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August 31, 2022

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: Pennsylvania Public Utility Commission
v.
PECO Energy Company – Gas Division
Docket No. R-2022-3031113

Dear Secretary Chiavetta:

Consistent with 52 Pa. Code Section 5.412a of the Commission's regulations, which requires the electronic submission of pre-served testimony, enclosed for electronic filing please find the following Pre-Served Testimony and Exhibits on behalf of the Office of Consumer Advocate ("OCA") in the above-referenced proceedings. Please note that the documents listed below were admitted into the record by Administrative Law Judge F. Joseph Brady by Interim Order Granting Joint Stipulation For Admission of Evidence at the evidentiary hearing conducted on August 19, 2022.

Office of Consumer Advocate's Direct Testimony

OCA Statement 1 - Direct Testimony of Dante Mugrace (PUBLIC and **CONFIDENTIAL** version) – Schedules DM-1 through DM-22, Attachments B and C[1], and Verification

OCA Statement 2 - Direct Testimony of David J. Garrett – Appendices A and B, Exhibits DJG-1 through DJG-17, and Verification

OCA Statement 3 - Direct Testimony of Karl R. Pavlovic – OCA Exhibits KRP-1 through KRP-2 and Verification

OCA Statement 4 - Direct Testimony of Roger D. Colton – Appendix: Colton Abbreviated Vitae and Verification

Office of Consumer Advocate's Rebuttal Testimony

OCA Statement 4R - Rebuttal Testimony of Roger D. Colton and Verification

[1] The **CONFIDENTIAL** version of OCA Statement 1 – Direct Testimony of Dante Mugrace will be submitted via the Secretary Bureau's Sharepoint site.

Office of Consumer Advocate's Surrebuttal Testimony

OCA Statement No. 1SR - Surrebuttal Testimony of Dante Mugrace – Schedules SR-DM-1 through SR-DM-22, Attachment B, and Verification

OCA Statement 2SR - Surrebuttal Testimony of David J. Garrett and Verification

OCA Statement 3SR - Surrebuttal Testimony of Karl R. Pavlovic – OCA Exhibits KRP-SR-1 through KRP-SR-2, and Verification

OCA Statement 4SR - Surrebuttal Testimony of Roger D. Colton and Verification

All testimony is accompanied by a witness verification. The OCA's submission also addresses the requirements of the Commission's January 10, 2013 Implementation Order at Docket M-2012-2331973, which requires electronic access to pre-served testimony.

All parties and the presiding officer have been served previously with the testimony and schedules and copies of this letter have been served per the attached Certificate of Service.

Respectfully submitted,

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Enclosures:
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Certificate of Service
*334810

CERTIFICATE OF SERVICE

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

I hereby certify that I have this day served a true copy of the following document, the Office of Consumer Advocate's Pre-Served Testimony, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

Dated this 31st day of August 2022.

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Dated: August 31, 2022
*334815

OCA Statement 1

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2022-3031113**
PECO Energy Company – Gas Division	**)**	

DIRECT TESTIMONY OF

DANTE MUGRACE

ON BEHALF OF THE

COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE

June 22, 2022

Public Version

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Verification Page

I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dante Mugrace. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. WHAT IS YOUR PRESENT OCCUPATION?

A. I am a Senior Consultant with the Economic and Management Consulting Firm of PCMG and Associates, LLC. (PCMG). In my capacity as a Senior Consultant, I am responsible for evaluating and examining rate and rate related proceedings before various governmental entities, preparing expert testimony recommending revenue requirement, as well as, offering opinions on economic policy and policy issues and methodologies used to set a value on a utility's rate base and cost of service components of revenue requirement.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.

A. PCMG is an association of experts in utility regulation and policy, economics, accounting and finance. PCMG's members have over 75 years collective experience providing assistance to counsel and expert testimony regarding the regulation of electric, gas, water and wastewater utilities that operate under local, state and federal jurisdictions. PCMG focuses on areas regarding revenue requirement, cost of service, rate design, cost of capital and rate of return. Prior to my association with PCMG, I was employed as a Senior Consultant with the consulting firm of Snavely King Majoros and Associates (SKM) from 2013 to 2015, in the same capacity as PCMG. Prior to SKM I was employed by the New Jersey Board of Public Utilities (NJBPU) from 1983 to my retirement in 2011. During my tenure at the NJBPU, I held various Accounting, Rate Analyst, Supervisory and Management Positions. My last position was Bureau Chief of Rates in the Agency's Water Division (Bureau Chief of Rates). I held this position for nearly 10 years. My resume is attached as Appendix A.

Q. WHAT EXPERIENCE DO YOU HAVE IN THE AREA OF UTILITY RATE SETTING PROCEEDINGS AND OTHER UTILITY MATTERS?

A. In my capacity as Bureau Chief of Rates at NJBPU, I was responsible for overseeing the rate process regarding administrative, financial, and managerial functions of the Rates Bureau. My primary duties were to ensure that the jurisdictional utilities had sufficient revenues to cover their operating expenses, the ability to earn a reasonable rate of return on plant investments, and to ensure that the provision of safe, adequate and proper service at reasonable rates was met. During my time at the NJBPU, I was involved in hundreds of rate and rate related proceedings. In my capacity as a Senior Consultant previously with SKM and now with PCMG, I have been and am currently involved in rate and rate related proceedings before the Commissions in the Commonwealth of Massachusetts and Pennsylvania, and the States of Maine, Maryland, New Jersey, New York, North Dakota, and Ohio. I was involved in the Generic Proceedings to Establish Parameters for the Next Generation Performance Based Rate Plans before the Alberta Utilities Commission. I was involved in transmission formula rate plans before the Federal Energy Regulatory Commission (FERC) regarding the PECO Energy Company on behalf of the Pennsylvania OCA and the Rockland Electric Company on behalf of the NJ Division of Rate Counsel.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I hold a Master of Business Administration (MBA) degree with a concentration in Strategic Management from Pace University-Lubin School of Business in New York, New York. I hold a Master of Public Administration (MPA) degree from Kean University in Union, New Jersey. I hold a Bachelor of Science (BS) degree in Accounting from Saint Peter's University in Jersey City, New Jersey.

II. PURPOSE OF TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate (OCA).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to calculate and to make a recommendation regarding the PECO Energy Company – Gas Division. (PECO or Company) base rate case proceeding. My recommendation includes the setting of the Company's Rate Base Valuation, and Pro Forma Operating Income at Present Rates for the Fully Projected Future Test Year Period Ending December 31, 2023 (FPFTY). On March 31, 2021, PECO filed a base rate case with the Pennsylvania Public Utility Commission (PAPUC or Commission) requesting an overall increase in rates for its natural gas distribution service of approximately $82.110 million or 12.6% above current jurisdictional operating revenue. Included in my recommended position on Rate Base Valuation and Operating Income, I am also incorporating the recommendations of OCA witness Mr. David Garrett with respect to the overall rate of return, and OCA witness Dr. Pavlovic on any rate design adjustments.

III. REVENUE REQUIREMENT ISSUES

A. SUMMARY

Q. WHAT REVENUE DEFICIENCIES OR ADJUSTMENTS ARE YOU RECOMMENDING?

A. Based upon the use of the Company's proposed fully projected future test year ending December 31, 2023, I have the following recommendations:

- My recommended Rate Base balance is $2,878,747,825 which is $5,388,175 lower than the Company's proposed Rate Base balance of $2,884,136,000.
- My overall Rate of Return based upon OCA witness Garrett's recommendation is 6.34%, which includes a Common Equity component of 8.75%.
- My recommended Operating Revenue at Present Rates is computed at $652,155,140, which is $12,140 higher than the Company's Present Rate Revenue of $652,143,000.[1]

[1] Any differences between Company Operating Revenues at Present Rates in its filing and my Schedules are due to rounding.

- My recommended total Operating Expenses is $497,583,530 which is $16,974,984 lower than the Company's proposed Operating Expenses of $514,560,000.
- My recommended Federal and State Income Taxes at Present Rate Revenue is $23,408,191, which is $1,829,809 lower than the Company's proposed Federal and State Income Taxes of $25,238,000.
- Overall, I recommend a revenue requirement increase of approximately $6,200,000, which is $75,904,000 lower than the Company's proposed revenue requirement increase of $82,110,000.[2]

Q. WHAT EFFECT DOES MR. MOUL'S MANAGEMENT PERFORMANCE PREMIUM OF 0.10% HAVE ON THE COMPANY'S REVENUE REQUIREMENT?

A. The effect of removing Mr. Moul's Management Performance Premium from the Company's Cost of Equity would be a reduction from the Company's filed 10.95% Equity Cost Rate less 0.10% equals 10.85%. Incorporating this into the overall rate of return would be a 7.624% return instead of the Company's 7.68%. The revenue requirement impact would be a reduction of about $1.615 million (Rate Base of $2.884 billion times the rate of return of 7.624% equals $219.886 million minus the Company's proposed income requirement of $221.501 million). Multiplying the $1.615 million times the gross revenue factor of $1.41432 equals $2.284 million.

Q. WHAT EFFECT DOES MR. MOUL'S LEVERAGE ADJUSTMENT OF 145 BASIS POINTS HAVE ON THE COMPANY'S DCF ANALYSIS ?

A. If Mr. Mouls DCF results were viewed in isolation, the revenue requirement impact would be $21.517 million (Rate Base of $2.884 billion times the Rate of Return of 6.93% equals $199.984 minus the Company's proposed increase requirement of $221.501 million). Including the gross up factor of 1.41432 results in a revenue requirement impact of $30.4 million.

Q. WHAT EFFECT DOES THE USE OF MR. GARRETT'S RECOMMENDED 50% OF LONG-TERM DEBT AND 50% OF EQUITY WITH THE COMPANY'S

[2] Differences due to rounding.

PROPOSED EQUITY RETURN AND COST OF DEBT HAVE ON THE COMPANY'S REVENUE REQUIREMENT?

A. The effect of using Mr. Garrett's recommended 50% of Equity and 50% of Debt with the Company's Proposed Equity Return and Cost of Debt would decrease the revenue requirement by $9.9 million. (Rate Base of $2.884 billion times the rate of return of 7.43% equals $214,435,511, a reduction of $7,066,133 from the Company's proposed return requirement of $221,501,645). Including the gross up factor of 1.41432 the result is $9.937 million.

Q. WHAT RATE BASE COMPONENTS ARE YOU ACCEPTING IN THIS PROCEEDING?

A. I am accepting the Company's balances related to Customer Deposits ($9,189,000), Customer Advances for Construction ($1,127,000) Materials and Supplies of $395,000, and Gas Storage of $33,270,000 all of which are shown on my Schedule DM-3.

Q. DID YOU ASK THE COMPANY IF THE COMPANY WAS AWARE THAT CONGRESS RECENTLY PASSED THE INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA) AND WHETHER THE COMPANY MADE EFFORTS TO OBTAIN IIJA FUNDS?

A. Yes. In response to OCA-VI-11, the Company was asked about its understanding of the applicability of the IIJA. The Company stated that it was not aware of any programs under IIJA for which investor-owned natural gas distribution companies are eligible lead applicants that would relate to the Company's natural gas distribution capital and operation and maintenance expenditures budgets.

Q. HAS THE COMPANY MADE ANY EFFORT TO OBTAIN IIJA FUNDING?

A. In OCA-VI-12, the Company stated that it did not receive IIJA funding but is monitoring federal and state agency notice of funding opportunity announcements (NOFO) related to IIJA and will assess any future natural gas distribution funding opportunities that may become available. In response to OCA-VI-15, the Company stated that neither Exelon nor any PECO Energy Affiliates have pursued IIJA funds.

Q. DID THE COMPANY IDENTIFY ANY REPORTS REQUIRED TO DEMONSTRATE THAT THE COMPANY IS ATTEMPTING TO RECEIVE IIJA FUNDS?

A. The Company stated that it is not aware of any reports that are required to demonstrate that the Company is attempting to receive IIJA funds (OCA-VI-14). The Company further stated that it is not aware of any provision of the American Rescue Plan for which it would be an eligible applicant (OCA-VI-20).

Q. WHAT IS YOUR RECOMMENDATION?

A. I am recommending that the Company should continue to explore possible funding sources through the IIJA that may supplant the need for ratepayer funds in some areas, such as LIHEAP, weatherization, etc. I am recommending that the Company explore funding from the Commonwealth and Other Federal Agencies with respect to IIJA funds and identify any prohibitions on the receipt of funds through federal funding programs. (OCA-VI-18).

B. RATE BASE (Measures of Value)

1. Gas Plant in Service (GPIS)

Q. WHAT HAS THE COMPANY PROPOSED REGARDING ITS GAS PLANT IN SERVICE?

A. The Company has proposed a GPIS balance of $4,009,266,000[3] as of the end of the FPFTY, December 31, 2023. (PECO Exh. MJT-1 Sch. C-1 and Sch. C-2). This balance represents the total projected gas plant in service balance providing gas service adjusted for retirements, exclusive of allocated common plant. (PECO St. No. 3 at 13) (PECO Exh. MJT-1 Sch. C-2). Included in that balance are plant additions that the Company expects to place in service during the FTY period ending December 31, 2022, in the amount of $412,208,000 (PECO Exh. MJT-2 Schedule C-1 and C-2), and an additional $292,254,000 for the FPFTY period ending December 31, 2023 (PECO Exh. MJT-1 Sch. C-2). The total proposed plant additions sums up to $704,462,000 (OCA-1-17).[4] Separate from the $4.0B gas plant in service balance described by PECO witness Trzaska is the Company's

[3] Differences between the Company's balance and my balance are due to rounding.
[4] Copy of OCA-I-17 in Attachment B.

allocated $165,737,000 share of net Common. (PECO Exh. MJT-1 Sch. C-8) (PECO St. No. 3 at 23).

Q. HOW DID THE COMPANY DEVELOP ITS CAPITAL INVESTMENT TO PRODUCE THE TOTAL PROPOSED PLANT ADDITIONS OF $704,462,000 AS OF DECEMBER 31, 2023?

A. According to Mr. Bradley, the Company's capital investment plan begins with a detailed budgeting and long-range plan (LRP) development process, with the goal to integrate and align capital investments with the Company's strategic operational, regulatory and financial plans. The mix of capital investment needs can change from year to year and is the product of a variety of factors, including trends in the housing market, emergent operational constraints, local municipality workloads and the condition of existing facilities. (PECO St. No. 1 at 11). Mr. Bradley stated that annual capital investment requirements are evaluated on a functional level and are primarily placed in one of four categories: system performance, capacity improvements, facility relocation, and new business. (PECO St. No. 1 at 11).

Q. WHAT TYPE OF PLANT INVESTMENTS ARE INCLUDED IN THE COMPANY'S $412,208,000 PLANNED ADDITIONS IN 2022 AND $292,254,000 IN THE PLANNED ADDITIONS IN 2023?[5]

A. According to Mr. Stefani, the Company has included planned investments in new and replacement of gas utility plant designed to maintain and enhance the safety and reliability of the Company's distribution system. (PECO St. No. 2 at 4). These amounts include Accelerated Gas Infrastructure Modernization Plan (AGIMP) and non–AGIMP related capital expenditures. (PECO St. No. 2 at 5). The Company provided the project names, capital additions by test year, and in-service dates in response to OCA-I-15, OCA-I-17, and OCA-I-26.[6]

Q. HAVE THERE BEEN CHANGES IN THE COMPANY'S PLANNED 2022 AND 2023 ADDITIONS SINCE THE COMPANY'S ORIGINAL RATE FILING?

[5] These balances are reflected in OCA-I-15.
[6] Copies of OCA-I-15, -17, and -26 are in Attachment B.

A. Yes. As part of OCA-I-15, I asked the Company to provide a list of construction projects not expected to be completed by the end of the FPFTY period and an explanation for the delays. The only specific project that was delayed but still included in the Company's FPFTY period ending December 31, 2023, is the Company's Natural Gas Reliability Project which was extended from November 2022 to November 2023.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED GPIS BALANCE?

A. In response to OCA-I-26, the Company provided a breakdown of the Company's currently planned capital investments "in new and replacement utility gas plant" for the FTY and the FPFTY periods as described by Mr. Stefani (PECO St. 2 at 5). The Company has identified several projects for which the in-service dates and completions dates went beyond the Company's FPFTY period. They are as follows:

	FTY	FPFTY	In-Service	Completion
EU Digital System Hardening -	$231,857	$239,512	9/2024	12/2024
Communication Tower Infra.	$149,278	$156,442	9/2025	12/2026
UCOMM Tier Wimax Convert.	$127,652	$151,613	9/2026	12/2026
FEP Planebrook Gas Gate	$17,497	$215,214	9/2024	1/2025
EU Analytics Grid Funct.	$140,850	$71,684	9/2026	12/2026
EU GIS	$109,020	$96,514	12/2024	4/2025
EU Analytics Cust. Func.	$71,343	$74,646	10/2025	4/2026
EU Core GIS	$55,053	$60,074	12/2024	4/2025
Baldwin Service Center Upgrade	$1,047	$114,032	12/2024	4/2025
Total	**$903,597**	**$1,179,731**		

Q. WHAT IS YOUR RECOMMENDATION?

A. I am recommending that these plant additions be removed from the Company's Gas Plant in Service balance. The in-service dates and completion dates for these plant additions go beyond the Company's FPFTY period ending December 31, 2023. The Company stated in response to OCA-I-26 that the in-service dates have no impact on the timing of the capital expense being recorded and that the capital expense is recorded in the period it is incurred. I have categorized these adjustments on my best estimate of plant categories (Intangible Plant, Distribution Plant and General Plant). I have included costs for the FTY adjustments because I am of the opinion that in order for these costs to be used and useful

in providing utility service to customers, they should be completed and in-service. These plant additions span two test year periods (FTY – 2022 and FPFTY 2023). Although costs are projected in the FTY period, and in the FPFTY period, these projects will not be completed and will not be used and useful in providing utility service until post-2023. Ratepayers should not be paying for plant additions that are not providing service to them. My total adjustment for the FTY and the FPFTY periods are $903,597 + $1,179,731 = $2,083,328. This is shown on my Schedules DM-3 and DM-5

Q. DO YOU HAVE ANY OTHER CONCERNS REGARDING THE COMPANY'S PROJECTED TIMELINE OF THE IN-SERVICE DATES FOR OTHER PLANT ADDITIONS?

A. Yes. I have a concern regarding the Company's proposed Natural Gas Reliability Project totaling $133,710,819 shown in response to OCA-I-15. The Company has described this project as comprised of the addition of 11.5 miles of gas mains, addition of a gas reliability station, and upgrades to the West Conshohocken LNG Plant. (PECO St. 1 at 20-21). In the 2020 base rate case, the Company claimed it would invest $82M in in-service plant related to the Natural Gas Reliability Project. Since the Company filed this base rate case, the Company has extended the planned in-service dates. The Company stated that the Township of Marple Gas Reliability Station was delayed as a result of the denial of a zoning permit, which also delayed building permits, land development plan approval, grading permits, construction permits and zoning categorization. (OCA-I-18).[7] Now, the planned location of the Company's gas reliability station is the subject of an appeal in state court, as of May 2022. (OCA-I-18). The gas main and reliability station parts of the Project were estimated to be placed in service in November 2022, but now are estimated to be in-service March 2023. (OCA-I-15(a) NRG In Service Update). The LNG Plant upgrade in-service date has changed from November 2022 to November 2023 (OCA-1-15(a). The reason for the delay to November 2023 was due to the necessary engineering and re-ordering of the LNG vaporization equipment and to comply with the TSA regulations and Exelon Cybersecurity updates, which were adopted after the Company had completed the original

[7] Copy of OCA-I-18 in Attachment B.

design of the LNG plant and placed its initial equipment order. The Company decided to commence construction in the Spring of 2023 and so the equipment would be placed in service in November 2023. (OCA-1-15(a)). In response to OCA-I-26, the Company plans to book $31,243,586 of FTY Capital, no dollar amount was recorded in the FPFTY Capital, with an in-service date of November 2023 and a completion date of January 2024 for the Natural Gas Reliability Project.

Q. ARE YOU RECOMMENDING AN ADJUSTMENT TO THE COMPANY'S GAS PLANT IN SERVICE CLAIM RELATED TO THE NATURAL GAS RELIABILITY PROJECT?

A. No, not at this time based upon the information available. However, the Company should explain the plant costs incurred in the FTY and update any change to planned FPFTY capital spending, broken out between the 11.5 mile gas mains, gas reliability station, and LNG plant upgrades components of the Natural Gas Reliability Project. (OCA-I-26)(a)). The Company should also explain the timeline for start and completion of the gas reliability station, in consideration of the pending appeal in state court. The Company's revised plan to commence construction in the Spring of 2023 of the LNG upgrade is at odds with the Company's lack of capital investment in the FPFTY period related to the Natural Gas Project (OCA-I-26). The Company should confirm the completion date of January 2024 and the in-service date of November 2023 and whether this plant addition will be used and useful at November 2023. (OCA-I-26). In addition, I am not addressing nor recommending whether the Project should proceed, but rather to emphasize the harm to ratepayers if the capital expense is included in the Company's Rate Base but the plant is not actually used and useful in the provision of utility service at the time the Commission sets rates for service and prior to the end of the Company's FPFTY period December 31, 2023.

2. <u>Accumulated Depreciation</u>

Q. WHAT HAS THE COMPANY CALCULATED WITH RESPECT TO ITS ACCUMULATED DEPRECIATION?

A. The Company computed accumulated depreciation in the amount of $960,624,000 as shown on Company Exhibit MJT-1 Schedule A-1 and Schedule C-3. The Accumulated Depreciation balance is calculated based upon the accumulated depreciation balance at

December 31, 2021 and bringing those data forward to reflect additional depreciation accruals, plant retirements, and cost of removal net of salvage for the period through December 31, 2022. Accumulated Depreciation at December 31, 2023 was then deducted from the projected balance of utility plant as of that date to derive the Company's claimed FPFTY year-end net utility plant of $3.2 billion. (PECO St. No. 3 at 5).

Q. WHAT IS YOUR RECOMMENDATION?

A. I am accepting the Company's calculation with respect to the development of the Accumulated Depreciation balance. My adjustment is related to my recommended removal of certain projects and additions as I identified in my GPIS section of my testimony. As I removed certain projects and additions, I am making the associated adjustment to the Accumulated Depreciation balance. The Company utilized a composite rate of 2.4717% related to distribution plant, 3.8601% for its General Plant and 20.00% related to its Intangible Plant. (OCA-I-51).[8] This results in an overall adjustment of $247,682. My recommendation is shown on my Schedules DM-3 and DM-6.

3. Common Plant

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO COMMON PLANT?

A. The Company has included a net utility balance of $165,737,000 of Common Plant as shown on PECO Exhibit MJT-1 Schedule C-8. The Company has included allocated costs related to Land, Organization, Miscellaneous Intangible Plant, General Plant and Other Plant for a total of $283,522,000. The Company adjusted this balance by $117,784,000 related to accumulated depreciation to arrive at a net Common Plant balance of $165,737,000.

Q. HOW DOES THE COMPANY ALLOCATE COMMON PLANT TO THE GAS DIVISION?

A. In response to OCA-I-35,[9] the Company allocates Common Plant to the PECO-Gas Division based upon the average of three ratios which are determined from the prior year

[8] Copy of OCA-I-51 in Attachment B.
[9] Copy of OCA-I-35 in Attachment B.

end actual results. Common Plant is allocated between PECO Gas and PECO Electric. The Company utilizes year-end plant in service, annual revenues and year-end number of customers to develop the allocation percentages to the Gas Division. No common plant is allocated from Exelon to PECO Gas, but PECO Energy Company Common Plant is allocated between the Gas and Electric Divisions.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S COMMON NET PLANT BALANCE OF $165,737,000?[10]

A. I reviewed the Company's development of the Common Plant balance, and I have no changes to the balance. (OCA-I-35).

4. Working Capital

Q. WHAT DID THE COMPANY PROPOSED RELATED TO ITS CASH WORKING CAPITAL (CWC)?

A. The Company has proposed a CWC balance of $17,359,000 as shown on PECO Exhibit MJT-1 Schedule C-1 and C-4. The Company calculated a working capital for O&M Expenses of $19,966,000 and adjusted this balance for average prepayments of $2,296,000, Accrued Taxes of $1,060,000 and Interest Payments of ($5,963,000) for a total working capital requirement of $17,359,000.

Q. DO YOU HAVE ANY ADJUSTMENTS OR CHANGES IN THE METHODOLOGY USED BY THE COMPANY TO CALCULATE ITS CWC?

A. No. I am accepting the Company's CWC methodology. My adjustments relate to my adjustments with respect to O&M Expenses, and other adjustments used to develop the CWC balance.

Q. WHAT ARE YOUR ADJUSTMENTS WITH RESPECT TO THE COMPANY'S CWC BALANCE?

A. I adjusted the Company's Cash Working Capital to incorporate my adjustments to my recommended O&M Expenses which flow through to the Cash Working Capital document. My recommended balance is approximately $14,803,000 and is shown on my Schedules DM-3 and DM-7.

[10] Differences due to rounding.

5. Accumulated Deferred Income Taxes (ADIT)

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS ACCUMULATED DEFERRED INCOME TAXES (ADIT)?

A. The Company proposed a balance in its ADIT in the amount of $255,375,000 as shown on PECO Exhibit MJT-1 Schedule C-1 and C-6. This balance represents the federal income taxes that must be deferred in compliance with the normalization provisions pertaining to the use of accelerated tax depreciation for federal income tax purposes on the test year plant balances and other tax/book timing differences that have been normalized. (PECO St. No. 3 at 21). Mr. Trzaska stated that it was not necessary to make a separate adjustment for Contribution in Aid of Construction (CIAC) as CIAC is treated as a capital contribution for ratemaking purposes but is treated as taxable income for Federal income tax purposes. PECO pays the Federal income tax due on CIAC in the year the CIAC is received and included in taxable income. The associated tax payment is recorded as a debit to the ADIT account which normally carries a credit balance, and the net effect of the ADIT calculation reflects the tax-book timing difference related to taxes paid on CIAC (PECO St. No. 3 at 22).

Q. WHAT ADJUSTMENTS DO YOU HAVE RELATED TO THE COMPANY'S ADIT BALANCE?

A. I do not have any adjustments with respect to the methodology the Company used to calculate the ADIT balance nor the CIAC balance. My adjustments reflects my recommended removal of certain projects that I addressed in my GPIS testimony section.

Q. WHAT IS YOUR TOTAL ADJUSTMENT RELATED TO THE COMPANY'S ADIT BALANCE?

A. I utilized my recommended balance of the Accumulated Depreciation adjustment of $247,682 and multiplied that amount by the Company's composite rate of 28.892%. This produces an adjustment of $71,560 ($247,682 * 28.892%). This is shown on my Schedules DM-3 and DM-8. (OCA-I-34).

6. Accumulated Deferred Income Taxes – Excess (ADIT) Regulatory Liability

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS ADIT BALANCE – REGULATORY LIABILITY?

A. The Company has proposed an Excess ADIT balance of $115,576,000 as shown on PECO Exhibit MJT-1 Schedule C-1 and C-12. This represents the Excess Accumulated Deferred Income Tax that has been removed from the ADIT account and recorded as a regulatory liability. (PECO St. No. 3 at 24).

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S PROPOSED ADIT – REGULATORY LIABILITY BALANCE?

A. After a review of the data responses provided by the Company in OCA-I-36, I am accepting the Company's balance of $115,576,000. My balance is shown on my Schedule DM-9.

C. OPERATING INCOME

1. Operating Revenues

Q. WHAT HAS THE COMPANY PROPOSED AS ITS OPERATING REVENUE AT PRESENT RATES AND PROPOSED RATES?

A. As shown on PECO Exhibit MJT-1 Schedule D-1 the Company proposed total Operating Revenues at Present Rates of $652,142,000, and total Operating Revenues at Proposed Rates of $734,413,000. The difference represents the revenue increase of $82,110,000. (PECO St. No. 3 at 31).

Q. WHAT ADJUSTMENTS DID THE COMPANY MAKE TO DERIVE ITS $652,142,000 BALANCE AT PRESENT RATE REVENUE?

A. As shown on PECO Exhibit MJT-1 Schedule D-5, the Company made various adjustments to: (1) to annualize revenues for the projected number of customers at the end of the FPFTY period of $2,260,000 (PECO Exh. MJT-1 Sch. D-5A); (2) to adjust Customer Assistance program (CAP) revenue credits and adjustments reflecting the number of CAP customers at the end of the FPFTY period of $14,000 (PECO Exh. MJT-1 Sch. D-5B); (3) to account for a leap year adjustment of $391,000 (PECO Exh. MJT-1 Sch. D-5C) and; (4) to reflect the elimination of asset optimization revenues representing the Company's offset net margin from off-system sales and capacity releases credit of $3,057,000 (PECO Exh. MJT-1 Sch. D-5E). The total net adjustment results in a decrease of $391,000 as shown on PECO Exhibit MJT-1 Schedule D-2.

Q. DID THE COMPANY UPDATE ITS OPERATING REVENUE SUBSEQUENT TO THE INITIAL FILING?

A. No, the Company did not update its Operating Revenue subsequent to the initial filing.

Q. DO YOU HAVE ANY ADJUSTMENTS TO THE COMPANY'S PRESENT RATE REVENUE?

A. Yes, I do. I reviewed the Company's Operating Revenue with respect to Forfeited Discounts, Miscellaneous Service Revenue, Rent for Electric Property and Other Gas Revenues in response to OCA-I-29.[11] With respect to the Company's Forfeited Discount adjustment of $161,000 (PECO Exh. MJT-1 Sch. A-1 and D-1) I am adjusting this balance based upon my recommended revenue requirement increase of $6,200,000. This reduces the Forfeited Discount adjustment by $148,860 or a balance of $12,140. My adjustments are shown on my Schedule DM-4, line 8.

2. OPERATION AND MAINTENANCE EXPENSES

Q. HOW DID THE COMPANY DEVELOP ITS OPERATING EXPENSES PRESENTED FOR RECOVERY IN THIS RATE PROCEEDING?

A. According to witness Mr. Trzaska the Company budgets its operating expenses by cost element or business activity such as payroll, employee benefits, rent, etc. (PECO St. No. 3 at 29). Company witness Mr. Trzaska stated that the Company does not budget its operating expenses by FERC account, but costs were analyzed to develop a chart showing charges for each cost element within each FERC account. Mr. Trzaska then distributed the forecasted FPFTY charges by cost elements in those categories to the corresponding FERC accounts based upon the ratios experienced during calendar year 2021. (PECO St. No. 3 at 29). This process was used for each cost category to transform the FPFTY expense forecast by cost element to a FERC-based forecast and brought forward to Company Schedule B-4. (PECO St. No. 3 at 29). These transformations were needed because the Company's annual reports to the Commission were presented on a FERC-account basis and having the FPFTY forecast presented in the same format facilitates a comparison to prior years'

[11] Copy of OCA-I-29 in Attachment B.

experience. The transformation was also needed for use by Company witness Ms. Ding in the cost of service study. (PECO St. No. 3 at 30).

Q. WHAT LEVEL OF OPERATING EXPENSES HAS THE COMPANY RECOVERED UNDER ITS HTY PERIOD?

A. As shown on Company Exhibit MJT-3 Schedule D-1 and further broken down on Schedule D-4, the Company booked $419,331,000 of Operating Expenses for the HTY.

Q. WHAT LEVEL OF OPERATING EXPENSES HAS THE COMPANY PROJECTED IN ITS FTY PERIOD?

A. As shown on Company Exhibit MJT-2 Schedule D-1 and further broken down on Schedule D-4, the Company has proposed to recover $523,620,000 of Operating Expenses, an increase of $104,289,000 over the Company's HTY period. (24.87% increase).

Q. WHAT LEVEL OF OPERATING EXPENSES HAS THE COMPANY PROPOSED TO RECOVER IN THIS PROCEEDING UNDER ITS FPFTY TEST PERIOD?

A. As shown on Company Exhibit MJT-1 Schedule D-1 and further broken down on Schedule D-3 and D-4 the Company has proposed to recover $514,560,000 of Operating Expenses during the FPFTY period. This is a decrease of $9,229,000 from the Company's FTY period (1.73% decrease). The overall claim for recovery of O&M expenses is an increase of $95,229,000 from the Company's HTY period to the Company FPFTY period an increase of 22.7%.

Q. **DO YOU ACCEPT THE COMPANY'S $514,560,000 OPERATING EXPENSE BUDGET FOR THE FPFTY FOR RATEMAKING?**

A. No, I do not. The Company's proposed O&M expense is overstated as it includes elements of Salaries and Wage expenses beyond the FPFTY and other costs for activities which benefit shareholders and should not be charged to customers. My adjustments to the Company's O&M claims is shown on my Schedule DM-4.

a. <u>Company Overall Salary & Wages (S&W) Increase</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS SALARY AND WAGES INCREASE?

A. As shown on Company Exhibit MJT-1 Schedule D-6, the Company proposed an overall Salary & Wages increase of $1,509,000 or 3.07% over adjusted S&W for employees in the FPFTY period which included increase to its Union and Non-Union Employees. The Company's jurisdictional payroll[12] before the proposed rate increase was computed at $49,120,000. To that amount, the Company's added the $1,509,000 increase, to arrive at a total S&W balance of $50,628,000 as shown on Schedule D-6 pages 50 and 60.

Q. HOW DID THE COMPANY DEVELOP ITS PROPOSED S&W INCREASE OF $1,509,000?

A. The Company's adjustment reflects the annualized budgeted S&W expense based upon the number of employees at the end of the FPFTY and certain wage increases to become effective during the FPFTY or shortly after the FPFTY. Mr. Trzaska annualized the 2.5% wage increase for non-union employees forecasted to be effective on March 1, 2023 and projected 2.5% wage increase for union employees to be effective on January 1, 2024 and the projected 2.5% wage increase for non-union employees to be effective on March 1, 2024 (PECO St. No. 3 at 31).

Q. WHAT WERE THE COMPANY'S NEXT ADJUSTMENTS?

A. Mr. Trzaska normalized a cash payment to union employees made in connection with the ratification of current union contracts in March 2021. The portion of the payment that was expensed in the amount of $1.303 million was split between electric distribution, electric transmission and gas operations and the amount that was allocated to gas distribution operations of $263,000 was divided by six periods to reflect the six-year term of the contract. The resulting amount of $44,000 was added to the pro forma adjustment for S&W (PECO St. No. 3 at 31-32). (OCA-I-42).[13]

Q. WHAT WAS THE LAST ADJUSTMENT THE COMPANY MADE TO ITS S&W ADJUSTMENT?

A. Mr. Trzaska annualized the number of employees to occur during the FPFTY. The Company projected 700 employees and the average number of employees projected in the

[12] The Company allocates payroll between electric distribution, electric transmission and gas operations (PECO St. No. 3 at 31).
[13] Copy of OCA-I-42 at Attachment B.

FPFTY period was 698. The Company calculated an annual S&W per employee of $72,400 and an annualized increase for new employees of $133,000 (PECO St. No. 3 at 32, Exh. MJT-1 Sch. 6).[14]

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED S&W INCREASE OF $1,509,000?

A. My first adjustment is to remove the Company's annualized wage increase to become effective as of January 1, 2024, in the amount of $619,000 for Union employees and effective as of March 1, 2024, in the amount of $612,000 for Non-Union employees, a total of $1,231,000. This adjustment is shown on my Schedule DM-13, line 51. These proposed increases are beyond the Company's test year period ending December 31, 2023 and should not be included in the revenue requirement proposal. These are considered out of period adjustments and should not be included in the development of the Company's salary and wages expense. Operating Expenses such as S&W should be recovered and identified for recovery for ratemaking purposes during the time period when rates are set by the Commission. In this case, costs that may be incurred beyond the FPFTY period are considered out of period adjustments and beyond the test year period in which the Company's rates will be set and in effect.

Q. WHAT IS YOUR FINAL ADJUSTMENT TO THE COMPANY'S S&W INCREASE?

A. My second and final adjustment is to apply an appropriate vacancy ratio. The Company's adjustment for vacancies does not reflect a proper normalized amount. The Company stated that its budget assumes an approximate 2% vacancy rate for the FTY and FPFTY. The Company has forecasted no variance to the budget for the FTY or the FPFTY. In response to OCA-I-40, the Company provided a four year vacancy ratio (2019-2022). Normalizing this vacancy ratio over three years (December 2020, December 2021 and March 2022) equals 5.77%. Removing the 2% vacancy rate already included in the FPFTY budget equals a net vacancy ratio of 3.77%.

[14] $72,400 annual S&W per employee times two equals $144,800. A difference of $11,800 from the Company's adjustment of $133,000.

Q. WHAT WAS THE COMPANY'S VACANCY RATIOS DURING THE 2020-2022 YEARS?

A. In response to OCA-I-40,[15] the Company showed a vacancy ratio of 4.60% in 2020 (29 vacancies in 2020), 7.50% in 2021 (51 vacancies in 2021) and 5.20% in 2022 (34 vacancies through March 2022). On average the number of vacancies in a one year period is 17. (OCA-I-41 - 85 total employee turnover divided by 5 years).[16]

Q. DID THE COMPANY PROVIDE THE NUMBER OF EMPLOYEES THAT HAVE LEFT THE COMPANY?

A. Yes, in response to OCA-I-41, the Company indicated that on average the number of employees that have left the Company, involuntarily, through retirement and voluntary, have been 85 in five years and 17 on a yearly average.

Q. DID THE COMPANY PROVIDE A SCHEDULE OF PAST EMPLOYEES LEVELS?

A. Yes. The Company has provided a schedule of employees for the periods 2019 through 2023 (OCA-I-39).[17] The Company had 601 employees as of December 2019 and expects to have 700 employees in the FPFTY period. The Company has added on average about 20 employees each year (99 / 5). The Company has added on average about 24 in a three year period. The Company has lost about 17 employees on average each year. The Company's vacancy rate has been on average about 13. Given that the Company has not been adding or hiring employees at the same level as the loss of employees, it is appropriate to use a vacancy ratio to normalize the level of employees going forward. The Company should update its response to OCA-I-20[18] showing the actual dates of employee hires through 2022 and what employees the Company expects or has projected to hire in 2023.

Q. WHAT EFFECT DOES YOUR VACANCY RATE ADJUSTMENT HAVE ON THE COMPANY'S S&W LEVEL?

[15] Copy of OCA-I-40 at Attachment B.
[16] Copy of OCA-I-41 at Attachment B.
[17] Copy of OCA-I-39 at Attachment B.
[18] Copy of OCA-I-20 at Attachment B.

A. My adjustment results in a decrease of $1,906,913 (Company S&W balance of $50,626,000 times the vacancy ratio of 3.77%). This adjustment is shown on my Schedule DM-13.

Q. WHAT IS THE IMPACT OF YOUR ADJUSTMENTS TO THE COMPANY'S PROPOSED S&W INCREASE OF $1,509,000?

A. My adjustments reduce the Company's S&W increase by $1,231,000 of which those S&W costs that goes beyond the Company's FPFTY period and my recommended balance is $278,000 ($1,509,000 less $1,231,000) shown on my Schedule DM-13.

Q. HAVE YOU ALLOCATED YOUR ADJUSTMENTS TO THE COMPANY'S S&W INCREASE BY ACCOUNT CATEGORIES?

A. Yes. My Schedule DM-13 shows the allocation by account categories that I performed to adjust the Company's S&W adjustment. I've also addressed this allocation to my adjustments for each of the Company's Operating Expenses below under each Expense Category.

b. <u>Incentive Compensation (AIP) and Stock Compensation</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO INCENTIVE COMPENSATION AND STOCK COMPENSATION?

A. As shown in response to OCA-I-6, OCA-I-38, and OCA-I-46,[19] the Company has proposed total Stock and Annual Incentive Plan costs of $5,679,000 for the FPFTY. In response to OCA-I-7, the Company proposed and claimed that the FPFTY Operating Expenses included $4.227 million of Incentive Compensation Pay and $1.453 million of Stock Compensation. These amounts are not included in PECO Exhibit MJT-1 Schedule D-6 (S&W Pro forma) but are included in the Total Operating Expenses reflected on Exhibit MJT-1 Schedule D-1. (OCA-I-38). The Company has provided a breakout of these Annual Incentive Costs and Stock Awards in response to OCA-I-46.

Q. HAS THE COMPANY PROVIDED INFORMATION RELATED TO ITS ANNUAL INCENTIVE PAY PLANS, VARIABLE PAY PLANS, OR BONUS PLANS THAT

[19] Copies of OCA-I-6, OCA-I-38, and OCA-I-46 are at Attachment B. The confidential attachment to OCA-I-6 is not included in Attachment B, as the attachment is an excerpt of the Company's rate filing, SDR-RR-27 (Confidential).

WERE USED TO DETERMINE THE PAYOUT RELATED TO INCENTIVE COMPENSATION AND STOCK COMPENSATION?

A. In response to OCA-I-6, the Company provided Confidential Attachments (SDR-RR-27) that depicts the Company's incentive plan descriptions. In response to OCA-VI-6[20] the Company stated that the Key Performance Indicators (KPI) shown in the Confidential Attachments (SDR-RR-27) are not available since the Company calculates cost based on overall performance and not by individual KPI. The Company referred to Confidential Attachment SDR-RR-27(a) for the Threshold, Target, and Distinguished level of performance for each KPI and their respective goal weight percentage for 2021. The Company stated that it will review and update the level of performance and goal weight for each KPI annually and may remove or add additional KPIs. Because this information is updated annually, the Threshold, Target and Distinguished level of performance for each KPI and their respective goal weight percentage for the FPFTY is not available. The determination of whether each of the goals were achieved cannot be determined until the end of the FPFTY.

Q. DID YOU ASK THE COMPANY FOR A BREAKDOWN OF THE ANNUAL INCENTIVE PROGRAM AND THE STOCK INCENTIVE PROGRAM EXPECTED TO OCCUR IN 2022 AND 2023, ALONG WITH WHICH GOALS WERE ACHIEVED, THE AWARD PAYOUT DATE AND THE AWARD PAYMENT DATE FOR EACH OF THE PROGRAMS SHOWN IN RESPONSE TO SDR-RR-27?

A. Yes. In response to OCA-VI-7,[21] the Company was asked to provide a breakdown of these expected costs for 2022 and 2023. However, the Company stated that it does not develop separate budgets for the Annual Incentive Program (AIP) for employees covered by a collective bargaining agreement and non-represented employees. The dollar amount of the AIP, the Long-Term Performance Plan, Restricted Stock Unit Award, Performance Share Award, and the Long-Term Performance Cash Award payout amounts are not available for 2022 and 2023 since the determination of whether the goals have been achieved, for which the payout is based on, will not occur until the end of the FTY and FPFTY, respectively.

[20] Copy of OCA-VI-6 at Attachment B. The confidential attachment to OCA-VI-6 is not included in Attachment B, as the attachment is an excerpt of the Company's rate filing, SDR-RR-27 (Confidential).
[21] Copy of OCA-VI-7 at Attachment B.

Q. WHAT DOCUMENTS DID THE COMPANY PROVIDE TO SUPPORT ITS AIP AND STOCK INCENTIVE COMPENSATION CLAIM IN THE AMOUNT OF $4,227,000 and $1,453,000, RESPECTIVELY?

A. In response to OCA-VI-6 – which referred to Confidential document SDR-RR-27, the Company provided several documents that explained: **(BEGIN CONFIDENTIAL)**

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted] **(END CONFIDENTIAL).** I asked the Company to provide the results of these KPIs by threshold, target, distinguished and Goal Weight. The Company responded that the cost of incentive and stock compensation by individual KPI is not available since the Company calculates cost based on overall performance and not by individual KPI. (OCA-VI-6). As stated previously, the Company cannot determine whether each of the goals was achieved until the end of the FPFTY period (December 31, 2023).

