
| Sources: | Value Line Investment Survey September 19, 2022 | | | | | |
| | Zacks, September 20, 2022 (www.zacks.com) | | | | | |
| | Yahoo!, September 19, 2022 (http://finance.yahoo.com/) | | | | | |
| | * NA signifies that a forecast was not available | | | | | |

7

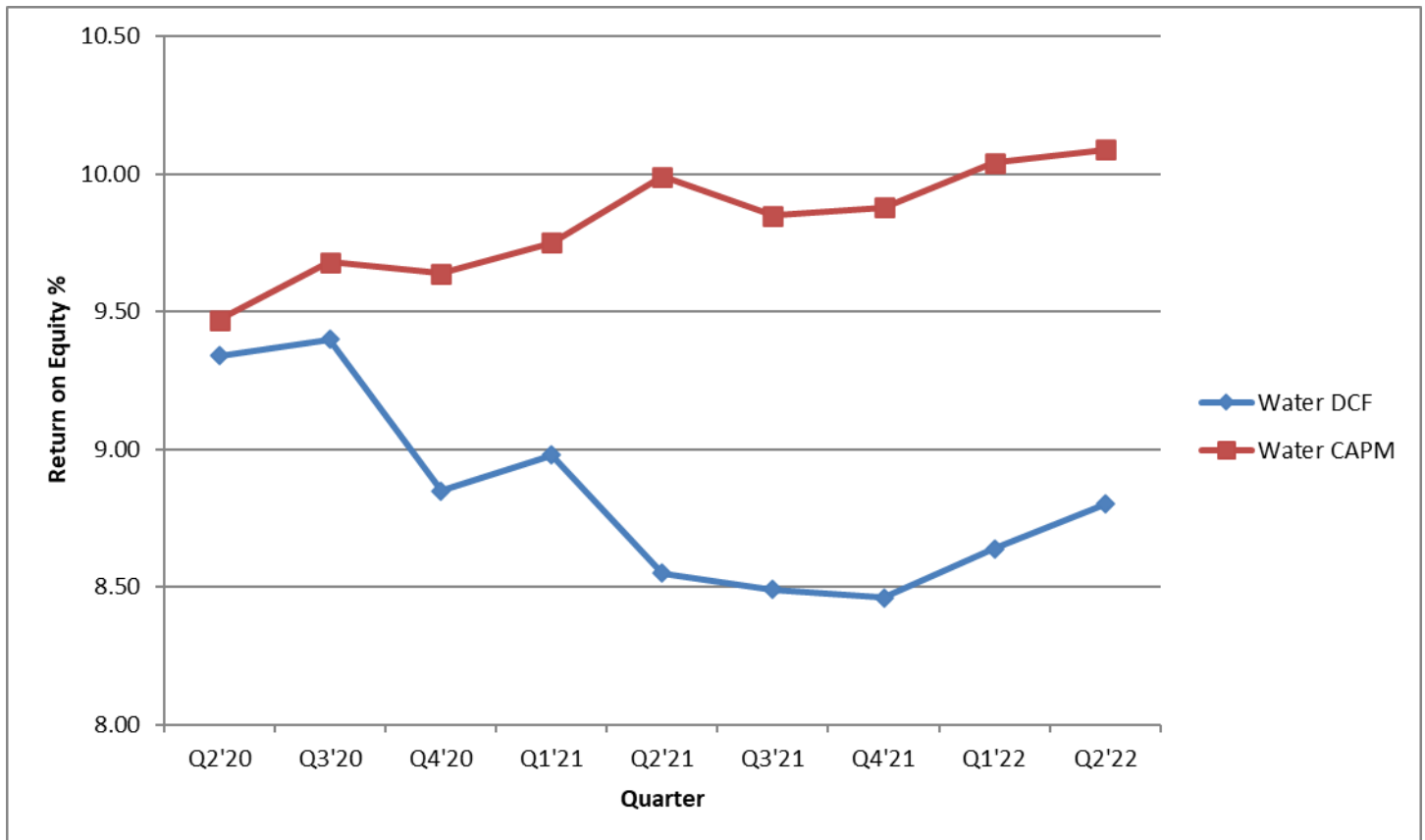
The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

| Market Based Returns on Common Equity ¹ | | | |
|---|---|--|-------------------|
| September 16, 2022 | | | |
| <u>Water Company Barometer Group</u> | | | |
| | | | Cost Rates |
| | | | <u>%</u> |
| (1) | Current DCF | | 8.87 |
| (2) | 52-Week Average DCF | | 8.72 |
| (3) | Average DCF | | <u>8.80</u> |
| (4) | Market Indicated Common Equity Cost Rate Range @ 1 standard deviation around the mean. ² | | <u>6.22-11.37</u> |
| (5) | CAPM Check of DCF Reasonableness | | 10.09 |
| (6) | Recent Commission Approved ROEs ³ : *Aqua Pennsylvania, Inc., R-2021-3027385, includes a 0.25% management effectiveness adjustment | | 10.00* |
| (7) | Distribution System Improvement Charge (DSIC) Return ⁴ : | | <u>9.75%</u> |
| ¹ As calculated by the Bureau of Technical Utility Services | | | |
| ² Standard Deviation of 12 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 |
| 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 |
| Q1'22 | 8.64 | 10.04 |
| Q2'22 | 8.80 | 10.09 |