Q. IN REVIEWING THIS DOCUMENT WHAT IS YOUR RECOMMENDATION REGARDING INCENTIVE COMPENSATION?

A. I recommend that these Annual Incentive Costs and Stock Compensation Costs be removed from the Company's revenue requirement proposal. I believe these costs are not known

and measurable, and it is unclear how these awards are to be calculated and measured, given that the information will not be known until the end of the FPFTY period or December 31, 2023. In my opinion, the Company has provided several documents showing how the Annual Incentive is calculated and measured, as well as how the Stock Compensation Award is calculated and measured. However, the Company stated that in measuring incentive compensation and stock award, individual KPI's are not available since the Company calculates cost based upon overall performance and not by individual KPI. (OCA-VI-6). The Company has developed several documents related to the calculation of the Annual Incentive Program and Stock Awards, but it appears that it has not followed up on measuring the goals with respect to whether employees actually achieved the goals the Company set forth. My concern is that if employees did not achieve or meet the measurement goals and KPI's, it would be difficult to recover monies that ratepayers have paid for through rates set in this proceeding.

Q. WHAT INFORMATION DID YOU ASK THE COMPANY REGARDING THE ANNUAL INCENTIVE PROGRAM?

A. In response to OCA-VI-7, which refers to Confidential Attachments SDR-RR-27 (b), (c), (e), and (f), I asked for a breakdown by dollar amount regarding the Company's various Annual Incentive Awards and the costs expected to occur in 2022 and 2023, including whether the goals were achieved, the award payout date and the award payment date. The Company responded stating it does not develop separate budgets for the Annual Incentive Program for employees covered by a collective bargaining agreement and non-represented employees. The Company reiterated that the dollar amounts of the AIP, the Long-Term Performance Plan, the Restricted Stock Award, the Performance Share Award, and the Long-Term Performance Cash Awards payout amounts are not available for 2022 and 2023. The determination of whether these goals for which the payout is based on are achieved will not occur until the end of the FTY and the FPTY, respectively,

Q. WHAT IS YOUR RESPONSE?

A. It is unclear how much of the AIP was allocated to each of the Plans noted above and for each employee category value. The Company has developed these documents to gauge and measure the performance of employees in order to receive these AIP and Stock Incentive

costs but will not have the information to evaluate these payouts and measurements until the end of the FTY (December 31, 2022), and the end of the FPFTY (December 31, 2023). Absent such information, I am recommending removing these costs from the revenue requirement calculations, as I believe these costs are not known and measurable. As I stated previously, my concern is that if employees did not meet the measurement goals or KPI's needed to earn the AIP and Stock Awards, it would be difficult to recover the monies that ratepayers have paid for through rates set in this proceeding. Also, it is unclear as to how much the level of incentive compensation is related or attributed to such targets as value based engagements, best practice, outage frequency, outage duration, service level, call center satisfaction, customer satisfaction and gas odor response, as the Company does not gauge or calculate by individual KPIs but bases its incentive by overall performance. (OCA-VI-6). Lastly, I believe that in response to OCA-VI-7,[22] these costs appear to be geared toward and benefit shareholders rather than ratepayers of the Company. In Confidential Attachments SDR-RR-27 c through f, **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL).**

Q. WHAT ADJUSTMENT HAVE YOU MADE TO THE COMPANY'S AIP AND STOCK COMPENSATION EXPENSE?

A. I have deducted $5,680,000 from the Company's revenue requirement, as I believe these expenses are not appropriate to charge to consumers as the AIP and stock compensation metrics and rewards are directed at benefitting shareholders. Even if the type of expense may be allowed for ratemaking, the Company's expense claim for the FPFTY is not sufficiently known and measurable. My adjustment is shown on my Schedule DM-13.

c. <u>Inflation Adjustments</u>

[22] Copy of OCA-I-7 in Attachment B.

Q. DID THE COMPANY INCLUDE INFLATIONARY OR CPI ADJUSTMENTS IN DEVELOPING ITS O&M EXPENSES FOR THE FTY AND THE FPFTY PERIODS?

A. Yes. In response to OCA-I-8, which refers to I&E-RE-45, the Company provided an overall effect of inflation rates used in forecasting Salary and Wages, and other O&M Expenses associated with planned increases in employee and contracting expenditures in order to execute capital plans and maintenance programs.[23] The Company projected an increase of $8,098,000 or approximately 6.00% from the FTY balance of $135,718,000 to the FPFPY balance of $143,816,000 related to inflationary increases.

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. I recommend removal of certain PECO inflationary and deflationary increases and decreases from its O&M Expenses. Specifically I am recommending the following inflationary and deflationary adjustments be removed:

Bad Debt -	$212,000
BSC Contracting -	$554,000
Contracting/Material -	$3,805,000
Overtime –	($665,000)
Pension –	($118,000)
Transportation -	$282,000
Travel -	$5,000
Other -	$18,000
Total	**$4,093,000**

Q. WHY DO YOU BELIEVE INFLATIONARY COSTS SHOULD BE REMOVED FROM THE COMPANY'S REVENUE REQUIREMENT?

A. I believe that Inflationary / Deflationary Costs are not known and measurable and do not provide a good index of cost increases or cost decreases. These types of costs are overall blanket-type adjustments that are applied to all goods and services, which may not directly relate to costs incurred by the Company. It is simply a forecast or prediction of cost adjustments. While Inflationary Costs are good indicators to measure and develop economic data, they should not be used for ratemaking purposes. The Company has not

[23] Copies of OCA-I-8 and I&E-RE-45 are at Attachment B.

provided any evidence that the costs shown in response to OCA-1-9[24] have actually been affected, nor has provided any proof that specifically addresses annual increases or adjustments to the products and services supplied to the Company. My adjustments are shown on my Schedule DM-4, line 25.

d. Manufactured Gas Production (MGP)

Q. WHAT DID THE COMPANY PROPOSE REGARDING ITS MANUFACTURED GAS PRODUCTION?

A. The Company proposed a Manufactured Gas Production (MGP) balance of $444,000 as shown on Company Exhibit MJT-1 Schedule D-1 and Schedule D-4. To that balance the Company added $6,000 related to Salary and Wages for annualized wage increases of 2.50% for its Union and Non-Union Employees in the FPFTY, and an additional 2.50% of merit wages increases (Union and Non-Union Employees) through March 1, 2024. (PECO Exh. MJT-1 Sch. D-6 at 57, 59). The total balance for this account was projected at $448,000.[25] The total Pro forma adjustment payroll was calculated by the Company of $6,000 for Gas Expense S&W in Accounts 717.0, 741.0 and 742.0.[26] The overall MGP payroll is $172,000.

Q. DO YOU HAVE ANY ADJUSTMENTS TO THE COMPANY'S MANUFACTURED GAS PRODUCTION?

A. Yes, I do. I am accepting the Company's adjustments related to the wage increases in the FPFTY period for the annualized March 1 period, (PECO Exh. MJT-1 Sch. D-6 at 59, 60). However, with respect to the Company's proposed January 1 and March 1, 2024 wage increase, as I testified to previously, I recommend removing these wage increase impacts as these go beyond the FPFTY period and are out of period adjustments.

Q. HOW DID YOU ALLOCATE THE ADJUSTMENTS TO THE MGP SALARIES AND WAGES TO THE TOTAL S&W WAGE ADJUSTMENT OF $1,509,000?

As shown on my S&W Worksheet, I allocated these MGP S&W based upon the Company's allocation of S&W shown on Schedule D-6 (S&W Summary). The percentage

[24] Copy of OCA-I-9 at Attachment B.
[25] Any differences due to rounding.
[26] Any differences due to rounding.

related to the MGP S&W are shown on my Schedule DM-13. The portion related to the Company's MGP S&W is a reduction of $4,160 from the Company's overall MGP payroll of $172,000 or a balance of $167,840.

e. Storage Operations / Maintenance Expenses

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS STORAGE OPERATIONS AND MAINTENANCE EXPENSES?

A. As shown on Company Exhibit MJT-1 Schedule D-1 and D-4 the Company proposed a balance of $1,179,000 of Storage Operations Expenses. To that balance the Company added $19,000 related to Salary and Wages for annualized wage increases of 2.50% for its Union and Non-Union Employees in the FPFTY, and an additional 2.50% of merit wages increases (Union and Non-Union Employees) through March 1, 2024. (PECO Exh. MJT-1 Sch. D-6 at 57, 59). The total balance was calculated at $1,198,000. With respect to Storage Maintenance, the Company calculated a balance of $5,030,000 and added $58,000 related to Salary and Wages in the same manner as the Company's Storage Operations for a total balance of $5,088,000.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S STORAGE OPERATIONS AND MAINTENANCE EXPENSES?

A. I am accepting the Company's adjustments related to the wage increases in the FPFTY period for the annualized March 1 period, (PECO Exh. MJT-1 Sch. D-6 at 59, 60). With respect to the Company's proposed January 1 and March 1, 2024, wage increase and as I testified to previously, I am recommending removing these wage increase impacts as these go beyond the FPFTY period and are out of period adjustments. As I adjusted the Company's MGP S&W wages I am adjusting the Company's Storage Operation and Maintenance Expenses in the same manner. My reductions are $15,063 to Storage Operation Expense and $47,444 to Storage Maintenance expense, as shown on my Schedule DM-11.

f. Other Gas Supply

Q. WHAT DID THE COMPANY PROPOSE REGARDING ITS OTHER GAS SUPPLY COSTS?

A. The Company proposed a FPFTY Pre-Adjustment amount of $255.672 million related to its Other Gas Supply expenses as shown on PECO Exhibit MJT-1 Schedule D-4. To that balance the Company adjusted its expense by $1.657 million related to fuel purchased from Natural Gas City Gate Purchases (PECO Exh. MJT-1 Sch. D-5E). Company witness Mr. Trzaska stated that this adjustment reflects the elimination of asset optimization revenues representing the Company's net margin from off-system sales and capacity release credits. (PECO St. No. 3 at 28). Customers receive their share of the net proceeds from these sales and capacity releases through the Purchased Gas Cost rate, and the Company retains its appropriate share of the margin, which is recorded below the line for ratemaking purposes. (PECO St. No. 3 at 28-29).

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. After review, I am accepting the Company's post-adjustments of ($1,657,000) and which is supported in response to OCA-I-31. (Schedule DM-12).

g. <u>Distribution Operations and Maintenance Expense</u>

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS DISTRIBUTION EXPENSES – OPERATIONS AND MAINTENANCE?

A. The Company has proposed a Distribution Expense of $76,074,000 (FPFTY Pre-Adjustment). This balance consists of Distribution Operations of $46,795,000 and Distribution Maintenance of $29,280,000. To those balances the Company added $535,000 for increased Distribution Operations - Salary and Wages and $474,000 for increased Distribution Maintenance- Salary and Wages. The total Post-Adjustments for Distribution Expense was calculated at $77,081,000 which is shown on PECO Exhibit MJT-1 Schedule D-1. The Salary and Wage adjustment balances are shown on PECO Exhibit MJT-1 Schedule D-4 with the total carrying over to Schedule D-6.[27]

Q. DID THE COMPANY INCLUDE ANY OTHER SPECIFIC ADJUSTMENTS IN ITS DISTRIBUTION EXPENSE BALANCE?

[27] Differences due to rounding.

A. No. The Company's only adjustments to its Distribution Expenses were to the Salary and Wage adjustments shown on PECO Exhibit MJT-1 Schedule D-4.

(**1). <u>Salary and Wages</u>**

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS SALARY AND WAGES FOR ITS DISTRIBUTION EXPENSE?

A. The Company has proposed $1,009,000 of additional S&W expense for its Distribution Expenses for the FPFTY. Of this total Distribution S&W increase, $535,000 is related to its Operations and $474,000 related to Maintenance Expense. (PECO Exh. MJT-1 Sch. D-6 page 59). The breakdown and description of these adjustments are outlined in Section III.C.2.a. of my testimony above and shown on my Schedule DM-13.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S S&W EXPENSE?

A. As I testified to and outlined my reasoning in Section III.C.2.a. above, I am recommending a total adjustment (reduction) of $436,415 for S&W related to Distribution Operations and a reduction of $386,641 related to Maintenance expenses. I carried over these adjustments from my Schedule DM-13 to my Schedule DM-14. My recommended recovery balance for Distribution – Operations S&W is $98,585 and for Distribution - Maintenance is $87,359. These adjustments remove increases that are beyond the Company's test year period ending December 31, 2023 and should not be included in the revenue requirement proposal. I consider these adjustments to be out of period adjustments and should not be included in the development of the Company's salary and wages expense. Operating Expenses such as S&W should be recovered during the Company's proposed rate year period under the FPFTY ending December 31, 2023, and costs that is to be incurred beyond the FPFTY period is beyond the period in which the Company's rate will be in effect.

Q. WHAT OTHER ADJUSTMENTS DO YOU HAVE RELATED TO THE COMPANY'S DISTRIBUTION – OPERATION EXPENSES?

A. I do not have any other adjustments to the Company's Distribution – Operation Expenses.

Q. WHAT OTHER ADJUSTMENTS DO YOU HAVE RELATED TO THE COMPANY'S DISTRIBUTION – MAINTENANCE EXPENSES?

A. I do not have any other adjustments to the Company's Distribution- Maintenance Expenses.

h. Customer Accounts Expense

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS CUSTOMER ACCOUNTS EXPENSE?

A. As shown on PECO Exhibit MJT-1 Schedule D-4, the Company proposed a FPFTY Pre-Adjustment balance of $19,419,000 before adjustments and a balance of $19,555,000 after adjustments. These adjustments were related to Salary and Wages of $207,000 (PECO Exh. MJT-1 Sch. D-6), Uncollectible Accounts of ($63,000), (PECO Exh. MJT-1 Sch. D-10), Customer Deposit Interest of $97,000 (PECO Exh. MJT-1 Sch. D-12), and adjustments to its MGP collection TARC refunds and Commercial EE&C Programs of ($104,000) (PECO Exh. MJT-1 Sch. D-14). The Company is proposing to amortize these cost over three years ($313,000/3 or $104,000 annually.

Q. WHAT ADJUSTMENTS DO YOU HAVE RELATED TO THE COMPANY'S CUSTOMER ACCOUNTS EXPENSE?

A. I have two adjustments. My first adjustment relates to the Company's Salary and Wages portion of Customer Accounts Expense in the amount of $207,000 as discussed below. Regarding the Company's Uncollectible Account Expense adjustment to Customer Accounts Expense as shown on Company Schedule D-10, my adjustment is related to my recommended revenue requirement increase of approximately $6,500,000 using the Company' Uncollectible Account percent ratio of .3265%, as described in section III.h.2 below. As I describe below, this second adjustment reduces the balance by $21,223 as shown on my Schedule DM-15. I do not have any adjustments related to the remaining adjustments shown on Company Schedules D-12 and D-14.

(1). Salary and Wages (Schedule D-6)

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS SALARY AND WAGES PORTION OF CUSTOMER ACCOUNTS EXPENSE?

A. The Company proposed total adjustments to its Salary and Wages of $207,000, of which $197,000 is related to Customer Records and Collections, and $9,000 for Miscellaneous Customer Accounts Expense. The breakdown of these adjustments are shown on my Schedule DM-13 and in my testimony Section III.C.2.a.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S SALARY AND WAGE EXPENSE ADJUSTMENT?

A. As I indicated previously in my testimony and as further discussed under Section III.C.2.a. of my testimony, my adjustments are related to the Company's S&W expense claim that goes beyond the FPFTY period (December 31, 2023). My adjustment removes $160,977 from the Company's Customer Records and Collections Expenses, and $7,569 from the Company's Miscellaneous Accounts Expenses. These are considered out of period adjustments and should not be included in the development of the Company's salary and wages expense. Operating Expenses such as S&W should be recovered during the Company's proposed FPFTY period ending December 31, 2023, and costs that is to be incurred beyond the FPFTY period is beyond the period in which the Company's rate will be in effect. My adjustments reduces the Company's S&W Expense from $207,000 to $38,454 a difference of $168,546. This is shown on my Schedule DM-15.

(2). <u>Uncollectible Accounts (Schedule D-10)</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS UNCOLLECTIBLE ACCOUNTS PORTION OF CUSTOMER RECORDS EXPENSE?

A. As shown on Company Schedule D-10, the Company proposed a reduction to its Uncollectible Accounts of $63,000. Mr. Trzaska utilized a three-year average of charge – offs (PECO Exh. MJT-1 Sch. D-10) (excluding CAP-in program) as a percentage of total tariff revenue for the 2019-2021 period, which resulted in an uncollectible accounts expense ratio of 0.03265%. (PECO St. No. 3 at 42). Using the Company's tariff revenue of $737.597 million and multiplying it by 0.03265% the Company calculated a pro-forma uncollectible account expense of $2.408 million. Mr. Trzaska then added the average of Pre-program arrearages (PPA) associated with the CAP program of $352,000 (which are not included in other accounts) to arrive at a present rate uncollectible accounts expense of $2.761 million. The Company then subtracted this amount from the Company's current uncollectible accounts expense of $2.823 million to arrive at a balance of ($63,000).

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S UNCOLLECTIBLE ACCOUNTS?

A. I reviewed the Company's Uncollectible Accounts proposal and am accepting the Company's methodology. The Uncollectible Accounts balance is derived from the prior three-years of uncollectible expenses, and the prior three-years of Net PPA Uncollectible Accounts. My only adjustment is to the additional Uncollectible Accounts Expense related to the Company's revenue requirement. Since I am recommending a revenue requirement increase of approximately $6,200,000, I am adding this my recommended Present Rate Revenues of $652,155,000 to arrive at $658,355,000. I then multiplied this amount by .3265% to arrive at a balance of $2,150,000. I then added the PPA Uncollectible balance of $352,000 to arrive at Pro forma balance of Uncollectible of $2,502,000. I then subtracted this balance from the Company's Uncollectible balance of $2,823,000 to arrive at a reduction of $321,470. This is an increase to the Company's negative balance of $258,470 ($320,470 less $63,000).[28] My adjustment is shown on my Schedule DM-15.

i. <u>Customer Service & Information Expense</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS CUSTOMER SERVICE & INFORMATION EXPENSE?

A. The Company proposed a FPFTY pre-adjustment balance of $5,167,000. To that amount the Company added costs related to Salary and Wages of $7,000, Company Exhibit MJT-1- (PECO Schedule D-6) – Safe & Efficient Heating Program (SEHP) of $400,000 (PECO Sch. D-11) and Customer Programs Costs of $167,000 (PECO Sch. D-15) for an adjusted balance of $5,741,000 as the Company's FPFTY claim or Customer Service and Information Expense.[29] I will address each below.

Q. WHAT ADJUSTMENTS DO YOU HAVE RELATED TO THE COMPANY CUSTOMER SERVICE AND INFORMATION EXPENSES?

A. I have three adjustments. First, I recommend a reduction of the Company's proposed $7,000 related to the Company's Salary and Wages adjustment. Second, I recommend adjustments related to certain of the expenses in the Company's Customer Assistance Account (908.00). Third, I recommend an adjustment related to certain of the expenses in the Company's Information and Instructional Advertising Account (909.00) (OCA I-23).

[28] All differences due to rounding.
[29] Any differences due to rounding.

(1). Salary and Wages (Schedule D-6)

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS SALARY AND WAGES?

A. As shown on Company Exhibit MJT-1 Schedule D-4, the Company has included increases to the Salary & Wages component of Customer Service and Information Expense by $7,000. The breakdown and development of these adjustments are shown on my Schedule DM-13 and in my testimony Section III.C.2.a.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED $7,000 SALARY & WAGE INCREASE?

A. As I indicated previously in my testimony and as further discussed under Section III.C.2.a., my adjustments are related to the Company's out of period adjustments related to its Salary and Wage expenses in which the Company has proposed to include costs incurring in January 1, and March 1, 2024. These cost adjustments should not be included in the development of the Company's salary and wages expense portion of Customer Service and Information Expense. My recommended adjustments to remove these post-FPFTY adjustments are shown on DM-13 to DM-16. My adjustment is a $5,439 reduction, and my balance is $1,561.

(2). Economic Development – Labor and Benefits

Q. HAS THE COMPANY SPECIFICALLY IDENTIFIED ADJUSTMENTS TO ITS REVENUE REQUIREMENT REQUEST RELATED TO ECONOMIC DEVELOPMENT COSTS AND RELATED WORKFORCE DEVELOPMENT, COMMUNITY SERVICES/INVOLVEMENT AND OTHER VOLUNTEER ACTIVITIES?

A. Yes. In response to OCAI-23,[30] the Company provided a cost breakdown of the above expenses totaling $183,000. The Company allocated these costs to Account Nos. 908.00 (Customer / Assistance Service) of $136,000; 912.000 (Sales Expense) of 31,000 and; 926.000 (A&G Employee Benefits) of $16,000. For Workforce Development the Company provided a cost breakdown totaling $199,000. These costs were allocated to Account Nos. 920.00 (A&G Salaries) of $99,000; Account No. 921.00 (A&G Office

[30] Copy of OCA-I-23 at Attachment B.

Supplies) of $99,000 and; Account No. 926.00 (A&G Expenses Employee Benefits) of $3,000. For Community Involvement the Company provided a cost breakdown totaling $183,000 and allocated them to Account No. 921.000 (A&G Office Supplies). For Employee Volunteer Events the Company provided a cost breakdown of $54,000 and allocated them to Account No. 921.00 (A&G Office Supplies). The Workforce Development costs and adjustments will be discussed below under A&G Expenses. The Community Involvement Costs and adjustments will be discussed below under A&G Expenses. The Employee Volunteer Events Costs and Adjustments will be discussed below under A&G Expenses.

Q. WHAT IS YOUR RECOMMENDATION AS TO THIS ECONOMIC AND DEVELOPMENT COMPONENT OF THE COMPANY'S CUSTOMER SERVICE & INFORMATION EXPENSE CLAIM ?

A. I made adjustments to the Company's Economic Development costs in the amount of $136,000. I also made adjustments to Employee Volunteer Events of $54,000 which I will address in my A&G Expense section. Regarding the $136,000 costs for Economic Development, I believe these costs should be removed from the Company's revenue requirement proposal as these types of costs should not be borne by ratepayers. These costs should be borne by local, municipal and state organizations or the shareholders of PECO Energy – Gas Division. These types of costs appear to be related to regional and various local communities that may or may not be customers of the Company. I do not see the nexus between these costs and the provision of safe and reliable service to customers. If the Company wants to be good corporate citizens, then the shareholders should pay for these types of costs and should not require ratepayers to pay for them. My adjustments are shown on my Schedule DM-16.

(3). <u>Informational/Instructional Advertising</u>

Q. WHAT DID THE COMPANY INCLUDE IN ITS INFORMATION/ INSTRUCTIONAL ADVERTISING EXPENSE CLAIM?

A. In response to OCA-I-12 which refers to I&E-RE-12(a),[31] the Company has included Information and Instructional Advertising related to Public Health and Safety,

[31] Copies of OCA-I-12 and I&E-RE-12 are at Attachment B.

Conservation of Energy, billing services explanation, Energy Innovation and Other Advertising Expenses. These costs show a total of $690,000.

Q. WHAT TYPES OF COSTS ARE INCLUDED IN OTHER ADVERTISING EXPENSES?

A. In response to OCA-VI-9,[32] the Company provided a breakdown of Other Advertising Expenses which total $235,000. These relate to Creative /Production, Management and Research.

Q. WHAT IS YOUR RECOMMENDATION AS TO THE OTHER ADVERTISING EXPENSE INCLUDED IN THE COMPANY'S CUSTOMER SERVICE AND INFORMATION CLAIM?

A. I recommend removing these costs from the Company's O&M Expenses. My adjustment is shown on my Schedule DM-16. With respect to Creative/Production advertising, these costs relate to Company branding and the inclusion of elements for a company that are particular to that company. The Company has not provided any more information related to these costs. With respect to Management and Research costs, I am unsure what they represent, and the Company has not provided any further details or descriptions on these costs. I am of the opinion that these costs do not provide benefits to ratepayers, nor any benefits related to customer service or customer support.

j. <u>Sales Expense</u>

Q. WHAT DID THE COMPANY PROPOSE RELATED TO ITS SALES EXPENSE?

A. The Company proposed a FPFTY pre-adjusted balance of $1,714,000 and an adjusted balance of $1,726,000, a difference of $12,000. (PECO Exh. MJT-1 Schedule D-4). This difference is due to the Company's adjustments for Salary & Wages as shown on Company Schedule D-6. I will address this below.

(1). <u>Salary and Wages</u>

[32] Copy of OCA-VI-9 at Attachment B.

Q. HOW DID THE COMPANY DEVELOP ITS ADJUSTMENT OF $64,000 RELATED TO SALES EXPENSE?

A. As more fully explained in Section III.C.2.a. of my testimony above, the Company proposed an increase to its Sales Expense - Salary and Wages of $12,000 under Account 912.00 Demonstrating and Selling Expenses. The overall adjustments are shown on PECO Exhibit MJT-1 Schedules D-6.

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S $12,000 ADJUSTMENT TO SALARY & WAGES?

A. As I indicated previously in my testimony and as further discussed under Section III.C.2.a., I recommend removal of the Company's out of period adjustments related to its Salary and Wage expenses in which the Company has proposed to include costs incurring in January 1, and March 1, 2024. These costs adjustments should not be included in the development of the Company's salary and wages expense. Operating Expenses such as S&W should be recovered during the Company's proposed FPFTY period ending December 31, 2023, and costs that are to be incurred beyond the FPFTY period are beyond the period in which the Company's rates will be in effect. These flow through the adjustments shown on DM-13 to DM-17. My adjustment is a $10,000 reduction, and my balance is $2,000.

Q. DO YOU HAVE ANY OTHER ADJUSTMENTS WITH RESPECT TO THE COMPANY'S SALES EXPENSE?

A. Yes. I am recommending an adjustment to the Company's Economic Development Costs as discussed below.

(2). <u>Economic Development</u>

Q. WHAT HAS THE COMPANY PROPOSED OR PROVIDED RELATED TO ECONOMIC DEVELOPMENT?

A. As indicated previously in Section III.C.2.i., the Company proposed an Economic Development expense of $183,000, of which $183,000 is accounted for in the Company's Customer Service Expense, Sales Expense and A&G Expense. My arguments for removing these costs are explained under my Customer Service and Information expense section at III.C.2.i.(2) above, and more fully explained here. I removed $31,000 from the Company's

Sales Account 912.00 (Demonstrating and Selling) as shown on my Schedule DM-17. I believe these costs relate to Sponsorships and Memberships to support Local and Regional Economic Development Organizations that should not be recovered from ratepayers. Specifically, as I stated above related to Economic Development as I believe these costs do not provide any benefits to ratepayers in the form of safe and reliable natural gas service. I am of the opinion that the Company's shareholders should pay for these costs as they appear to not be related to the provision of utility gas service.

k. Administrative & General (A&G) Operations and Maintenance Expense

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS ADMINISTRATIVE & GENERAL EXPENSES?

A. The Company proposed a FPFTY pre-adjustment expense balance of $34,789,000 and an adjusted balance of $39,338,000, a difference of $4,549,000 as shown on PECO Exhibit MJT-1 Schedule D-1 and D-4. The Company's $4,549,000 increase is based upon the following proposed adjustments to its Administrative & General Expenses: (1) Salary and Wages of $192,000; (2) Rate Case Expenses of $567,000; (3) Employee Benefits Expense of $19,000; (4) Pension Expense of $3,414,000; and (5) PUC/OCA/SBA assessments of $356,998. I will address each of these adjustments below.

(1). Salary and Wages

Q. HOW DID THE COMPANY DEVELOP ITS ADJUSTMENT TO ITS SALARY & WAGES OF $192,000?

A. As more fully explained and described on Company Schedules D-6, the breakdown and development of these adjustments are shown on my Schedule DM-13 and in my testimony Section III.C.2.a. The $192,000 balance for additional Salary & Wages are accounted for in Accounts 920, 925 and 932. (PECO Exh. MJT-1 Sch. D-6).

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S ADJUSTED BALANCE FOR SALARY AND WAGES OF $192,000?

A. As I indicated previously in my testimony and as further discussed under Section III.C.2.a., it is necessary to deduct the Company's out of period adjustments related to its Salary and Wage expenses in which the Company has proposed to include costs incurring in January

1, and March 1, 2024. These costs adjustments should not be included in the development of the Company's salary and wages expense. Operating Expenses such as S&W should be recovered during the Company's proposed FPFTY period ending December 31, 2023, when new rates are in effect. Costs that are to be incurred beyond the FPFTY period are beyond the period in which the Company's rate will be in effect. These flow through adjustments for Salary and Wages are shown on my Schedule DM-13 to DM-18. My adjustment is a $157,293 reduction to the Company's $192,000 claimed increase resulting in my balance for Salary and Wages increase of $34,707.

(2). <u>Rate Case Expenses</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO RATE CASE EXPENSES?

A. The Company has proposed a total rate case expense of $1,700,000 amortized over a three-year period or $567,000 annually. This is shown on PECO Exhibit MJT-1 Schedule D-7.

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S $567,000 RATE CASE EXPENSE CLAIM?

A. The first adjustment is that I am adjusting the Company's rate case expense of $1,700,000 being normalized rather than amortized. These costs should be based upon the Company's history of actual rate case expenses. As shown in response to OCA-I-9 the Company has filed the following base rate case proceedings along with the associated actual rate case expenses incurred in those proceedings:

2020 Rate Case	$1,927,445
2010 Rate Case	$1,141,074
2008 Rate Case	<u>$1,359,814</u>
Total	$4,428,333/3 = $1,476,111

Using the above data, normalizing these rate case costs based upon prior filings calculates to a level of $1,476,111. This reduces the Company's proposed rate case expense from $1,700,000 to $1,476,111 or a $223,889 reduction.

Q. WHAT IS YOUR OTHER ADJUSTMENT TO THE COMPANY'S RATE CASE EXPENSE CLAIM?

A. The second adjustment is to the period over which the costs are to be normalized. First, the Commission routinely normalizes, not amortizes rate case expense. It then looks to the historical filing frequency to determine the proper normalization period. I am extending the rate case normalization period to a 3.5 year normalization period, based upon the Company's historical rate case filings. Historical rate case filings calculate to an average time span of 3.5 years. (14 years between 2008 and 2022). A 3.5 year normalization period would result in an annual recovery balance of $421,746, ($1,476,111 / 3.5 years) a reduction of $145,254 from the Company proposed balance of $567,000 ($1,700,000/3 years). My adjustment is shown on my Schedule DM-18, Line 16.[33]

(3). <u>Employee Benefits (Schedule D-8)</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS EMPLOYEE BENEFITS?

A. The Company proposed an Employee Benefits Pre-Adjusted balance of $5,974,000 as shown on Company Exhibit MJT-1 Schedule D-4. The Company then made adjustments to its Pension Cost shortfall of $1,523,000 as shown on Company Exhibit MJT-1 Schedule D-9, and an adjustment related to its OPEB costs of $286,000 (I&E-RE-8).[34] The Company subtracted tuition reimbursement costs of $80,000 (I&E-RE-8) to arrive at the Pro forma balance of $7,132,000 (PECO Exh. MJT-1 Sch. D-8). The Company then calculated additional expenses related to two more employees by averaging out the budget expense for each employee based upon current employee count of 698. This calculated to $10,000 for each additional employee. The Company then multiplied the $10,000 by the two additional employees to arrive at an adjustment of $19,000.[35] (PECO St. No. 3 at 33). The Company then added the $19,000 to the balance of $7,132,000 to arrive at a FPFTY balance of $7,151,000 (I&E-RE-28).

Q. DO YOU AGREE WITH THE COMPANY'S $19,000 EXPENSE ADJUSTMENT RELATED TO THE ADDITIONAL EMPLOYEES?

[33] In response to OCA-I-9, the Company stated that prior to 2008, the Company filed rate cases in 1987 and 1983 but the actual rate case expenses incurred in those cases are not available.
[34] Copy of I&E-RE-8 at Attachment B.
[35] Differences due to rounding.

A. No, I do not. As discussed above, I do not agree with the Company's projected employee complement and low vacancy ratio. Since I have recommended a higher vacancy ratio, as shown on my Schedule D-13, I am recommending removing the Company's $19,000 of additional employee benefits. I am of the opinion that the Company will not have the level of employees projected as of the FPFTY period.

Q. WHAT OTHER ADJUSTMENTS DID THE COMPANY MAKE TO DETERMINE ITS EMPLOYEE BENEFITS EXPENSE CLAIM?

A. In OCA-VII–2,[36] I asked the Company how it determined the proposed 6% increase to its Employee Benefits expense of $5,974,000.[37] In response, Company witness Trzaska stated that PECO based its increase on the consulting firm's (Willis Towers Watson) determination of health cost projections and based the proposed increase on prior claims experience, administrative costs and medical price inflation. The Company stated that the increase is based upon increased matching contributions for new hires and salary increases per the budgeted headcount in the FPFTY period.

Q. WHAT IS YOUR RECOMMENDATION?

A. I recommend removing the projected 6% increase from the Company's Employee Benefits of $5,974,000. This reduces the balance by $358,440 ($5,974,000 x 6.00%). In response to I&E-RE-28,[38] the Company's Employee Benefits increased about 3.75% from 2021–2022 and another increase of 13.33% from 2022-2023. These costs include the Pension adjustment of ($1,523,000) (PECO Exh. MJT-1 Sch. D-9). Since I removed this amount and made adjustments to the Company's Pension Expense below, I utilized the balance of $5,974,000 to calculate the removal of the 6% medical inflation. I&E-RE-28 shows Employee Benefits increasing from 2021 through 2023. I&E-RE-8 shows the total costs (including Pension Costs) decreasing from 2021 through 2023. I believe the 6% medical price inflation should not be included in adjusting the Company's Employee Benefits. In response to CONFIDENTIAL Attachment III-A-21(b), Willis Towers Watson stated:

[36] Copy of OCA-VII-2 at Attachment B.
[37] The Company's total Employee Benefits are $7.132 million. The portion that I am recommending an adjustment to or applying the 6% increase removal to is the $5,974 million. ($7.32 million minus the adjustment to Pension Costs and OPEB costs and tuition reimbursements).
[38] Copy of I&E-RE-28 at Attachment B.

(BEGIN CONFIDENTIAL) [redacted] **(END CONFIDENTIAL).** My adjustments are shown on my Schedule DM-18.

(4). <u>Pension Expenses</u> <u>(Schedule D-9)</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH REGARD TO ITS PENSION EXPENSE?

A. The Company has included an increase to its Pension Expense of $3,414,000 as shown on Company Exhibit MJT-1 Schedule D-9. Mr. Trzaska has stated that the calculation is based upon a five-year average of actual and projected contributions to its pension plan. (PECO St. No. 3 at 33). According to Mr. Trzaska, the Company's claim for pension expense is based upon a five-year average of actual and projected contributions to its pension plan. The portion of the pension cost assigned to the distribution operating expense in the FPFTY is $1.9 million (which is shown on PECO Exh. MJT-1 Sch. D-9), and the pension expense credit is ($1.523 million), which resulted in an adjustment of $3.4 million. The adjustment of $1.523 million was made to reach the claimed amount of $1.9 million (PECO St. No. 3 at 34).

Q. HOW DID THE COMPANY DEVELOP ITS FPFTY TEST YEAR 2023 BALANCE OF ($1.523 MILLION) OF PENSION COSTS?

A. In response to OCA-I-45,[39] Exelon determined the contributions at the plan level, which are then allocated to the Operating Companies based upon their respective accounting cost calculated in accordance with ASC 715-30. The Company provided a CONFIDENTIAL Attachment III-A-21(b) for the contributed amounts for the FTY and the FPFTY. The Company budgeted the test year balance of ($1.523 million) by applying the allocation percentage to utility and allocation percentage to capital shown on Schedule D-9 to the Company's pension costs found in CONFIDENTIAL Attachment III-A-21(b). The

[39] Copy of OCA-I-45 at Attachment B. The confidential attachment is not included, as Attachment III-A-2 is part of the Company's rate filing.

Company stated that it engaged Willis Towers to complete the actuarial underwriting of the Company's health plans and to determine the cost projections for the following year. The projected cost changes are based upon prior claims experience and administrative cost trends based upon participant utilization and medical price inflation. (OCA-I-44).[40]

Q. DO YOU ACCEPT THE COMPANY'S FINAL FPFTY PENSION EXPENSE CLAIM OF $1,523,000?

A. No, I do not. The Company's FPFTY pension expense claim is overstated. In reviewing the response to OCA-I-44 which refers to I&E-RE-8, the Company provided a breakdown of its Pension Costs for the periods 2020 through 2022 and the balance in 2023, for a total balance of $5,974,000. I recommend normalizing the Company's adjustments to its Pension cost for the periods 2021 through 2023. In response to I&E-RE-8, the Company booked $830,000 of Pension costs in 2021, ($591,000) of Pension costs in 2022 and ($1,523,000) of Pension costs for the FPFTY periods. Given that these costs fluctuate and vary from year to year, I am recommending a normalized balance of ($1,284,000). ($1,523,000) + ($591,000) + $830,000)/3. This reduces the Company's adjustment by $239,000. ($1,523,000 - $1,284,000).

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS OPEB COSTS AND ARE YOU RECOMMENDING ADJUSTMENTS FOR THE COMPANY'S PROPOSED OPEB COSTS?

A. The Company also included costs for its OPEB of $286,000. (I&E-RE-8). I am also recommending normalizing the Company's OPEB costs in the same manner. The Company has booked $216,000 of OPEB costs in 2021, $305,000 of OPEB costs in 2022 and $286,000 of OPEB costs in 2022. Normalizing these costs results in an adjustment of $17,000 ($216,000 + $305,000 + $286,000)/3. My adjustment for both the Pension Costs and the OPEB costs are shown on my Schedule DM-18. The total adjustment is a reduction of $256,000 ($239,000 related to Pension costs and $17,000 related to OPEB costs).

(5). <u>PUC/OCA/OSBA Assessments</u>

[40] Copy of OCA-I-44 is at Attachment B.

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS PUC/OCA/OSBA ASSESSMENTS?

A. As shown on Company Exhibit MJT-1 Schedule D-1 the Company proposed $357,000 of additional costs related to PUC/OCA/OSBA Assessments based upon the Company's proposed increase of $82.1 million multiplied by the ratio of 0.004353%. (OCA-I-32).

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. I am accepting the Company's ratio of 0.004353%. My adjustment is related to my recommended overall revenue requirement of approximately $6,200,000. My recommended PUC/OCA/OSBA assessment balance is approximately $27,000, a reduction of $330,000 from the Company's FPFTY claimed increase of $357,000. My adjustment is shown on my Schedule DM-18 line 20.

(6). <u>Employee Activities</u>

Q. WHAT ARE YOUR ADJUSTING WITH RESPECT TO EMPLOYEE ACTIVITIES?

A. I am removing approximately $214,755 of Employee Activities from the Company's A&G expense balance. As shown on I&E-RE-19[41] the Company booked costs associated with recognition awards, service awards, picnics, and celebration and networking groups. I am recommending removing these costs from the Company's revenue requirement proposal. These costs do not directly benefit ratepayers in the provision of utility service, but rather a spirit of friendship and community between and among the employees. I do not see a nexus between these costs and the provision of providing safe and reliable service to customers. The shareholders of the Company should be providing for these types of expenses if the Company believes it provides benefits to the employees. My adjustment is shown on my Schedule DM-18.

(7). <u>Economic Development</u>

Q. WHAT HAS THE COMPANY PROVIDED REGARDING ECONOMIC DEVELOPMENT COSTS, AMONG OTHER COSTS?

[41] Copy of I&E-RE-19 is at Attachment B.

A. In response to OCA-I-23, the Company provided expenses related to Economic & Business Development, ($183,000); Workforce Development ($199,000); Community Involvement ($183,000) and; Employee Volunteer ($54,000). These costs were allocated among the Company's Customer Service Account, the Sales Account and the A&G Account.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO ECONOMIC DEVELOPMENT AND OTHER COSTS PROVIDED BY THE COMPANY ABOVE?

A. In response to OCA-I-23, the Company provided a cost breakdown of the above expenses. The Company allocated these costs to Account Nos. 908 (Customer Service), (shown on my Schedule DM-16 line 1); Account No. 912 (Sales Expense) (shown on my Schedule DM-17 line 1); and Account No. 920 (A&G Salaries - $99,000); (shown on my Schedule DM-18 line 1); Account No. 921 (Office Supplies / Expenses - $151,000; (shown on my Schedule DM-18 line 2); Account No. 926 (A&G Employee Benefits - $19,000) (shown on my Schedule DM-18 line 6); and Account No. 930 (Miscellaneous General Expenses - $189,000) (shown on my Schedule DM-18 line 9). The total costs recorded under these accounts were shown as $619,000[42] and the total costs recorded under the A&G Account were $269,000.

Q. PLEASE EXPLAIN HOW YOU DEVELOPED YOUR ADJUSTMENTS FOR EACH OF THE COMPANY'S PROGRAMS SHOWN IN RESPONSE TO OCA-I-23?

A. For costs related to Economic Development the Company proposed a total balance of $183,000. $16,000 was recorded in Account 926 Line 6. (Schedule DM-18). For costs related to Workforce Development and Employee Volunteer the Company proposed a total balance of $199,000 and $54,000, respectively. For the Workforce Development, $99,000 was recorded in Account 920 Line 1 (Schedule DM-18) and $97,000 was recorded in Account 921 line 2, (Schedule DM-18) and the remaining $3,000 was recorded in Account 926 Line 6 (Schedule DM-18). For the Employee Volunteer the entire cost was recorded in Account 921. (Schedule DM-18).

[42] In response to OCA-I-23 the Company calculated a total amount related to Community Involvement of $183,000, the actual costs sum up to $41,000. The total costs recorded under these accounts calculate to $477,000.

Q. WHY DO YOU BELIEVE THESE COSTS SHOULD NOT BE INCLUDED IN THE COMPANY'S O&M EXPENSES FOR RECOVERY FROM RATEPAYERS?

A. These Economic Development costs relate to local, regional and state initiatives as well as real estate partners to attract businesses and help existing companies grow and expand. Further, the Company stated that these costs provide guidance and assistance on energy infrastructure and help real estate developers to locate and expand businesses. The Company stated these costs help make the region more attractive places for business and provide civic and development events. I am removing these costs because I do not believe these costs should be borne by ratepayers. These costs should be borne by local, municipal and state organizations or the Company itself through shareholder money. It appears that these types of costs are related to regional and various local communities that may or may not be customers of the Company, nor provide benefits related to the provision of natural gas service. I do not see the nexus between these costs and the provision of safe and reliable gas service to customers. If the Company wants to be a good corporate citizen, then the shareholders should pay for these types of costs and should not require ratepayers to pay for them.

Q. WHAT ABOUT WORKFORCE DEVELOPMENT COSTS?

A. For costs related to Workforce Development, the Company stated these costs represent the enhancement of employability of those who reside in the communities that PECO serves with the emphasis on the underserved by creating opportunities inside and outside of the Company. The Company's focus on these costs related to STEM Awareness and Education, Partnerships, Collaboration and Training, Eliminating Barriers to Opportunities and Thought Leadership. (OCA-I-23). I believe these costs should not be included in the Company's O&M expenses because they appear to be costs for career development not only inside the Company but outside the Company with the emphasis of getting community members working in sustainable careers. These costs also appear to be regional initiatives and programs that do not appear to benefit ratepayers in the provision of natural gas service.

Q. WHAT ABOUT EMPLOYEE VOLUNTEER ACTIVITIES?

A. I believe Employee Volunteer Activities should be removed from the Company's O&M Expenses. In response to OCA-I-23, the Company stated that the costs of $54,000 were

for materials and supplies to facilitate employee volunteer events. While I admire and support the Company in its volunteer initiatives, I believe that these costs should be borne by the Company. I do not believe ratepayers get the benefit of volunteer work. Ratepayers should be paying for the provision of safe, reliable and adequate gas service and not costs related to volunteer work occurring in the communities in which the Company provides or does not provide natural gas service. This adjustment is shown on my Schedule DM-18, Line 2.

(**8). <u>Research and Development Costs</u>**

Q. WHAT HAS THE COMPANY INCLUDED WITH RESPECT TO RESEARCH AND DEVELOPMENT COSTS?

A. In response to OCA-I-13 which refers to Attachment III-A-28(a) and I&E-RE-13(a),[43] the Company included $189,000 related to Research and Development Costs. The Company did not provide any description on these costs.

Q. WHAT ARE YOUR ADJUSTMENTS?

A. I believe these costs should be removed from the Company's O&M Expenses as these costs are typically related to pilot programs and plans, third party development costs, and / or software development costs which may or may not come to fruition. These costs may or may not prove to be useful in the future, and therefore are uncertain to be included in this proceeding. Ratepayers should be responsible for costs that relate to providing gas service that are known and measurable and prudent. I believe these costs do not provide neither and therefore removing these costs are reasonable. My adjustment is shown on my Schedule DM-18, line 9.

(**9). <u>Membership Dues</u>**

Q. WHAT HAS THE COMPANY INCLUDED REGARDING ITS MEMBERSHIP DUES / ASSOCIATION DUES?

A. In response to OCA-I-13 which refers to Attachment III-A-28 (a) which refers to I&E-RE-13(a) the Company has shown and includes costs of $341,000 of Association Dues. In

[43] Copies of OCA-I-13 and I&E-RE-13 are at Attachment B.

response to I&E-RE-21(a)[44] the Company shown Membership Dues totaling $598,702 for the FPFTY period. In Company SDR-RR-30 Attachment SDR-RR-30(a) the Company shown Membership Dues (Gas Only) of $637,937 for the FPFTY period.

Q. WHAT DO THESE COSTS REPRESENT?

A. According to the Company these costs represent Industry Organization costs for the American Gas Association, Energy Association of Pennsylvania, OTD Operations Tech Development, R&D Membership, Chamber of Commerce costs, PA Biotechnical Center, Business Alliances, Convention Center Visitor Bureau and other. (Attachment SDR-RR-30(a). The Company provided a description and the purpose for membership for each of these organizations in SDR-RR-31(a).

Q. DID YOU ASK FOR CLARIFICATION WITH RESPECT TO THE DIFFERENT BALANCES IN THESE COSTS?

A. Yes. In response to OCA-VII-3,[45] I asked the Company to reconcile these balances. The Company indicated that $637,937 was included for Membership Dues as per Attachment SDR-RR-30.

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THESE COSTS?

A. I am removing all costs except for the American Gas Association costs of $370,370. I am recommending only allowing the American Gas Association dues of $370,370 and removing the remaining costs of $267,567. I am of the opinion that these costs do not benefit ratepayers. These costs, by their nature relate primarily for chambers of commerce, business alliances, societal, economic, and civic issues, which I believe do not benefit ratepayers in the provision of utility services. If the Company wants to provide this support, the Company's shareholders should pay for these costs, and not expect ratepayers to fund these choices. In 66 Pa. C.S. Section 1316.1, regarding the recovery of such dues its states that "no public utility may charge to its customers as a permissible operating expense for ratemaking purposes membership fees, dues or charges to fraternal, social or

[44] Copy of I&E-RE-21(a) is at Attachment B.
[45] Copy of OCA-VII-3 is at Attachment B.

sports clubs or organizations." As such, ratepayers cannot be charged for costs associated with these types of expenses. My adjustment is shown on my Schedule DM-18, Line 3.

l. DEPRECIATION EXPENSE

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS DEPRECIATION EXPENSE?

A. The Company proposed a Depreciation Expense of $97,342,000 as shown on PECO Exhibit MJT-1 Schedule D-4 and Schedule D-17. The Company began with the annual depreciation for gas distribution and common plant and allocating a portion of the common plant to the gas division. The Company annualized the depreciation expense related to the FPFTY additions, to reflect a full year's deprecation for that plant. (PECO St. No. 3 at 39). The Company's total adjustments to its depreciation expense was $4,942,000 million, an increase from $92,400,000 to $97,342,000.

Q. DID THE COMPANY HAVE DEPRECIATION STUDIES PERFORMED FOR USE IN THIS RATE PROCEEDING?

A. Yes. According to Company witness Ms. Fulginiti (PECO St. No. 4 at 6), the company performed a service-life study based upon PECO's plant balances as of December 31, 2018. The Company relied upon the service lives and depreciation rates study that was filed with the PUC in April 20, 2020 in Docket No. M-2020-3020569 (PECO St. No. 4 at 6).

Q. WHAT ARE YOUR RECOMMENDATIONS RELATED TO THE COMPANY'S DEPRECIATION EXPENSE?

A. I am accepting the Company's service lives and depreciation rates. My adjustments relate to my disallowance of certain plant that was included in the Company's GPIS balance, in response to OCA-I-15, 18 and 26.

Q. WHAT ARE YOUR ADJUSTMENTS TO THE COMPANY'S DEPRECIATION EXPENSE?

A. Since I removed certain capital additions from the Company's GPIS balance in the amount of $2,083,328, I am removing the Depreciation Expenses associated with this adjustment. Using the Company's depreciation rates for its various plant in service balances, I compute a depreciation expense adjustment of $247,682, as shown on my Schedule DM-19.

Q. DO YOU HAVE ANY OTHER ADJUSTMENTS TO THE COMPANY'S DEPRECIATION EXPENSE?

A. No.

m. AMORTIZATION OF REGULATORY EXPENSES

Q. WHAT HAS THE COMPANY PROPOSED REGARDING AMORTIZATION OF REGULATORY EXPENSES?

A. The Company proposed an Amortization balance of $3,849,000 as shown on Company Exhibit MJT-1 Schedule D-1. These costs related to two customer programs; Safe and Efficient Heating programs (SEHP) and Gas Customer Safety Programs totaling $2,728,000 (I&E-RE-48). To that balance the Company included $500,000 (PECO Exh. MJT-1 Sch, D-11), to increase its SEHP and $104,000 (PECO St. Exh.MJT-1 Sch. D- 13) related to the Manufactured Gas Plant (MGP) amortization. The total amortization balance was calculated at $3,849,000.

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. I have no adjustments to the Company's Amortization Balance of $3,849,000, as shown on my Schedule DM-20.

n. TAXES OTHER THAN INCOME

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO TAXES OTHER THAN INCOME TAXES?

A. The Company proposed total Taxes Other than Income in the amount of $8,908,000 as shown on Company Exhibit MJT-1 Schedule D-16. These Taxes other than Income are related to Public Utility Real Tax of $2,100,000; Use Tax Accrued of $663,000; Real Estate Tax Accrued of $1,791,000; and Payroll Tax Accrued of $4,354,000.

Q. WHAT ARE YOUR ADJUSTMENTS AND YOUR RECOMMENDED LEVEL OF TAXES OTHER THAN INCOME TAXES?

A. I am accepting the Company's methodology in the calculation of its Taxes Other Than Income. I am making adjustments to the Company's Payroll Taxes that reflect my recommended S&W balance, which includes my adjustments to the Company's vacancy positions and my adjustments to the Company's Incentive Compensation. I removed costs

associated with certain Incentive Compensation, which are reflective in the Company's payroll rates accordingly. My net adjustment is a $778,975 reduction from the Company's proposed balance of $8,908,000 for a balance of $8,128,789, as shown on my Schedule DM-21.[46]

Q. WHAT IS YOUR OTHER ADJUSTMENT TO TAXES OTHER THAN INCOME?

A. I adjusted the Real Estate Taxes to remove the 2.50% inflation the Company has included in its FTY balance. This produces a reduction of $43,683. I also adjusted the Real Estate Taxes to remove certain plant in service that I removed under the GPIS balance of $2,083,328 (Schedule DM-5). My ratio of GPIS to Real Estate Taxes are .0004467. Calculating this ratio to my adjustment of plant in service of $2,083,328 is $930. My total adjustment is a reduction of $44,613 and is shown on my Schedule DM-21 at line 4.

o. <u>INCOME TAXES</u>

Q. WHAT DID THE COMPANY CALCULATE WITH RESPECT TO ITS INCOME TAXES?

A. The Company proposed total Income Taxes at Present Rates of $25,238,000 as shown on Company Exhibit MJT-1 Schedule A-1 and Schedule D-18. This is comprised of Federal Income Taxes of $16,250,000 (Line 60) and State Income Taxes of $8,989,000, (Line 61) The Company proposed total Income Taxes at Proposed Rates of $1,649,000 as shown on Company Exhibit MJT-1 Schedule D-18. This is comprised of Federal Income Taxes of $817,000 (Line 60) and State Income Taxes of $832,000 (Line 61).

Q. WHAT OTHER ADJUSTMENTS DID THE COMPANY MAKE TO COMPUTE ITS INCOME TAX EXPENSE?

A. According to Mr. Trzaska, the Company included synchronized interest expense based upon Company witness Mr. Moul's weighted cost of debt. (PECO St. No. 3 at 39 and 40). The Company incorporated the effects of accelerated depreciation for both the calculation of State and Federal Income Taxes (PECO St. No. 3 at 40). The Company utilized a State Tax Rate of 9.99% and a Federal Tax Rate of 21.00%. The effect of the TCJA are included

[46] Any differences due to rounding.

in the flow-back of the Excess Accumulated Deferred Income Taxes (EADIT) are included in the calculation of the proposed Income Tax balance. (PECO St. No. 3 at 40).

Q. DO YOU HAVE ANY ADJUSTMENTS TO THE COMPANY'S METHODOLOGY WITH RESPECT TO THE CALCULATION OF THE COMPANY'S INCOME TAXES?

A. No I am accepting the Company's methodology. My adjustments reflect the recommended changes of Rate Base and Operating Income.

Q. WHAT IS YOUR RECOMMENDED FEDERAL INCOME TAXES AND RECOMMENDED STATE INCOME TAXES?

A. My recommended Federal Income Taxes at Present Rate Revenue is $15,665,915. My recommended State Income Taxes at Present Rate Revenue is $7,742,275.[47] This is shown on my Schedule DM-22 lines 44 and 45, respectively.

Q. WHAT IS YOUR ADJUSTMENT RELATED TO THE COMPANY'S INTEREST EXPENSE CALCULATION?

A. Using my recommended Rate Base Balance of $2,878,747,825 and using OCA Witness Garrett's recommended weighted average cost of debt of 1.96%, (50% Debt Ratio times 3.92% Cost of Debt). My recommended Interest Expense is $56,423,457 as shown on my Schedule DM-22.

D. Act 40 Requirements (Act 40 of 2016)

Q. WHAT ARE THE ACT 40 REQUIREMENTS?

A. Act 40 took effect on August 11, 2016, which among other things, eliminated the consolidated tax savings adjustment. Prior to Act 40, the Company would have been required to adjust its revenue increase request downward to reflect tax savings associated with filing taxes as part of a parent or holding company. This practice recognized that the Company's ratepayers only paid through rates those taxes that the Company actually paid. Act 40 requires the Company to continue its performance of the consolidated tax savings

[47] Differences due to rounding.

calculation and provide that consolidated tax savings differential as part of its rate case filing. In part, Act 40 states:

> If an expense or investment is allowed to be included in a public utility's rates for ratemaking purposes, the related income tax deductions and credits shall also be included in the computation of current or deferred income tax expense to reduce rates. If an expense or investment is not allowed to be included in a public utility's rates, the related income tax deductions and credits, including tax losses of the public utility's parent or affiliated companies, shall not be included in the computation of income tax expense to reduce rates. The deferred income taxes used to determine the rate base of a public utility for ratemaking purposes shall be based solely on the tax deductions and credits received by the public utility and shall not include any deductions or credits generated by the expenses or investments of a public utility's parent or any affiliated entity. The income tax expense shall be computed using the statutory income tax rates.

Act 40 further states:

> REVENUE USE- If a differential accrues to a public utility resulting from applying the ratemaking methods employed by the commission prior to the effective date of subsection (a) for ratemaking purposes, the differential shall be used as follows:
>
> (1) Fifty percent to support reliability or infrastructure related to the rate-base eligible capital investment as determined by the commission; and
> (2) Fifty percent for general corporate purposes.

As a result, ratepayers now pay taxes in excess of those taxes that the Company actually pays, and the revenue use requirement specifies how those additional revenues are to be applied. Section 1301.1 (b) requires the Company to use 50% of that differential for reliability or infrastructure related capital investment and the remaining 50% for general corporate purposes.

Q. HAS THE COMPANY CALCULATED A CONSOLIDATED TAX EXPENSE ADJUSTMENT (CTA)?

A. According to Mr. Trzaska, the Company has not calculated a CTA, because such an adjustment is no longer authorized under Section 1301.1 (a). Act 40 provides that the current and deferred income taxes of a Pennsylvania utility are to be calculated for ratemaking purposes based only on the income, deductions and credits of the utility itself,

(Stand-Alone computation) without regard to taxable income, deductions or credits of other companies in the same consolidated group. (PECO St. No. 3 at 42). Section 1301.1 (b) stated how any incremental internally-generated funds produced by the application of Section 1301.1 (a) should be used by an affected utility pending the December 31, 2025 "sunset" of Section 1301.1 (b). (PECO St. No. 3 at 42).

Q. HAS THE COMPANY SATISFIED THE FIRST REQUIREMENT UNDER ACT 40 – 50% OF THE DIFFERENTIAL SPENT ON INFRASTRUCTURE REPLACEMENT?

A. Yes. As explained by Mr. Trzaska, PECO's capital budget called for overall gas distribution plant additions of $412 million during the twelve months ending December 31, 2022 and $292 million during the twelve months ending December 31, 2023. These investments will support PECO's compliance with Act 40. (PECO St. No. 3 at 44). (OCA-I-53). The Company calculated a combined CTA of $2.134 million, of which 50% of the differential is $1.067 million. (PECO Exh. MJT-1 Sch. D-18). The Company's capital additions for reliability and infrastructure are well in excess of 50% of the $1.067 million that would represent a CTA prior to the enactment of Section 1301.1 (a) and (b) and, therefore the remaining 50% or $1.067 million is available for use by the Company for general corporate purposes, including paying the Company's operating and maintenance expenses that, as shown on PECO Exhibit MJT-1 Schedule B-2, pages 4, also substantially exceed 50% of the $2.134 million.

Q. WHAT IS PECO'S PROPOSAL FOR THE OTHER 50% OF THE DIFFERENTIAL, WHICH SECTION 1301.1(b)(2) STATES MUST BE USED FOR "GENERAL CORPORATE PURPOSES"?

A. PECO does not appear to propose a specific treatment for the other 50% of the differential, which Section 1301.1(b)(2) states must be used for "general corporate purposes." In response to OCA-I-53 the Company stated that the remaining 50% of $2.1 million is available for use by PECO for general corporate purposes including paying PECO's operating and maintenance expenses that, as shown on Schedule B-2, pages 6 and 7, also substantially exceed 50% of $2.1 million.

Q. WHAT DO YOU CONCLUDE FROM PECO'S FAILURE TO SPECIFY A USE FOR THE 50% OF THE DIFFERENTIAL THAT ACT 40 REQUIRES TO BE USED FOR "GENERAL CORPORATE PURPOSES"?

A. PECO has identified no specific ways in which that 50% of the differential would be used in any way to benefit Pennsylvania ratepayers. One might conclude from this that PECO therefore basically intends to use that money for the benefit of its stockholders, and not apply it in any manner to provide a quantifiable ratepayer benefit or in a manner that directly benefits service to Pennsylvania customers.

Q. WHAT DOES "GENERAL CORPORATE PURPOSES" AS USED IN ACT 40 MEAN?

A. Because PECO is a regulated utility in Pennsylvania, its "general corporate purpose" is to provide regulated utility service in the Commonwealth of Pennsylvania. While the term "general corporate purposes" is rather vague, consistent with that general corporate purpose of regulated utilities, general corporate purposes would include uses for such "differential" revenues as supporting capital expenditures necessary to execute utility business plans, paying off debt, funding construction projects, paying dividends, paying for maintenance and operating expenses, investing in utility plant in Pennsylvania, and providing a source of working capital. Many of these uses for "general corporate purposes" would have a quantifiable benefit to Pennsylvania ratepayers. As I read the entirety of Act 40, the "revenue use differential" addressed in the Act for "general corporate purposes" should mean public utility purposes and uses that result in having some identifiable and quantifiable benefit to Pennsylvania and PECO ratepayers, rather than just resulting in a windfall of $1.067 million annually to PECO's shareholders or affiliates.

Q. WHAT SPECIFIC RECOMMENDATION DO YOU HAVE IN THE CURRENT PECO RATE CASE FOR APPLYING THE 50% OF THE "REVENUE USE" DIFFERENTIAL THAT ACT 40 REQUIRES TO BE FOR "GENERAL CORPORATE PURPOSES"?

A. I have reflected the 50% differential for general corporate purposes as a source of non-investor-supplied funding for utility working capital. I have reduced the Company's Rate Base balance by $1.067 million as shown on my Schedule DM-3.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

REVENUE REQUIREMENT SUMMARY

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Rate Base	$ 2,884,136,000	$ (5,388,175)	$ 2,878,747,825	
2	Rate of Return	7.680%	-1.345%	6.34%	
3	Return Requirement	$ 221,501,645	$ (39,132,970)	$ 182,368,675	
4	Present Return	$ 163,446,000	$ 14,537,666	$ 177,983,666	
5	Revenue Requirement Deficiency	$ 58,055,645	$ (53,670,636)	$ 4,385,009	
6	Gross Revenue Conversion Factor	1.41432		1.41432	
7	Proposed Revenue Requirement	$ 82,109,492	$ (75,907,668)		
	OCA Proposed Revenue Requirement			$ 6,201,823	
	% Increase	12.59%		0.95%	
	Current Rates			$ 652,155,140	
	Total Revenue Requirement			$ 658,356,963	

(1) Company Exhibit MJT-1 Schedule A-1

Gross Revenue Factor	1.00000
State Income Tax Rate	0.09990
State Income Tax Factor	0.09990
Factor After State Income Tax	0.90010
Federal Income Tax Rate	0.21000
Federal Income Tax Factor	0.18902
Net Operating Income Tax Factor	0.71108
Gross Revenue Conversion Factor	1.40631

RATE OF RETURN

Company Proposed (1)

		Cap. Ratio	Embedded Cost	Weighted Cost
1	Long-Term Debt	46.590%	3.920%	1.826%
2	Common Equity	53.410%	10.950%	5.848%
3	Total	100.000%		7.675%

OCA Recommended

4	Long-Term Debt	50.000%	3.920%	1.96%
5	Common Equity	50.000%	8.750%	4.38%
6	Total	100.000%		6.34%

(1) Company Exhibit MJT-1 Schedule B-7

RATE BASE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Gas Plant In Service	$ 4,009,266,000	$ (2,083,328)	$ 4,007,182,672	
2	Accumulated Depreciation	$ (960,624,000)	$ 246,682	$ (960,377,318)	
3	Net Gas Plant In Service	$ 3,048,642,000	$ (1,836,646)	$ 3,046,805,354	
4	Common Plant In Service (Allocated)	$ 283,522,000	$ -	$ 283,522,000	
5	Common Plant Accumulated Depreciation	$ (117,784,000)	$ -	$ (117,786,000)	
6	Net Common Plant In Service (Allocated)	$ 165,738,000	$ (2,000)	$ 165,736,000	
7	Net Plant In Service	$ 3,214,380,000	$ (1,838,646)	$ 3,212,541,354	
8	Working Capital	$ 17,359,000	$ (2,555,089)	$ 14,803,911	
9	Materials and Supplies	$ 395,000	$ -	$ 395,000	
10	Gas Storage	$ 33,270,000	$ -	$ 33,270,000	
11	Total Additions to Rate Base	$ 51,024,000	$ (2,555,089)	$ 48,468,911	
12	Customer Deposits	$ (9,189,000)		$ (9,189,000)	
13	Customer Advances for Construction	$ (1,127,000)		$ (1,127,000)	
14	Total Deductions to Rate Base	$ (10,316,000)	$ -	$ (10,316,000)	
15	Accumulated Deferred Income Taxes	$ (255,375,000)	$ 71,560	$ (255,303,440)	
16	Accumulated Deferred Income Taxes				
17	Regulatory Liability	$ (115,576,000)	$ -	$ (115,576,000)	
	Consolidated Tax Adjustment	$ -	$ (1,067,000)	$ (1,067,000)	OCA-I-53
18	Total Rate Base	$ 2,884,137,000	$ (5,389,175)	$ 2,878,747,825	

(1) Company Exhibit MJT-1 Schedule A-1

OPERATING INCOME

		Company Proposed				Present Rates OCA	
		ProForma Present	Adjustments	Proforma Proposed	Adjustments	Recommended	References
	Operating Revenues						
1	Residential and C&I	$ 623,977,000	$ -	$ 623,977,000	$ -	$ 623,977,000	
2	Other Revenues	$ 3,002,000	$ 161,000	$ 3,163,000	$ 12,140	$ 3,014,140	
3	Transportation of Gas of Others	$ 25,164,000	$ -	$ 25,164,000	$ -	$ 25,164,000	
4	Revenue Increase	$ -	$ 82,110,000	$ 82,110,000	$ -	$ -	
5	Total Operating Revenues	$ 652,143,000	$ 82,271,000	$ 734,414,000	$ 12,140	$ 652,155,140	OCA-I-29
	Operating Expenses						
6	Manufactured Gas Production	$ 448,000		$ 448,000	$ (2,160)	$ 445,840	
7	Storage Operations Expense	$ 1,197,000		$ 1,197,000	$ (14,063)	$ 1,182,937	
8	Storage Maintenance Expense	$ 5,089,000		$ 5,089,000	$ (48,444)	$ 5,040,556	
9	Underground Storage Expense	$ -		$ -		$ -	
10	Other Gas Supply	$ 254,015,000		$ 254,015,000	$ -	$ 254,015,000	
11	Distribution Expense	$ 77,083,000		$ 77,083,000	$ (825,056)	$ 76,257,944	
12	Customer Accounts	$ 19,555,000	$ 268,089	$ 19,823,089	$ (758,105)	$ 19,064,984	
13	Customer Service & Information	$ 5,740,000		$ 5,740,000	$ (375,439)	$ 5,364,561	
14	Sales Expense	$ 1,726,000		$ 1,726,000	$ (41,000)	$ 1,685,000	
15	Administrative & General	$ 38,981,000	$ 357,425	$ 39,338,425	$ (2,206,777)	$ 37,131,647	OCA-I-32
	Stock Compensation / Incentive Comp	$ -	$ -	$ -	$ (5,680,000)	$ (5,680,000)	OCA-I-7/38/46
	Inflation Adjustments			$ -	$ (4,093,000)	$ (4,093,000)	OCA-I-8-I&E RE-45
	Union Contract Ratification			$ -			OCA-I-42
	Vacancy Rate Adjustment			$ -	$ (1,906,913)	$ (1,906,913)	OCA-I-40
16	Total O&M Expenses	$ 403,834,000	$ 625,514	$ 404,459,514	$ (15,950,956)	$ 388,508,558	III-A-21
17	Depreciation / Amortization	$ 97,342,000		$ 97,342,000	$ (248,682)	$ 97,093,318	
18	Amortization of Regulatory Expense	$ 3,849,000		$ 3,849,000	$ -	$ 3,849,000	
19	Taxes Other Than Income	$ 8,908,000		$ 8,908,000	$ (779,211)	$ 8,128,789	
20	Subtotal Operating Expenses	$ 513,933,000	$ 625,514	$ 514,558,514	$ (16,978,850)	$ 497,579,664	
21	Operating Income Before Taxes	$ 138,210,000	$ 81,645,486	$ 219,855,486		$ 154,575,475	
22	Income Taxes	$ 25,238,000	$ (23,589,000)	$ 1,649,000	$ 21,759,191	$ 23,408,191	
23	Net Operating Income	$ 163,448,000	$ 58,056,486	$ 221,504,486	$ (43,520,820)	$ 177,983,666	
	Return Requirement					$ 182,368,675	
	Revenue Requirement Increase					$ 4,385,009	
24	Rate of Return	5.667%		7.680%		6.335%	
25	Rate Base	$ 2,884,136,000		$ 2,884,136,000		$ 2,878,747,825	

(1) Company Exhibit MJT-1 Schedule A-1
Schedule D-1, D-2, D-3

GAS UTILITY PLANT IN SERVICE
COMMON GAS PLANT IN SERVICE

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Gas Utility Plant In Service				
1	Intangible Plant	$ 24,972,000	$ (1,056,354)	$ 23,915,646	OCA-I-26
2	Manufactured Gas Plant	$ 15,539,000	$ -	$ 15,539,000	
3	Other Storage Plant	$ 124,260,000		$ 124,260,000	
4	Distribution Plant	$ 3,804,871,000	$ (232,711)	$ 3,804,638,289	
5	General Plant	$ 39,624,000	$ (794,263)	$ 38,829,737	
6	Total Gas Plant In Service	$ 4,009,266,000	$ (2,083,328)	$ 4,007,182,672	OCA-I-15
					OCA-I-18
	Common Gas Plant In Service (Allocated)				
7	Organization Costs	$ 150,000			
8	Misc. Intangible Plant	$ 107,369,000			
9	Land and Land Rights	$ 1,499,000			
10	Structures & Improvements	$ 80,782,000			
11	Office Furniture & Equipment	$ 15,180,000			
12	Transportation Equipment	$ 43,911,000			
13	Stores Equipment	$ 419,000			
14	Tools, Shop, Garage Equipment	$ 514,000			
15	Power Operating Equipment	$ 41,000			
16	Communication Equipment	$ 33,227,000			
17	Miscellaneous Equipment	$ 272,000			
18	ARO Costs General Plant	$ 158,000			
19	Total Common Gas Plant In Service	$ 283,522,000		$ 283,522,000	OCA-I-35

(1) Company MJT-1 Schedule C-2, C-8

OCA-I-17

ACCUMULATED DEPRECIATION

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Gas Utility Plant				
1	Intangible Plant	$ 22,017,000	$ (211,271)	$ 21,805,729	
2	Manufactured Gas Production Plant	$ 13,582,000	$ -	$ 13,582,000	
3	Other Storage Plant	$ 35,401,000	$ -	$ 35,401,000	
4	Distribution Plant	$ 870,897,000	$ (5,752)	$ 870,891,248	
5	General Plant	$ 18,728,000	$ (30,659)	$ 18,697,341	
6	Total Gas Plant Accumulated Depreciation	$ 960,625,000	$ (247,682)	$ 960,377,318	
	Common Utility Plant (Allocated)				
7	Misc. Intangible Plant	$ 64,271,000			
8	Structures & Improvements	$ 18,222,000			
9	Office Furniture, Equipment	$ 6,186,000			
10	Transportation Equipment	$ 19,670,000			
11	Stores Equipment	$ 147,000			
12	Tools, Shop, Garage Equipment	$ 187,000			
13	Power Operated Equipment	$ 41,000			
14	Communication Equipment	$ 9,011,000			
`5	Miscellaneous Equipment	$ 196,000			
16	ARO Costs General Plant	$ (145,000)			
17	Total Common Plant Accumulated Depreciation	$ 117,786,000		$ 117,786,000	

(1) Company Exhibit MJT-1 Schedule C-3, C-8

CASH WORKING CAPITAL

		(1) Company Proposed				OCA
		TY Expenses	Lead/Lag Days	Dollar-Days	Adjustments	Recommended
1	Revenue Lag		49.930			
	Expense Lag					
2	Payroll (Distribution Only)	$ 50,628,000	13.480	$ 682,465,440	$ (118,892,423)	$ 563,573,017
3	Pension Expense	$ 1,891,000	(167.000)	$ (315,797,000)	$ -	$ (315,797,000)
4	Commodity Purchased Gas	$ 254,015,000	32.530	$ 8,263,107,950	$ -	$ 8,263,107,950
5	Payment to Suppliers	$ 88,456,000	56.210	$ 4,972,111,760	$ -	$ 4,972,111,760
6	Other Expenses	$ 94,541,000	37.560	$ 3,550,959,960	$ (599,117,918)	$ 2,951,842,042
7	Total O&M and POR Payments	$ 489,531,000		$ 17,152,848,110	$ (718,010,341)	$ 16,434,837,769
8	O&M Expense/POR Lag Days		35.039			33.57
9	Net (Lead)/Lag Days		14.891			16.36
10	Number of days in 2022		365.000			365.00
11	Operating Expenses Per Days	$ 1,341,181				$ 1,064,407
12	Working Capital - O&M	$ 19,971,054				$ 17,410,911
13	Average Prepayments	$ 2,296,000				$ 2,296,000
14	Accrued Taxes	$ 1,060,000				$ 1,060,000
15	Interest Payments	$ (5,963,000)				$ (5,963,000)
16	Total Working Capital Requirement	$ 17,364,054				$ 14,803,911

(1) Company Exhibit MJT-1 Schedule C-4
OCA-I-30

ACCUMULATED DEFERRED INCOME TAXES

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	HTY - CIAC	$ (14,114,000)		$ (14,114,000)	
2	HTY - Common Plant	$ 6,030,000		$ 6,030,000	
3	HTY- Gas Distribution	$ 259,512,000		$ 259,512,000	
4	Subtotal	$ 251,428,000		$ 251,428,000	
5	FTY - DIT - CIAC	$ (3,058,000)		$ (3,058,000)	I&E RE-41
6	FTY - DIT Common Plant	$ -		$ -	
7	FTY - DIT Gas Distribution	$ 4,819,000		$ 4,819,000	
8	FTY Balance	$ 253,189,000		$ 253,189,000	
9	FPFTY - DIT - CIAC	$ (2,210,000)		$ (2,210,000)	
10	FPFTY - DIT Common Plant	$ -		$ -	
11	FPFTY - DIT - Gas Distribution	$ 4,396,000	$ (71,560)	$ 4,324,440	OCA-I-26
12	Total ADIT at FPFTY	$ 255,375,000	$ (71,560)	$ 255,303,440	OCA-I-33

(1) Company Exhibit MJT-1 Schedule C-6

ACCUMULATED DEFERRED INCOME TAXES
REGULATORY LIABILITY

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	HTY- Distribution	$ 125,486,000			
2	HTY - CIAC	$ (1,970,000)			
3	Subtotal	$ 123,516,000	$ -	$ 123,516,000	
4	FTY - DIT - Distribution	$ (6,547,000)			
5	FTY- CIAC	$ 985,000			
6	Subtotal	$ 117,954,000	$ -	$ 117,954,000	
7	FPFTY - DIT - Distribution	$ (3,363,000)		$ (3,363,000)	
8	FPFTY - DIT - CIAC	$ 985,000		$ 985,000	I&E RE-43
9	Total ADIT - Regulatory Liability	$ 115,576,000	$ -	$ 115,576,000	OCA-I-36

(1) Company Exhibit MJT-1 Schedule C-12

MANUFACTURED GAS PRODUCTION

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Liquefied Petroleum Gas Expense (717.0)	$ 133,000		$ 133,000	
2	Maintenance/ Structures-Improv. (741.0)	$ 89,000		$ 89,000	
3	Maintenance/Production Equip. (742.0)	$ 222,000		$ 222,000	
4	Total Pre-Adjustments	$ 444,000	$ -	$ 444,000	
5	Salary and Wages - (717.0) Sch D-6	$ 2,000	$ (1,253)	$ 747	
6	Salary and Wages - (741.0) Sch D-6	$ 1,000	$ (827)	$ 173	
7	Salary and Wages - (742.0) Sch D-6	$ 3,000	$ (2,080)	$ 920	
8	Total Proforma Adjustments	$ 6,000	$ (4,160)	$ 1,840	
9	Total Post- Adjustments (2)	$ 450,000	$ (4,160)	$ 445,840	

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding

STORAGE EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Storage Operations				
1	Operation Supr. & Engineer (840.0)	$ 276,000		$ 276,000	
2	Operation Labor & Expenses (841.0)	$ 903,000		$ 903,000	
3	Total Pre-Adjustments	$ 1,179,000	$ -	$ 1,179,000	
4	Salary & Wages (840.0) - Sch D-6	$ 5,000	$ (3,960)	$ 1,040	
5	Salary & Wages (841.0) - Sch D-6	$ 14,000	$ (11,103)	$ 2,897	
6	Total Proforma Adjustments	$ 19,000	$ (15,063)	$ 3,937	
7	Total Post-Adjustments (2)	$ 1,198,000	$ (15,063)	$ 1,182,937	
	Storage Maintenance				
8	Maintenance Supr. & Engineer (843.1)	$ 1,169,000		$ 1,169,000	
9	Maintenance Struct/Improv. (843.2)	$ 3,861,000		$ 3,861,000	
10	Total Pre-Adjustments	$ 5,030,000	$ -	$ 5,030,000	
11	Salary & Wages (843.1) Sch. D-6	$ 16,000	$ (13,083)	$ 2,917	
12	Salary & Wages (843.2) Sch. D-6	$ 42,000	$ (34,361)	$ 7,639	
13	Total Proforma Adjustments	$ 58,000	$ (47,444)	$ 10,556	
14	Total Post-Adjustments (2)	$ 5,088,000	$ (47,444)	$ 5,040,556	
		$ 6,286,000			

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding

OTHER GAS SUPPLY

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Nat. Gas City Gate Purchase (804.0)	$ 255,672,000		$ 255,672,000	
2	Optimization Margin Adjustment (Sch. D-5E)	$ (1,657,000)		$ (1,657,000)	
3	Total Post-Adjustments	$ 254,015,000		$ 254,015,000	OCA-I-31

(1) Company Exhibit MJT-1 Schedule D-4

SALARY AND WAGES WORKSHEET

	Acct. No.		% To Total	(1) Company Proposed Pre-Adjustment	S&W Increase	Total Payroll	Adjustments	OCA Recommended	References
		Power Supply Expenses							
1	717.00	Manufactured Gas Plant	0.102%	$ 50,000	$ 2,000	$ 52,000	$ (1,253)	$ 50,747	
2	741.00	Manufactured Gas Plant	0.067%	$ 33,000	$ 1,000	$ 34,000	$ (827)	$ 33,173	
3	742.00	Manufactured Gas Plant	0.169%	$ 83,000	$ 3,000	$ 86,000	$ (2,080)	$ 83,920	
4	840.00	Storage Operations Expense	0.322%	$ 158,000	$ 5,000	$ 163,000	$ (3,960)	$ 159,040	
5	841.00	Storage Operations Expense	0.902%	$ 443,000	$ 14,000	$ 457,000	$ (11,103)	$ 445,897	
6	843.10	Storage Maintenance Expense	1.063%	$ 522,000	$ 16,000	$ 538,000	$ (13,083)	$ 524,917	
7	843.20	Storage Maintenance Expense	2.791%	$ 1,371,000	$ 42,000	$ 1,413,000	$ (34,361)	$ 1,378,639	
		Total Power Supply Salaries	5.416%	$ 2,660,000	$ 83,000	$ 2,743,000	$ (66,667)	$ 2,676,333	
			5.418%						
		Distribution Expenses							
8	870.00	Distribution Operations		$ -	$ -	$ -			
9	874.00	Distribution Operations	12.385%	$ 6,083,000	$ 187,000	$ 6,270,000	$ (152,456)	$ 6,117,544	
10	875.00	Distribution Operations	1.873%	$ 920,000	$ 28,000	$ 948,000	$ (23,058)	$ 924,942	
11	877.00	Distribution Operations		$ -	$ -	$ -	$ -	$ -	
12	878.00	Distribution Operations	3.298%	$ 1,620,000	$ 50,000	$ 1,670,000	$ (40,601)	$ 1,629,399	
13	879.00	Distribution Operations	11.067%	$ 5,436,000	$ 167,000	$ 5,603,000	$ (136,240)	$ 5,466,760	
14	880.00	Distribution Operations	6.829%	$ 3,354,000	$ 103,000	$ 3,457,000	$ (84,060)	$ 3,372,940	
15	881.00	Distribution Operations		$ -	$ -	$ -	$ -	$ -	
16	887.00	Distribution Maintenance	24.484%	$ 12,026,000	$ 369,000	$ 12,395,000	$ (301,403)	$ 12,093,597	
17	889.00	Distribution Maintenance	1.753%	$ 861,000	$ 26,000	$ 887,000	$ (21,579)	$ 865,421	
18	892.00	Distribution Maintenance	2.842%	$ 1,396,000	$ 43,000	$ 1,439,000	$ (34,987)	$ 1,404,013	
19	893.00	Distribution Maintenance	2.024%	$ 994,000	$ 31,000	$ 1,025,000	$ (24,912)	$ 1,000,088	
20	894.00	Distribution Maintenance	0.305%	$ 150,000	$ 5,000	$ 155,000	$ (3,759)	$ 151,241	
		Total Distribution Salaries	66.861%	$ 32,840,000	$ 1,009,000	$ 33,849,000	$ (823,056)	$ 33,025,944	
			66.861%						
		Customer Accounts							
21	903.00	Cust. Records/Collection	13.077%	$ 6,423,000	$ 197,000	$ 6,620,000	$ (160,977)	$ 6,459,023	
22	905.00	Misc. Cust. Accounts	0.615%	$ 302,000	$ 9,000	$ 311,000	$ (7,569)	$ 303,431	
		Total Customer Accounts Salaries	13.692%	$ 6,725,000	$ 206,000	$ 6,931,000	$ (168,546)	$ 6,762,454	
			13.691%						
		Customer Service & Information							
23	908.00	Cust. Assistance	0.442%	$ 217,000	$ 7,000	$ 224,000	$ (5,439)	$ 218,561	
		Total Customer Service & Info. Salaries	0.442%	$ 217,000	$ 7,000	$ 224,000	$ (5,439)	$ 218,561	
			0.442%						
		Sales Expense							
24	912.00	Demonstrating/Selling	0.812%	$ 399,000	$ 12,000	$ 411,000	$ (10,000)	$ 401,000	
		Total Sales Salaries	0.812%	$ 399,000	$ 12,000	$ 411,000	$ (10,000)	$ 401,000	
			0.812%						
		Administrative & General Expenses							
25	920.00	A&G Salaries - General	12.024%	$ 5,906,000	$ 181,000	$ 6,087,000	$ (148,020)	$ 5,938,980	
26	925.00	Injury & Damages - General	0.332%	$ 163,000	$ 5,000	$ 168,000	$ (4,085)	$ 163,915	
27	932.00	A&G General Maintenance	0.421%	$ 207,000	$ 6,000	$ 213,000	$ (5,188)	$ 207,812	
		Total A&G Salaries	12.778%	$ 6,276,000	$ 192,000	$ 6,468,000	$ (157,293)	$ 6,310,707	
			12.776%						I&E RE-25
28	(2)	Total Salary & Wages		$ 49,117,000	$ 1,509,000	$ 50,626,000	$ (1,231,000)	$ 49,395,000	OCA-I-39/38/40
			100.00%			-3.77%			OCA-I-41
		Vacancy Rate Adjustment				$ 1,906,913		$ (1,906,913)	
		Incentive Compensation		$ 4,227,000				$ (4,227,000)	OCA-I-6
		Stock Compensation		$ 1,453,000				$ (1,453,000)	OCA-VI-7
				$ 5,680,000				$ (5,680,000)	Attach. III-A-21
(1)		Company Exhibit MJT-1 Schedule D-6						$ 41,808,087	
(2)		Differences due to rounding							

Removes $1.231 million related to 1/1 and 3/1 2024 Wage Increase

DISTRIBUTION EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Distibution Operations				
1	Operation Supr. & Engin. (870.0)	$ 227,000		$ 227,000	
2	Mains/Service Exp. (874.0)	$ 15,079,000		$ 15,079,000	
3	Measure/Regulating St. Exp. -Gen (875.0)	$ 1,293,000		$ 1,293,000	
4	Measure/Regulating St. Exp. City Gate (877.0)	$ -		$ -	
5	Meter / Home Regulator Exp. (878.0)	$ 5,867,000		$ 5,867,000	
6	Customer Install. Exp. (879.0)	$ 7,367,000		$ 7,367,000	
7	Other O&M Expense (880.0) - Outside Svc.	$ 16,921,000	$ -	$ 16,921,000	OCA-I-11/25
8	Rents (881.0)	$ 39,000		$ 39,000	
9	Total Pre-Adjustments	$ 46,793,000	$ -	$ 46,793,000	
10	Salary & Wages (870.0) - Sch. D-6	$ -			
11	Salary & Wages (874.0) - Sch. D-6	$ 187,000	$ (152,456)	$ 34,544	
12	Salary & Wages (875.0) - Sch. D-6	$ 28,000	$ (23,058)	$ 4,942	
13	Salary & Wages (877.0) - Sch. D-6	$ -			
14	Salary & Wages (878.0) - Sch. D-6	$ 50,000	$ (40,601)	$ 9,399	
15	Salary & Wages (879.0) - Sch. D-6	$ 167,000	$ (136,240)	$ 30,760	
16	Salary & Wages (880.0) - Sch. D-6	$ 103,000	$ (84,060)	$ 18,940	
17	Salary & Wages (881.0) - Sch. D-6	$ -			
18	Proforma Total Adjustments	$ 535,000	$ (436,415)	$ 98,585	
	Distribution Maintenance				
19	Maint. of Mains (887.0)	$ 22,619,000		$ 22,619,000	
20	Maint. of Meas/Reg Sta. Equip - Gen (889.0)	$ 1,605,000		$ 1,605,000	
21	Maint. of Services (892.0)	$ 2,814,000		$ 2,814,000	
22	Maint. of Meters / House Reg. (893.0)	$ 1,428,000		$ 1,428,000	
23	Maint. of Other Equip. (894.0)	$ 813,000		$ 813,000	
24	Total Pre-Adjustments	$ 29,279,000	$ -	$ 29,279,000	OCA-Set I-46
25	Salary & Wages (887.0) - Sch. D-6	$ 369,000	$ (301,403)	$ 67,597	
26	Salary & Wages (889.0) - Sch. D-6	$ 26,000	$ (21,579)	$ 4,421	
27	Salary & Wages (892.0) - Sch. D-6	$ 43,000	$ (34,987)	$ 8,013	
28	Salary & Wages (893.0) - Sch. D-6	$ 31,000	$ (24,912)	$ 6,088	
29	Salary & Wages (894.0) - Sch. D-6	$ 5,000	$ (3,759)	$ 1,241	
30	Total	$ 474,000	$ (386,641)	$ 87,359	
31	Total Post-Adjustments (2)	$ 77,081,000	$ (823,056)	$ 76,257,944	

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding
OCA-I-16 Vegetation Management - not included in filing
Check for Inflation OCA-I-8
Check for Incentive OCA-Set I - 11

CUSTOMER ACCOUNTS EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Meter Reading Exp. (902.00)	$ 113,000		$ 113,000	
2	Customer Records/Collection (903.00)	$ 15,475,000		$ 15,475,000	OCA-I-11
3	Uncollectible Accounts (904.00)	$ 2,823,000	$ (321,470)	$ 2,501,530	OCA-I-47
4	Miscellaneous Cust. Accts. (905.00)	$ 1,008,000		$ 1,008,000	
5	Total Pre-Adjustments	$ 19,419,000		$ 19,097,530	
6	Salary & Wages (903.00) Schedule D-6	$ 197,000	$ (160,977)	$ 36,023	
7	Uncollectible Accounts (904.00) Schedule D-10	$ (63,000)	$ -	$ (63,000)	OCA-I-47
8	Salary & Wages (905.00) Schedule D-6	$ 9,000	$ (7,569)	$ 1,431	
9	Customer Deposits (905.00) Schedule D-12	$ 97,000	$ -	$ 97,000	
10	MGP, TARC, EE&C (905.00) Schedule D-14	$ (104,000)	$ -	$ (104,000)	OCA-I-48/49
11	Total Proforma Adjustments	$ 136,000	$ (168,546)	$ (32,546)	I&E-RE-48
12	Total Post-Adjustments	$ 19,555,000	$ (490,016)	$ 19,064,984	
13	Additional Uncollectible Expense				

(1) Company Exhibit MJT-1 Schedule D-4

CUSTOMER SERVICE& INFORMATION

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Customer Assistance (908.00)	$ 4,440,000	$ (136,000)	$ 4,304,000	OCA-I-23
2	Information/Instructional Adv. (909.00)	$ 727,000	$ (235,000)	$ 492,000	OCA-I-12/VI-9
3	Miscellaneous (910.00)	$ -		$ -	
4	Total Pre-Adjustments	$ 5,167,000	$ (371,000)	$ 4,796,000	
5	Salary & Wages (908.00) Sch. D-6	$ 7,000	$ (5,439)	$ 1,561	
6	SEHP Co Programs (908.00) Sch. D-11	$ 400,000		$ 400,000	I&E RE-48
7	Customer Programs (908.00) Sch. D-15	$ 167,000		$ 167,000	OCA-I-54
8	Total ProForma Adjustments	$ 574,000	$ (5,439)	$ 568,561	
9	Total Post-Adjustments (2)	$ 5,741,000	$ (376,439)	$ 5,364,561	