Chart of Historic Water Industry DCF and CAPM Average ROEs



Barometer water 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.

| Water 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>9/16/2022</u> | <u>(Do)</u> | <u>Rate (D1)</u> | <u>Yield(D1/Po)</u> | <u>Growth</u> | <u>DCF</u> |
| | (\$) | (\$) | (\$) | (%) | (%) | (%) |
| American States Water Company | 85.79 | 1.59 | 1.66 | 1.94 | 4.95 | 6.89 |
| American Water Works Co., Inc. | 148.40 | 2.62 | 2.73 | 1.84 | 6.47 | 8.31 |
| California Water Service Group | 58.27 | 1.00 | 1.03 | 1.77 | 9.10 | 10.87 |
| Essential Utilities, Inc. | 45.57 | 1.15 | 1.20 | 2.62 | 7.63 | 10.26 |
| Middlesex Water Company | 89.07 | 1.16 | 1.19 | 1.33 | 3.60 | 4.93 |
| SJW Group | 64.12 | 1.44 | 1.48 | 2.31 | 9.80 | 12.11 |
| Group Average | 81.87 | 1.49 | 1.55 | 1.97 | 6.93 | 8.89 |
| Group Average G | | | | 6.90 | | |
| DCF | | | | 8.87 | | |

| 52-week High-Low Dividend Yield Calculation | | | | | | | |
|---|-------------|------------|---------------------|----------------------|----------------------|---------------|------------|
| | | | | Latest | Average | | |
| | | | | Indicated | Dividend | | |
| | <u>High</u> | <u>Low</u> | <u>Average (Pa)</u> | <u>Dividend (Do)</u> | <u>Yield (Do/Pa)</u> | <u>Growth</u> | <u>DCF</u> |
| | (\$) | (\$) | (\$) | (\$) | (%) | (%) | (%) |
| American States Water Company | 103.77 | 71.22 | 87.50 | 1.59 | 1.82 | 4.95 | 6.77 |
| American Water Works Co., Inc. | 189.65 | 129.45 | 159.55 | 2.62 | 1.64 | 6.47 | 8.11 |
| California Water Service Group | 72.08 | 48.46 | 60.27 | 1.00 | 1.66 | 9.10 | 10.76 |
| Essential Utilities, Inc. | 53.93 | 40.97 | 47.45 | 1.15 | 2.42 | 7.63 | 10.06 |
| Middlesex Water Company | 121.43 | 75.77 | 98.60 | 1.16 | 1.18 | 3.60 | 4.78 |
| SJW Group | 73.69 | 55.74 | 64.72 | 1.44 | 2.23 | 9.80 | 12.03 |
| Group Average | 102.43 | 70.27 | 86.35 | 1.49 | 1.82 | 6.93 | 8.75 |
| Group Average G | | | | | 6.90 | | |
| DCF | | | | | 8.72 | | |

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 | Value Line | Zacks | Yahoo | | |
| | <u>DPS</u> | <u>EPS</u> | <u>EPS</u> | <u>EPS</u> | | |
| | (%) | (%) | (%) | (%) | | |
| American States Water Company | 9.00 | 5.50 | NA | 4.40 | 4.95 | 4.95 |
| American Water Works Co., Inc. | 8.50 | 3.00 | 8.10 | 8.30 | 6.47 | 6.47 |
| California Water Service Group | 6.50 | 6.50 | NA | 11.70 | 9.10 | 9.10 |
| Essential Utilities, Inc. | 8.00 | 10.00 | 6.10 | 6.80 | 7.63 | 7.63 |
| Middlesex Water Company | 5.00 | 4.50 | NA | 2.70 | 3.60 | 3.60 |
| SJW Group | 5.50 | 14.00 | NA | 9.80 | 11.90 | 9.80 |
| Group Average | 7.08 | 7.25 | 7.10 | 7.28 | 7.28 | 6.93 |
| USE | | | | | | 6.90 |
| Sources: | Value Line Investment Survey September 19, 2022 | | | | | |
| | Zacks, September 20, 2022 (www.zacks.com) | | | | | |
| | Yahoo!, September 19, 2022 (http://finance.yahoo.com/) | | | | | |
| | * NA signifies that a forecast was not available | | | | | |