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding

SALES EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Demonstrating/Selling (912.00)	$ 1,714,000	$ (31,000)	$ 1,683,000	OCA-I-23
2	Miscellaneous (916.00)	$ -		$ -	
3	Total Pre-Adjustments	$ 1,714,000		$ 1,683,000	
4	Salary & Wages (912.00) Sch. D-6	$ 12,000	$ (10,000)	$ 2,000	
5	Total Proforma Adjustments	$ 12,000		$ 2,000	
6	Total Post-Adjustments	$ 1,726,000	$ (41,000)	$ 1,685,000	

(1) Company Exhibit MJT-1 Schedule D-4

ADMINISTRATIVE & GENERAL EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	A&G Salaries (920.00) - workforce	$ 6,569,000	$ (99,000)	$ 6,470,000	OCA-I-23
2	Office Supplies / Expense (921.00) WF&EV	$ 1,762,000	$ (151,000)	$ 1,611,000	OCA-I-23
3	Outside Services Employed (923.00)	$ 15,922,000	$ (267,567)	$ 15,654,433	OCA-I-11/13/OCA-VII-3
4	Property Insurance (924.00)	$ 103,000		$ 103,000	OCA-VI-8
5	Injury & Damages (925.00)	$ 257,000		$ 257,000	
6	Employee Pension & Benefits (926.00) ED&WF	$ 5,974,000	$ (377,440)	$ 5,596,560	OCA-I-10/14/23 OCA-VII-2
	Employee Activities	$ -	$ (214,755)	$ (214,755)	OCA-VII-1/I&E RE-19
7	Regulatory Commission Exp. (928.00)	$ 2,200,000		$ 2,200,000	OCA-I-13
8	Duplicate Charges (929.00)	$ (12,000)		$ (12,000)	
9	Misc. General Expenses (930.00) R&D MemDues	$ 662,000	$ (189,000)	$ 473,000	OCA-I-12/13
10	Maint. of Gas Gen. Plant (932.00)	$ 1,352,000		$ 1,352,000	
11	Total Pre-Adjustments	$ 34,789,000	$ (1,298,762)	$ 33,490,238	
12	Salary & Wages (920.00) Sch. D-6	$ 181,000	$ (148,020)	$ 32,980	
13	Salary & Wages (925.00) Sch. D-6	$ 5,000	$ (4,085)	$ 915	
14	Empl. Pen. & Ben. (926.00) Sch. D-8	$ 19,000	$ (19,000)	$ -	OCA-I-10/44
15	Empl. Pen. & Ben. (926.00) Sch. D-9	$ 3,414,000	$ (256,000)	$ 3,158,000	OCA-I-44/45
16	Reg. Comm. Expense (928.00) Sch. D-7	$ 567,000	$ (145,254)	$ 421,746	OCA-I-9/43
17	Maint. of Gas Gen. Plant (932.00) Sch. D-6	$ 6,000	$ (5,188)	$ 812	
18	Total Proforma Adjustments	$ 4,192,000	$ (577,547)	$ 3,614,453	
19	Subtotal Post-Adjustments	$ 38,981,000		$ 37,104,691	
20	Adjustment to A&G	$ 356,998	$ (330,041)	$ 26,956	PUC/OCA/SBA OCA-I-32
21	Total Post-Adjustments	$ 39,337,998	$ (2,206,350)	$ 37,131,647	

See Schedule D-8 for Adjustment to Employee benefits Line 14 and 15
Employee Pension and Benefits Line 6 - OCA-I-44

DEPRECIATION / AMORTIZATION

		(1) Company Proposed Depr. Rate	Depr. Expense	Adjustments	OCA Recommended	References
1	PECO - Common General Plant - 10.00%		$ 6,499,000		$ 6,499,000	
2	Gas Distribution Plant - 2.4717%		$ 71,677,000	$ (5,752)	$ 71,671,248	OCA-I-26
3	Gas General Plant - 3.8601%		$ 2,198,000	$ (30,659)	$ 2,167,341	
4	Gas Production Plant		$ 170,000	$ -	$ 170,000	
5	Gas Storage Plant		$ 3,150,000	$ -	$ 3,150,000	
6	Common Intangible Plant - 20.00%		$ 10,918,000	$ (211,271)	$ 10,706,729	
7	Gas Intangible Plant - 20.00%		$ 2,729,000	$ -	$ 2,729,000	
8	Total Depreciation Expense		$ 97,341,000	$ (247,682)	$ 97,093,318	OCA-I-51

PECO Common Hardware - 38.8974%

(1) Company Exhibit MJT-1 Schedule 17

AMORTIZATION OF REGULATORY ASSET

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Proforma Balance	$ 3,849,000		$ 3,849,000	OCA-I-48
	Energy Efficiency Program	$ 2,728,000		$ 2,728,000	
	MGP Amortization	$ 517,000		$ 517,000	
		$ 3,245,000		$ 3,245,000	
	Adjustments:				
	Energy Efficiency Program - Sch. D-11	$ 500,000		$ 500,000	I&E RE-48
	MGP Amortization - Sch. D-13	$ 104,000		$ 104,000	OCA-I-48/54
	Total	$ 3,849,000		$ 3,849,000	

(1) Company Exhibit MJT-1 Schedule D-1
Schedule D-13
Schedule D-11

TAXES OTHER THAN INCOME TAXES

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	PURTA	$ 2,100,000		$ 2,100,000	
2	Capital Stock & Franchise	$ -			
3	Use Tax Accrued	$ 663,000		$ 663,000	
4	Real Estate Tax Accrual	$ 1,791,000	$ (44,613)	$ 1,746,387	OCA-I-8
5	Miscellaneous	$ -			
6	Payroll Taxes Accrued	$ 4,224,000	$ (628,504)	$ 3,595,496	
7	Sub-total	$ 8,778,000	$ (673,117)	$ 8,104,883	OCA-I-50
	Additional Payroll Taxes				
8	Payroll Charged to Expense	$ 49,120,000		$ 41,808,087	
9	Payroll Tax Expense	$ 4,224,000		$ 3,595,496	
10	Percentage to Total	8.60%		8.60%	OCA-I-50
11	Proforma Increase in S&W Wages	$ 1,509,000		$ 278,000	
12	Payroll Tax Proforma	$ 129,764	$ (105,858)	$ 23,906	
13	Total Taxes Other Than Income	$ 8,907,764	$ (778,975)	$ 8,128,789	

(1) Company Exhibit MJT-1 Schedule D-16

INCOME TAXES

		(1) Company Proposed	Adjustments	Present Rates OCA Recommended	References
1	Revenues	$ 734,414,000		$ 652,155,140	
2	Operating Expenses	$ (514,558,514)	$ 16,978,850	$ (497,579,664)	
3	Operating Income Before Taxes	$ 219,855,486		$ 154,575,475	
4	Rate Base	$ 2,884,137,000	$ (5,389,175)	$ 2,878,747,825	
5	Weighted Cost of Debt	1.83%		1.96%	
6	Synchronized Interest	$ 52,779,707	$ 3,643,750	$ 56,423,457	
7	Base Taxable Income	$ 167,075,779		$ 98,152,018	
8	State Accelerated Tax Depreciation	$ 108,332,000		$ 108,332,000	OCA-I-52
9	Proforma Book Depreciation	$ 97,341,000	$ (247,682)	$ 97,093,318	
10	State Tax Over Book	$ (10,991,000)		$ (11,238,682)	
11	Regulatory Asset M-1 Pension/Post-Retire	$ (6,989,000)		$ (6,989,000)	
12	Other Property Basis (CIA/ICM)	$ (5,422,000)		$ (5,422,000)	
13	Removal Costs/Software	$ (4,258,000)		$ (4,258,000)	
14	AFUDC Equity	$ (3,493,000)		$ (3,493,000)	
15	Permanent Adjustments	$ 736,000		$ 736,000	
16	Repair Deduction	$ (157,400,000)		$ (157,400,000)	
17	State Taxable Income	$ (20,741,221)		$ (89,912,664)	
18	State Income Tax Rate	9.99%		9.99%	
19	State Income Tax before NOL	$ 2,072,048		$ 8,982,275	
20	NOL Utilization at 100%	$ (2,072,000)		$ (9,012,575)	
21	State Income Tax before NOL	$ 48		$ -	
22	Federal Accelerated Tax Depreciation	$ 90,463,000		$ 90,463,000	OCA-I-34
23	Proforma Book Depreciation	$ 97,341,000		$ 97,093,318	
24	Federal Tax Over / Under	$ 6,878,000		$ 6,630,318	
25	Regulatory Asset M-1 Pension/Post-Retire	$ (6,989,000)		$ (6,989,000)	
26	Other Property Basis	$ (5,422,000)		$ (5,422,000)	
27	Removal Costs/Software	$ (4,258,000)		$ (4,258,000)	
28	AFUDC Equity	$ (3,493,000)		$ (3,493,000)	
29	Permanent Adjustments	$ 736,000		$ 736,000	
30	Repair Deduction	$ (157,400,000)		$ (157,400,000)	
31	Federal NOL	$ -			
32	Federal Taxable Income	$ (2,872,173)		$ (72,043,664)	
33	Federal Income Tax Rate	21.00%		21.00%	
34	Federal Income Tax before Deferral/Adjust.	$ 603,156		$ 15,129,169	
	Deferred Income Taxes				
35	Deferred Taxes on Timing Differences: Federal	$ (2,231,000)		$ (1,907,254)	
36	Deferred Taxes on Timing Differences: State	$ (1,240,000)		$ (1,240,000)	
37	Deferred Taxes on State NOLs	$ 2,072,048		$ 8,982,275	
38	Excess Deferred Amortization	$ 2,930,000		$ 2,930,000	
39	Federal Income Tax Flow Through Adjustment	$ (494,000)		$ (494,000)	
40	Deferred Income Tax Benefit/(Expense)	$ 1,037,048		$ 8,271,021	
41	Net Income Tax Benefit/(Expense)	$ 1,640,204		$ 23,400,191	
42	Investment Tax Credit	$ 8,000		$ 8,000	
43	Combined Income Tax Benefit/(Expense)	$ 1,648,204		$ 23,408,191	
44	Federal Income Taxes	$ 816,156		$ 15,665,915	
45	State Income Taxes	$ 832,096		$ 7,742,275	
		$ 1,648,252		$ 23,408,191	

(1) Company Exhibit MJT-1 Schedule D-18

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OCA-I-6

Provide copies of all Annual Incentive Pay Plans, Variable Pay Plans, Bonus Pay Plans that were relied upon to support the Company's salary and wage level in this proceeding.

RESPONSE:

Please refer to the Confidential attachments previously submitted under SDR-RR-27 for copies of all incentive plan descriptions.

THE ATTACHMENT IS CONFIDENTIAL AND IS PROVIDED ONLY TO THOSE WHO HAVE EXECUTED NON-DISCLOSURE AGREEMENTS UNDER THE PROTECTIVE ORDER.

Responsible Witness: Robert J. Stefani

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OCA Set I

Response Date: May 09, 2022

OCA-I-7

Please provide a schedule that shows the breakdown and description of all Incentive, Variable, Stock Options, Bonus pay included in each of the Company's Operating Expenses by Account No. shown on Company Exhibit MJT-1 Schedule D-1 page 39 of 87, and more specifically on page 57 and 58 of Schedule D-6 (S&W Proforma).

RESPONSE:

The Company's claim for Operating Expenses in the FPFTY includes $4.227 million of Incentive Compensation Pay and $1.453 million for Stock Compensation.

Refer to Attachment OCA-I-46(a), column (7) for the breakdown by Account of Incentive Compensation Pay and column (26) for the breakdown by Account of Stock Compensation. These amounts are not included in Exhibit MJT-1, Schedule D-6 (S&W Proforma) but are included in Total Operating Expenses reflected on Exhibit MJT-1, Schedule D-1.

Responsible Witness: Michael J. Trzaska

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OCA Set I

Response Date: May 09, 2022

OCA-I-8

Please provide all inflationary and CPI's adjustments the Company used to development its proposed revenue requirement increase of $82.110. Please show where these adjustments are accounted for and reflected in the filing by O&M Expense category and Rate Base category, along with the actual percentage inflation/deflation adjustment. Please provide all supporting information used to develop the inflationary and CPI adjustments.

RESPONSE:

Refer to the Company's response to IE-RE-45 for an explanation of how the inflation rate is developed and applied in the O&M expenses for the FTY 2022 and FPFTY 2023.

Responsible Witness: Robert J. Stefani

Pennsylvania Public Utility Commission
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OCA-I-9

Please provide the dates of the Company last 5 base rate case proceedings along with the actual incurred rate case expenses in each proceeding.

RESPONSE:

Refer to the Company's response to III-A-20 for the actual rate case expenses incurred for the Company's last 3 gas base rate case proceedings filed in 2020, 2010 and 2008. Prior to 2008, the Company filed gas base rate cases in 1987 and 1983 but the actual rate case expenses incurred in those cases are not available.

Responsible Witness: Michael J. Trzaska

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OCA-I-12

Refer to Volume IV, Q. III-A-25. Please show where each of these expenses for Advertising is accounted for in the filing by expense category and by account no. Please provide a breakdown of the following Advertising Expenses and a brief explanation:

- Energy Innovation
- Other Advertising Expenses
- Outdoor
- Public Venue Ads, Sponsorships, Print
- Other

RESPONSE:

Advertising expenses are included in FERC account no 909.0 and 930.1. Please refer to breakdown in Attachment III-A-25(a), as well as Attachment IE-RE-12(a) which includes 2019 breakdown, (a) line 4 for Energy Innovation which represents promotion of reliability and safety, (b) line 5 for Other Advertising Expenses which represent account management, production, and creative fees, (c) line 8 for Outdoor which represents billboards, transit, and laundromats, (d) line 10 for Public Venue Ads, Sponsorships, Print which represents program booklets, special edition newspapers and diverse publications, and (e) line 11 for Other which represents social media ads and streaming.

Responsible Witness: Robert J. Stefani

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OCA-I-13

Refer to Volume IV, Q. III-A-28. Please provide a description and a breakdown of Research and Development Expenses, Other Expenses and Association Dues, Corporate Dues, and Board of Director Fees. Please provide description and a breakdown of Outside Services Employed for Various expenses, Contracting Professional, and Contracting Services.

RESPONSE:

Please refer to Attachment III-A-28(a), as well as Attachment IE-RE-13(a) which includes 2019, Account 930.2 Miscellaneous General Expenses: (a) line 8 for Research and Development Expenses, (b) line 12 for Other Expenses, (c) line 7 for Association Dues, (d) line 10 for Corporate Dues, (e) line 11 for Board of Director Fees; and Account 923 Outside Services Employed: (1) line 14 for Various, (2) line 15 for Contracting Professional, and (3) line 17 for Contracting Services. Additionally, please refer to SDR-RR-52 for further breakdown of Account 923 Outside Services Employed by vendor detail for HTY.

Responsible Witness: Robert J. Stefani

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OCA-I-15

Please provide a copy of the Company's construction budget for the FY and the FPFTY periods. Please list all projects estimated to be completed in the FTY as well as the FPFTY by plant account and their estimated completion dates. For those projects not expected to be completed by the end of the FPFTY period please provide an explanation for the delay and whether the delay was internal or external in nature.

RESPONSE:

Please refer to Attachment OCA-I-15(a).

Responsible Witness: Robert J. Stefani

Project Type	Project Description	Additions to Capital for FTY	Additions to Capital for FPFTY	In-Service
Baseline/Program	AGIMP Large Diameter	22,168,254	37,635,633	Various
	AGIMP Small Diameter	58,497,364	80,874,474	Various
	AGIMP Support - Restoration/Engineering	37,451,533	27,577,528	Various
	Back Office Allocation	-	718,491	Various
	Bare Steel Services - Gas	29,395,745	-	Various
	Cast Iron Mains - Gas	4,310,289	4,419,732	Various
	Cathodic Protection - Gas	2,408,840	2,420,698	Various
	Facility Enhancement Program - Gas	-	2,191,858	Various
	Gas (excluding NB)	11,853,639	20,864,295	Various
	Gas Capacity Expansion	3,198,390	3,272,404	Various
	Gas Facility Relocation	7,346,376	7,382,842	Various
	Gas New Business	45,021,230	43,637,452	Various
	Gas Plant Winter Critical	2,066,405	2,840,619	Various
	IT Projects	620,291	1,622,940	Various
	LTIIP (Regulatory Gas)	-	12,914,677	Various
	Optimain - Gas	20,166,444	20,560,476	Various
	Real Estate and Facilities	3,175	10,003,204	Various
	Residential HP Regulator Replacement Program	8,221,249	10,260,894	Various
Baseline/Program Total		**252,729,224**	**289,198,217**	
Specific Projects	Natural Gas Reliability (Reliability Station, Main, and LNG Plant)	133,710,819	-	November 2023*
	LNG Plant BOC	7,732,744	-	March 2022
	2021 AGIMP SD NORRISTOWN	6,126,371	-	June 2022
	2021 AGIMP LD PCR Steel	5,981,662	-	June 2022
	2021 AGIMP SD Abington	3,282,294	-	March 2022
	2021 AGIMP SD TREDYFFRIN	3,227,775	-	May 2022
	2021 AGIMP SD EASTTOWN	2,761,677	-	March 2022
	2021 AGIMP SD PCR Plastic	1,252,380	-	May 2022
	2021 AGIMP SD HAVERFORD	1,037,024	-	March 2022
	2021 AGIMP SD UPPER DARBY	1,029,640	-	December 2022
	2021 AGIMP SD SPRINGFIELD (D)	908,472	-	June 2022
	2021 AGIMP SD LOWER MERION	688,466	-	April 2022
	FEP - Eddystone Gas Gate	366,777	1,333,849	July 2022
	FEP - Brookhaven Gas Gate	361,781	1,616,914	July 2022
	FEP CenterPoint Gas Gate	323,573	978,367	December 2022
	2021 LD AGIMP- Valley Forge Rd Large Diameter	309,718	-	January 2022
	2021 AGIMP LD - Righters Mill	304,712	-	January 2022
	Kimberly Clark NB C&I	303,956	-	June 2022
	2021 AGIMP SD OPT	294,717	-	February 2022
	FEP West Conshohocken Regulator Room Gas Gate	153,049	1,859,276	November 2022
	2021 AGIMP SD Cheltenham	129,211	-	December 2022
	KOP Gas Control Building Generator Replacement	80,139	-	April 2022
	2020 AGIMP- Upper Darby SEPTA J&B Large Diameter	64,315	-	January 2022
	16 Tilghman Pipeline Replacement	-	4,144,805	August 2023
	FR - Rte 202 - Section 61N	-	4,212,705	July 2023
	Other Projects under $50,000	159,780	22,181	Various
Specific Project Total		**170,591,053**	**14,168,097**	
	Gross Plant Additions	**423,320,277**	**303,366,314**	
	Calculated Cost of Removal	**(11,112,778)**	**(11,112,778)**	
	Plant Additions	**412,207,499**	**292,253,536**	
	Reconciliation to Exhibit CF-2 and CF-3:			
		FTY	FPFTY	
	Plant Additions per Exhibits MJT-2 and MJT-1, Page 16	**412,207,499**	**292,253,536**	
	Adjustments			
	Common Plant Additions Allocated to Gas	**25,342,182**	**47,253,107**	
	Total Adjustments	**25,342,182**	**47,253,107**	
	Plant Additions per Exhibits CF-2 and CF-3	**437,549,681**	**339,506,643**	

* Please refer to the table titled "Natural Gas Relilabilty In Service Date Updates" for more information.

PECO Energy Company

Natural Gas Reliability In Service Date Update

Line No.	Scope	In Service Date per filing	Updated In Service Date	Variance Explanation
1	New Reliability Station	November 2022	March 2023	Please refer to OCA-I-18 for additional information on this delay
2	Gas Main	November 2022	March 2023	Please refer to OCA-I-18 for additional information on this delay
3	LNG Plant	November 2022	November 2023	This delay was due to necessary re-engineering and re-ordering of the LNG vaporization equipment. Re-engineering was required to comply with updated TSA regulations and Exelon Cyber security updates, which were adopted after the Company had completed the original design of the LNG plant and placed its initial equipment order. The design needed to be enhanced and the equipment re-ordered, which delayed the vaporization equipment delivery date. In addition, to avoid risks associated with commencing construction during PECO's main heating season, the Company decided to commence construction Spring 2023, which will result in the equipment being placed in-service in November 2023.

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OCA-I-17

Refer to Mr. Bradley's testimony (Statement. No. 1), page 11. Please provide a schedule of the Company's plant additions for the periods ending: projected December 31, 2022, ($412.208 Million) and fully projected December 31, 2023 ($292.254 Million). Please provide by the following categories:

1. Major Projects – Include a time-line and costs to complete through the FPFTY
2. New Facilities
3. Aging and Deteriorating infrastructure
4. Base Capital Spending (Services, Meters, Meter Installations, Other)
5. Regulatory Compliance / Mandates
6. Growth
7. Replacement and Rehabilitations
8. IT Expenditures / Smart Technology / Security
9. LTIIP Projects
10. AGIMP Projects
11. DSIC Projects
12. Other expenditure categories
13. Any cost contingencies included in the project costs.

RESPONSE:

Please refer to the Company's response to OCA-I-15 for a schedule of the Company's plant additions in 2022 (FTY) and 2023 (FPFTY), as referenced in PECO Statement No. 1, page 11.

PECO budgets plant additions by specific projects or programs, which do not align with the requested categories. For this reason, plant additions in the response to OCA-I-15 are grouped by budgeted projects and programs. AGIMP projects and programs related to the gas DSIC are specifically noted in the Company's response to OCA-I-15 in the "Project Description" column.

Responsible Witness: Robert J. Stefani

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Response Date: May 09, 2022

OCA-I-18

Refer to Mr. Bradley's Statement No. 1 page 13. Please provide the expenditures that have not been reflected in the plant additions due to permitting delays and the dollar amount of each plant addition. Please identify the project and the category/account no. this project is recorded in. What is the expected in-service dates for each of these projects?

RESPONSE:

The project referred to in Mr. Bradley's Statement No. 1 on page 13 is the Natural Gas Reliability Project. Capital additions were $74.6M lower in the 2021 calendar year for the Natural Gas Reliability Project compared to what was anticipated in the 2020 gas base rate proceeding. Permitting delays began to occur after an initial denial from the Marple Zoning Board for the utilization of 2090 Sproul Road to construct the Natural Gas Reliability Station, an integral part of the Natural Gas Reliability Project. The type of permits delayed as a result of the denial included building permits, land development plan approval, grading permits, construction permits, and zoning categorization. Subsequent to the Zoning Board denial, PECO initiated an appeal of the decision to the PUC and the Court of Common Pleas. This issue was resolved on March 10, 2022, when the PUC ruled that PECO's proposed location of the Natural Gas Reliability Station was necessary for the continued delivery of safe, reliable, affordable, and clean natural gas to PECO's customers in Delaware County. Marple Township has appealed the decision of the PUC to the Commonwealth Court of Pennsylvania.

The NGR Gas Main and Marple Reliability Station is estimated to be in service by March 2023, which differs from the filing date of November 2022. This project falls within the Distribution

Plant and Other Storage Plant categories, and the G363 – Gas Storage Equipment, G376 – Gas Mains and G379 – City Gate Station accounts.

Responsible Witness: Robert J. Stefani

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OCA-I-20

Refer to Mr. Bradley's Statement No. 1 page 6. Please provide a schedule of all employee vacancies the Company anticipated to fill in the FTY and in the FPFTY periods. Please provide starting salaries and title. Please provide anticipated interview dates and hiring process and whether management has authorized the hiring of additional employees. Please describe the hiring process.

RESPONSE:

Please see the Confidential Attachment OCA-I-20(a).

The Company approves headcount and budget during the LRP cycle. The hiring manager will post position(s) with the HR recruitment team. All external new hires are approved by the VP of Human Resources.

THE ATTACHMENT IS CONFIDENTIAL AND IS SUBMITTED ONLY IN THE NON-PUBLIC VERSION OF THIS RESPONSE FILED WITH THE COMMISSION.

Responsible Witness: Robert J. Stefani

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OCA-I-21

Refer to Mr. Bradley's Statement No. 1 page 7. How was the 2.8% annual growth inflationary trend calculated? What source(s) did the Company rely on? How were these inflationary trends incorporated into the Company filings and where have they been accounted for? What dollar amount resulted in the inclusion of the 2.8% inflationary trend?

RESPONSE:

The compound annual growth rate (CAGR) is a calculation comparing the completed FPFTY O&M budget and 2021 actual O&M expenses. The 2.8% CAGR is not used to derive the FPFTY O&M. Please reference the Company's response to IE-RE-45 regarding the inflationary assumptions included in the FPFTY O&M projection.

The 2.8% CAGR from 2021 through the FPFTY was calculated as follows:

((FPFTY O&M / 2021 O&M) ^ (1 / Number of years)) - 1
or
((143.8M / 136.0M) ^ (1/2)) - 1.

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OCA-I-23

Refer to Mr. Bradley's Statement No. 1 page 35. Please provide a schedule and description of the following costs the Company has included in this filing related to:

a. Economic Development
b. Workforce Development – (OIC, SETT, Energy Coordinating Agency, Helper Pre-Apprentice, Information Sessions, Small Business Gas Grant Program), along with status of results
c. Community Services
d. Community Involvement
e. Sponsorships, Volunteer Activities
f. Outside Non-Profit Boards

Where are these costs accounted for and recorded in the Company's filing?

RESPONSE:

a. The Economic & Business Development Team works with local, regional, and state economic development and real estate partners to attract businesses to southeastern Pennsylvania and help existing companies grow and expand. In addition, this Team acts as the single point of contact for key residential and commercial developers in all matters relating to PECO for both new construction and existing properties.

   The activities of the Economic & Business Development Team include the following:

- Provide guidance and assistance on energy infrastructure, availability, reliability and costs to real estate developers, brokers and businesses looking to locate or expand in southeastern Pennsylvania.
- Coordinate cross-functional PECO teams working with developers of large redevelopment sites to provide necessary electric and gas infrastructure to enable future growth.
- Work in collaboration with local and regional economic development officials to identify available office and industrial space for companies interested in locating or expanding in southeastern Pennsylvania, particularly with sufficient electric and gas capacity.
- Financial and staff support for local and regional economic development and related organizations, including Select Greater Philadelphia.
- Educational outreach to developers, real estate professionals and economic development officials on energy topics of interest including competitive procurement and energy efficiency incentive programs.
- Assist Select Greater Philadelphia in promoting the benefits of the Greater Philadelphia region to site location consultants and other real estate professionals, focusing in particular on the energy-related strengths of the region.
- Develop and implement economic development tariff incentives, such as the Economic Development Rider which provides a benefit for manufacturing and development of brownfield sites.
- Participate in local and regional strategic improvement initiatives that will help make the region a more attractive place for businesses to locate and expand.
- Represent PECO at various civic, real estate, and development events and activities throughout the region.

	Cost ($000s)	
Labor and Benefits	$	136
Sponsorship and Memberships in Support of Local and Regional Economic Deveopment Organizations	$	31
Office Supplies, Postage, Travel and Other	$	16
	$	183

The pre-adjustment expenses by FERC account for the future test year ("FTY") and fully projected future test year ("FPFTY") were determined using PECO's budgets for the twelve-month periods ending December 31, 2022, and December 31, 2023, respectively, as a starting point. Budgeted expenses, which were prepared based on

business activities and related cost elements such as payroll, employee benefits, and outside contracting costs, were distributed to FERC accounts based upon the actual distribution of costs experienced by the Company during calendar year-ended December 31, 2021. For the historic test year ("HTY"), these expenses were recorded primarily to FERC accounts 908000, 912000, and 926000.

b. PECO's Workforce Development group was created to enhance the employability of those who reside in the communities that PECO serves with particular emphasis on the underserved by creating career opportunities inside and outside of the company. Emphasis is on getting community members in the region working in sustainable careers. Our focus includes four strategic outcomes: STEM Awareness and Education, Partnerships, Collaboration, and Training, Eliminating Barriers to Opportunities, and Thought Leadership.

PECO included the below Workforce Development costs in its claims that support the strategic outcomes outlined above. Costs include:

- Base Payroll, Incentives, and P&B: support of four FTEs in the group.
- Contracting: Energy contractor that performs research and design for program implementation. Administrative contractor that supports the management of events including Pre-Apprentice Helper program, Infrastructure Academies and Information sessions.
- Materials: Items for career fairs including giveaways, and other items for demonstrations.
- Other Net: Design, development, and refresh of educational materials shared with community-based organizations. Price also includes costs of mailings to community organizations.
- Travel Meals & Entertainment: Refreshments for external community events.

	Cost ($000s)	
Labor & Benefits	$	99
Contracting	$	84
Materials	$	4
Other Net	$	9
Travel, Meals & Entertainment	$	3
	$	199

The pre-adjustment expenses by FERC account for the FTY and FPFTY were determined using PECO's budgets for the twelve-month periods ending December

31, 2022, and December 31, 2023, respectively, as a starting point. Budgeted expenses, which were prepared based on business activities and related cost elements such as payroll, employee benefits, and outside contracting costs, were distributed to FERC accounts based upon the actual distribution of costs experienced by the Company during calendar year-ended December 31, 2021. For the HTY, these expenses were recorded primarily to FERC accounts 920000, 921000, and 926000.

c. PECO did not include any costs related to community services in its initial filing.

d. PECO included the below Community Involvement costs in its claims in this case that are associated with the Company's outreach efforts to low-income customers to facilitate and encourage enrollment and recertification in customer assistance programs. Customer assistance programs include PECO's Customer Assistance Program – CAP; PECO's hardship fund – Matching Energy Assistance Fund – MEAF; PECO's Low-Income Usage Reduction Program – LIURP; and the utility government grant program LIHEAP (Low-Income Usage Reduction Program).

The categories below include Contracting costs PECO incurs for vendors to make and receive calls to low-income customers; Materials used for Outreach events like brochures and pamphlets, Other Net costs which includes things like postage for mailings, and Travel, Meals & Entertainment which includes refreshments served at Outreach events. Below is a breakdown of cost per category.

	Cost ($000s)	
Contracting	$	3
Materials	$	13
Other Net	$	21
Travel, Meals & Entertainment	$	4
	$	183

The pre-adjustment expenses by FERC account for the FTY and FPFTY were determined using PECO's budgets for the twelve-month periods ending December 31, 2022, and December 31, 2023, respectively, as a starting point. Budgeted expenses, which were prepared based on business activities and related cost elements such as payroll, employee benefits, and outside contracting costs, were distributed to FERC accounts based upon the actual distribution of costs experienced by the Company during calendar year-ended December 31, 2021. For the HTY, these expenses were recorded primarily to FERC account 921000.

e. The Company did not include any costs related to sponsorships in its initial filing. PECO's revenue requirement in this case includes the following costs for employee volunteer activities:

	Cost ($000s)
Materials and Supplies to Facilitate Employee Volunteer Events	$ 54
Total	$ 54

The pre-adjustment expenses by FERC account for the FTY and FPFTY were determined using PECO's budgets for the twelve-month periods ending December 31, 2022, and December 31, 2023, respectively, as a starting point. Budgeted expenses, which were prepared based on business activities and related cost elements such as payroll, employee benefits, and outside contracting costs, were distributed to FERC accounts based upon the actual distribution of costs experienced by the Company during calendar year-ended December 31, 2021. For the HTY, these expenses were recorded primarily to FERC account 921000.

f. PECO did not include any costs related to outside non-profit boards in the filing.

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OCA-I-26

Refer to Mr. Stefani's Statement No. 2 page 5. Please provide a detailed breakdown and description of the Company's currently planned investments of $317 million and $328 million for the periods Jan 2022-December 2022 and Jan 2023-December 2023, respectively. Please also provide the estimated / anticipated in service and completion dates.

RESPONSE:

Please see Attachment OCA-I-26(a) for a listing of FTY and FPFTY capital expenses and their estimated in-service dates. Please note that the in-service dates have no impact on the timing of the capital expense being recorded. Capital expense is recorded in the period it is incurred.

Responsible Witness: Robert J. Stefani

Project Type	Project Description	FTY Capital	FPFTY Capital	In-Service Date	Completion Date
Baseline/Program	AGIMP Small Diameter	65,908,302	82,484,908	Various	Various
	AGIMP Large Diameter	22,152,938	37,635,633	Various	Various
	AGIMP Support - Restoration/Engineering	37,451,533	27,577,528	Various	Various
	Back Office Allocation	853,032	3,594,221	Various	Various
	Bare Steel Services - Gas	29,395,745	-	Various	Various
	BIDA - PECO	62,865	-	Various	Various
	Cast Iron Mains - Gas	4,310,289	4,419,732	Various	Various
	Cathodic Protection - Gas	2,408,840	2,420,698	Various	Various
	Customer Operations	123,651	125,003	Various	Various
	Customer Smart Grid Operations	535,421	294,976	Various	Various
	Environmental	154,328	86,025	Various	Various
	Facility Enhancement Program - Gas	-	10,286,052	Various	Various
	Fleet	2,719,357	3,093,316	Various	Various
	Gas (excluding NB)	11,853,639	20,864,295	Various	Various
	Gas Capacity Expansion	3,198,390	3,272,404	Various	Various
	Gas Facility Relocation	7,346,376	7,382,842	Various	Various
	Gas New Business	45,021,230	43,637,452	Various	Various
	Gas Plant Winter Critical	2,066,405	2,840,619	Various	Various
	IT Passthroughs	777,600	777,594	Various	Various
	IT Projects	3,176,783	5,467,480	Various	Various
	LTIIP (Regulatory Gas)	-	12,914,677	Various	Various
	Optimain - Gas	20,222,089	20,660,729	Various	Various
	Real Estate & Facilities - BU Projects	1,990,835	518,400	Various	Various
	Real Estate and Facilities	1,468,338	11,347,282	Various	Various
	Residential HP Regulator Replacement Program	8,221,249	10,260,894	Various	Various
Baseline/Program Total		**271,419,235**	**311,962,761**		
Specific Projects	Natural Gas Reliability	31,243,586	-	November 2023*	January 2024
	EU Customer Information System (CIS) Implementation Release 2	5,971,052	5,934,636	September 2023	December 2023
	16 Tilghman Pipeline Replacement	4,142,367	-	August 2023	December 2023
	FR - Rte 202 - Section 61N	1,373,987	1,250,678	July 2023	November 2023
	FEP West Conshohocken Regulator Room Gas Gate	9,410	1,859,276	November 2022	March 2023
	FEP - Brookhaven Gas Gate	22,253	1,616,914	July 2022	November 2022
	MOB 5th Floor	53,422	1,324,800	December 2022	April 2023
	FEP - Eddystone Gas Gate	22,558	1,333,849	July 2022	November 2022
	MOB Chillers and Cooling Towers	799,767	213,764	April 2023	July 2023
	FEP CenterPoint Gas Gate	19,904	978,367	December 2022	April 2023
	EU Digital System Hardening	231,857	239,512	September 2024	December 2024
	Communication Tower Infrastructure (PECO)	149,278	156,442	September 2026	December 2026
	Main Office Building O&SF upgrade	300,217	-	December 2022	April 2023
	UCOMM Tier-2 Wimax Conversion to Fiber	127,652	151,613	September 2026	December 2026
	FEP - Planebrook Gas Gate	17,497	215,214	September 2024	January 2025
	Plymouth Service Building O&SF upgrade	2,783	220,509	December 2023	April 2024
	EU Analytics - Grid Functional Releases	140,850	71,684	September 2026	December 2026
	EU Geographic Information System (GIS) Data Quality	109,020	96,514	December 2024	April 2025
	LNG Plant BOC	179,777	-	March 2022	July 2022
	EU Land Mobile Radio (LMR) Implementation	147,199	-	December 2021	November 2022
	EU Analytics Customer Functional Releases	71,343	74,646	October 2025	April 2026
	Phoenixville Service Building Fleet Electrification Initiative upgrade	529	143,998	December 2022	April 2023
	EU Core Geographic Information System (GIS) Implem (Electric & Gas)	55,053	60,074	December 2024	April 2025
	Baldwin Service Center upgrade	1,047	114,032	December 2024	April 2025
	EU: Voice of the Customer Program	95,916	-	October 2022	December 2022
	Plymouth CRAC Replacement	-	71,280	December 2021	April 2022
	Electric Customer Assistance Pgm (CAP) Shopping Standard Offer	66,290	-	November 2022	February 2023
	Other Projects under $50,000	174,930	30,601	Various	Various
Specific Project Total		**45,529,544**	**16,158,403**		
Total Capital		**316,948,779**	**328,121,163**		

*Please refer to attachment OCA-I-15(a) for more information.

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OCA-I-29

Refer to Exhibit MJT-1 Schedule D-1.

a. Please provide the derivation of the $161,000 adjustment to Forfeited Discounts.
b. Please provide a breakdown and description of Rent for Electric Property
c. Please provide a breakdown of Other Gas Revenues
d. Transportation of Gas Of Others

RESPONSE:

a. The $161,000 adjustment to Forfeited Discounts is the calculated result of multiplying the overall revenue increase of $82.1 million as shown in column 3, line 10, of Schedule D-1 by the LPC Revenue factor of 0.001958 as shown in column 2, line 6 of Schedule D-19.

b. PECO understands the question to be inquiring about Rent for Gas Property, as reflected on Schedule D-3. PECO is not including any Electric related revenues in this filing. The Rent for Gas Property represents the gas portion of the allocation of revenues from Exelon's Business Services Company (EBSC) for use of PECO's Main Office Building

c. Other Gas Revenues consist of reimbursement revenues from third party contracting companies for their employees to conduct operator qualification testing necessary to work on PECO's system.

d. Transportation of Gas of Others represent revenues from transporting gas for other companies through PECO's distribution facilities.

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OCA-I-35

Refer to Exhibit MJT-1 Schedule A-1 and Schedule C-8 – Common Plant. How are Common Plant expenditures allocated from Exelon to PECO – Gas? Please provide the ratios of Common Plant allocation from Exelon to PECO – Gas for the periods 2019, 2020 and also showing the HTY, FTY and FPFTY as part of the schedule.

RESPONSE:

Please note that there is no Common Plant allocated from Exelon Common Plant to PECO - Gas in Exhibit MJT-1 Schedule C-8, but PECO Energy Company Common Plant is allocated between PECO - Gas and PECO - Electric.

The Common Plant Allocation percentages are derived based on the average of three ratios which are determined from the prior year end actual values:

Yearend Plant in Service	**Annual Revenue**	**Yearend Number of Customers**
Electric Plant in Service	Electric Revenue	Electric Customers
Gas Plant in Service	Gas Revenue	Gas Customers
Sum Electric & Gas Plant in Service	Sum Electric & Gas Revenue	Sum Electric & Gas Customers

- Plant in Service amounts are obtained from the FERC Annual Report pages 200-201 line 8 which excluding non-utility and future use plant.

- Annual Revenue are obtained from the annual Gas and Electric PUC filing schedule 400 Income Statement. Use total revenue and exclude non-utility revenue, if any; also exclude TSC billed revenue and Transmission Enhancement credit.
- Number of Customers at yearend obtained from the Customer Data Warehouse.

The percentages applied to PECO Energy Company Common Plant to allocate a portion to PECO – Gas are as follows:

2019 = 22.52%
2020 = 23.03%
2021 = 22.10%
2022 = 22.10%
2023 = 22.10% - note there is one exception for a $105 million budgeted intangible addition for the new CC&B Customer management system which only supports the PECO Electric & Gas Distribution businesses and not the PECO Transmission business. This item is allocated using 23.8103% instead.

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OCA-I-38

Refer to Exhibit MJT-1 Schedule D-8 and Attachment III-A-2 (a). On Schedule D-8 Company proforma FPFTY Salary and Wage shows a balance of $50,628,000. On Attachment III-A-2 (a) Company proforma FPFTY Salary and Wage shows a balance of $54,799,000 (including Stock and Incentive Plan). Is the Company proposing to include Stock and Incentive pay $5,679,000 in this file? If so, where are these costs accounted for and where are these costs recorded?

RESPONSE:

Note that the question should reference Exhibit MJT-1, Schedule D-6 for the proforma FPFTY Salary and Wage balance of $50,628,000 and Attachment III-A-21(a) for the balance of $54,799,000.

The proforma FPFTY Salary and Wage amount of $50,628,000, as shown on Exhibit MJT-1, Schedule D-6, page 60, column (3), line 72, does not include the Stock Compensation and Annual Incentive Plan budget of $5,579,000 shown on Attachment III-A-21(a). However, the Stock Compensation and Annual Incentive Plan costs are included in the Company's claim and are spread over multiple FERC accounts shown on Exhibit MJT-1, Schedule B-4, pages 9 and 10.

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OCA-I-39

Please provide a schedule of employees by Union, Non-Union, Supervisors, Managers, Officers, Directors and Executives for the periods 2019, 2020, 2021, forecasted 2022 and FPFTY 2023.

RESPONSE:

Please see Attachment OCA-I-39(a).

Responsible Witness: Robert J. Stefani

	Union	Non-Union	Supervisor	Manager / Sr. Manager	Director	VP	Total
Dec-19							
Gas Department	244	100	15	11	1	1	
Gas Product Support*	81	148					601
Dec-20							
Gas Department	231	104	15	14	1	1	
Gas Product Support*	81	159					606
Dec-21							
Gas Department	226	104	15	14	1	1	
Gas Product Support*	90	176					627
Dec-22							
Gas Department	251	119	15	14	1	1	
Gas Product Support*	94	192					687
Dec-23							
Gas Department	252	120	15	14	1	1	
Gas Product Support*	96	201					700

*Includes positions from other departments that support Gas operations

PECO systems are not able to support the breakout of specific FTE positions to product, only by department.

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OCA-I-40

Please provide the vacancy rates (number and %) for each period identified above in Question 35).

RESPONSE:

	Gas Product FTE	
	FTE Vacancy	**% Vacancy to Budget**
Dec-19	12	2.0%
Dec-20	29	4.6%
Dec-21	51	7.5%
Mar-22	34	5.2%

The Company's budget assumes an approximate 2% vacancy rate for the FTY and FPFTY. The Company is forecasting no variance to budget for FTY and FPFTY.

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OCA-I-41

What has been the number of employees that have left the Company voluntarily, involuntarily, by retirement and by other in the past five years?

RESPONSE:

FTE Turnover (January 2017 to December 2021)

	Involuntary Termination	**Retirement**	**Voluntary Resignation**	**Total**
Gas Department*	11	62	12	85
Company Total	138	430	266	834

*The gas department FTE turnover does not include FTEs in other departments that partially support gas functions.

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OCA-I-42

Refer to Mr. Trzaska Statement No. 3 page 31. Please provide information related to the development of the Union Contract ratification payment of $1.303 million and that allocated to the gas operations of $263,000 with a six-year normalization period.

RESPONSE:

Refer to the Company's response to IE-RE-25, subpart A, for information related to the development of the Union Contract ratification payment of $1.303 million.

The portion of the $1.303 million payment related to PECO's gas operations of $263,000 was calculated using the allocation factor shown on line 7 of PECO Exhibit MJT-1, Schedule D-6, page 58. That amount was normalized over six years representing the length of the contract agreement.

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OCA-I-43

Refer to Mr. Trzaska Statement No. 3 page 33. Please explain the three-year amortization period that was used for rate case expense recovery.

RESPONSE:

The rate case expenses are one-time expenses associated with this filing and are amortized over a three-year period to reflect the timing of the Company's next projected gas base rate case filing.

Responsible Witness: Michael J. Trzaska

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OCA-I-44

Refer to Mr. Trzaska Statement No. 3 page 33. Please provide all information and documentation that the Company utilized to rely on and develop its total Employee Benefits proposed to be recovered in this filing. Please provide a detailed breakdown of the Company's Employee Benefits and Pension costs shown on Exhibit MJT-1 Schedule D-4 Line 71 Column 1. Please also provide this detailed breakdown for the years 2019-2021 and for the projected FTY 2022.

RESPONSE:

Please refer to the Company's response to IE-RE-8 for a detailed breakdown of Employee Benefits and Pension costs for the years requested. The Company engages Willis Towers Watson, a national health plan consulting firm, to complete the actuarial underwriting for our health plans to determine the cost projections for the following year. The projected cost changes are based on prior claims experience and administrative costs trends based on participant utilization and medical price inflation.

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OCA-I-45

Refer to Mr. Trzaska Statement No. 3 page 33. Please provide all information and documentation that the Company utilized to rely on and develop its proposed Pension adjustment of $3.414 million shown on Company Exhibit MJT-1 Schedule 9. Please provide how the Company developed its Pension Contributions for the prior 5 years shown. How was the budgeted test year balance of ($1.523 million) developed?

RESPONSE:

Exelon determines contributions at the plan level, which are then allocated to the Operating Companies based on their respective accounting cost calculated in accordance with ASC 715-30. Refer to the actuarial report in Confidential Attachment III-A-21(b) for the contribution amounts for the FTY and FPFTY.

For the years preceding the FTY, contributions were the actual amounts contributed.

The budgeted test year balance of ($1.523 million) was developed by applying the allocation percent to utility and allocation percent to capital on Schedule D-9 to the company pension cost found in Confidential Attachment III-A-21(b) for the FPFTY.

THE ATTACHMENT IS CONFIDENTIAL AND IS PROVIDED ONLY TO THOSE WHO HAVE EXECUTED NON-DISCLOSURE AGREEMENTS UNDER THE PROTECTIVE ORDER.

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OCA-I-46

Refer to Exhibit MJT-1, Schedule D-4 – Expense Adjustment Summary – Column 1 FPFTY Amount Pre-Adjustments. For each of the category of expenses, starting with Manufactured Gas Production Expenses through Administrative and General Expenses, please provide a further detailed breakdown and a description supporting each of the balances shown. Please provide these breakdowns for 2020, the HTY (2021) the projected FTY (2022) and the FPFTY (2022) periods.

RESPONSE:

Refer to Attachment IE-RE-2(a) and Attachment IE-RE-2(b) for the O&M Expenses for 2020.

Refer to PECO Exhibit MJT-3, Schedule D-4 for the HTY (2021) balances based on FERC Form 1. Refer to SDR-RR-46 for the HTY (2021) expenses by business activity and related cost element.

For other categories of expenses, the pre-adjustment expenses by FERC account for the FTY and FPFTY were determined using PECO's budgets for the twelve-month periods ending December 31, 2022 and December 31, 2023, respectively, as a starting point. Budgeted expenses, which were prepared based on business activities and related cost elements such as payroll, employee benefits, and outside contracting costs, were distributed to FERC accounts based upon the actual distribution of costs experienced by the Company during calendar year-ended December 31, 2021. Please refer to Attachments OCA-I-46(a) and OCA-I-46(b) for the breakdown of the FTY and FPFTY budgets to FERC accounts, respectively.

Responsible Witness: Michael J. Trzaska

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OCA-I-51

Refer to Exhibit MJT-1 Schedule D-17 – Depreciation Adjustment. For each Plant Account, please provide the Depreciation Rates and Composite Depreciation Rates used to compute the balances shown on Columns 7 and 8 totaling $92,400,000 and $4,942,000, respectively.

RESPONSE:

The correct columns to reference in MJT-1 Exhibit D-17 for this request are Column 8 'Depr on Adds' and Column 9 'Depr on Existing Assets'. These two columns sum to Col 7 'Depr on Existing Assets & Adds'.

Refer to PECO Exhibit CF-1 which shows how the depreciation rates applied to the utility plant in service as of the end of December 2021 are derived. These depreciation rates are used to calculate the depreciation in Col 9 'Depr on Existing Assets' in MJT-1 Exhibit D-17.

Refer to attachment OCA-I-51(a) which provides the forecast composite depreciation rates used to compute the Col 8 'Depr on Adds' in MJT-1 Exhibit D-17 depreciation for the 2023 forecast plant additions.

Note that forecast additions are budgeted at the functional level (Common, Gas, etc.) and are allocated to the baseline depreciation groups using the 3 year historical average of additions.

Responsible Witness: Michael J. Trzaska

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Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set VI

Response Date: May 31, 2022

OCA-VI-6

Refer to Confidential Attachments in response to OCA-I-6. Please provide a matrix that shows the level of Incentive Compensation ($4.227 million) and Stock Compensation ($1.453 million) allocated among the following Key Performance Indicators (KPI) and broken down by the following funding KPI's (SDR-RR-27(a)) by dollar amount for Threshold, Target, Distinguished and Goal Weight. Please provide whether each of the goals were achieved, the award payout date and the award payment date for each KPI:

	Threshold	Target	Distinguish	Goal Weight
Total O&M Expense				
Value Based Engagement				
Safety Best Practice				
SAIFI 2.5 Beta Method -Outage Frequency				
CAIDI 2.5 Beta Method-Outage Duration				
Service Level				
Call Center Satisfaction				
Customer Satisfaction Index				
Gas Odor Response				

RESPONSE:

Cost of incentive and stock compensation by individual KPI is not available since the Company calculates cost based on overall performance and not by individual KPI.

Refer to Confidential Attachment SDR-RR-27(a) for the Threshold, Target, and Distinguished level of performance for each KPI and their respective goal weight percentage for 2021. The Company will review and update the level of performance and goal weight for each KPI annually and may remove or add additional KPIs. Because this information is updated annually, the Threshold, Target, and Distinguished level of performance for each KPI and their respective goal weight percentage for the FPFTY is not available. The determination of whether each of the goals were achieved cannot be determined until the end of the FPFTY.

THE ATTACHMENT IS CONFIDENTIAL AND IS PROVIDED ONLY TO THOSE WHO HAVE EXECUTED NON-DISCLOSURE AGREEMENTS UNDER PROTECTIVE ORDER.

Responsible Witness: Robert J. Stefani

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To Interrogatories of the
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OCA Set VI

Response Date: May 31, 2022

OCA-VI-7

Refer to Confidential Attachments SDR-RR-27(b), SDR-RR-27(c), SDR-RR-27(e), SDR-RR-27(f) in response to OCA-I-6. For each Annual Incentive Program expected to occur in 20022 and 2023 please provide a breakdown by dollar amount related to each of the following programs, whether the goals were achieved, the award payout date and the award payment date:

- Collective Bargaining Unit Supplement – SDR-RR-27 (b).
- Long-Term Performance Program – Utilities Key Managers and Vice Presidents – SDR-RR-27 (c)
- Restricted Stock Unit Award Program Summary – Vice Presidents and Above – SDR-RR-27 (d).
- Performance Share Award Program – Summary for Vice-Presidents and Above – SDR-RR-27 (e).
- Long-Term Performance Cash Award Program – Summary for Utility Vice Presidents – SDR-RR-27 (f).

RESPONSE:

The Company does not develop separate budgets for the Annual Incentive Plan (AIP) for employees covered by a collective bargaining agreement and non-represented employees.

The dollar amount of the AIP, the Long-Term Performance Plan, Restricted Stock Unit Award, Performance Share Award, and the Long-Term Performance Cash Award payout amounts are

not available for 2022 or 2023 since the determination of whether the goals for which the payout is based on are achieved will not occur until the end of the FTY and the FPFTY, respectively.

The O&M budgeted amounts for the FTY and FPFTY are:

($ in thousands)	FTY	FPFTY
Annual Incentive Plan (including collective bargaining)	$4,037	$4,227
Long-Term Performance Program	$716	$755
Restricted Stock Unit Award Program	$193	$194
Performance Share Award Program	$290	$291
Long-Term Performance Cash Award Program	$194	$213

Responsible Witness: Robert J. Stefani

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OCA Set VI

Response Date: May 31, 2022

OCA-VI-9

Refer to the response to OCA-I-12 which refers to Attachment III-A-25 (a). Please provide a further breakdown of Other Advertising Expenses (Line 5), Energy Innovation (Line 4), Outdoor (Line 8), Public Venue Ads, Sponsorships, Print (Line 10) and Other Expenses (Line 11).

RESPONSE:

Please refer to Attachment OCA-VI-9(a).

Responsible Witness: Robert J. Stefani

PECO Energy Company
Advertising Expense
(Thousands of Dollars)

Line No.	Description/Purpose	2020 (Actuals)	2021 (Actuals)	2022 (Budget)	2023 (Budget)
1	Public Health and Safety	$ 62.00	$ 65.00	$ 75.00	$ 76.00
2	Conservation of Energy	20.00	24.00	26.00	27.00
3	Explanation of billing, rates, assistance	63.00	64.00	75.00	76.00
4	Energy Innovation	220.00	238.00	270.00	276.00
	Reliability	*165.00*	*178.50*	*202.50*	*207.00*
	Service	*55.00*	*59.50*	*67.50*	*51.75*
5	Other Advertising expenses	183.00	204.00	228.00	235.00
	Creative/Production	*112.00*	*124.44*	*139.08*	*143.35*
	Management	*31.00*	*34.68*	*38.76*	*39.95*
	Research	*40.00*	*44.88*	*50.16*	*51.70*
	TOTAL	$ 548.00	$ 595.00	$ 674.00	$ 690.00
	Media Category				
6	Television	$ 115.00	$ 125.00	$ 142.00	$ 145.00
7	Radio	192.00	208.00	236.00	241.00
8	Outdoor	126.00	137.00	155.00	159.00
	Transit	*6.00*	*6.85*	*1.29*	*7.95*
	Billboard	*120.00*	*130.15*	*147.25*	*151.05*
9	Online/Digital	66.00	102.00	99.00	109.00
10	Public Venue Ads, Sponsorships, Print	38.00	12.00	29.00	22.00
	Print, diverse publications	*32.00*	*10.08*	*24.36*	*18.48*
	Sponsorships	*6.00*	*1.49*	*4.64*	*3.52*
11	Other	11.00	11.00	13.00	14.00
	Streaming/social	*11.00*	*11.00*	*13.00*	*14.00*
	TOTAL	$ 548.00	$ 595.00	$ 674.00	$ 690.00

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Response of PECO Energy Company
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Office of Consumer Advocate
OCA Set VII

Response Date: June 13, 2022

OCA-VII-2

Refer to the response to OCA-I-44 and response to I&E RE-28. How did the Company calculate or determine a 6% increase related to its Employee Benefits expense claim of $7,132,000?

RESPONSE:

The 6% increase in employee benefits cost is primarily driven by two factors:

As stated in the Company's response to OCA-I-44, for Medical, Dental, and Other Benefit Plans, the Company engages Willis Towers Watson, a national health plan consulting firm, to complete the actuarial underwriting for our health plans to determine the cost projections for the following year. The projected cost increases are based on prior claims experience and administrative costs trended to the next year based on participant utilization and medical price inflation.

In addition, for 401K Plan, in lieu of pension contributions for new hires PECO is providing increased matching contributions. As the Company's staffing and salary levels increase per the budgeted headcount in the FPFTY, 401k matching contributions will also increase. Refer to IE-RE-17 for increases to budgeted staffing levels for 2022 and 2023.

Responsible Witness: Robert J. Stefani

Pennsylvania Public Utility Commission
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Response of PECO Energy Company
To Interrogatories of the
Office of Consumer Advocate
OCA Set VII

Response Date: June 13, 2022

OCA-VII-3

In response to OCA-I-13 which refers to Attachment III-A-28 (a) which refers to IE& RE-13 (a) the Company has shown and includes costs of $341,000 of Association Dues. In response to I&E RE-21 (a) the Company shown Membership Dues totaling $598,702 for the FPFTY period. In Company SDR-RR-30 Attachment SDR-RR-30 (a) the Company shown Membership Dues (Gas Only) of $637,937 for the FPFTY period. Please explain and provide information as to which of the balances the Company has included in this filing for recovery. Please also include the amount of lobbying expense (SDR-RR-33) that the Company has calculated that are included in the Membership Costs.

RESPONSE:

The Company has included $637,937 for Membership Dues (Gas Only) per Attachment SDR-RR-30 (a) in this filing for recovery, of which $598,702 relates to industry specific Membership Dues (Gas Only) included in I&E RE-21(a). Attachment III-A-28(a) and I&E RE-13(a) requested a breakout of FERC account 930.2 miscellaneous general expenses. Within FERC account 930.2 is $341,000 of Association Dues, which includes only a portion of the total Membership Dues (Gas Only) that the Company has included in this filing for recovery. Not all Membership Dues are included in FERC account 930.2.

Bridge to SDR-RR-30(a)

I&E RE-21(a)	$598,702
Non-Industry Specific Membership Dues (Gas Only)	
ICE DATA LP	$27,200
PA Chamber of Business and Industry Education Foundation	$2,880
Independence Business Alliance	$1,440
Greater Phila Alliance for Capital and Technologies	$960
Philadelphia Convention Visitors Bureau	$950
Main Line Chamber of Commerce	$631
Other	$5,173
SDR-RR-30(a)	**$637,937**

SDR-RR-33 question part b shows lobbying expenses of $20,383 which are not included in the Company's filing for recovery of $637,937 as noted above.

Responsible Witness: Robert J. Stefani

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IE Set IV - RE

Response Date: May 09, 2022

IE-RE-8

Reference PECO Volume IV, Section 53.53-III-A-21(a) concerning employee salaries, wages, and benefits of the Gas Division, provide the following:

A. Employee benefits cost in a similar schedule for the years ended December 31, 2019, December 31, 2020, HTY, and claimed for the FTY, and FPFTY;

B. Dollar amount of capitalized employee benefits cost included in response to Part A above and the capitalized percentage for the years ended December 31, 2019, December 31, 2020, HTY, and claimed for the FTY, and FPFTY; and

C. Detailed basis and supporting documentation for allocation of affiliated companies' employee benefits cost (medical, dental, other benefits plan, 401K, and ESPP) in the HTY, FTY, and FPFTY.

RESPONSE:

See Attachment IE-RE-8(a).

Responsible Witness: Robert J. Stefani

A)

PECO Gas Division
Operating & Maintenance
In thousands
For the Year Ended December 31

Employee Benefits	2019	2020	2021	2022	2023
Medical	3,594	3,860	3,886	$ 4,069	$ 4,583
Dental	209	225	229	$ 248	$ 279
Other Benefit Plan	58	61	63	$ 124	$ 137
Tuition Reimbursement	116	114	120	$ 78	$ 80
401K Plan	1,314	1,508	1,526	$ 1,443	$ 1,685
ESPP	120	169	162	$ 158	$ 173
Disability Plan	102	86	87	$ 118	$ 130
Excess Benefits Saving Plan	6	7	7	$ 6	$ 6
Worker's Comp	191	134	108	$ 132	$ 138
Pension	1,301	942	830	$ (591)	$ (1,523)
OPEB	159	(279)	216	$ 305	$ 286
Total	**$ 7,172**	**$ 6,827**	**$ 7,232**	**$ 6,090**	**$ 5,974**

B)

PECO Gas Division
Capital
In thousands
For the Year Ended December 31

Employee Benefits	2019	2020	2021	2022	2023
Medical	2,576	2,683	2,905	$ 2,663	$ 2,635
Dental	150	156	171	$ 162	$ 161
Other Benefit Plan	41	43	46	$ 81	$ 79
Tuition Reimbursement	-	-	-	$ 1	$ 1
401K Plan	939	1,050	1,143	$ 944	$ 969
ESPP	86	118	121	$ 103	$ 100
Disability Plan	58	59	66	$ 77	$ 75
Excess Benefits Saving Plan	4	5	5	$ 4	$ 4
Worker's Comp	137	93	81	$ 86	$ 79
Pension	888	645	591	$ (289)	$ (794)
OPEB	105	(192)	150	$ 149	$ 149
Total	**$ 4,984**	**$ 4,660**	**$ 5,280**	**$ 3,982**	**$ 3,456**

Capitalized Percentage
For the Year Ended December 31

	2019	2020	2021	2022	2023
Medical	42%	41%	43%	40%	37%
Dental	42%	41%	43%	40%	37%
Other Benefit Plan	41%	41%	43%	40%	37%
Tuition Reimbursement	0%	0%	0%	0%	0%
401K Plan	42%	41%	43%	40%	37%
ESPP	42%	41%	43%	40%	37%
Disability Plan	36%	41%	43%	40%	36%
Excess Benefits Saving Plan	42%	41%	43%	39%	37%
Worker's Comp	42%	41%	43%	40%	36%
Pension	41%	41%	42%	33%	34%
OPEB	40%	41%	41%	33%	34%

C) Please refer to PECO Statement No. 2: Direct Testimony of Robert J. Stefani, Section VI – Affiliated Services.

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IE Set IV - RE

Response Date: May 09, 2022

IE-RE-12

Reference PECO Volume IV, Section 53.53-III-A-25 concerning advertising expense by media categories, provide the following:

A. Similar schedule adding a column for the 12-months ended December 31, 2019;

B. Breakdown of other advertising expense for the years ended December 31, 2019, December 31, 2020, and claimed for the FTY and FPFTY listed in line nos. 5 and 11 of the schedule, and the purpose of such advertising; and

C. Explanation for the increase in the FTY claim of $674,000 as compared to the HTY claim of $595,000.

RESPONSE:

A. Refer to Attachment IE-RE-12(a).

B. Other advertising expense listed in: (1) line no. 5 of the schedule represents account management, production, and creative fees and (2) line no. 11 of the schedule represents social media ads and streaming.

C. 2021 advertising funds were shifted to pandemic communications work driving the lower HTY spend in advertising. The increase in the Company's FTY claim from the HTY assumes a return to normal advertising spending levels.

Responsible Witness: Robert J. Stefani

PECO Energy Company
Advertising Expense
(Thousands of Dollars)

Line No.	Description/Purpose	2019 (Actuals)	2020 (Actuals)	2021 (Actuals)	2022 (Budget)	2023 (Budget)
1	Public Health and Safety	$ 114.00	$ 62.00	$ 65.00	$ 75.00	$ 76.00
2	Conservation of Energy	-	20.00	24.00	26.00	27.00
3	Explanation of billing, rates, assistance	97.00	63.00	64.00	75.00	76.00
4	Energy Innovation	370.00	220.00	238.00	270.00	276.00
5	Other Advertising expenses	266.00	183.00	204.00	228.00	235.00
	TOTAL	$ 847.00	$ 548.00	$ 595.00	$ 674.00	$ 690.00
	Media Category					
6	Television	$ 109.00	$ 115.00	$ 125.00	$ 142.00	$ 145.00
7	Radio	153.00	192.00	208.00	236.00	241.00
8	Outdoor	225.00	126.00	137.00	155.00	159.00
9	Online/Digital	81.00	66.00	102.00	99.00	109.00
10	Public Venue Ads, Sponsorships, Print	166.00	38.00	12.00	29.00	22.00
11	Other	113.00	11.00	11.00	13.00	14.00
	TOTAL	$ 847.00	$ 548.00	$ 595.00	$ 674.00	$ 690.00

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Response Date: May 09, 2022

IE-RE-13

Reference PECO Volume IV, Section 53.53-III-A-28(a) concerning regulatory commission (PUC assessment), miscellaneous general expenses, and outside services employed, provide the following:

A. Similar schedule adding a column for the year ended December 31, 2019; and

B. Detailed calculation and supporting documentation for projecting increases in regulatory commission expense (excluding line 5) from the HTY amount of $2,124,000 to $2,202,000 in the FTY 2022.

RESPONSE:

A. Refer to Attachment IE-RE-13(a).

B. Regulatory commission expense largely consists of annual PUC assessment costs and are based on a three-year average of the Company's costs, plus an inflation adjustment.

Responsible Witness: Robert J. Stefani

PECO Energy Company

Regulatory Commission Expenses, Miscellaneous General Expenses, and Outside Services Employed
12 Months Ended December 31st
(Thousands of Dollars)

Line No.	Expense	2019	2020	2021	2022	2023
	Account 928.0 - Regulatory Commission Expenses					
1	Pennsylvania Public Utility Commission General Assessment	$ 1,552	$ 1,577	$ 1,767	$ 1,832	$ 1,830
2	Pennsylvania Consumer Advocate General Assessment	187	188	248	257	257
3	Pennsylvania Small Business Advocate Assessment	83	89	95	99	99
4	Pennsylvania Damage Prevention Committee	19	25	14	14	14
5	Pennsylvania Public Utility Commission Gas Distribution Rate Case	-	-	487		
6	Total Account 928	$ 1,841	$ 1,878	$ 2,611	$ 2,202 (1)	$ 2,200 (1)
	Account 930.2 Miscellaneous General Expenses					
7	Association Dues	$ 478	$ 551	$ 558	$ 341	$ 341
8	Research and Development Expenses	113	230	310	189	189
9	Bank Fees	211	131	91	56	56
10	Corporate Dues	29	32	46	28	28
11	Board of Director Fees	51	46	55	33	34
12	Other Expenses	(1)	15	22	14	14
13	Total Account 930.2	$ 882	$ 1,005	$ 1,082	$ 661 (1)	$ 662 (1)

Notes:

(1) PECO does not budget by FERC account. For further detail pertaining to the FPFTY and FTY budgets by FERC account, refer to Exhibit MJT-1 and MJT-2, respectively.

(1) PECO does not budget by FERC account. For further detail pertaining to the FPFTY and FTY budgets by FERC account, refer to Exhibit MJT-1 and MJT-2, respectively.

Line No.	Expense	2019	2020	2021	2022	2023
	Account 923 - Outside Services Employed					
14	Various (1)	$ 12,597	$ 11,600	$ 13,412	$ 13,843	$ 14,244
15	Contracting Professional	611	655	610	630	648
16	Contracting Services	517	1,032	969	1,000	1,030
17	Total Account 923	$ 13,726	$ 13,287	$ 14,992 (2)	$ 15,473 (3)	$ 15,922 (3)

Notes:

(1) Includes a portion of the services provided by Exelon Business Service Company, LLC (BSC) that provides a variety of corporate support services to PECO Energy Company (PECO). The core shared services BSC provides include Information Technology ("IT"), Supply, Commercial Operations, Finance, Human Resources, Government and External Affars and Public Policy, Legal, Corporate Governance, Strategy, and Communications.

(2) See SDR-RR-52 for a breakdown of Account 923 by vendor.

(3) PECO does not budget by FERC account. For further detail pertaining to the FPFTY and FTY budgets by FERC account, refer to Exhibit MJT-1 and MJT-2, respectively.

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IE Set IV - RE

Response Date: May 09, 2022

IE-RE-19

Reference PECO Volume V, SDR-RR-30(e) concerning the employee activity cost (picnics, parties, awards) of $214,755 claimed in the FPFTY 2023, provide the following:

A. Employee activity cost incurred by year for the years ended December 31, 2019, December 31, 2020, and HTY with breakdown by type of cost; and

B. Explanation for any increases by year in the employee activity costs in the FTY and the FPFTY.

RESPONSE:

A. Refer to Attachment IE-RE-19(a).

B. The increase in employee activity costs from the HTY to the FPFTY is attributable primarily to employee compact costs due to abnormally low spend during the HTY resulting from COVID-19 and many employees working remotely rather than from PECO facilities. As a result of the COVID-19 pandemic there were fewer in person events, such as townhalls / road shows, picnics, and other celebrations.

Responsible Witness: Robert J. Stefani

a. Employee Activity Costs (e.g. picnics, parties, awards) - Gas only

	2019 Actuals	2020 Actuals	2021 Actuals	SDR-RR-30 (e) 2022 Budget	2023 Budget
Employee Recognition Awards	**$28,922**	**$14,511**	**$100,379**	**$47,054**	**$47,807**
Employee Service Awards					
Small gifts for years of service	**10,823**	**9,302**	**25,592**	**21,158**	**21,497**
Employee Compact:					
Employee Townhall/Road Shows, Picnic, Celebration, Other Employee Compact expenses	**113,230**	**35,039**	**31,009**	**144,011**	**144,011**
Employee Network Groups	**1,555**	**573**	**457**	**1,440**	**1,440**
TOTAL EMPLOYEE ACTIVITY COSTS	**$154,530**	**$59,425**	**$157,436**	**$213,663**	**$214,755**

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Response Date: May 09, 2022

IE-RE-21

Reference PECO Volume V, SDR-RR-32(a) concerning the membership of various organizations, provide the following:

A. Similar schedule for the years ended December 31, 2019, December 31, 2020, and HTY; and

B. Basis of any claimed increase in membership dues of each organization in the FTY and FPFTY.

RESPONSE:

A. Refer to Attachment IE-RE-21(a)

B. Projected increase in membership dues in the FTY and FPFTY is largely based on general inflationary increases to memberships for industry organizations.

Responsible Witness: Robert J. Stefani

a. Membership Dues (Gas Only)

Industry Organization	2019 Actuals	2020 Actuals	2021 Actuals	SDR-RR-32(a) 2022 Budget	SDR-RR-32(a) 2023 Budget
American Gas Association	284,076	379,299	386,753	370,370	370,370
Energy Association of Pennsylvania	130,116	116,976	116,248	117,500	117,500
OTD Operations Tech Development	-	-	104,525	50,000	50,000
R&D Memberships (NYSearch)	5,500	33,000	27,160	33,700	35,700
Greater Philadelphia Chamber	14,800	14,450	14,400	14,488	14,449
Economy League Of Greater Philadelphia	4,620	4,380	4,320	5,290	5,243
Greater Philadelphia Hispanic Chamber Of Commerce	2,310	2,190	2,160	2,160	2,160
Pennsylvania Biotechnology Center	-	-	-	2,000	1,640
World Trade Center Of Greater Phila	-	-	-	1,640	1,640
Total	$ 441,423	$ 550,295	$ 655,566	$ 597,147	$ 598,702

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IE Set IV - RE

Response Date: May 09, 2022

IE-RE-28

Reference PECO Volume I, Exhibits MJT-1, MJT-2, MJT-3, Schedule D-8 concerning employee benefits expense claimed in O&M expenses, provide the following:

A. Breakdown of employee benefits expense claims of $7,151,000 ($7,132,000 + $19,000 adjustment for employee addition) in the FPFTY; $6,385,000 ($6,293,000 + $92,000 adjustment for employee addition) in the FTY; and $6,104,000 ($6,065,000 + $39,000 adjustment for employee addition) in the HTY;

B. Employee benefits expense incurred in years ended December 31, 2019 and December 31, 2020 with similar breakdowns as furnished in response to Part A above; and

C. Detailed basis and calculation with supporting documentation for the increase in the FPFTY claim of $7,151,000 from the FTY claim of $6,385,000.

RESPONSE:

For subparts A and B, see Attachment IE-RE-28(a). For subpart C, the increase from $6,385,000 to $7,151,000 is primarily due to an overall increase in employee benefit costs of approximately 6% and an increase in salaries and wages of approximately 6%. Refer to III-A-21(a).

Responsible Witness: Robert J. Stefani

PECO Gas Division
Operating & Maintenance
In thousands For the Year Ended December 31

Employee Benefits	2019	2020	2021	2022	2023
Medical	3,594	3,860	3,886	$ 4,069	$ 4,583
Dental	209	225	229	$ 248	$ 279
Other Benefit Plan	58	61	63	$ 124	$ 137
401K Plan	1,314	1,508	1,526	$ 1,443	$ 1,685
ESPP	120	169	162	$ 158	$ 173
Disability Plan	102	86	87	$ 118	$ 130
Excess Benefits Saving Plan	6	7	7	$ 6	$ 6
Worker's Comp	191	134	108	$ 132	$ 138
Other	-	-	(1)	$ (5)	$ 1
Total	**$ 5,596**	**$ 6,050**	**$ 6,065**	**$ 6,293**	**$ 7,132**
Adjustment for employee addition (A)			39	92	19
Total Employee Benefit Claim			$ 6,104	$ 6,385	$ 7,151

A See Schedule D-8 for the computation of budget expense per employee and the number of additional employees. These costs would be allocated pro-rata based on the costs above.

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To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set IV - RE

Response Date: May 09, 2022

IE-RE-45

Reference PECO Volume I, PECO Statement No. 2, pp. 15-16 concerning PECO's budgeting process, provide the following:

A. Inflation rates used in forecasting the FTY and FPFTY O&M expense claims and supporting documents for the inflation rates; and

B. A list of all line item expenses with a breakdown of dollar amounts for expense items and inflation adjustment amounts claimed in the FTY and FPFTY.

RESPONSE:

A. The inflation rate of 2.5% is used in forecasting Salary and Wages (part of the O&M expenses) in the FTY and FPFTY. The rate is the average annual percentage change in the Consumer Price Index, U.S. baseline case for the period of 2022 to 2026, according to Global Insight Base Case Consumer Prices (March 2021 Vintage/Release).

B. See the breakdown of FTY and FPFTY O&M expenses below. Fluctuation in growth percentage in the individual expense line items varies, and includes non-inflationary changes associated with planned increases in employee and contracting expenditures in order to execute capital plans and maintenance programs.

PECO Energy Company
Gas Business
Operating and Maintenance Expense
(In Thousands)

	FTY 2022	FPFTY 2023
Bad Debt	$ 2,611	$ 2,823
Base Payroll	38,146	41,901
BSC Contracting	24,237	24,791
Contracting/Materials	36,310	40,115
Incentive	5,429	5,679
Overtime	7,883	7,218
Pensions & Benefits	6,012	5,894
Transportation	5,105	5,387
Travel Meals & Entertainment	785	790
Other Net	9,199	9,217
Total	$ 135,718	$ 143,816

Responsible Witness: Robert J. Stefani

DANTE MUGRACE

Education

Master Business Administration, MBA Strategic Management, Pace University, Lubin School of Business, New York, NY, 2010

Master Public Administration, MPA, Kean University, Union, NJ, 2001

Bachelor of Science, BS. Accounting, St. Peter's University, Jersey City, NJ, 1983

Position

Senior Consultant – PCMG and Associates	2014 – present
Senior Consultant – Snavely King Majoros and Associates	2013 – 2014
Independent Consultant	2012 – 2013
Bureau Chief/Administrative Analyst/Accountant – New Jersey Board of Public Utilities	1983 – 2011

Professional Experience

Mr. Mugrace has 35 years' experience in all aspects of regulatory accounting and policy including processing, analyzing and evaluating utility rate case petitions before Public Service Commissions. Mr. Mugrace examines and evaluates rate filings, contracts, agreements and rate matters regarding utility operations and provides recommendations as to best course of action. Additionally, Mr. Mugrace analyzes and reviews utility regulatory matters and sets forth recommendations for resolution of issues, calculates total revenue requirement needed to cover operating expenses and rate of return; researches and evaluates regulatory utility matters to assess impact on various classes of customers, regarding rates, service, compliance and cost of service provisions, as well as annual true-up and tracking mechanisms.

Prior to undertaking consulting assignments, Mr. Mugrace was the Bureau Chief Utility Rate Manager for the New Jersey Board of Public Utilities, in which role he managed and assigned tasks to a staff of 12 professionals and supervisory personal in the daily administrative, financial and managerial functions of the Division. Mr. Mugrace's primary duties were to determine whether the utility had sufficient revenues to cover its operating expenses and earn a return on its plant investment and to ensure that the utility provided safe, reliable and continuing utility service to its customers. Mr. Mugrace set rates and charges for utility companies, which had revenues of up to $500 million, and ensured that the revenue requirement provided for recovery of all operating expenses, return on investment and depreciation. Mr. Mugrace was also responsible for reviewing and verifying that the companies' property, plant and equipment (up to $2.5 billion) were used and useful in providing service to its customers. Mr. Mugrace coordinated and met with the New Jersey State Department of Environmental Protection to

determine whether water and wastewater utilities were complying with state regulations and were adhering to any regulatory agency directives or orders. Mr. Mugrace developed ways to minimize the rising costs of water utility services by investigating alternative rate structures, analyzing engineering mechanisms and techniques, looking into the feasibility of mergers and acquisitions within the water industry and reviewing financing, and rate alternatives to minimize the impact on ratepayers. Mr. Mugrace was responsible for ensuring that the rate-case process adhered the statutory timeframe for preparing, reviewing and recommending findings to the Board Commissioners on financial operations, costs, revenues and operating expenses, prior to the litigation proceedings. Mr. Mugrace also examined alternative rate recovery mechanisms and clauses, phase-ins of revenue requirements, deferral mechanisms and pass-through of rate charges. Mr. Mugrace assumed the role of Director during transition periods and Administrative changes. Finally, Mr. Mugrace conducted the recruitment and hiring of employees for placement within the Division and the Board.

Professional and Business Affiliations

- Institute of Public Utilities (IPU) Michigan State University (MSU), National Association of Regulatory Utility Commissioners (NARUC), National Association of State Utility Consumer Advocates (NASUCA)

References

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Regulatory Projects and Appearances

1. In Re: South Jersey Gas Company – 2022 Base Rate Case Proceeding for an Increase in rates for Distribution Gas Service.
   (Appearance: Revenue Requirement, CWC and Consolidated Income Taxes on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities – BPU Docket No. GR22040253

2. In Re: Public Service Electric and Gas Company – 2022 Electric Conservation Incentive Program (CIP) for changes in its Electric CIP rate for 2022.
   (Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities – Docket No. ER22020035

3. In Re: PECO Energy Company-Gas Division – 2022 Base Rate Case Proceeding for an Increase in rates for Distribution Gas Service.
   (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No. R-2022-3031113.

4. In Re: Nova Scotia Power Company- 2022-2024 General Rate Application for an Increase in Rates for Electric Service
   (Appearance- Review of COSS – Subcontract with Synapse Energy Economics, Inc. on behalf of the Nova Scotia Utility Review Board)
   Nova Scotia Utility and Review Board – Docket No. M10431

5. In Re: Georgia Power Company – 2022 Base Rate Case petition for an Increase in rates for Electric Distribution Service
   (Appearance: Review of O&M Expenses for calendar years 2023-2025 on behalf of the Georgia Public Service Commission – Docket No. TBD

6. In Re: UGI Utilities Inc, Gas Division – 2022 Base Rate Case petition for an Increase in Distribution Gas Service Rates
   (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No. R-2022-3030218

7. In Re: Hawaii-American Water Company – Approval of Rate Increases and Revised Rate Schedules for Wastewater Services – 2021
   (Appearances: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
   Hawaii Public Service Commission – Case No. 2021-0063

8. In Re: Kalaeloa Water Company – Approval of a General Rate Increase / Adjustments for Water and Wastewater Services – 2021

(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0005

9. In Re: Northern States Power Company – 2021 Natural Gas Rate Increase Application
(Appearance: Revenue Requirements on behalf of the Advocacy Staff of the North Dakota Public Service Commission – Case No. PU-21-381

10. In Re: Shore Water Company – Petition for an Increase in Rates for Water Service and Other Relief
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21091141

11. In Re: Atlantic City Sewerage Company – Petition for an Increase in Rates for Sewerage Service and other Tariff Changes
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21071006

12. In Re: Gordon's Corner Water Company – Petition for an Increase in Rates and Charges for Water Service
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21070979

13. In Re: The Petition of HPBS Inc., for review and approval of Central Scheduling System (CSS) charge increase and revised CSS Schedule (2021)
(Appearance – Accounting and Revenue Requirement on behalf of the Hawaii Division of Commerce and Consumer Affairs
Hawaii DCCA – Docket No. PTP-2021-001

14. In Re: The Berkshire Gas Company, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance – Massachusetts Attorney General's Office – Accounting and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-02

15. In Re: Eversource Gas Company of Massachusetts d/b/a Eversource Energy, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance – Massachusetts Attorney General's Office – Account and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-05

16. In Re: NSTAR Gas Company d/b/a Eversource Energy, 2020 Gas System Enhancement Program Reconciliation Filing

(Appearance: Massachusetts Attorney General's Office – Accounting and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-06

17. In Re: Joint Petition of New Jersey Natural Gas Company and Public Service Electric and Gas Company for Authorization and Approval of a Waiver of Certain Accounting Treatment Pursuant to the Clean Energy Order
(Appearance – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement.
New Jersey Board of Public Utilities – BPU Docket No. EO20030254

18. In Re: Public Service Electric and Gas Company – 2021/2022 Annual BGSS Commodity Charge Filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for Changes in its Balance Charge.
(Appearance – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. GR21060878

19. In Re: Middlesex Water Company – Petition for Approval of an Increase in Rates for Water Service and Other Tariff Changes.
(Appearances – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21050813

20. In Re: New Jersey Natural Gas Company – Petition for an Increase in Gas Base Rates and Changes in its Tariff for Gas Service and for a Change to Depreciation Rates for Gas Property and for Approval of a Base Rate Adjustment Pursuant to the NJ RISE and SAFE II Programs.
(Appearances: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket Nos. GR21030679 and GR21030680.

21. In Re: PECO Energy Company – a division of Exelon Corp., for a General Base Rate Case Filing for Electric Operations
(Appearances: Accounting and Policy on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2021-3024601

22. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for Water, Wastewater and Stormwater services
(Appearance: Accounting and Policy, and Regulatory Policy on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2021-3024773 (Water) R-2021-3024774 (Wastewater) and R-2021-3024779 (Stormwater).

23. In Re: Northern States Power Company – 2021 Electric Base Rate Case Increase

(Appearance: Revenue Requirement on behalf of the Advocacy Staff of the North Dakota Public Service Commission)
North Dakota Public Service Commission – Case No. PUC-20-441

24. In Re: Public Service Electric and Gas Company – Approval of a Tax Adjustment Clause (TAC).
(Appearance; Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20100685 and GR20100686.

25. In Re: Pike County Light and Power Company – Approval to increase base rates for Electric and Gas Service.
(Appearance: Revenue Requirement in behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3022134 (Gas) and R-2020-3022135 (Electric)

26. In Re: Jersey Central Power and Light Company for Approval of JCP&L's Energy Efficiency and Conservation Plan Including Energy Efficiency and Peak Demand Reduction Programs.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090620

27. In Re: Atlantic City Electric Company for Approval of an Energy Efficiency Program, Cost Recovery Mechanism, and Other Related Relief for Plan Years One Through Three.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090621

28. In Re: Rockland Electric Company for Approval of Its Energy Efficiency and Peak Demand Reduction Programs.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090623

29. In Re: Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charge and its Gas Green Programs Recovery Charge 2020 PSE&G Green Programs Cost Recovery filing
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20060467 and GR20060468

30. In Re: Public Service Electric and Gas Company's 2020/2021 Annual BGSS Commodity Charge filing for its Residential Gas Customers under its Pricing Mechanism and for Changes in its Balance Charge
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060379

31. In Re: Public Service Electric and Gas Company's 2020 Annual Margin Adjustment Clause (MAC)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060384

32. In Re: South Jersey Gas Company for Approval to Revise the Rider H Rate Associated with the Tax Cuts and Jobs Act of 2017
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060382

33. In Re: Berkshire Gas Company -2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts -Department of Public Utilities – DPU 20-GREC-02

34. In Re: Bay States Gas Company d/b/a Columbia Gas – 2019 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-05

35. In Re: NSTAR Gas Company – 2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-06

36. In Re: South Jersey Gas Company for Approval of Increased Base Tariff Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearances: Revenue Requirement and Cash Working Capital) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. GR20030243

37. In Re: Jersey Central Power & Light Company for Review and Approval of Increased in, and Other Adjustments to Rates and Charges for Electric Services and approval of Other Proposed Tariff Revisions (Appearance: Revenue Requirement, Cash Working Capital, Consolidated Income Taxes, LED Conversion and Reliability Roll-In) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. ER20020146

38. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for water and wastewater service and for approval of a multi-year rate plan.
(Appearance: Accounting and Policy, Customer Service and Regulatory Policy) on behalf of the Pennsylvania Office of the Consumer Advocate)

Pennsylvania Public Utility Commission – Docket Nos. R-2020-3017951 and R-2020-3017970.

39. In Re: New Jersey-American Water Company, Inc. for approval of Increased Base Tariff Rates and Charges for Water and Wastewater Services and Other Tariff Revisions.
(Appearance: Accounting and Revenue Requirement and Cash Working Capital / Consolidated Income Taxes) on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19121516

40. In Re: Hawaiian Electric Company, Inc., for approval of a General Rate Increase and Revised Rate Schedules and Rules.
(Appearance: Accounting and Revenue Requirement on behalf of the Hawaiian Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0085

41. In Re: Mount Olive Villages Water Company for approval of an Increase in Rates for Water Service and Other Tariff Changes.
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060770

42. In Re: Mount Olive Villages Sewer Company for approval of an Increase in Rates for Sewer Service and Other Tariff Changes.
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060769

43. In Re: Public Service Electric and Gas Company for approval of changes in its Electric Green Programs Recovery and its Gas Green Programs Recovery Charge (2019 PSE&G Green Programs Cost Recovery Filing).
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER19070764 and GR19070765

44. In Re: Proposed Amendment to N.J.A.C. 14:9- Adoption by reference to the Uniform System of Accounts for Water Utilities and Wastewater Utilities.
(Appearance: Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities- Docket Nos. WX19050612 (Water) and WX19050613 (Wastewater)

45. In Re: Public Service Electric and Gas Company's 2019/2020 Annual BGSS Commodity Charge filing for its Residential Gas Customers Under its Periodic Pricing Mechanism and for Changes in its Balancing Charge.
(Appearance: Revenue Requirement and accounting/consulting services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR190600699

46. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-05

47. In Re: NSTAR Gas Company d/b/a Eversource Energy for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-06

48. In Re: Public Service Electric and Gas Company for Approval of Gas Rate Base Adjustments Pursuant to its Gas System Modernization Program (April 2019 GSMP)
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR19040522

49. In Re: Kalaeloa Water Company, LLC for Approval of General Rate Case and Revised Rules, Regulations and Rates.
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0057

50. In Re: Elizabethtown Gas Company for Approval of an Increase in Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – Docket No. GR19040586

51. In Re: Petition of Peoples Natural Gas Company for Approval of an Increase in Rates for Natural Gas Distribution Service.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2018-3006818

52. In Re: Petition of Aqua New Jersey, Inc. for Approval of an Increase in Rates for Water Service and other Tariff Changes.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18121351

53. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Efficiency (CEF-EE) Program on a Regulated Basis.

(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket Nos. GO18101112 and EO18101113.

54. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Vehicle and Energy Storage (CEF-EVES) Program on a Regulated Basis. (Appearance – Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. EO18101111.

55. In Re: Petition of New Jersey Natural Gas Company- Request for Deferred Accounting Authority for Costs Related to New Information Technology Systems . (Appearance: Impact on Revenues, prudency of costs on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GR18101096

56. In Re: Petition for Approval of An Indirect Change in Control of the New Jersey Public Utilities Subsidiaries of SUEZ Water Resources, Inc. and Other Related Approvals. (Appearance: Impact on Rates, Service, Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18090982

57. In Re: The Matter of the Merger of Roxbury Water Company into New Jersey American Water Company (Appearance: Impact on Rates, Service and Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18080904

58. In Re: The Matter of the Application of Maryland-American Water Company for Authorization to Adjust its Existing Schedule of Tariffs and Rates.
(Appearance: Revenue Requirement on behalf of the Maryland Office of People's Counsel)
Maryland Public Service Commission – Case No. 9487

59. In Re: The Matter of the Joint Petition for Approval of an Increase in Rates for Water and Wastewater Service and Other Tariff Changes for SUEZ Water NJ, Inc., Toms River, Inc., Arlington Hill, Inc., West Milford, Inc., Matchaponix, Inc., and Princeton Meadows, Inc. (Appearance: Revenue Requirement and the development of Consolidated Income Taxes on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18050593

60. In Re: The Matter of the Application of Atlantic City Electric Company to Adjust the Level of its Rider RGGI Rate Associated with its Solar Renewable Energy Certificate Financing Program 2018 (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. ER18050543

61. In Re: The Matter of the Petition of New Jersey Natural Gas Company's Approval of the Cost Recovery Associated with Energy Efficiency Programs (Appearance; Revenue Requirement on behalf of the NJ Division of Rate Counsel)
    New Jersey Board of Public Utilities – BPU Docket No, GR18050585

62. In Re: The Matter of Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2017 Gas System Enhancement Reconciliation Filing (Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy)
    Commonwealth of Massachusetts – Department of Public Utilities – Docket No. D.P.U. 18-GREC-05.

63. In Re; The Matter of NSTAR Gas Company d/b/a Eversource Energy, Gas System Enhancement Program Reconciliation Filing (Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy)
    Commonwealth of Massachusetts – Department of Public Utilities – Docket No. D.P.U. 18-GREC-06.

64. In Re: The Matter of the Merger of SUEZ Water NJ, SUEZ Water Toms River, SUEZ Water Arlington Hills, SUEZ Water West Milford, SUEZ Water Princeton Meadows and SUEZ Water Matchaponix (Appearance: Positive Benefits related to the Merger on behalf of the NJ Division of Rate Counsel)
    New Jersey Board of Public Utilities – BPU Docket No. WR18030266

65. In Re: The Matter of the Columbia Gas of Pennsylvania for a General Rate Increase in Distribution Gas Service (Appearance; Accounting Issues and Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
    Pennsylvania Public Utility Commission – Docket No. R-2018-2647577

66. In Re: The Matter of the New Jersey Board of Public Utilities Consideration of the Tax Cuts and Jobs Act of 2017 – Generic Proceeding (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
    New Jersey Board of Public Utilities – BPU Docket No. AX18010001

67. In Re: Acquisition of Elizabethtown Gas, a Division of Pivotal Utilities Holdings, Inc. by ETG Acquisition Corp., a Division of South Jersey Industries, Inc., and Related Transactions. (Appearance: Customer Service Issues/Employee and Labor Relations on behalf of the NJ Division of Rate Counsel)
    New Jersey Board of Public Utilities – BPU Docket No. GM17121309.

68. In Re: Middlesex Water Company – Base Rate Case Proceeding for Water Service. (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel).
    New Jersey Board of Public Utilities – BPU Docket No. WR17101049.

69. In Re: Township of East Brunswick – Sewer Rate Study – (Evaluation of the existing sewer rate structure and examining and quantify costs for future expansion).

70. In Re: Montana-Dakota Utilities – Base Rate Case Proceeding for Gas Service. (Appearance: revenue requirement on behalf of the North Dakota Public Service Commission). NDPSC Docket No. PU-17-295.

71. In Re: Andover Utility Company – Base Rate Case Proceeding for Wastewater Services. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17070726.

72. In Re: Public Service Electric and Gas Company- Approval of Changes in its Electric and Gas Green Programs Recovery Charges "2017 Public Service Electric & Gas Green Programs Cost Recovery Filing. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket Nos. ER17070724 and GR17070725.

73. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2016 Gas System Enhancement Program Reconciliation Filing, (Appearance: revenue requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy).
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-05.

74. In Re; NSTAR Gas Company d/b/a Eversource Energy, 2016 Gas System Enhancement Program Reconciliation Filing (Appearance: revenue requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy.
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-06.

75. In Re: Petition of Columbia Gas of Maryland – Increase in rates for Distribution Service – (Appearance: revenue requirement on behalf of the Office of People's Counsel) Public Service Commission of Maryland – Case No. 9447

76. In Re: Petition of South Jersey Gas Company – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR17010071

77. In Re: Petition of UGI Penn Natural Gas – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utilities Commission Docket No. R-2016-2580030

78. In Re: Petition of PJM Interconnection, LLC. – Mid-Atlantic Interstate Transmission, LLC. Formula Rate Filing. (Appearance on behalf of the Pennsylvania Office of Consumer Advocate).
FERC Docket No. ER17-211-000

79. In Re: Petition of Pivotal Utility Holdings, Inc. d/b/a Elizabethtown Gas Company for approval of Increased Base Tariff Rates and Charges for Gas Service and Other Tariff Revisions (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. GR16090826

80. In Re: Petition of SUEZ Water New Jersey, et al – Approval of a Management and Services Agreement pursuant to N.J.S.A 48: 3-7.1 (Appearance on the reasonableness of contract agreements on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WO16080806

81. In Re: Petition of SUEZ Water Arlington Hills Inc. – Approval of an Increase in Rates for Wastewater Services and other Tariff Changes (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR16050510

82. In Re: Petition of Public Service Electric and Gas Company – 2016 Marginal Adjustment Clause (MAC) (Appearance; reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. GR16060484

83. In Re: Petition of Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charges and its Gas Green Program Recovery Charges 2016 PSEG Program Cost Recovery Filing (Appearance: reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket Nos. ER16070613 and GR16070614

84. In Re: Petition of the Mount Olive Village Sewer Company, Inc., for Approval of an Increase in Rates for Service (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR16050391

85. In Re: Petition of the Mount Olive Village Water Company, Inc. for Approval of an Increase in Rates for Service (Appearance; revenue requirement on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR16050390

86. In Re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01

87. In Re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) -

(Appearance: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05

88. In Re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Analysis and Advice to Counsel: compliance with statutes and regulations, review of contract, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
NH Public Utilities Commission Docket No. DE 16-241

89. In Re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel; tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
ME Public Service Commission Docket No. 2016-00035

90. In Re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (Appearance: productivity adjustments/performance-based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20414

91. In Re: the Matter of Request by Emera Maine for Approval of a Rate Change (2016) - (Appearance: revenue requirement on behalf of the Maine Office of the Public Advocate)
Maine Public Utilities Commission Docket No. 15-00360)

92. In Re: the Matter of the Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Holdings, Inc. d/b/a Elkton Gas (2015-2016) - (Analysis and advice to counsel: customer service impacts, employee impacts, supplier diversity on behalf of the Maryland Office of People's Counsel)
MD PSC Case No. 9404

93. In Re: the Matter of the Merger of Southern Company and AGL Inc. (2015-2016) - (Appearance: customer service impacts and employee impacts on behalf of the NJ Division of Rate Counsel)
New Jersey BPU Docket No. GM15101196

94. In Re: the Matter of the United Water New Jersey, Inc., for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2015-2016) - (Appearance: revenue requirements, rate base issues and operating income on behalf of the NJ Division of Rate Counsel)
New Jersey BPU Docket No. WR15101177

95. In Re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)

MA D.P.U. 15-130

96. In Re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Metro LNG, L.P.; and National Grid LNG (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-129

97. In Re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor (TIRF) Compliance Filing (2015) - (Appearance: computation of the revenue requirement impact on the TIRF on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-55

98. In Re: the Matter of the Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its Targeted Infrastructure Reinvestment Factor (TIRF) for CY 2013 (2014) - (Appearance: computation of the revenue requirement impact on the TIRF)
MA D.P.U. 14-83

99. In Re: the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (Atlantic City Electric Company) (2014-2015) - (Appearance: customer service impacts)
New Jersey BPU Docket No. EM14060581

91. In Re: Public Utilities Commission of Ohio – In the Matter of the Application of Ohio Power Company (American Electric Power Ohio) (AEP Ohio) to Adopt a Final Implementation Plan for the Retail Stability Rider – (Appearance - Accounting Issues) (2014) on behalf of the Ohio Office of Consumer Counsel (OCC)
PUCO Case No. 14-1186-EL-RDR

92. In Re: Public Utilities Commission of Ohio - In the Matter of the Application of Aqua Ohio, Inc. to Increase its Rates and Charges for its Waterworks Service. – Revenue and Rates (2014) - (Appearance: operating income, certain rate base issues and income taxes on behalf of the Ohio Office of Consumer Counsel)
PUCO Case No. 13-2124-WW-AIR

93. In Re: New York Public Service Commission, as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. Revenue Requirement (2013-2014) – (Appearance: revenue requirement, rate base issues and operating income on behalf of the Intervenor, the County of Westchester)
NYPSC Case Nos. 13-E-0030, 13-G-0031 and 13-S-0032, et al

94. In Re: North Dakota Public Service Commission, - Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota, On-Going Revenue Requirement (2013) - (Appearance: revenue requirement and rate base, operating

income, operating and maintenance expenses on behalf of the North Dakota Public Service Commission Staff)
North Dakota Case No. PU-12-813

95. In the Matter of the Petition of New Jersey American Water Company for Authorization to Implement a Distribution System Improvement Charge (DSIC) Order Denying Petition and Instituting Stakeholder Process (2008) - (Case manager on policy decision and revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WO08050358

96. In the Matter of the Joint Petition of the City of Trenton, New Jersey and New Jersey-American Water Company, Inc. for Authorization of the Purchase and Sale of the Assets of the Outside Water Utility System ("OWUS") of the City of Trenton, New Jersey and for Other Relief Order Adopting Initial Decision, (2008) - (Case manager on the revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM08010063

97. In the Matter of the Petition of United Water New Jersey, United Water Toms River, United Water Lambertville, United Water Mid-Atlantic and Gaz de France for Approval as Need for a Change in Ownership and Control (2007) - (Case manager on customer impact, employee impact and impact on rates on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM06110767

98. In the Matter of the Petition of United Water Arlington Hills Sewerage, Inc. for an Increase in Rates for Waste Water Service and Other Tariff Changes (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08100929

99. In the Matter of the Petition of United Water New Jersey Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes, (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08090710

100. In the Matter of the Petition of United Water Toms River, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on the revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08030139

101. In the Matter of the Joint Petitioners of New Jersey-American Water Company, Inc., S.J. Services, Inc., South Jersey Water Company, Inc. and Pennsgrove Water Supply Company, Inc. for Among Other Things Approval of a Change in Control of South Jersey Water Supply Company, Inc. and Pennsgrove Water Supply Company, Inc. (2007) - (Case

manager on the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM07020076

102. In the Matter of the Petition of Aqua, New Jersey, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on revenue requirement and the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR0712095

103. I/M/O the Joint Petition of Thames Water, Aqua Holdings GMBH, on Behalf of Itself and Its Parent Holdings Company, RWE Aktiengesellschaft, Thames Water Aqua US Holdings, Inc., American Water works Company Inc., Thames Water Holdings Incorporated, E'town Corporation, New Jersey-American Water Company, Inc., Elizabethtown Water Company, the Mount Holly Water Company and Applied Wastewater Management, Inc. for Confirmation that the Board of Public Utilities Does Not Have Jurisdiction Over, or, Alternatively, for Approval of a Proposed Transaction Involving, Among Other Things, the Sale by Thames Water Aqua Holdings GMBH of Up to 100% of the Shares of the Common Stock of American Waterworks Company, Inc. in One or More Public Offerings (2007) - (Case manager on revenue requirement impacts, effect on rates and effect on service on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM06050388

104. In the Matter of the Petition of Elizabethtown Water Company for Approval of an Increase in Rates for Water Service (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR03070510

105. In the Matter of the Petition of New Jersey American Water Company, Inc. for Approval of Increased Tariff Rates and Charges for Water and Sewer Service; Increased Depreciation Rates and Other Tariff Revisions (2008) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08010020

106. In the Matter of Middlesex Water Company for Approval of an Increase in its Rates for Water Service and Other Tariff Changes (2007) - (Case manager on overall revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR07040275

107. In the Matter of the Joint Petition of United Water New Jersey, Inc., United Water Arlington Hills, Inc., United Water Hampton, Inc., United Water Vernon Water Hills, Inc., and United Water Lambertville, Inc. for an Increase in Rates and Charges for Water Service and Other Tariff Changes and for Approval to Merge the Operations of the Joint Petitioners into and with United Water New Jersey, Inc. (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
    BPU Docket No. WR07020135

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Re: Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Dante Mugrace, hereby state that the facts set forth in my Direct Testimony, OCA Statement 1, are true and correct (or are 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).

DATED: June 22, 2022 Signature: Dante Mugrace
*330683 Dante Mugrace

Consultant Address: PCMG and Associates
90 Moonlight Court
Toms River, NJ 08753

OCA Statement 2

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company – Gas Division	Docket No. R-2022-3031113

DIRECT TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 22, 2022

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I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David J. Garrett. My business address is 101 Park Avenue, Suite 1125, Oklahoma Company, Oklahoma 73102.

Q. By whom are you employed and in what capacity?

A. I am the managing member of Resolve Utility Consulting, LLC. I am an independent consultant specializing in public utility regulation.

Q. Please summarize your educational background and professional experience.

A. I received a B.B.A. degree with a major in Finance, an M.B.A. degree, and a J.D. degree from the University of Oklahoma. I worked in private legal practice for several years before working as assistant general counsel at the Oklahoma Corporation Commission in 2011. At the Oklahoma Corporation Commission, I worked in the Office of General Counsel in regulatory proceedings. In 2012, I worked for the Public Utility Division as a regulatory analyst providing testimony in regulatory proceedings. After leaving the Oklahoma Corporation Commission, I formed Resolve Utility Consulting PLLC, where I have represented numerous consumer groups and state agencies in utility regulatory proceedings, primarily in the areas of cost of capital and depreciation. I am a Certified Depreciation Professional with the Society of Depreciation Professionals. I am also a Certified Rate of Return Analyst with the Society of Utility and Regulatory Financial

Analysts. A more complete description of my qualifications and regulatory experience is included in my curriculum vitae.[1]

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

Q. Describe the purpose and scope of your testimony in this proceeding.

A. The primary purpose of my testimony is to provide my opinion on the estimated cost of capital and awarded rate of return recommendation for PECO Energy Company – Gas Division ("PECO" or the "Company"). I am responding to the direct testimony of Company witness Paul R. Moul.

Q. Please describe the organization of your testimony.

A. In the executive summary below, I provide an overview of cost of capital issues, my recommendations, and my response to the Company's testimony on these issues. In the sections that follow, I discuss the legal standards governing the awarded return issue, as well as the general concepts involved in estimating the cost of equity. I provide detailed analysis of the Discounted Cash Flow ("DCF") Model, the Capital Asset Pricing Model ("CAPM"), including my results for these models and my responses to Mr. Moul's results. I also address capital structure, which is a key component to the cost of capital.

II. EXECUTIVE SUMMARY

Q. Please summarize your recommendation to the Commission.

A. My testimony can be distilled to the following recommendations:

[1] Exhibit DJG-1.

- The Commission should reject the Company's proposed return on equity ("ROE") of 10.95% as excessive and unsupported. An objective cost of equity analysis shows that PECO's cost of equity is about 7.7%, based upon a review of the Company's proxy group.

- The Commission should reject the Company's request to increase the allowed return on equity by 10 basis points (0.10%) as an award for management performance. The request is not supported and would impose $2.3 million of additional costs on ratepayers.

- The Commission should reject the Company's request to artificially increase the DCF results by 145 basis points (1.45%) based on a "leverage adjustment." The request is not supported. A change to the DCF of 145 basis points, viewed in isolation, would equate to a change in the revenue requirement of $30.4 million.

- The legal standards governing this issue do not mandate that the awarded ROE equate to the result of a particular financial model, but rather that it be reasonable under the circumstances. In my opinion, it is not appropriate to consider an awarded ROE that is significantly higher than a regulated utility's cost of equity. Accordingly, I recommend the Commission award PECO an authorized ROE of 8.75%. Although 8.75% is still clearly above PECO's market-based cost of equity estimate of 7.7%, it represents a gradual, yet meaningful, move towards market-based cost of equity.

- The Commission should reject PECO's proposed capital structure consisting of 46.6% long-term debt and 53.4% equity. This equity-rich capital structure has the effect of increasing capital costs above a reasonable level. An objective analysis of PECO's optimal capital structure indicates a fair ratemaking debt ratio for PECO as high as 60%, which reflects the projected debt ratio of PECO's parent company, Exelon Corp. Additionally, the average debt ratio of the proxy group in this case is 52.3%. Thus, PECO's proposed debt ratio is far too low to be considered reasonable. I recommend an imputed capital structure consisting of 50.0% long-term debt and 50.0% equity. Adopting my proposed capital structure adjustment would decrease the revenue requirement by $9.9 million.

- My recommended ROE of 8.75% coupled with adjustments to the Company's proposed capital structure equate to an overall weighted average rate of return of 6.34%, an outcome which better balances the interests of ratepayers and shareholders.

My proposed adjustments are reflected in the table below.[2]

Figure 1:
OCA Weighted Average Rate of Return Proposal

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	50.0%	3.92%	1.96%
Common Equity	50.0%	8.75%	4.38%
Total	100.0%		6.34%

Adopting my proposed adjustments would result in an overall weighted average authorized rate of return of 6.34%. The details supporting my proposed adjustments are discussed further in my testimony.

[2] *See also* Exhibit DJG-16.

A. Overview and Background

Q. Please explain the concept and significance of the Cost of Capital.

A. The term cost of capital, or Weighted Average Cost of Capital (WACC),[3] refers to the weighted average cost of the components within a company's capital structure, including the costs of both debt and equity. The three primary components of a company's WACC include the following:

1. Cost of Debt
2. Cost of Equity
3. Capital Structure

Determining the cost of debt is relatively straight-forward. Interest payments on bonds are contractual, embedded costs that are generally calculated by dividing total interest payments by the book value of outstanding debt. Determining the cost of equity, on the other hand, is more complex. Unlike the known, contractual, and embedded cost of debt, there is not any explicitly quantifiable "cost" of equity. Instead, the cost of equity must be estimated through various financial models. Cost of capital is expressed as a weighted average because it is based upon a company's relative levels of debt and equity, as defined by the particular capital structure of that company. The basic WACC equation used in regulatory proceedings is presented as follows:

[3] The terms cost of capital and WACC are synonymous and used interchangeably throughout this testimony.

Equation 1:
Weighted Average Cost of Capital

$$WACC = \left(\frac{D}{D+E}\right) C_D + \left(\frac{E}{D+E}\right) C_E$$

where: $WACC$ = *weighted average cost of capital*
D = *book value of debt*
C_D = *embedded cost of debt capital*
E = *book value of equity*
C_E = *market-based cost of equity capital*

Companies in the competitive market often use their WACC as the discount rate to determine the value of capital projects, so it is important that this figure be estimated accurately.

Q. How do experts and regulators typically assess the ROEs awarded to utilities and the corresponding opportunity for shareholders?

A. Investors, company managers, and academics around the world have used models, such as the CAPM and DCF to closely estimate cost of equity for many years, and weigh the results achieved against the results from proxy groups. Each of these concepts will be discussed in more detail later in my testimony.

B. Recommendation

Q. Please summarize your ROE recommendation to the Pennsylvania Public Utility Commission (Commission).

A. Pursuant to the legal and technical standards guiding this issue, the awarded ROE should be based on, or reflective of, the utility's cost of equity. PECO's estimated cost of equity is about 7.7%, when using reasonable inputs. However, legal standards do not mandate the awarded ROE be set exactly equal to the cost of equity. Rather, in *Federal Power Commission v. Hope Natural Gas Co.*, the U.S. Supreme Court found that, although the awarded return should be based on a utility's cost of equity, the "end result" should be just

and reasonable.[4] Therefore, I recommend the Commission award PECO an ROE of 8.75%. In my opinion, an awarded ROE that is set too far above a regulated utility's cost of equity (which in this case is only about 7.7%) runs the risk of being at odds with the standards set forth in *Hope*[5] and *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*.[6] In other words, setting the awarded ROE far above the cost of equity results in an excess transfer of wealth from customers to the utility, which is never appropriate.

Q. If 8.75% exceeds PECO's actual cost of equity and still, in your opinion, results in a wealth transfer from shareholders to ratepayers, how can it still be considered a just and reasonable result?

A. As addressed below, I determine that PECO's market-based cost of equity is 7.7%. However, an awarded return of 7.7% in this proceeding would arguably represent a stark movement in the authorized return. While generally reducing awarded ROEs for utilities would move awarded returns closer to market-based costs and so reduce the excess transfer of wealth from ratepayers to shareholders, I believe it is advisable to do so gradually. One of the primary reasons PECO's actual cost of equity is quite low relative to other firms is because PECO has a relatively low risk profile. In general, utility stocks are low-risk investments because movements in their stock prices are not volatile. If the Commission were to make a significant, sudden change in the awarded ROE anticipated by regulatory

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[4] *See Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944) (*Hope*). Here, the Court states that it is not mandating the various permissible ways in which the rate of return may be determined, but instead indicates that the end result should be just and reasonable. This is sometimes called the "end result" doctrine.

[5] *Id*.

[6] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679, 692–93 (1923) (*Bluefield*).

stakeholders, it could have the undesirable effect of notably increasing the Company's risk profile, which could be at odds with the *Hope* Court's "end result" doctrine. An awarded ROE of 8.75% represents an appropriate balance between the Supreme Court's indications that awarded ROEs should be based on cost, while also recognizing that the end result must be just and reasonable under the circumstances.

Q. Please summarize your recommendation regarding capital structure.

A. The Company proposes an equity-rich capital structure consisting of only 46.6% debt.[7] Unlike competitive companies, which have a natural financial incentive to issue sufficient amounts of debt to maximize profits, regulated utilities do not have the same incentive to issue sufficient amounts of debt. However, even Mr. Moul's own utility proxy group reported a debt ratio of 52.3%, which is substantially higher than the debt ratio proposed by PECO.[8] The following figure presents a summary of my capital structure analysis.

[7] Direct Testimony of Paul R. Moul, p. 21, lines 24-25.

[8] Exhibit DJG-15.

Figure 2:
Capital Structure Analysis Summary

Source	Debt Ratio
Power	60%
Exelon Corp 2022	**60%**
Telecom	59%
Water Utility	57%
Green Energy	56%
Proxy Group	**52.3%**
Garrett Proposed	**50.0%**
Company Proposed	**46.6%**

Capital structure is discussed in more detail later in my testimony.

C. Response to the Company's Testimony

Q. Please provide an overview of the problems you have identified with the Company's testimony regarding cost of equity, capital structure, and the resulting awarded ROE.

A. Mr. Moul proposes a return on equity of 10.95%.[9] Mr. Moul's recommendation is based on the CAPM, DCF Model, and other models. A summary of Mr. Moul's positions are shown in the figure below.[10]

[9] Direct Testimony of Paul R. Moul, p. 1, lines 18-19.

[10] *See also* Direct Testimony of Paul R. Moul, Exhibit PRM-1, Sch. 1, p. 1.

Figure 3:
PECO Weighted Average Rate of Return Proposal

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	46.6%	3.92%	1.83%
Common Equity	53.4%	10.95%	5.85%
Total	100.0%		7.7%

However, several of his key assumptions and inputs to these models violate fundamental, widely accepted tenets in finance and valuation. I find several aspects of Mr. Moul's approach and resulting recommendations to be problematic, including the growth rates used in his DCF models and his inflated estimate for the equity risk premium ("ERP") used in his CAPM analysis. In addition, Mr. Moul adds what he calls a "leverage adjustment" to the results of his models, which inappropriately inflate the results. The Commission has previously rejected Mr. Moul's proposed leverage adjustment.[11] Finally, Mr. Moul inappropriately adds a premium to his cost of equity estimate for management performance, which further inflates a figure that is already overestimated.

Regarding capital structure, Mr. Moul adopts the Company's proposed capital structure ratio consisting of only 46.6% long-term debt.[12] As discussed in my testimony, the Company does not have a financial incentive to operate with sufficient amounts of debt in its capital structure, and the evidence shows that PECO's proposed debt ratio is too low.

[11] *Pa. P.U.C. v. PPL Elec. Util. Corp.*, Docket No. R-2012-2290597, Order, 52 (Dec. 28, 2012), p. 52 of 105.

[12] Direct Testimony of Paul R. Moul, p. 4, lines 12-15.

III. LEGAL STANDARDS AND THE AWARDED RETURN

Q. Discuss the legal standards governing the awarded rate of return on capital investments for regulated utilities.

A. In *Wilcox v. Consolidated Gas Co. of New York*, the U.S. Supreme Court first addressed the meaning of a fair rate of return for public utilities.[13] The Court found that "the amount of risk in the business is a most important factor" in determining the appropriate allowed rate of return.[14] As referenced earlier, in two subsequent landmark cases, the Court set forth the standards by which public utilities are allowed to earn a return on capital investments. First, in *Bluefield*, the Court held:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public. . . but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[15]

Then, in *Hope*, the Court expanded on the guidelines set forth in *Bluefield* and stated:

[13] *Wilcox v. Consolidated Gas Co. of New York*, 212 U.S. 19 (1909).

[14] *Id.* at 48.

[15] *Bluefield* at 692–93.

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[16]

The cost of capital models I have employed in this case are designed to be in accordance with the foregoing legal standards.

Q. Is it important that the awarded rate of return be based on the Company's actual cost of capital?

A. Yes. The U.S. Supreme Court in *Hope* makes it clear that the allowed return should be based on the actual cost of capital.[17] Moreover, the awarded return must also be fair, just, and reasonable under the circumstances of each case. Among the circumstances that must be considered in each case are the broad economic and financial impacts to the cost of equity and awarded return caused by market forces and other factors. As a starting point, however, scholars agree that the actual cost of capital must be considered:

[16] *Hope* at 603 (emphasis added) (internal citations omitted) (*Hope*).

[17] The term "cost of capital" includes both debt and equity. The overall awarded rate of return should be based on the utility's cost of capital, which the awarded ROE should be based in the utility's cost of equity.

> Since by definition the cost of capital of a regulated firm represents precisely the expected return that investors could anticipate from other investments while bearing no more or less risk, and since investors will not provide capital unless the investment is expected to yield its opportunity cost of capital, the correspondence of the definition of the cost of capital with the court's definition of legally required earnings appears clear.[18]

The models I have employed in this case closely estimate the Company's true cost of equity. If the Commission sets the awarded return based on my lower and more reasonable rate of return, it will better comply with the U.S. Supreme Court's standards, allow the Company to maintain its financial integrity, and achieve reasonable returns for its investors. On the other hand, if the Commission sets the allowed rate of return much higher than the true cost of capital, as requested by PECO, it will result in an inappropriate transfer of wealth from ratepayers to shareholders.[19]

Q. What does this legal standard mean for determining the awarded return and the cost of capital?

A. The awarded return and the cost of capital are different but related concepts. On the one hand, the legal and technical standards encompassing this issue require that the awarded return reflect the true cost of capital. Yet on the other hand, the two concepts differ in that the legal standards do not mandate that awarded returns exactly match the cost of capital. Instead, awarded returns are set through the regulatory process and may be influenced by various factors other than objective market drivers. By contrast, the cost of capital should be evaluated objectively and be closely tied to economic realities, such as stock prices,

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[18] A Lawrence Kolbe, James A. Read, Jr. & George R. Hall, *The Cost of Capital: Estimating the Rate of Return for Public Utilities* 21 (The MIT Press 1984).

[19] Roger A. Morin, *New Regulatory Finance* 23–24 (Public Utilities Reports, Inc. 2006) (1994) ("[I]f the allowed rate of return is greater than the cost of capital, capital investments are undertaken and investors' opportunity costs are more than achieved. Any excess earnings over and above those required to service debt capital accrue to the equity holders, and the stock price increases. In this case, the wealth transfer occurs from ratepayers to shareholders.").

dividends, growth rates, and, most importantly, risk. The cost of capital can be estimated by financial models used by firms, investors, and academics around the world for decades. The problem is, with respect to regulated utilities, there has been a trend in which awarded returns fail to closely track with market-based cost of capital, as further discussed below. To the extent this occurs, the results are detrimental to ratepayers and the state's economy.

Q. Describe the economic impact that occurs when the awarded return strays too far from the U.S. Supreme Court's cost of equity standards.

A. When the awarded ROE is set far above the cost of equity, it runs the risk of violating the U.S. Supreme Court's standards. This has the effect of diverting dollars from ratepayers for their internal or business uses that would otherwise support the local or state economy to the utility's shareholders at large. Moreover, establishing an awarded return that far exceeds true cost of capital effectively prevents the awarded returns from changing along with economic conditions. This is especially true given the fact that regulators tend to be influenced by the awarded returns in other jurisdictions, regardless of the various unknown factors influencing those awarded returns. If regulators rely too heavily on the awarded returns from other jurisdictions, they can create a cycle over time that bears little relation to the market-based cost of equity. In fact, this is exactly what we have observed since 1990. This is yet another reason why it is crucial for regulators to put more emphasis on the target utility's actual cost of equity than on the awarded returns from other jurisdictions. Awarded returns may be influenced by settlements and other political factors not based on true market conditions. In contrast, the true cost of equity as estimated through objective models is not influenced by these factors but is instead driven by market-based factors.

Q. Can you illustrate and provide a comparison of the relationship between awarded utility returns and market cost of equity since 1990?

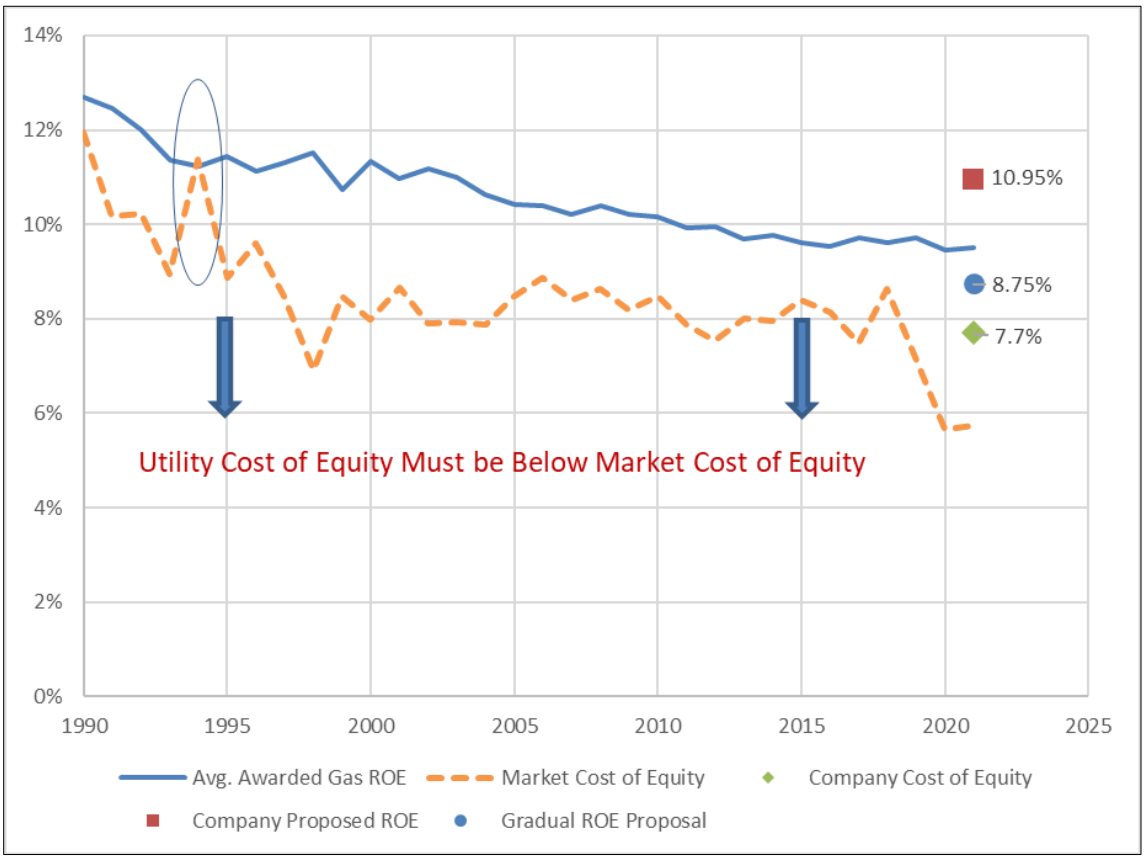
A. Yes. As shown in the figure below, awarded returns for electric and gas utilities have been above the average required market return since 1990.[20] Because utility stocks are consistently far less risky than the average stock in the marketplace, the cost of equity for utility companies is less than the market cost of equity.

To illustrate this fact, the graph in the figure below shows three trend lines. The top two line are the average annual awarded returns since 1990 for U.S. regulated electric and gas utilities. The bottom line is the required market return over the same period. As discussed in more detail later in my testimony, the required market return is essentially the return that investors would require if they invested in the entire market and, as such, the required market return is essentially the cost of equity of the entire market. Since it is undisputed that utility stocks are less risky than the average stock in the market, then the utilities' cost of equity must be less than the market cost of equity.[21] Thus, awarded returns (the solid line) should generally be below the market cost of equity (the dotted line), since awarded returns are supposed to be based on true cost of equity.

[20] Exhibit DJG-13.

[21] This fact can be objectively measured through a term called "beta," as discussed later in the testimony. Utility betas are less than one, which means utility stocks are less risky than the "average" stock in the market.

Figure 4:
Awarded ROEs vs. Market Cost of Equity



Notwithstanding the data in this graph, awarded ROEs have been consistently above the market cost of equity for many years. Also as shown in this graph, since 1990, there was only one year in which the average awarded ROE was below the market cost of equity. In 1994, regulators awarded ROEs that were the closest to utilities' market-based cost of equity. In my opinion, when awarded ROEs for utilities are below the market cost of equity, regulators more closely conform to the standards set forth by *Hope* and *Bluefield* and minimize the excess wealth transfer from ratepayers to shareholders.

Q. Have other analysts commented on this national phenomenon of awarded ROEs exceeding market-based cost equity for utilities?

A. Yes. In his article published in Public Utilities Fortnightly in 2016, Steve Huntoon observed that even though utility stocks are less risky than the stocks of competitive industries, utility stocks have nonetheless outperformed the broader market.[22] Specifically, Mr. Huntoon notes the following three points which lead to a problematic conclusion:

1. Jack Bogle, the founder of Vanguard Group and a Wall Street legend, provides rigorous analysis that the long-term total return for the broader market will be around 7 percent going forward. Another Wall Street legend, Professor Burton Malkiel, corroborates that 7 percent in the latest edition of his seminal work, A Random Walk Down Wall Street.

2. Institutions like pension funds are validating the first point by piling on risky investments to try and get to a 7.5 percent total return, as reported by the Wall Street Journal.

3. Utilities are being granted returns on equity around 10 percent.[23]

Other scholars have also observed that awarded ROEs have not appropriately tracked with declining interest rates over the years, and that excessive awarded ROEs have negative economic impacts. In a white paper issued in 2017, Charles S. Griffey stated:

[22] Steve Huntoon, "Nice Work If you can Get It," Public Utilities Fortnightly (Aug. 2016).

[23] *Id*.

> The "risk premium" being granted to utility shareholders is now higher than it has ever been over the last 35 years. Excessive utility ROEs are detrimental to utility customers and the economy as a whole. From a societal standpoint, granting ROEs that are higher than necessary to attract investment creates an inefficient allocation of capital, diverting available funds away from more efficient investments. From the utility customer perspective, if a utility's awarded and/or achieved ROE is higher than necessary to attract capital, customers pay higher rates without receiving any corresponding benefit.[24]

It is interesting that both Mr. Huntoon and Mr. Griffey use the word "sticky" in their articles to describe the fact that awarded ROEs have declined at a much slower rate than interest rates and other economic factors resulting in a decline in capital costs and expected returns on the market. It is not hard to see why this phenomenon of "sticky" ROEs has occurred. Because awarded ROEs are often based primarily on a comparison with other awarded ROEs around the country, the average awarded returns effectively fail to adapt to true market conditions, and regulators seem reluctant to deviate from the average. Once utilities and regulatory commissions become accustomed to awarding rates of return higher than market conditions actually require, this trend becomes difficult to reverse. The fact is, utility stocks are less risky than the average stock in the market, and thus, awarded ROEs should be less than the expected return on the market. However, that is rarely the case. My proposal assists the Commission in "see[ing] the gap between allowed returns and cost of capital,"[25] and reconciling this issue in an equitable manner.

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[24] Charles S. Griffey, "When 'What Goes Up' Does Not Come Down: Recent Trends in Utility Returns," White Paper (February 2017).

[25] Leonard Hyman & William Tilles, "Don't Cry for Utility Shareholders, America," Public Utilities Fortnightly (October 2016).

Q. Summarize the legal standards governing the awarded ROE issue.

A. The Commission should strive to move the awarded return to a level more closely aligned with the Company's actual, market-derived cost of capital while keeping in mind the following two legal principles outlined below.

1. Risk is the most important factor when determining the awarded return. The awarded return should be commensurate with those returns on investments of corresponding risk.

The legal standards articulated in *Hope* and *Bluefield* demonstrate that the U.S. Supreme Court understands one of the most basic, fundamental concepts in financial theory: the more (or less) risk an investor assumes, the more (or less) return the investor requires. Since utility stocks are low risk, the return required by equity investors should be relatively low. I have used financial models to closely estimate the Company's cost of equity, and these financial models account for risk. The cost of equity models confirm the industry experiences relatively low levels of risk by producing relatively low cost of equity results. In turn, the awarded ROE in this case should reflect PECO's relatively low market risk.

2. The awarded return should be sufficient to assure financial soundness and integrity under efficient management.

Because awarded returns in the regulatory environment have not closely tracked market-based trends and commensurate risk, utility companies have been able to remain more than financially sound, perhaps despite management inefficiencies. In fact, the transfer of wealth from ratepayers to shareholders has been so far removed from actual cost-based drivers that a utility could remain financially sound even under relatively inefficient management. Therefore, regulatory commissions should strive to set utilities' returns based on actual market conditions to promote prudent and efficient management and minimize economic waste.

IV. GENERAL CONCEPTS AND METHODOLOGY

Q. Discuss your approach to estimating the cost of equity in this case.

A. While a competitive firm must estimate its own cost of capital to assess the profitability of competing capital projects, regulators determine a utility's cost of capital to establish a fair rate of return. The legal standards set forth above do not include specific guidelines regarding the models that must be used to estimate the cost of equity for utilities. Over the years, however, regulatory commissions have consistently relied on several models. The models I have employed in this case have been the two most widely used and accepted in regulatory proceedings for many years. The specific inputs and calculations for these models are described in more detail below.

Q. Please explain why you used multiple models to estimate the cost of equity.

A. These models attempt to measure the return on equity required by investors by estimating several different inputs. It is preferable to use multiple models because the results of any one model may contain a degree of imprecision, especially depending on the reliability of the inputs used at the time of conducting the model. By using multiple models, the analyst can compare the results of the models and look for outlying results and inconsistencies. Likewise, if multiple models produce a similar result, it may indicate a narrower range for the cost of equity estimate.

Q. Please discuss the benefits of choosing a proxy group of companies in conducting cost of capital analyses.

A. The cost of equity models in this case can be used to estimate the cost of capital of any individual, publicly traded company. There are advantages, however, to conducting cost of capital analysis on a proxy group of companies that are comparable to the target

company. First, it is better to assess the financial soundness of a utility by comparing it to a group of other financially sound utilities. Second, using a proxy group provides more reliability and confidence in the overall results because there is a larger sample size. Finally, the use of a proxy group is often a pure necessity when the target company is a subsidiary that is not publicly traded, as is the case here. This is because the financial models used to estimate the cost of equity require information from publicly traded firms, such as stock prices and dividends.

Q. Describe the proxy group you selected in this case.

A. In this case, I chose to use the same proxy group used by Mr. Moul. There could be reasonable arguments made for the inclusion or exclusion of a particular company in a proxy group; however, the cost of equity results are influenced far more by the underlying assumptions and inputs to the various financial models than the composition of the proxy group.[26] By using the same proxy group, we can remove a relatively insignificant variable from the equation and focus on the primary factors driving PECO's cost of equity estimate.

V. RISK AND RETURN CONCEPTS

Q. Discuss the general relationship between risk and return.

A. Risk is among the most important factors for the Commission to consider when determining the allowed return. Thus, it is necessary to understand the relationship between risk and return. There is a direct relationship between risk and return: the more (or less) risk an investor assumes, the larger (or smaller) return the investor will demand.

[26] Exhibit DJG-2.

There are two primary types of risk: firm-specific risk and market risk. Firm-specific risk affects individual companies, while market risk affects all companies in the market to varying degrees.

Q. Discuss the differences between firm-specific risk and market risk.

A. Firm-specific risk affects individual companies, rather than the entire market. For example, a competitive firm might overestimate customer demand for a new product, resulting in reduced sales revenue. This is an example of a firm-specific risk called "project risk."[27] There are several other types of firm-specific risks, including: (1) "financial risk" – the risk that equity investors of leveraged firms face as residual claimants on earnings; (2) "default risk" – the risk that a firm will default on its debt securities; and (3) "business risk" – which encompasses all other operating and managerial factors that may result in investors realizing less than their expected return in that particular company. While firm-specific risk affects individual companies, market risk affects all companies in the market to varying degrees. Examples of market risk include interest rate risk and the risk of major socio-economic events. When there are changes in these risk factors, they affect all firms in the market to some extent.[28]

Analysis of the U.S. market in 2001 provides a good example for contrasting firm-specific risk and market risk. During that year, Enron Corp.'s stock fell from $80 per share to its low when the company filed bankruptcy at the end of the year. If an investor's portfolio had held only Enron stock at the beginning of 2001, this irrational investor would

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[27] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 62–63 (3rd ed., John Wiley & Sons, Inc. 2012).

[28] *See* Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 149 (9th ed., McGraw-Hill/Irwin 2013).

have lost the entire investment by the end of the year due to assuming the full exposure of Enron's firm-specific risk (in that case, imprudent management). On the other hand, a rational, diversified investor who invested the same amount of capital in a portfolio holding every stock in the S&P 500 would have had a much different result that year. The rational investor would have been relatively unaffected by the fall of Enron because his or her portfolio included about 499 other stocks. Each of those stocks, however, would have been affected by various market risk factors that occurred that year. Thus, the rational investor would have incurred a relatively minor loss due to market risk factors, while the irrational investor would have lost everything due to firm-specific risk factors.

Q. Can equity investors reasonably minimize firm-specific risk?

A. Yes. A fundamental concept in finance is that firm-specific risk can be eliminated through diversification.[29] If someone irrationally invested all his or her funds in one firm, he or she would be exposed to all the firm-specific risk and the market risk inherent in that single firm. Rational investors, however, are risk-averse and seek to eliminate risk they can control. Investors can eliminate firm-specific risk by adding more stocks to their portfolio through a process called "diversification." There are two reasons why diversification eliminates firm-specific risk.

First, each stock in a diversified portfolio represents a much smaller percentage of the overall portfolio than it would in a portfolio of just one or a few stocks. Thus, any firm-

[29] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 179–80 (3rd ed., South Western Cengage Learning 2010).

specific action that changes the stock price of one stock in the diversified portfolio will have only a small impact on the entire portfolio.[30]

The second reason why diversification eliminates firm-specific risk is that the effects of firm-specific actions on stock prices can be either positive or negative for each stock. Thus, in large diversified portfolios, the net effect of these positive and negative firm-specific risk factors will be essentially zero and will not affect the value of the overall portfolio.[31] Firm-specific risk is also called "diversifiable risk" because it can be easily eliminated through diversification.

Q. Is it well-known and accepted that, because firm-specific risk can be easily eliminated through diversification, the market does not reward such risk through higher returns?

A. Yes. Because investors eliminate firm-specific risk through diversification, they know they cannot expect a higher return for assuming the firm-specific risk in any one company. Thus, the risks associated with an individual firm's operations are not rewarded by the market. In fact, firm-specific risk is also called "unrewarded" risk for this reason. Market risk, on the other hand, cannot be eliminated through diversification. Because market risk cannot be eliminated through diversification, investors expect a return for assuming this type of risk. Market risk is also called "systematic risk." Scholars recognize the fact that market risk, or systematic risk, is the only type of risk for which investors expect a return for bearing:

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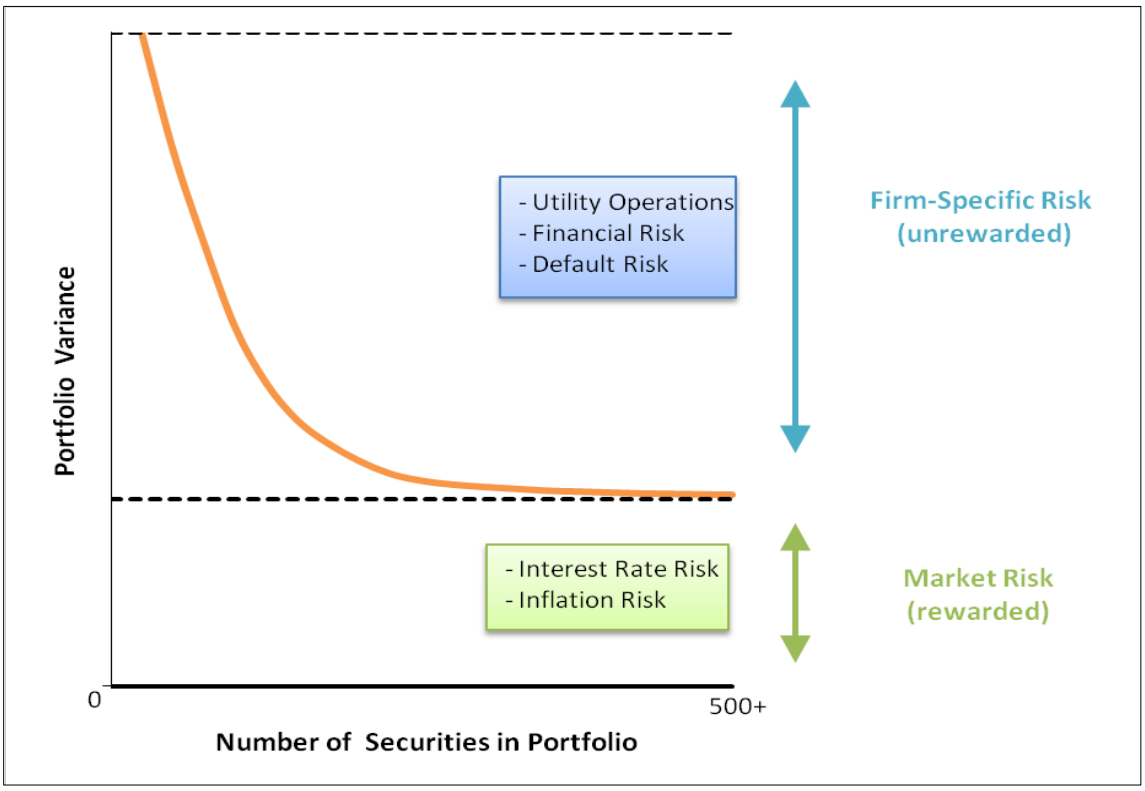
[30] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 64 (3rd ed., John Wiley & Sons, Inc. 2012).

[31] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 64 (3rd ed., John Wiley & Sons, Inc. 2012).

> If investors can cheaply eliminate some risks through diversification, then we should not expect a security to earn higher returns for risks that can be eliminated through diversification. Investors can expect compensation only for bearing systematic risk (i.e., risk that cannot be diversified away).[32]

These important concepts are illustrated in the figure below. Some form of this figure is found in many financial textbooks.

Figure 5:
Effects of Portfolio Diversification



This figure shows that as stocks are added to a portfolio, the amount of firm-specific risk is reduced until it is essentially eliminated. No matter how many stocks are added, however, there remains a certain level of fixed market risk. The level of market risk will

[32] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 180 (3rd ed., South Western Cengage Learning 2010) (emphasis added).

vary from firm to firm. Market risk is the only type of risk that is rewarded by the market and is thus the primary type of risk the Commission should consider when determining the allowed return.

Q. Describe how market risk is measured.

A. Investors who want to eliminate firm-specific risk must hold a fully diversified portfolio. To determine the amount of risk that a single stock adds to the overall market portfolio, investors measure the covariance between a single stock and the market portfolio. The result of this calculation is called "beta."[33] Beta represents the sensitivity of a given security to the market as a whole. The market portfolio of all stocks has a beta equal to one. Stocks with betas greater than 1.0 are relatively more sensitive to market risk than the average stock. For example, if the market increases (or decreases) by 1.0%, a stock with a beta of 1.5 will, on average, increase (or decrease) by 1.5%. In contrast, stocks with betas of less than 1.0 are less sensitive to market risk, such that if the market increases (or decreases) by 1.0%, a stock with a beta of 0.5 will, on average, only increase (or decrease) by 0.5%. Thus, stocks with low betas are relatively insulated from market conditions. The beta term is used in the CAPM to estimate the cost of equity, which is discussed in more detail later.[34]

[33] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 180–81 (3rd ed., South Western Cengage Learning 2010).

[34] Though it will be discussed in more detail later, Exhibit DJG-8 shows that the average beta of the proxy group was less than 1.0. This confirms the well-known concept that utilities are relatively low-risk firms.

Q. Are public utilities characterized as defensive firms that have low betas, have low market risk, and are relatively insulated from overall market conditions?

A. Yes. Although market risk affects all firms in the market, it affects different firms to varying degrees. Firms with high betas are affected more than firms with low betas, which is why firms with high betas are riskier. Stocks with betas greater than one are generally known as "cyclical stocks." Firms in cyclical industries are sensitive to recurring patterns of recession and recovery known as the "business cycle."[35] Thus, cyclical firms are exposed to a greater level of market risk. Securities with betas less than one, on the other hand, are known as "defensive stocks." Companies in defensive industries, such as public utility companies, "will have low betas and performance that is comparatively unaffected by overall market conditions."[36] In fact, financial textbooks often use utility companies as prime examples of low-risk, defensive firms.[37] The figure below compares the betas of several industries and illustrates that the utility industry is one of the least risky industries in the U.S. market.[38]

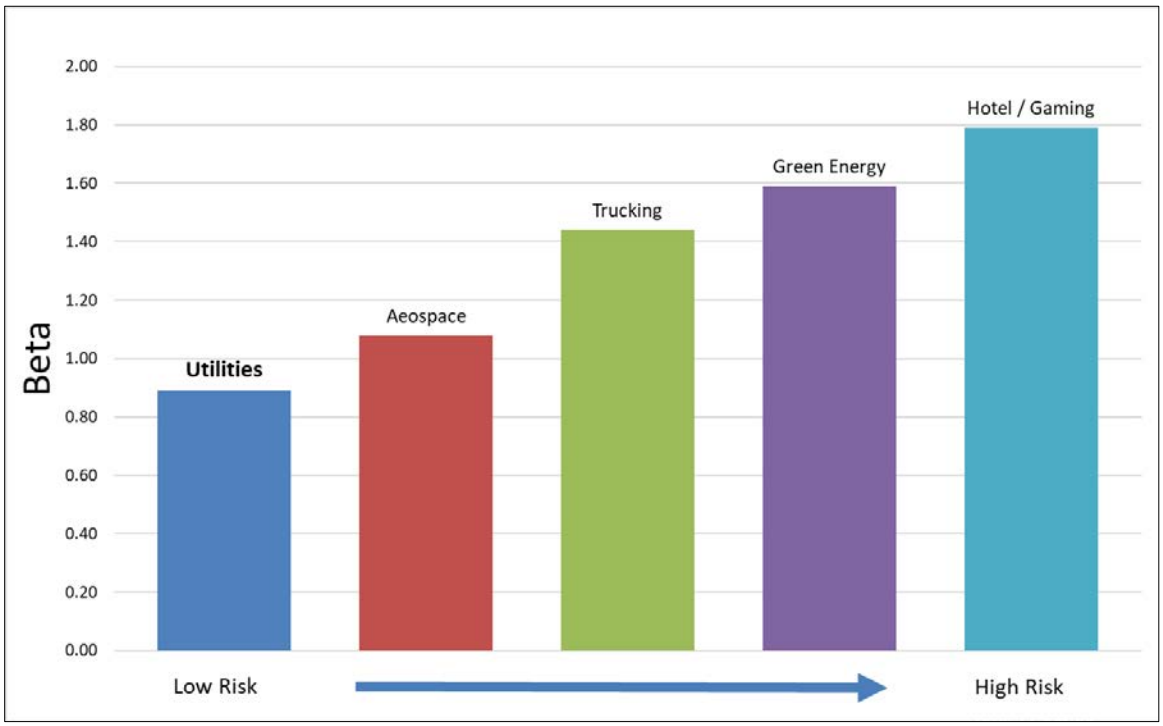
[35] *See* Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 382 (9th ed., McGraw-Hill/Irwin 2013).

[36] Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 383 (9th ed., McGraw-Hill/Irwin 2013).

[37] *See e.g.*, Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 382 (9th ed., McGraw-Hill/Irwin 2013); *see also* Aswath Damodaran, Investment Valuation: Tools and Techniques for Determining the Value of Any Asset 196 (3rd ed., John Wiley & Sons, Inc. 2012).

[38] *See* Betas by Sector (US) at http://pages.stern.nyu.edu/~adamodar/. The exact beta calculations are not as important as illustrating the well-known fact that utilities are low-risk companies. The fact that the utility industry is one of the lowest risk industries in the country should not change from year to year.

Figure 6:
Beta by Industry



The fact that utilities are defensive firms that are exposed to little market risk is beneficial to society. When the business cycle enters a recession, consumers can be assured that their utility companies will be able to maintain normal business operations and provide safe and reliable service under prudent management. Likewise, utility investors can be confident that utility stock prices will not fluctuate widely. So, while it is preferable for utilities to be defensive firms that experience little market risk and relatively insulated from market conditions, this should also be appropriately reflected in PECO's awarded return.

VI. DCF ANALYSIS

Q. Describe the DCF Model.

A. The DCF Model is based on a fundamental financial model called the "dividend discount model," which maintains that the value of a security is equal to the present value of the future cash flows it generates. Cash flows from common stock are paid to investors in the form of dividends. There are several variations of the DCF Model. These versions, along with other formulas and theories related to the DCF Model are discussed in more detail in Appendix A.

Q. Describe the inputs to the DCF Model.

A. There are three primary inputs in the DCF Model: (1) stock price; (2) dividend; and (3) the sustainable growth rate. The stock prices and dividends are known inputs based on recorded data, while the growth rate projection must be estimated. I discuss each of these inputs separately below.

A. Stock Prices and Dividends

Q. How did you determine the stock price input of the DCF Model?

A. For the stock price (P_0), I used a 30-day average of stock prices for each company in the proxy group.[39] Analysts sometimes rely on average stock prices for longer periods (e.g., 60, 90, or 180 days). According to the efficient market hypothesis, however, markets reflect all relevant information available at a particular time, and prices adjust

[39] Exhibit DJG-3.

instantaneously to the arrival of new information.[40] Past stock prices, in essence, reflect outdated information. The DCF Model used in utility rate cases is a derivation of the dividend discount model, which is used to determine the current value of an asset. Thus, according to the dividend discount model and the efficient market hypothesis, the value for the "P_0" term in the DCF Model should technically be the current stock price, rather than an average.

Q. Why did you use a 30-day average for the current stock price input?

A. Using a short-term average of stock prices for the current stock price input adheres to market efficiency principles while avoiding any irregularities that may arise from using a single current stock price. In the context of a utility rate proceeding there is a significant length of time from when an application is filed, and testimony is due. Choosing a current stock price for one particular day could raise a separate issue concerning which day was chosen to be used in the analysis. In addition, a single stock price on a particular day may be unusually high or low. It is arguably ill-advised to use a single stock price in a model that is ultimately used to set rates for several years, especially if a stock is experiencing some volatility. Thus, it is preferable to use a short-term average of stock prices, which represents a good balance between adhering to well-established principles of market efficiency while avoiding any unnecessary contentions that may arise from using a single

[40] *See* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, Vol. 25, No. 2 The Journal of Finance 383 (1970).

stock price on a given day. The stock prices I used in my DCF analysis are based on 30-day averages of adjusted closing stock prices for each company in the proxy group.[41]

Q. Describe how you determined the dividend input of the DCF Model.

A. The dividend term in the DCF Model represents dividends per share (d_0). I obtained the most recent quarterly dividend paid for each proxy company and annualized those dividends.[42]

Q. Are the stock price and dividend inputs for each proxy company a significant issue in this case?

A. No. Although my stock price and dividend inputs are more recent than those used by Mr. Moul, there is not a statistically significant difference between them because utility stock prices and dividends are generally quite stable. This is another reason that cost of capital models such as the CAPM and the DCF Model are well-suited to be used for utilities. The differences between my DCF Model and Mr. Moul's DCF Model are primarily driven by differences in our growth rate estimates, which are further discussed below.

B. Growth Rate

Q. Summarize the growth rate input in the DCF Model.

A. The most critical input in the DCF Model is the growth rate. Unlike the stock price and dividend inputs, the growth rate input (g) must be estimated. As a result, the growth rate is often the most contentious DCF input in utility rate cases. The DCF model used in this

[41] Exhibit DJG-3. Adjusted closing prices, rather than actual closing prices, are ideal for analyzing historical stock prices. The adjusted price provides an accurate representation of the firm's equity value beyond the mere market price because it accounts for stock splits and dividends.

[42] Exhibit DJG-4. Nasdaq Dividend History, http://www.nasdaq.com/quotes/dividend-history.aspx.

case is based on the sustainable growth valuation model. Under this model, a stock is valued by the present value of its future cash flows in the form of dividends. Before future cash flows are discounted by the cost of equity, however, they must be "grown" into the future by a sustainable growth rate. As stated above, one of the inherent assumptions of this model is that these cash flows in the form of dividends grow at a sustainable rate forever. For young, high-growth firms, estimating the growth rate to be used in the model can be especially difficult, and may require the use of multi-stage growth models. For mature, low-growth firms such as utilities, however, estimating the sustainable growth rate is more transparent. The growth term of the DCF Model is one of the most important, yet apparently most misunderstood, aspects of cost of equity estimations in utility regulatory proceedings. Therefore, I have devoted a more detailed explanation of this issue in the following sections, which are organized as follows:

(1) The Various Determinants of Growth

(2) Reasonable Estimates for Long-Term Growth

(3) Quantitative vs. Qualitative Determinants of Utility Growth: Circular References, "Flatworm" Growth, and the Problem with Analysts' Growth Rates

(4) Growth Rate Recommendation

1. <u>The Various Determinants of Growth</u>

Q. Describe the various determinants of growth.

A. Although the DCF Model directly considers the growth of dividends, there are a variety of growth determinants that should be considered when estimating growth rates. It should be noted that these various growth determinants are used primarily to determine the short-term growth rates in multi-stage DCF models. For utility companies, it is necessary to

focus primarily on a long-term growth rate in dividends. This is also known as a "sustainable" growth rates, since this is the growth rate assumed for the company's dividends in perpetuity. That is not to say that these growth determinants cannot be considered when estimating sustainable growth; however, as discussed below, sustainable growth must be constrained much more than short-term growth, especially for young firms with high growth opportunities. Additionally, I briefly discuss these growth determinants here because it may reveal some of the source of confusion in this area.

A. Historical Growth

Looking at a firm's actual historical experience may theoretically provide a good starting point for estimating short-term growth. However, past growth is not always a good indicator of future growth. Some metrics that might be considered here are a historical growth in revenues, operating income, and net income. Since dividends are paid from earnings, estimating historical earnings growth may provide an indication of future earnings and dividend growth. In general, however, revenue growth tends to be more consistent and predictable than earnings growth because it is less likely to be influenced by accounting adjustments.[43]

B. Analyst Growth Rates

Analyst growth rates refer to short-term projections of earnings growth published by institutional research analysts such as Value Line and Bloomberg. A more detailed

[43] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 279 (3rd ed., John Wiley & Sons, Inc. 2012).

discussion of analyst growth rates, including the problems with using them in the DCF Model to estimate utility cost of equity, is provided in a later section.

C. Fundamental Determinants of Growth

Fundamental growth determinants refer to firm-specific financial metrics that arguably provide better indications of near-term sustainable growth. One such metric for fundamental growth considers the return on equity and the retention ratio. The idea behind this metric is that firms with high ROEs and retention ratios should have greater opportunities for growth.[44]

Q. Did you use any of these growth determinants in your DCF Model?

A. No. Primarily, these growth determinants discussed above would provide better indications of short- to mid-term growth for firms with average to high growth opportunities. Utilities, however, are mature, low-growth firms. While it may not be unreasonable on its face to use any of these growth determinants for the growth input in the DCF Model, we must keep in mind that the stable growth DCF Model considers only sustainable growth rates, which are constrained by certain economic factors, as discussed further below.

2. Reasonable Estimates for Sustainable Growth

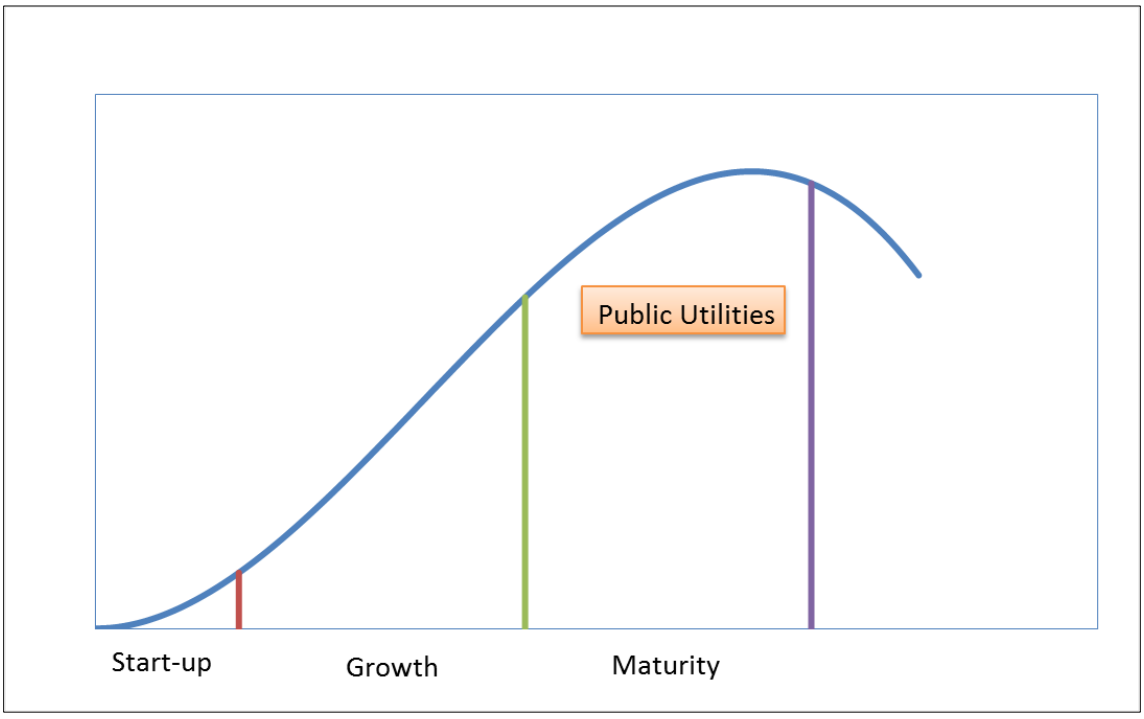
Q. Describe what is meant by sustainable growth.

A. In order to make the DCF Model a viable, practical model, an infinite stream of future cash flows must be estimated and then discounted back to the present. Otherwise, each annual

[44] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 279 (3rd ed., John Wiley & Sons, Inc. 2012).

cash flow would have to be estimated separately. Some analysts use "multi-stage" DCF Models to estimate the value of high-growth firms through two or more stages of growth, with the final stage of growth being sustainable. However, it is not necessary to use multi-stage DCF Models to analyze the cost of equity of regulated utility companies. This is because regulated utilities are already in their "sustainable," low growth stage. Unlike most competitive firms, the growth of regulated utilities is constrained by physical service territories and limited primarily by ratepayer and load growth within those territories. The figure below illustrates the well-known business/industry life-cycle pattern.

Figure 7:
Industry Life Cycle



In an industry's early stages, there are ample opportunities for growth and profitable reinvestment. In the maturity stage however, growth opportunities diminish, and firms choose to pay out a larger portion of their earnings in the form of dividends instead of

reinvesting them in operations to pursue further growth opportunities. Once a firm is in the maturity stage, it is not necessary to consider higher short-term growth metrics in multi-stage DCF Models; rather, it is sufficient to analyze the cost of equity using a stable growth DCF Model with one sustainable, sustainable growth rate.

Q. Is it true that the sustainable growth rate cannot exceed the growth rate of the economy, especially for a regulated utility company?

A. Yes. A fundamental concept in finance is that no firm can grow forever at a rate higher than the growth rate of the economy in which it operates.[45] Thus, the sustainable growth rate used in the DCF Model should not exceed the aggregate economic growth rate. This is especially true when the DCF Model is conducted on public utilities because these firms have defined service territories. As stated by Dr. Damodaran: "[i]f a firm is a purely domestic company, either because of internal constraints . . . or external constraints (such as those imposed by a government), the growth rate in the domestic economy will be the limiting value."[46]

In fact, it is reasonable to assume that a regulated utility would grow at a rate that is less than the U.S. economic growth rate. Unlike competitive firms, which might increase their growth by launching a new product line, franchising, or expanding into new and developing markets, utility operating companies with defined service territories cannot do any of these things to grow. Gross Domestic Product ("GDP") is one of the most widely used measures of economic production and is used to measure aggregate economic growth.

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[45] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 306 (3rd ed., John Wiley & Sons, Inc. 2012).

[46] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 306 (3rd ed., John Wiley & Sons, Inc. 2012).

According to the Congressional Budget Office's 2021 Long-Term Budget Outlook, the long-term forecast for nominal U.S. GDP growth is 3.8%.[47] For mature companies in mature industries, such as utility companies, the sustainable growth rate will likely fall between the expected rate of inflation and the expected rate of nominal GDP growth. Thus, PECO's sustainable growth rate is between 2% and 4%.

Q. Is it reasonable to assume that the sustainable growth rate will not exceed the risk-free rate?

A. Yes. In the long term, the risk-free rate will converge on the growth rate of the economy. For this reason, financial analysts sometimes use the risk-free rate for the sustainable growth rate value in the DCF model.[48] I discuss the risk-free rate in further detail later in this testimony.

Q. Please summarize the various sustainable growth rate estimates that can be used as the sustainable growth rate in the DCF Model.

A. The reasonable sustainable growth rate determinants are summarized as follows:

1. Nominal GDP Growth
2. Real GDP Growth
3. Inflation
4. Current Risk-Free Rate

Any of the foregoing growth determinants could provide a basis for a reasonable input for the sustainable growth rate in the DCF Model for a utility company, including PECO. In general, we should expect that utilities will, at the very least, grow at the rate of projected

[47] Congressional Budget Office, The 2021 Long-Term Budget Outlook, https://www.cbo.gov/publication/56977.

[48] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 307 (3rd ed., John Wiley & Sons, Inc. 2012).

inflation. However, the long-term growth rate of any U.S. company, especially utilities, will be constrained by nominal U.S. GDP growth.

3. Qualitative Growth: The Problem with Analysts' Growth Rates

Q. Describe the differences between "quantitative" and "qualitative" growth determinants.

A. Assessing "quantitative" growth simply involves mathematically calculating a historic metric for growth (such as revenues or earnings) or calculating various fundamental growth determinants using certain figures from a firm's financial statements (such as ROE and the retention ratio). However, any thorough assessment of company growth should be based upon a "qualitative" analysis. Such an analysis would consider specific strategies that company management will implement to achieve real sustainable growth in earnings. Therefore, it is important to begin the analysis of PECO's growth rate with this simple, qualitative question: how is this regulated utility going to achieve a real sustained growth in earnings? If this question were asked of a competitive firm, there could be several answers depending on the type of business model, such as launching a new product line, franchising, rebranding to target a new demographic, or expanding into a developing market. Regulated utilities, however, cannot engage in these potential growth opportunities.

Q. Why is it especially important to emphasize real, qualitative growth determinants when analyzing whether a growth rate is fair for a regulated utility?

A. While qualitative growth analysis is important regardless of the entity being analyzed, it is especially important in the context of utility ratemaking. This is because the rate base rate of return model inherently possesses two factors that can contribute to distorted views of utility growth when considered exclusively from a quantitative perspective. These two

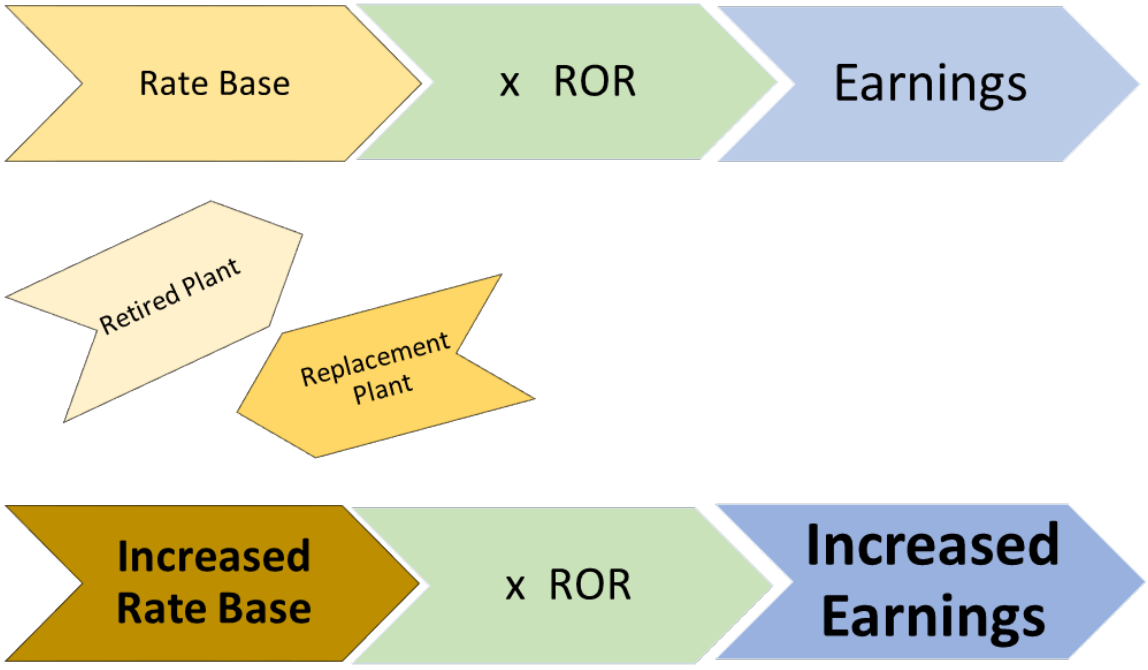
factors are: (1) rate base and (2) the awarded ROE. I will discuss each factor further below. It is important to keep in mind that the ultimate objective of this analysis is to provide a foundation upon which to base the fair rate of return for the utility. Thus, we should strive to ensure that each individual component of the financial models used to estimate the cost of equity are also fair. If we consider only quantitative growth determinants, it may lead to projected growth rates that are overstated and ultimately unfair, because they result in inflated cost of equity estimates.

Q. How does rate base relate to growth determinants for utilities?

A. Under the rate base rate of return model, a utility's rate base is multiplied by its awarded rate of return to produce the required level of operating income. Therefore, increases to rate base generally result in increased earnings. Thus, utilities have a natural financial incentive to increase rate base. In short, utilities have a financial incentive to increase rate base regardless of whether such increases are driven by a corresponding increase in demand. A good, relevant example of this is seen in the early retirement of old, but otherwise functional coal plants in response to environmental regulations and replacing them with new generation assets. Under these circumstances, utilities have been able to increase their rate bases by a far greater extent than what any concurrent increase in demand would have required. In other words, utilities grew their earnings by simply retiring old assets and replacing them with new assets. This is not "real" or "sustainable" growth. If the tail of a flatworm is removed and regenerated, it does not mean the flatworm actually grew. Likewise, if a competitive, unregulated firm announced plans to close production plants and replace them with new plants, it would not be considered a real determinant of growth unless analysts believed this decision would directly result in increased market

share for the company and a real opportunity for sustained increases in revenues and earnings. In the case of utilities, the mere replacement of "old plant" with "new plant" does not increase market share, attract new ratepayers, create franchising opportunities, or allow utilities to penetrate developing markets, but may result in short-term, quantitative earnings growth. However, this "flatworm growth" in earnings was merely the quantitative byproduct of the rate base rate of return model, and not an indication of real or qualitative growth and, therefore, using that data alone to estimate a growth rate is not fair. The following diagram in the figure below illustrates this concept.

Figure 8:
Analysts' Earnings Growth Projections: The "Flatworm Growth" Problem



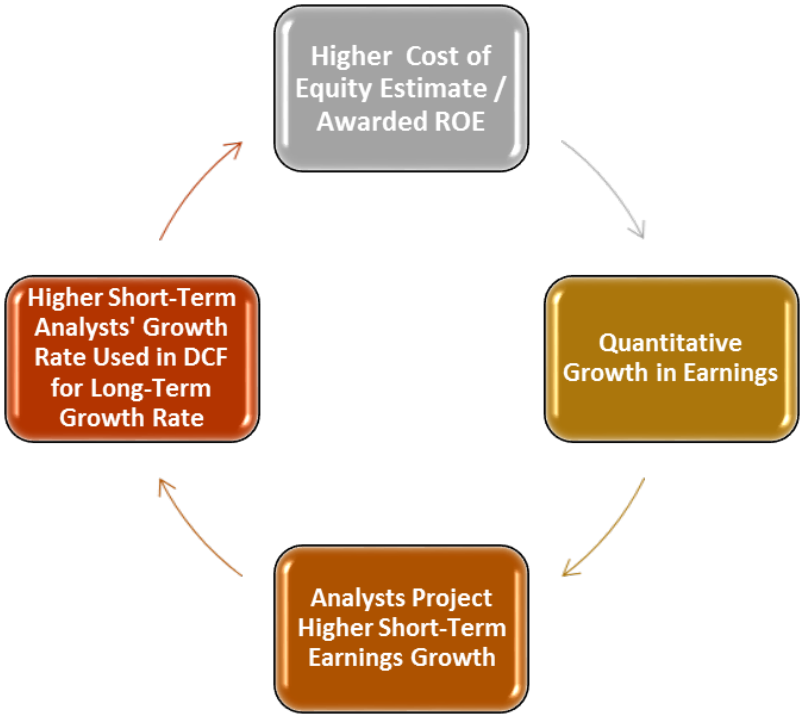
Of course, utilities might sometimes add "new plant" to meet a modest growth in ratepayer demand. However, as the foregoing discussion demonstrates, it would be more appropriate

to consider load growth projections and other qualitative indicators, rather than mere increases to rate base or earnings, to attain a fair assessment of growth.

Q. Please discuss the other way in which analysts' earnings growth projections do not provide indications of real, qualitative growth for regulated utilities.

A. If we give undue weight to analysts' projections for utilities' earnings growth, it will not provide an accurate reflection of real, qualitative growth because a utility's earnings are heavily influenced by the ultimate figure that all this analysis is supposed to help us estimate: the awarded return on equity. This creates a circular reference problem or feedback loop. In other words, if a regulator awards an ROE that is above market-based cost of capital (which is often the case, as discussed above), this could lead to higher short-term growth rate projections from analysts. If these same inflated, short-term growth rate estimates are used in the DCF Model (as they often are by utility witnesses), it could lead to higher awarded ROEs; and the cycle continues, as illustrated in the figure below.

Figure 9:
Analysts' Earnings Growth Projections: The "Circular Reference" Problem



Therefore, it is not advisable to simply consider the quantitative growth projections published by analysts, as this practice will not necessarily provide fair indications of real, sustainable utility growth.

Q. Are there any other problems with relying on analysts' growth projections?

A. Yes. While the foregoing discussion shows two reasons why we cannot rely on analysts' growth rate projections to provide fair, qualitative indicators of utility growth in a stable growth DCF Model, the third reason is perhaps the most obvious and undisputable. Various institutional analysts—such as Zacks, Value Line, and Bloomberg—publish estimated projections of earnings growth for utilities. These estimates are short-term growth rate projections, ranging from 3 to 10 years. However, many utility ROE analysts inappropriately insert these short-term growth projections into the DCF Model as if they

were *long-term* growth rate projections. For example, assume that an analyst at Bloomberg estimates that a utility's earnings will grow by 7% per year over the next 3 years. This analyst may have based this short-term forecast on a utility's plans to replace depreciated rate base (*i.e.*, "flatworm" growth) or on an anticipated awarded return that is above market-based cost of equity (*i.e.*, the "circular reference" problem). When a utility witness uses this figure in a DCF Model, however, it is the witness, not the Bloomberg analyst, who is testifying to the regulator that the utility's earnings will qualitatively grow by 7% per year over the long-term, which is an unrealistic assumption and a fundamentally different conclusion than that of the Bloomberg analyst.

4. Sustainable Growth Rate Recommendation

Q. Describe the growth rate input used in your DCF Model.

A. I considered various qualitative determinants of growth for PECO, along with the maximum allowed growth rate under basic principles of finance and economics. The following chart in the figure below summarizes the sustainable growth determinants discussed in this section.[49]

[49] Exhibit DJG-5.

Figure 10:
Sustainable Growth Rate Determinants[50]

Sustainable Growth Determinants	Rate
Nominal GDP	3.8%
Real GDP	1.8%
Inflation	2.0%
Risk Free Rate	3.0%
Highest	**3.8%**

For the sustainable growth rate in my DCF model, I selected the maximum, reasonable sustainable growth rate of 3.8%, which means my model assumes that PECO's qualitative growth in earnings will qualitatively match the nominal growth rate of the entire U.S. economy over the long run – a charitable assumption.

Q. Over what period of time do the growth rates in this figure contemplate?

A. The rates presented in this figure for nominal GDP, real GDP, and inflation, are projected annual rates of growth from 2021-2051, as estimated by the Congressional Budget Office.[51] The risk-free rate is derived from a current 30-day average of 30-year Treasury bond yields. Thus, all of these figures represent long-term growth rates. In addition to the reasons discussed above, another advantage of using long-term rates is avoiding the potentially volatile swings in shorter-term estimates, such as the recent increase in inflation.

[50] The time periods for the projected annual growth rates for nominal GDP, real GDP, and inflation, are from 2021 – 2051; *see also* Exhibit DJG-5.

[51] Congressional Budget Office, "The 2021 Long-Term Budget Outlook," March 2021.

Q. What are the results of your DCF model using a sustainable growth rate?

A. Using a sustainable growth rate equal to long-term GDP growth projections, the DCF indicates of cost of equity of 6.7% for PECO.[52]

Q. Did you also conduct a DCF analysis that considers analysts' short-term growth rate estimates for the sustainable growth rate input?

A. Yes. Despite my criticisms of using short-term analysts' growth rate projections for the sustainable growth rate input of the DCF Model, I also conducted a DCF analysis with such an assumption in the event the Commission would like to see this information.

Q. What are the results of your DCF model using analysts' short-term growth rates?

A. Using analysts' short-term growth rates in the DCF model, I calculate a result of 8.2%.[53]

C. Response to Mr. Moul's DCF Model

Q. Mr. Moul's DCF Model yielded a notably higher result. Did you find any problems with his analysis?

A. Yes. Mr. Moul's DCF Model produced cost of equity result of 11.65%, which includes a "leverage adjustment" of 1.45%.[54] As mentioned earlier, the results of Mr. Moul's DCF Model are overstated primarily because of a fundamental error regarding his growth rate inputs and his leverage adjustment.

Q. Describe the problems with Mr. Moul's assumed sustainable growth input.

A. Mr. Moul assumes a sustainable growth rate of 6.75% in his DCF Model.[55] This effectively means that he assumes the Company's earnings will grow at a rate of 6.75% per year, every

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[52] Exhibit DJG-6.

[53] Exhibit DJG-6.

[54] Exhibit PRM-1, Sch. 1

[55] *Id*.

year, in perpetuity. In arriving at this aggregate growth rate input, Mr. Moul considered growth rates as high as 10.5% for the proxy group,[56] which is nearly three times the projected annual long-term nominal U.S. GDP growth. This means Mr. Moul's growth rate assumption violates the basic principle that no company can grow at a greater rate than the economy in which it operates *over the long-term*, especially a regulated utility company with a defined service territory. Furthermore, Mr. Moul relies on short-term, quantitative growth estimates published by analysts to support his assumptions. Mr. Moul acknowledges that his growth rate projections cover only a five-year period.[57] This period of time is not sufficient for a sustainable growth estimate. As discussed above, these analysts' estimates are inappropriate to use in the DCF Model as sustainable growth rates because they are estimates for short-term growth. For example, Mr. Moul assumes a sustainable growth rate estimate of 10.5% for NiSource (among other estimates), as reported by Value Line Investment Survey.[58] This means that an analyst at Value Line apparently thinks that NiSource's earnings will quantitatively increase by 10.5% each year over the next several years (*i.e.*, the short-term). However, it is Mr. Moul, not the commercial analyst, who is suggesting to the Commission that NiSource's earnings will increase by 10.5% each year in perpetuity as opposed to only the short term. Again, Mr. Moul is extrapolating the analyst's conclusions well beyond what the analyst actually projects. Furthermore, this assumption is simply not realistic, and it contradicts

[56] Exhibit PRM-1, Sch. 9.

[57] Direct testimony of Paul R. Moul, p. 31.

[58] Exhibit PRM-1, Sch. 9.

fundamental concepts of sustainable growth. Many of Mr. Moul's other short-term growth rate estimates also exceed projected U.S. GDP growth.

Q. Please describe Mr. Moul's leverage adjustment.

A. According to Mr. Moul, a leverage adjustment is necessary when "the DCF return applies to a capital structure used for ratemaking that is computed with book-value weighting rather than market-value weighting."[59]

Q. Have you ever seen or heard of a witness apply a leverage adjustment like the one Mr. Moul is proposing?

A. No. I have testified in numerous proceedings on the issue of cost of capital and other regulatory issues and have reviewed extensive amounts of testimony from many witnesses on cost of capital issues. Other than Mr. Moul's proposed leverage adjustments in prior cases, I cannot recall a witness applying a "leverage adjustment" in the way Mr. Moul proposes. Mr. Moul is taking his base DCF cost of equity estimate and adding a significant amount of basis points to it to account for "leverage," but without a corresponding increase in the Company's ratemaking debt ratio (i.e., actual leverage). This means that essentially all other ROE witnesses (representing both utilities and customers) are underestimating their cost of equity estimates by the amount of a leverage adjustment, or Mr. Moul is overestimating his, based on my experience.

Q. Does the original DCF model have an input for a leverage adjustment?

A. No. The DCF model has been used by investors, analysts, managers, and academics for decades to assist with pricing assets and estimate the cost of equity of various assets and projects. I have not seen a variation of the DCF model in any financial textbook or other

[59] Direct testimony of Paul R. Moul, p. 31, lines 10-11.

reliable source that presents the model with a "leverage adjustment" input similar to the way in which Mr. Moul presents the model in his testimony.

Q. Has the Commission rejected Mr. Moul's leverage adjustment in prior cases?

A. Yes.[60] In PPL's 2012 rate case, Mr. Moul proposed a substantially similar leverage adjustment. The Commission found that "[f]or the reasons developed by the OCA and I&E, the Company's leverage adjustment should be denied."[61] In Columbia's 2020 base rate case and PECO Gas's 2020 base rate case, the Commission allowed ROEs based upon DCF dividend yield and growth rate inputs, without leverage adjustments.[62] In Aqua PA's recent base rate case, the Commission denied Aqua PA's request to include a leverage adjustment as contrary to the public interest.[63]

Q. Have other commissions recently rejected Mr. Moul's leverage adjustment?

A. Yes. Recently, in the Application of Palmetto Wastewater Reclamation ("PWR"), the Public Service Commission of South Carolina rejected Mr. Moul's leverage adjustment.[64] Relying in part on my testimony in the PWR case, the South Carolina commission agreed that "Mr. Moul's 0.97% leverage adjustment is not appropriate."[65]

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[60] *Pa. P.U.C. v. PPL Elec. Util. Corp.*, Docket No. R-2012-2290597, Order at 52 (Dec. 28, 2012).

[61] *Id*. at p. 52.

[62] *Pa. P.U.C. v. Columbia Gas of Pennsylvania, Inc*., Docket No. R-2020-3018835, Order at 141 (Feb. 19, 2021) (Columbia 2020 Order); *Pa. P.U.C. v. PECO Energy – Gas Div.*, Docket No. R-2020-3018929, Order at 160-161 (June 22, 2021) (PECO 2020 Order).

[63] *Pa. P.U.C. v. Aqua Pennsylvania, Inc., et al.*, Docket Nos., R-2021-3027385, R-2021-3027386, Order at 166-167 (May 16, 2022) (Aqua 2021 Order).

[64] *In re Application of Palmetto Wastewater Reclamation, Inc. for an Adjustment of Rates and Charges*, 2021 S.C. PUC LEXIS *1, *23 (Dec. 21, 2021).

[65] *Id*.

Q. Do you agree with Mr. Moul's leverage adjustment?

A. No. Mr. Moul's proposed leverage adjustment is entirely unnecessary and inappropriate, and it has the effect of further inflating a DCF result that is already overestimated. Mr. Moul's leverage adjustment is based on the Hamada formula, which is further discussed below.

Q. What is the premise of the Hamada formula?

A. The Hamada formula can be used to analyze changes in a firm's cost of capital as it adds or reduces financial leverage, or debt, in its capital structure by starting with an "unlevered" beta and then "relevering" the beta at different debt ratios. As leverage increases, equity investors bear increasing amounts of risk, leading to higher betas. Before the effects of financial leverage can be accounted for, however, the effects of leverage must first be removed, which is accomplished through the Hamada formula. The Hamada formula for unlevering beta is stated as follows:[66]

Equation 2:
Hamada Formula

$$\beta_U = \frac{\beta_L}{\left[1 + (1 - T_c)\left(\frac{D}{E}\right)\right]}$$

where: β_U = *unlevered beta (or "asset" beta)*
β_L = *average levered beta of proxy group*
T_C = *corporate tax rate*
D = *book value of debt*
E = *book value of equity*

Using this equation, the beta for the firm can be unlevered, and then "relevered" based on various debt ratios (by rearranging this equation to solve for β_L).

[66] Damodaran *supra* n. 18, at 197. This formula was originally developed by Hamada in 1972.

Q. Did Mr. Moul apply the Hamada formula correctly?

A. No. Mr. Moul's application of the Hamada formula is incorrect. I conducted the Hamada Model and present my results in my exhibits.[67] Using the Company's proposed capital structure and the levered betas published by Value Line, I calculate an unlevered beta of 0.49. When that beta is relevered to my proposed debt ratio of 50.0%, I calculate a cost of equity of 8.2%.[68] When the beta is relevered to PECO's proposed debt ratio, the indicated cost of equity is 7.9%.[69] The indicated cost of equity from the financial models are necessarily connected to the capital structures of the proxy group. In other words, the fact that PECO has proposed a debt ratio that is lower than the average debt ratio of the proxy group should not necessarily result in an increase in the Company's indicated cost of equity when we "unlever" the proxy beta based on PECO's unreasonably low debt ratio, and then relever it to the debt ratio of the proxy group that was influencing the other cost of equity model inputs we relied upon. The indicated cost of equity should only increase with leverage if we actually increase the Company's proposed debt ratio, as I have demonstrated in the Hamada formula. The Commission should reject Mr. Moul's leverage adjustment in this case, as it has done in prior cases.

Q. What is the impact of the 145-basis point leverage adjustment on the DCF analysis?

A. This adjustment adds to Mr. Moul's already inflated DCF results, and as addressed in the direct testimony of OCA witness Mugrace, an increase of 145 basis points to the ROE, if

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[67] *See* Exhibit DJG-17.

[68] *Id*.

[69] *Id*.

Mr. Moul's DCF result were viewed in isolation, would increase the revenue requirement by $30.4 million.

VII. CAPM ANALYSIS

Q. Describe the CAPM.

A. The CAPM is a market-based model founded on the principle that investors expect higher returns for incurring additional risk.[70] The CAPM estimates this expected return. The various assumptions, theories, and equations involved in the CAPM are discussed further in Appendix B. Using the CAPM to estimate the cost of equity of a regulated utility is consistent with the legal standards governing the fair rate of return. The U.S. Supreme Court has recognized that "the amount of risk in the business is a most important factor" in determining the allowed rate of return,[71] and that "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."[72] The CAPM is a useful model because it directly considers the amount of risk inherent in a business.

Q. Describe the inputs for the CAPM.

A. The basic CAPM equation requires only three inputs to estimate the cost of equity: (1) the risk-free rate; (2) the beta coefficient; and (3) the equity risk premium. Here is the CAPM formula:

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[70] William F. Sharpe, *A Simplified Model for Portfolio Analysis* 277–93 (Management Science IX 1963).

[71] *Wilcox*, 212 U.S. at 48.

[72] *Hope Natural Gas Co*., 320 U.S. at 603.

Equation 3:
Basic CAPM

Cost of Equity = Risk-free Rate + (Beta × Equity Risk Premium)

Each input is discussed separately below.

A. The Risk-Free Rate

Q. Explain the risk-free rate.

A. The first term in the CAPM is the risk-free rate (R_F). The risk-free rate is simply the level of return investors can achieve without assuming any risk. The risk-free rate represents the bare minimum return that any investor would require on a risky asset. Even though no investment is technically void of risk, investors often use U.S. Treasury securities to represent the risk-free rate because they accept that those securities essentially contain no default risk. The Treasury issues securities with different maturities, including short-term Treasury bills, intermediate-term Treasury notes, and long-term Treasury bonds.

Q. Is it preferable to use the yield on long-term Treasury bonds for the risk-free rate in the CAPM?

A. Yes. In valuing an asset, investors estimate cash flows over long periods of time. Common stock is viewed as a long-term investment, and the cash flows from dividends are assumed to last indefinitely. Thus, short-term Treasury bill yields are rarely used in the CAPM to represent the risk-free rate. Short-term rates are subject to greater volatility and thus can lead to unreliable estimates. Instead, long-term Treasury bonds are usually used to represent the risk-free rate in the CAPM. I considered a 30-day average of daily Treasury

yield curve rates on 30-year Treasury bonds in my risk-free rate estimate, which resulted in a risk-free rate of 3.0%.[73]

B. The Beta Coefficient

Q. How is the beta coefficient used in this model?

A. As discussed above, beta represents the sensitivity of a given security to movements in the overall market. The CAPM states that in efficient capital markets, the expected risk premium on each investment is proportional to its beta. Recall that a security with a beta greater (or less) than one is more (or less) risky than the market portfolio. An index such as the S&P 500 Index is used as a proxy for the market portfolio. The historical betas for publicly traded firms are published by various institutional analysts. Beta may also be calculated through a linear regression analysis, which provides additional statistical information about the relationship between a single stock and the market portfolio. As discussed above, beta also represents the sensitivity of a given security to the market as a whole. The market portfolio of all stocks has a beta equal to one. Stocks with betas greater than 1.0 are relatively more sensitive to market risk than the average stock. For example, if the market increases (or decreases) by 1.0%, a stock with a beta of 1.5 will, on average, increase (or decrease) by 1.5%. In contrast, stocks with betas of less than 1.0 are less sensitive to market risk. For example, if the market increases (or decreases) by 1.0%, a stock with a beta of 0.5 will, on average, only increase (or decrease) by 0.5%.

[73] Exhibit DJG-7.

Q. Describe the source for the betas you used in your CAPM analysis.

A. I used betas recently published by Value Line Investment Survey. The average beta for the proxy group is less than 1.0. Thus, we have an objective measure to prove the well-known concept that utility stocks are generally less risky than the average stock in the market. While there is evidence suggesting that betas published by sources such as Value Line may actually overestimate the risk of utilities (and thus overestimate the CAPM), I used the betas published by Value Line to be conservative.[74]

C. The Equity Risk Premium

Q. Describe the Equity Risk Premium (ERP).

A. The final term of the CAPM is the ERP, which is the required return on the market portfolio less the risk-free rate ($R_M - R_F$). In other words, the ERP is the level of return investors expect above the risk-free rate in exchange for investing in risky securities. Many experts would agree that "the single most important variable for making investment decisions is the equity risk premium."[75] Likewise, the ERP is arguably the single most important factor in estimating the cost of capital in this matter. There are three basic methods that can be used to estimate the ERP: (1) calculating a historical average; (2) taking a survey of experts; and (3) calculating the implied ERP. I will discuss each method in turn, noting advantages and disadvantages of these methods.

[74] Exhibit DJG-8; *see also* Appendix B for a more detailed discussion of raw beta calculations and adjustments.

[75] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 4 (Princeton University Press 2002).

1. Historical Average

Q. Describe the historical ERP.

A. The historical ERP may be calculated by simply taking the difference between returns on stocks and returns on government bonds over a certain period of time. Many practitioners rely on the historical ERP as an estimate for the forward-looking ERP because it is easy to obtain. However, there are disadvantages to relying on the historical ERP.

Q. What are the limitations of relying solely on a historical average to estimate the current or forward-looking ERP?

A. Many investors use the historic ERP because it is convenient and easy to calculate. What matters in the CAPM model, however, is not the actual risk premium from the past, but rather the current and forward-looking risk premium.[76] Some investors may think that a historic ERP provides some indication of the prospective risk premium; however, there is empirical evidence to suggest the prospective, forward-looking ERP is actually lower than the historical ERP. In a landmark publication on risk premiums around the world, *Triumph of the Optimists*, the authors suggest through extensive empirical research that the prospective ERP is lower than the historical ERP.[77] This is due in large part to what is known as "survivorship bias" or "success bias" – a tendency for failed companies to be excluded from historical indices.[78] From their extensive analysis, the authors make the following conclusion regarding the prospective ERP: "[t]he result is a forward-looking,

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[76] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 330 (3rd ed., South Western Cengage Learning 2010).

[77] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 194 (3rd ed., South Western Cengage Learning 2010).

[78] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 34 (Princeton University Press 2002).

geometric mean risk premium for the United States . . . of around 2½ to 4 percent and an arithmetic mean risk premium . . . that falls within a range from a little below 4 to a little above 5 percent."[79] Indeed, these results are lower than many reported historical risk premiums. Other noted experts agree:

> The historical risk premium obtained by looking at U.S. data is biased upwards because of survivor bias. . . . The true premium, it is argued, is much lower. This view is backed up by a study of large equity markets over the twentieth century (*Triumph of the Optimists*), which concluded that the historical risk premium is closer to 4%.[80]

Regardless of the variations in historic ERP estimates, many scholars and practitioners agree that simply relying on a historic ERP to estimate the risk premium going forward is not ideal. Fortunately, "a naïve reliance on long-run historical averages is not the only approach for estimating the expected risk premium."[81]

Q. Did you rely on the historical ERP as part of your CAPM analysis in this case?

A. No. Due to the limitations of this approach, I relied on the ERP reported in expert surveys and the implied ERP method discussed below.

2. <u>Expert Surveys</u>

Q. Describe the expert survey approach to estimating the ERP.

A. As its name implies, the expert survey approach to estimating the ERP involves conducting a survey of experts including professors, analysts, chief financial officers, and other executives around the country and asking them what they think the ERP is. The IESE

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[79] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 194 (Princeton University Press 2002).

[80] Aswath Damodaran, *Equity Risk Premiums: Determinants, Estimation and Implications – The 2015 Edition* 17 (New York University 2015).

[81] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 330 (3rd ed., South Western Cengage Learning 2010).

Business School conducts such a survey each year. Their 2022 expert survey reported an average ERP of 5.6%.[82]

3. Implied ERP

Q. Describe the implied ERP approach.

A. The third method of estimating the ERP is arguably the most appropriate. The implied ERP relies on the stable growth model proposed by Gordon, often called the "Gordon Growth Model," which is a basic stock valuation model widely used in finance for many years.[83] This model is a mathematical derivation of the DCF Model. In fact, the underlying concept in both models is the same: the current value of an asset is equal to the present value of its future cash flows. Instead of using this model to determine the discount rate of one company, we can use it to determine the discount rate for the entire market by substituting the inputs of the model. Specifically, instead of using the current stock price (P_0), we will use the current value of the S&P 500 (V_{500}). Similarly, instead of using the dividends of a single firm, we will consider the dividends paid by the entire market. Additionally, we should consider potential dividends. In other words, stock buybacks should be considered in addition to paid dividends, as stock buybacks represent another way for the firm to transfer free cash flow to shareholders. Focusing on dividends alone without considering stock buybacks could understate the cash flow component of the

[82] Pablo Fernandez, et al. *Market Risk Premium and Risk-Free Rate Used for 95 Countries in 2022*, at 3 (IESE Business School 2015), copy available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3803990. IESE Business School is the graduate business school of the University of Navarra. IESE offers Master of Business Administration (MBA), Executive MBA and Executive Education programs. IESE is consistently ranked among the leading business schools in the world.

[83] Myron J. Gordon and Eli Shapiro, *Capital Equipment Analysis: The Required Rate of Profit* 102–10 (Management Science Vol. 3, No. 1 Oct. 1956).

model, and ultimately understate the implied ERP. The market dividend yield plus the market buyback yield gives us the gross cash yield to use as our cash flow in the numerator of the discount model. This gross cash yield is increased each year over the next five years by the growth rate. These cash flows must be discounted to determine their present value. The discount rate in each denominator is the risk-free rate (R_F) plus the discount rate (K). The following formula shows how the implied return is calculated. Since the current value of the S&P is known, we can solve for K: the implied market return.[84]

Equation 4:
Implied Market Return

$$V_{500} = \frac{CY_1(1+g)^1}{(1+R_F+K)^1} + \frac{CY_2(1+g)^2}{(1+R_F+K)^2} + \cdots + \frac{CY_5(1+g)^5 + TV}{(1+R_F+K)^5}$$

where:

V_{500}	=	*current value of index (S&P 500)*
$CY_{1\text{-}5}$	=	*average cash yield over last five years (includes dividends and buybacks)*
g	=	*compound growth rate in earnings over last five years*
R_F	=	*risk-free rate*
K	=	*implied market return (this is what we are solving for)*
TV	=	*terminal value* $= CY_5 (1+R_F) / K$

The discount rate is called the "implied" return here because it is based on the current value of the index as well as the value of free cash flow to investors projected over the next five years. Thus, based on these inputs, the market is "implying" the expected return; or in other words, based on the current value of all stocks (the index price), and the projected value of future cash flows, the market is telling us the return expected by investors for investing in the market portfolio. After solving for the implied market return (K), we simply subtract the risk-free rate from it to arrive at the implied ERP.

[84] *See* Exhibit DJG-9 for detailed calculation.

Equation 5:
Implied Equity Risk Premium

$$Implied\ Expected\ Market\ Return - R_F = Implied\ ERP$$

Q. Discuss the results of your implied ERP calculation.

A. After collecting data for the index value, operating earnings, dividends, and buybacks for the S&P 500 over the past six years, I calculated the dividend yield, buyback yield, and gross cash yield for each year. I also calculated the compound annual growth rate (g) from operating earnings. I used these inputs, along with the risk-free rate and current value of the index to calculate a current expected return on the entire market of 8.9%. I subtracted the risk-free rate to arrive at the implied equity risk premium of 5.8%.[85] Dr. Damodaran, one of the world's leading experts on the ERP, promotes the implied ERP method discussed above. He calculates monthly and annual implied ERPs with this method and publishes his results. Dr. Damodaran's average ERP estimate for May 2022 using several implied ERP variations was 5.1%.[86]

Q. What are the results of your final ERP estimate?

A. For the final ERP estimate I used in my CAPM analysis, I considered the results of the ERP surveys along with the implied ERP calculations and the ERP reported by Kroll (formerly Duff & Phelps).[87] The results are presented in the following figure:

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[85] Exhibit DJG-9.

[86] Aswath Damodaran, *Implied Equity Risk Premium Update*, DAMODARAN ONLINE http://pages.stern.nyu.edu/~adamodar/.

[87] Exhibit DJG-10.

Figure 11:
Equity Risk Premium Results

IESE Business School Survey	5.6%
Kroll Report	5.5%
Damodaran (average)	5.1%
Garrett	5.8%
Average	**5.5%**
Highest	**5.8%**

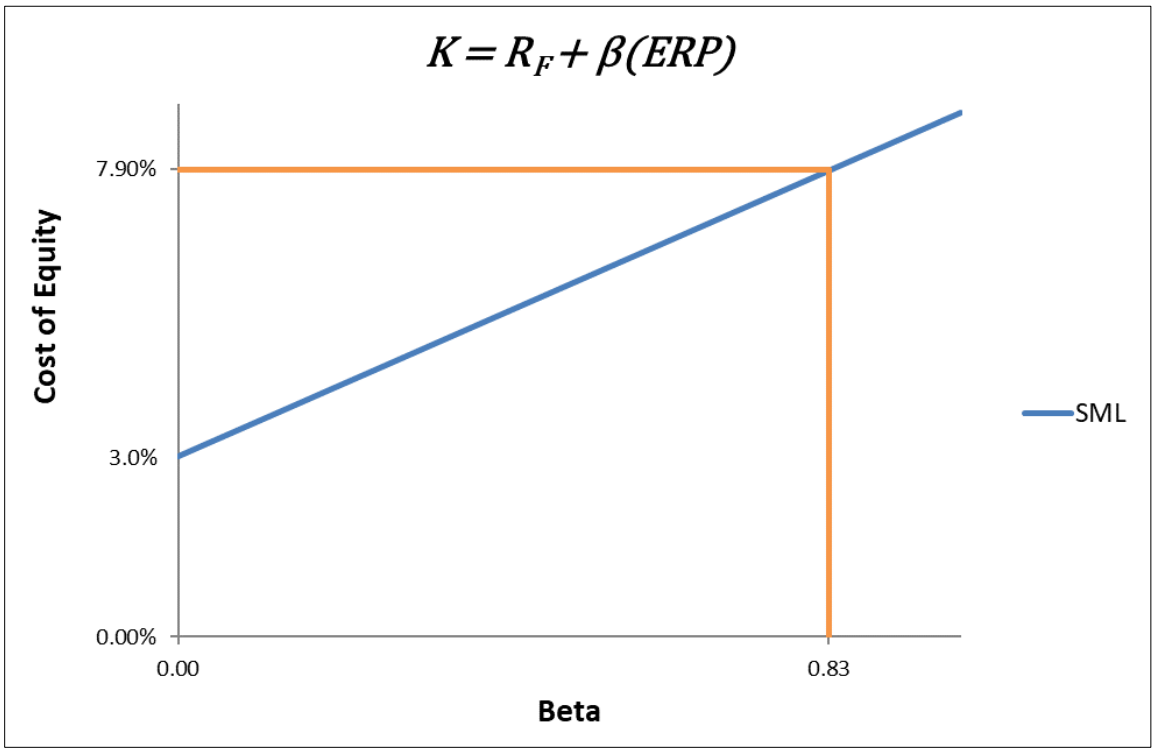
While it would be arguably reasonable to select any one of these ERP estimates to use in the CAPM, to be conservative, I selected the highest ERP estimate of 5.8% to use in my CAPM analysis. All else held constant, a higher ERP used in the CAPM will result in a higher cost of equity estimate.

Q. Please explain the final results of your CAPM analysis.

A. Using the inputs for the risk-free rate, beta coefficient, and ERP discussed above, I estimate that PECO's CAPM cost of equity is 7.9%.[88] The CAPM may be displayed graphically through what is known as the Security Market Line ("SML"). The following figure shows the expected return (cost of equity) on the y-axis, and the average beta for the proxy group on the x-axis. The SML intercepts the y-axis at the level of the risk-free rate. The slope of the SML is the equity risk premium.

[88] Exhibit DJG-11.

Figure 12:
CAPM Graph



The SML provides the rate of return that will compensate investors for the beta risk of that investment. Thus, at an average beta of 0.83 for the proxy group, the estimated CAPM cost of equity for PECO is 7.9%.

D. Response to Mr. Moul's CAPM Analysis

Q. Mr. Moul's CAPM analysis yields notably higher results. Did you find specific problems with Mr. Moul's CAPM assumptions and inputs?

A. Yes, I did. Mr. Moul estimates a CAPM cost of equity of 14.37%.[89] Mr. Moul has overestimated several inputs to the CAPM, including beta and the equity risk premium. He

[89] Exhibit PRM-1, Sch. 1.

also includes an inappropriate size premium in his model. Each of these problems is discussed further below.

1. Beta

Q. Describe Mr. Moul's beta input to the CAPM.

A. Mr. Moul used a beta of 1.04 in his CAPM.[90] This beta is much higher than the average beta of Mr. Moul's proxy group as reported by Value Line, which is only 0.83.[91] The difference between a beta of 0.83 and 1.04 is significant, especially considering the fact that the beta of the entire market is 1.0. The betas reported by Value Line show that the proxy group is less risky than the market average, while the inflated beta derived by Mr. Moul would indicate the proxy group of utilities is riskier than the market average. Mr. Moul is essentially suggesting that the betas published by Value Line, an objective and widely-used source in utility regulation, are notably underestimated.

Q. Do you agree with Mr. Moul's beta input?

A. No. By using a beta of 1.04, Mr. Moul is implying that PECO is *riskier* than average company in the U.S. market. Such a proposition contradicts any objective or intuitive understanding of a regulated utility's position and operations in the U.S. market. In fact, it is more accurate to say that PECO, and its utility peers, are among the least risky companies in the world. PECO is a regulated monopoly with a captive customer base who provides an essential product with a relatively inelastic demand; it operates under a regulatory framework that would essentially prevent it from experiencing financial failure.

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[90] *Id*.

[91] Exhibit DJG-8.

Competitive firms in the market do not enjoy the same risk-mitigating framework and protections. I have also discussed my disagreement with Mr. Moul's beta input from a technical perspective when I addressed his leverage adjustment above. In short, it is inappropriate to use Value Line betas as a starting point and then increase them to account for leverage. The Commission should reject Mr. Moul's CAPM results for his beta input alone. However, his estimate for the ERP is also unreasonably high, as further discussed below.

2. Equity Risk Premium

Q. Did Mr. Moul rely on a reasonable measure for the ERP?

A. No, he did not. Mr. Moul used an input of 9.68% for the ERP, which is not realistic.[92] The ERP is one of three inputs in the CAPM equation, and it is one of the most important factors for estimating the cost of equity in this case. As discussed above, I used three widely accepted methods for estimating the ERP, including consulting expert surveys, calculating the implied ERP based on aggregate market data, and considering the ERPs published by reputable analysts. The highest ERP found from my research and analysis is only 5.8%.

Q. Please discuss and illustrate how Mr. Moul's ERP compares with other estimates for the ERP.

A. The 2022 IESE Business School expert survey reports an average ERP of 5.6%. Similarly, Kroll (formerly Duff & Phelps) recently estimated an ERP of 5.5%. Dr. Damodaran, one of the leading experts on the ERP, recently estimated an ERP of only 5.1%.[93] The chart in

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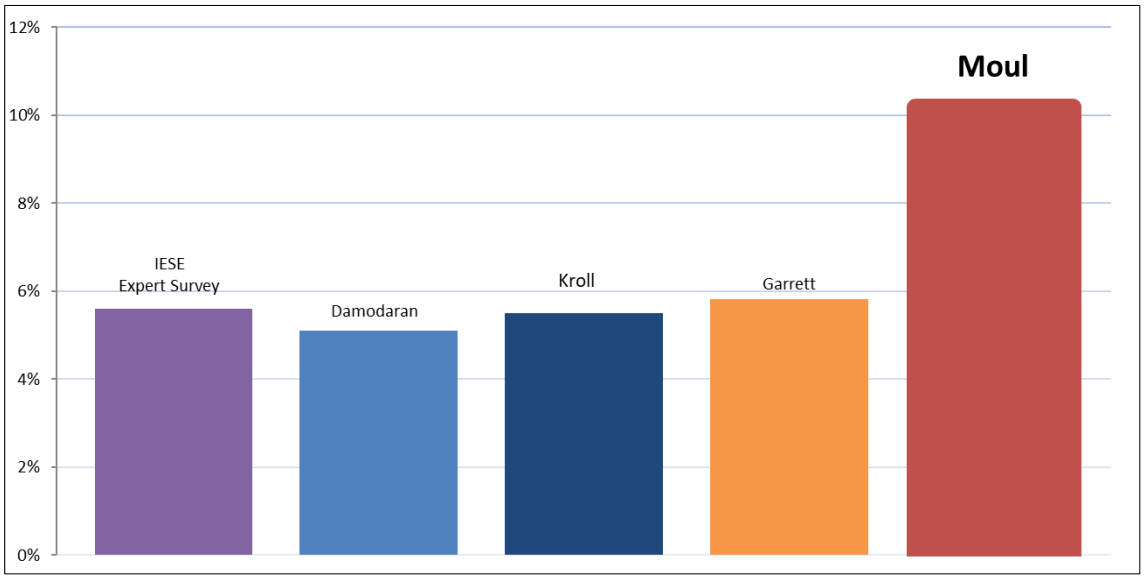
[92] Direct Testimony of Paul R. Moul, p. 45, lines 19-20.

[93] Aswath Damodaran, *Implied Equity Risk Premium Update*, DAMODARAN ONLINE, http://pages.stern.nyu.edu/~adamodar/. Dr. Damodaran estimates several ERPs using various assumptions.

the following figure illustrates that Mr. Moul's ERP estimate is far out of line with other reasonable, objective estimates for the ERP.[94]

Figure 13:
Equity Risk Premium Comparison



When compared with other independent sources for the ERP, as well as my estimate, Mr. Moul's ERP estimate is clearly not within the range of reasonableness. As a result, his CAPM cost of equity estimate is overstated.

3. Size Premium

Q. Describe Mr. Moul's size premium adjustment to his CAPM.

A. Mr. Moul adds 1.02% to his CAPM on the basis that PECO is smaller than the proxy group.[95]

[94] The ERP estimated by Dr. Damodaran is the highest of several ERP estimates under slightly differing assumptions.

[95] Exhibit PRM-1, Sch. 1.

Q. Do you agree with Mr. Moul's size premium?

A. No. The "size effect" phenomenon arose from a 1981 study conducted by Banz, which found that "in the 1936 – 1975 period, the common stock of small firms had, on average, higher risk-adjusted returns than the common stock of large firms."[96] According to Ibbotson, Banz's size effect study was "[o]ne of the most remarkable discoveries of modern finance."[97] Perhaps there was some merit to this idea at the time, but the size effect phenomenon was short lived. Banz's 1981 publication generated much interest in the size effect and spurred the launch of significant new small cap investment funds. However, this "honeymoon period lasted for approximately two years. . . ." [98] After 1983, U.S. small-cap stocks actually underperformed relative to large cap stocks. In other words, the size effect essentially reversed. In *Triumph of the Optimists*, the authors conducted an extensive empirical study of the size effect phenomenon around the world. They found that after the size effect phenomenon was discovered in 1981, it disappeared within a few years:

> It is clear . . . that there was a global reversal of the size effect in virtually every country, with the size premium not just disappearing but going into reverse. Researchers around the world universally fell victim to Murphy's Law, with the very effect they were documenting – and inventing explanations for – promptly reversing itself shortly after their studies were published.[99]

In other words, the authors assert that the very discovery of the size effect phenomenon likely caused its own demise. The authors ultimately concluded that it is "inappropriate to

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[96] Rolf W. Banz, *The Relationship Between Return and Market Value of Common Stocks* 3-18 (Journal of Financial Economics 9 (1981)).

[97] 2015 Ibbotson Stocks, Bonds, Bills, and Inflation Classic Yearbook 99 (Morningstar 2015).

[98] Elroy Dimson, Paul Marsh & Mike Staunton, *Triumph of the Optimists: 101 Years of Global Investment Returns* 131 (Princeton University Press 2002).

[99] *Id*. at 133.

use the term 'size effect' to imply that we should automatically expect there to be a small-cap premium," yet, this is exactly what utility witnesses often do in attempting to artificially inflate the cost of equity with a size premium. Other prominent sources have agreed that the size premium is a dead phenomenon. According to Ibbotson:

> The unpredictability of small-cap returns has given rise to another argument against the existence of a size premium: that markets have changed so that the size premium no longer exists. As evidence, one might observe the last 20 years of market data to see that the performance of large-cap stocks was basically equal to that of small cap stocks. In fact, large-cap stocks have outperformed small-cap stocks in five of the last 10 years.[100]

In addition to the studies discussed above, other scholars have concluded similar results. According to Kalesnik and Beck:

> Today, more than 30 years after the initial publication of Banz's paper, the empirical evidence is extremely weak even before adjusting for possible biases. . . . The U.S. long-term size premium is driven by the extreme outliers, which occurred three-quarters of a century ago. . . . Finally, adjusting for biases . . . makes the size premium vanish. If the size premium were discovered today, rather than in the 1980s, it would be challenging to even publish a paper documenting that small stocks outperform large ones.[101]

For all of these reasons, the Commission should reject the arbitrary size premium proposed by the Company.

Q. Have other commissions recently rejected Mr. Moul's size adjustment?

A. Yes. Recently, in the Application of Palmetto Wastewater Reclamation ("PWR"), the Public Service Commission of South Carolina rejected Mr. Moul's size premium

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[100] 2015 Ibbotson Stocks, Bonds, Bills, and Inflation Classic Yearbook 112 (Morningstar 2015).

[101] Vitali Kalesnik and Noah Beck, *Busting the Myth About Size* (Research Affiliates 2014), available at https://www.researchaffiliates.com/Our%20Ideas/Insights/Fundamentals/Pages/284_Busting_the_Myth_About_Size.aspx (emphasis added).

adjustment.[102] Relying in part on my testimony in the PWR case, the South Carolina commission agreed that "Mr. Moul's 1.02% size adjustment is not appropriate."[103]

Q. Has the Commission adopted Mr. Moul's size adjustment in recent cases?

A. No. In utility base rate cases decided by the Commission in 2020 through May 2022, the Commission did not rely upon the utility's CAPM results that included size adjustments.[104]

VIII. OTHER COST OF EQUITY ISSUES

Q. Are there any other issues raised in the Company's testimony to which you would like to respond?

A. Yes. In his testimony, Mr. Moul suggests that certain firm-specific risks and other factors should have an increasing effect on the cost of equity, apparently beyond that which is indicated by the CAPM and DCF Model. Mr. Moul also relies on comparable and expected earnings to support his cost of equity estimate. Finally, Mr. Moul also suggests that management performance should have an increasing effect on PECO's authorized ROE.

A. Firm-Specific Business Risks

Q. Describe Mr. Moul's testimony regarding business risks.

A. In his Direct Testimony, Mr. Moul suggests that the Company is exposed to additional risks beyond those inherent in the proxy group. According to Mr. Moul, such risks include

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[102] Order issued December 21, 2021, Application of Palmetto Wastewater Reclamation, before the Public Service Commission of South Carolina, p. 24.

[103] *Id*.

[104] PECO 2020 Order at 141; PECO Gas 2020 Order at 155, 160; Aqua 2021 Order at 177.

regulatory risks and operational risks, among other risks.[105] Mr. Moul also suggests that his cost of equity estimate for PECO is "conservative" because PECO does not have a weather normalization adjustment ("WNA").

Q. Do you agree with Mr. Moul that these firm-specific risk factors should influence PECO's cost of equity or awarded ROE?

A. No. All companies face business risks, including the other utilities in the proxy group; business risks are not unique to PECO. As discussed above, it is a well-known concept in finance that firm-specific risks are unrewarded by the market. This is largely because firm-specific risk can be eliminated through portfolio diversification. Scholars widely recognize the fact that market risk, or "systematic risk," is the only type of risk for which investors expect a return for bearing.[106]

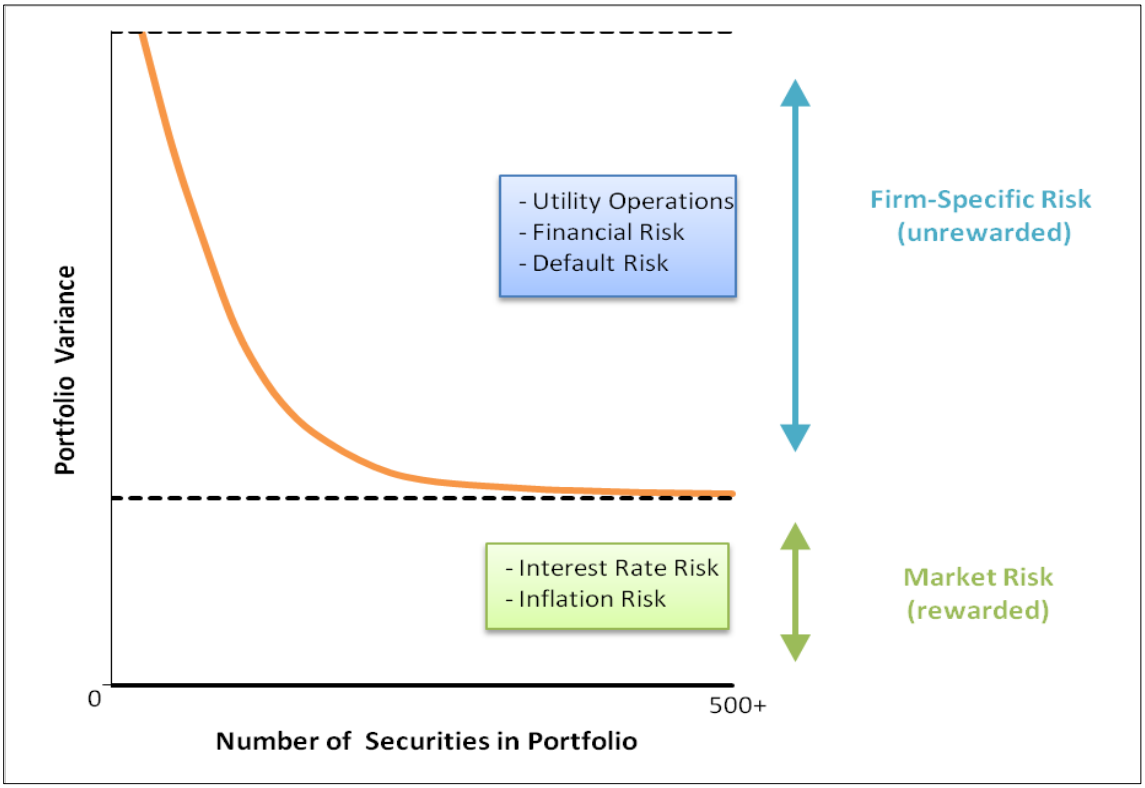
Unlike interest rate risk, inflation risk, and other market risks that affect all companies in the stock market, the risk factors discussed by Mr. Moul are merely business risks specific to PECO. Investors do not require an additional term for these firm-specific business risks. Another way to consider this issue is to look at the CAPM and DCF Model. Neither model includes an input for business risks due to the well-known truth that investors do not expect a return for such risks. Therefore, the Company's firm-specific business risks, while perhaps relevant to other issues in the rate case, have no meaningful effect on the cost of equity estimate. Rather, it is market risk that is rewarded by the market, and this concept is thoroughly addressed in my CAPM analysis discussed above. Thus,

[105] *See* Direct testimony of Paul R. Moul, pp. 7-13.

[106] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 180 (3rd ed., South Western Cengage Learning 2010).

the Commission should reject any additional premium Mr. Moul has added to an already overstated cost of equity estimate to account for any firm-specific risks. This concept was also discussed and illustrated above in my testimony.[107]

Figure 14:
Effects of Portfolio Diversification



The financial models presented in my testimony (particularly the CAPM) directly measure market risk, which is the type of risk the Commission should focus on when determining a fair authorized ROE.

[107] *See* Section IV above.

B. Comparable Earnings

Q. Please summarize Mr. Moul's comparable earnings approach.

A. Mr. Moul also analyzed the returns realized by non-regulated companies as an indication of PECO's cost of equity.[108] The results of his comparable earnings approach indicate a cost of equity for PECO of 12.05%.[109]

Q. Do you agree with Mr. Moul's analyses?

A. No. There are three notable problems with Mr. Moul's comparable earnings approach: (1) earned returns do not indicate the cost of equity; (2) using earned returns in a model used to set the awarded ROE in regulatory proceedings creates an echo chamber void of technical value; and (2) there is no marginal value in analyzing competitive firms beyond those of the utility proxy group in terms of assessing a comparable risk profile. First, "earned" returns and "expected" returns are entirely different concepts. For example, we might conduct a cost of equity analysis on ABC Corp's stock and determine that, based on the risk inherent in that investment, we should "expect" a 50% return on our investment based on the (relatively high) risk assumed in the investment. Suppose, however, the ABC Corp actually earns a return of only 2% in a particular period. This does not mean that the 2% return has any bearing on what investors actually "required" given the company's risk profile, or that they will not continue to require a 50% in their risky investment going forward. In this example, it is also impossible for 2% to represent an expected return in any risky asset since this return would be lower than the risk-free rate. Thus, Mr. Moul's

[108] Direct testimony of Paul R. Moul, pp. 46-49.

[109] Exhibit PRM-1, Sch. 1.

analysis of earned returns does not add any value for assessing the cost of equity for PECO beyond the results of the CAPM and DCF Model.

The second problem with Mr. Moul's comparable earnings model is that it simply creates an echo chamber that necessarily excludes the most critical component in determining the Company's most fair authorized return on equity: the actual *cost* of equity. If an earned return is particularly high in a given period, and that earned return is the primary driver for setting the authorized ROE, it will result in an unfairly high ROE and potentially lead to another inflated, earned return, which starts the cycle over again. Moreover, none of these factors would relate to the utility's actual cost of equity, which is most appropriately measured by the CAPM and DCF Model.

The final problem with Mr. Moul's comparable earnings approach is that it uses the earned returns of non-regulated, non-utility companies as an indication of PECO's cost of equity. Despite the title of Mr. Moul's model, competitive, non-utility companies are decisively *incomparable* to PECO. Primarily, the risk profiles of competitive firms will tend to be higher than those of low-risk utilities; thus, their cost of equity estimates will generally be higher. Not surprisingly, the results of Mr. Moul's "comparable" earnings approach are higher than those produced by the models he conducted on the utility proxy group. There is simply no marginal value added to the process of estimating utility cost of equity by using non-utility, non-regulated firms in a proxy group that should contain firms with relatively similar risk profiles to the regulated utility being analyzed.

C. Management Performance Premium

Q. Please describe Mr. Moul's management performance premium.

A. Mr. Moul includes an additional 0.10% to his cost of equity estimate for the Company management's "exemplary performance."[110]

Q. Do you agree with Mr. Moul's management performance premium?

A. No. Such a premium is completely unrelated to PECO's cost of equity estimate. In financial textbooks, treatises, and other authoritative literature, I have not seen anyone suggest that this type of premium should be added to a cost of equity estimate. It is inappropriate to add an arbitrary and unsupported premium on top of awarded ROE recommendation that is at least 300 basis points higher than PECO's actual cost of equity.

Q. Did the Commission reject a management performance premium in a recent PECO case?

A. Yes. In PECO's 2020 base rate case, PECO requested a 25-basis point premium for management effectiveness.[111] The Commission adopted the presiding Administrative Law Judge's (ALJ) recommendation that no adjustment be allowed.[112] The ALJ found that, "…awarding the Company management effectiveness points would cost the customer money for PECO to provide adequate, efficient, safe, and reasonable service that is required by the Code and the Commission's Regulations."[113] For the same reasons, the

[110] Direct Testimony of Paul R. Moul, p. 2, line 13.

[111] PECO 2020 Order at 166-68.

[112] *Id*.

[113] *Id*. at 163-64.

Commission should deny PECO's request for a management performance premium in this case.[114]

Q. Have you quantified the financial impact to ratepayers that Mr. Moul's management performance premium would have?

A. Yes. As addressed in the direct testimony of OCA witness Mugrace, an increase of 0.10% to the ROE for Mr. Moul's management performance premium would increase the revenue requirement by $2.3 million.

IX. COST OF EQUITY SUMMARY

Q. Please summarize the results of the CAPM and DCF Model discussed above.

A. The following figure shows the cost of equity results from each model I employed in this case.[115]

[114] *See* Direct Testimony of OCA witness Roger D. Colton, OCA Statement 4, for additional arguments against the management performance adder.

[115] Exhibit DJG-12.

Figure 15:
Cost of Equity Summary

Cost of Equity Model	Result
DCF (Sustainable Growth)	6.7%
DCF (Analyst Growth)	8.2%
Capital Asset Pricing Model	7.9%
Hamada (at debt ratio of 50%)	8.2%
Average	**7.7%**
Highest	**8.2%**

The average cost of equity resulting from these various models is 7.7%.

Q. Please comment on the Commission's preference for DCF results.

A. It is my understanding that in prior cases, the Commission has indicated a preference for the results of the DCF Model to estimate cost of equity, while using the CAPM results as an alternative to verify the reasonableness of the results. I would note that, unlike the DCF Model, the CAPM was specifically designed to estimate cost of equity, and led to a Nobel Prize for its creators. The CAPM has direct inputs designed to assess market risk and the relative impacts of market risks on individual firms. The CAPM also avoids some of the circular reference problems inherent in the DCF Model when it issued to set the authorized ROE in utility rate cases. Based on the results of my two DCF analyses and consideration

of the CAPM result (without a debt ratio adjustment), then a cost of equity of no higher than 8.2% would be indicated.

Q. Please summarize the results of your Hamada model included in the table above.

A. As discussed above in response to Mr. Moul's inaccurate leverage adjustment to his DCF analysis, a proper consideration of leverage (as an increasing factor to the cost of equity estimate), would actually include an adjustment to increase PECO's ratemaking debt ratio. In this case, I am proposing a ratemaking debt ratio of 50.0% for PECO, as discussed in the capital structure section below. Since this represents an upward adjustment to PECO's actual debt ratio, it is not unreasonable to consider its impact on the Company's cost of equity. This impact is most appropriately measured through the Hamada formula. Thus, if the Commission were to authorize a ratemaking debt ratio of 50.0% for PECO, then the CAPM cost of equity indication for the Company would be about 8.2%, which is still lower than my authorized ROE recommendation of 8.75%.

X. CAPITAL STRUCTURE

Q. Describe in general the concept of a company's capital structure.

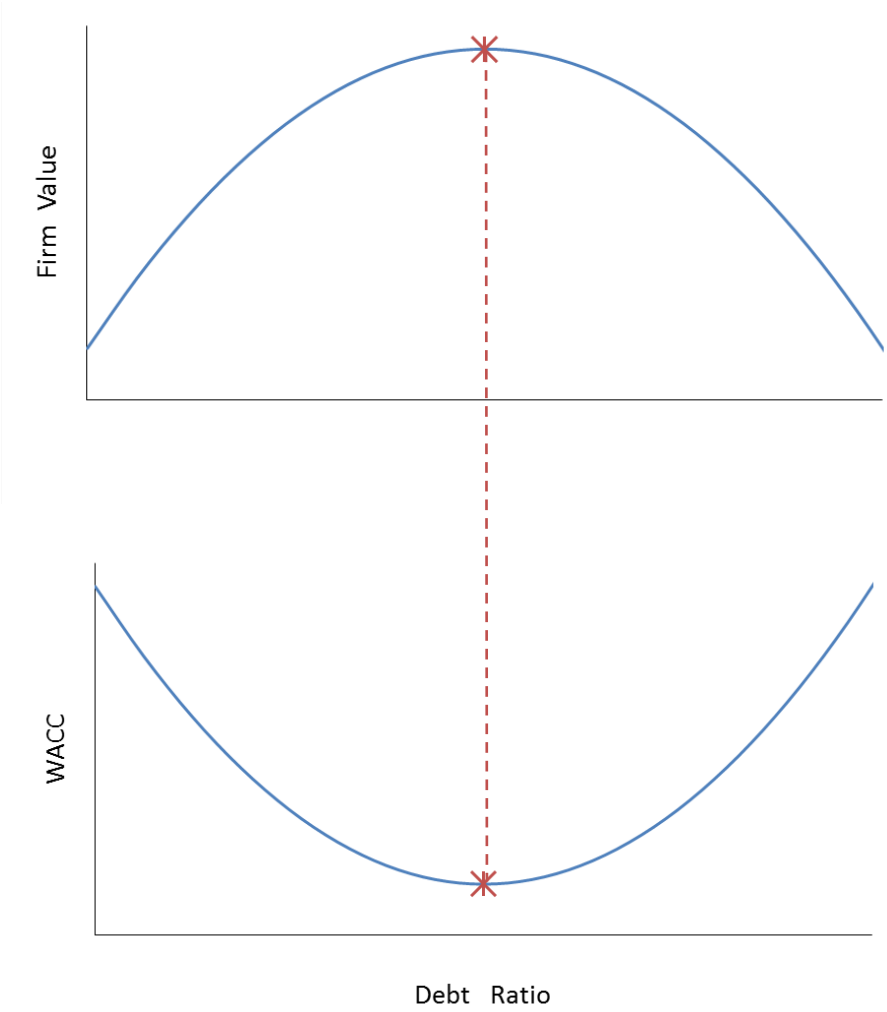
A. "Capital structure" refers to the way a company finances its overall operations through external financing. The primary sources of long-term, external financing are debt capital and equity capital. Debt capital usually comes in the form of contractual bond issues that require the firm to make payments, while equity capital represents an ownership interest in the form of stock. Because a firm cannot pay dividends on common stock until it satisfies its debt obligations to bondholders, stockholders are referred to as "residual claimants." The fact that stockholders have a lower priority to claims on company assets increases their

risk and the required return relative to bondholders. Thus, equity capital has a higher cost than debt capital. Firms can reduce their WACC by recapitalizing and increasing their debt financing. In addition, because interest expense is deductible, increasing debt also adds value to the firm by reducing the firm's tax obligation.

Q. Is it true that, by increasing debt, competitive firms can add value and reduce their WACC?

A. Yes, it is. A competitive firm can add value by increasing debt. After a certain point, however, the marginal cost of additional debt outweighs its marginal benefit. This is because the more debt the firm uses, the higher interest expense it must pay, and the likelihood of loss increases. This also increases the risk of non-recovery for both bondholders and shareholders, causing both groups of investors to demand a greater return on their investment. Thus, if debt financing is too high, the firm's WACC will increase instead of decrease. The following figure illustrates these concepts.

Figure 16:
Optimal Debt Ratio



As shown in this figure, a competitive firm's value is maximized when the WACC is minimized. In both graphs, the debt ratio is shown on the x-axis. By increasing its debt ratio, a competitive firm can minimize its WACC and maximize its value. At a certain point, however, the benefits of increasing debt do not outweigh the costs of the additional

risks to both bondholders and shareholders, as each type of investor will demand higher returns for the additional risk they have assumed.[116]

Q. Does the rate base rate of return model effectively incentivize utilities to operate at the optimal capital structure?

A. No. While it is true that competitive firms maximize their value by minimizing their WACC, this is not the case for regulated utilities. Under the rate base rate of return model, a higher WACC results in higher rates, all else held constant. The basic revenue requirement equation is as follows:

Equation 6:
Revenue Requirement for Regulated Utilities

$$RR = O + d + T + \boldsymbol{r}(A - D)$$

where:

RR	=	*revenue requirement*
O	=	*operating expenses*
d	=	*depreciation expense*
T	=	*corporate tax*
$\boldsymbol{r}$	=	***weighted average cost of capital (WACC)***
A	=	*plant investments*
D	=	*accumulated depreciation*

As shown in this equation, utilities can increase their revenue requirement by increasing their WACC, not by minimizing it. Thus, because there is no incentive for a regulated utility to minimize its WACC, a commission standing in the place of competition must ensure that the regulated utility is operating at the lowest reasonable WACC.

[116] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 440-41 (3rd ed., South Western Cengage Learning 2010).

Q. Can utilities generally afford to have higher debt levels than other industries?

A. Yes. Because regulated utilities have large amounts of fixed assets, stable earnings, and low risk relative to other industries, they can afford to have relatively higher debt ratios (or "leverage"). As aptly stated by Dr. Damodaran:

> Since financial leverage multiplies the underlying business risk, it stands to reason that firms that have high business risk should be reluctant to take on financial leverage. It also stands to reason that firms that operate in stable businesses should be much more willing to take on financial leverage. Utilities, for instance, have historically had high debt ratios but have not had high betas, mostly because their underlying businesses have been stable and fairly predictable.[117]

Note that the author explicitly contrasts utilities with firms that have high underlying business risk. Because utilities have low levels of risk and operate a stable business, they should generally operate with relatively high levels of debt to achieve their optimal capital structure.

Q. Are the capital structures of the proxy group a source that can be used to assess a prudent capital structure?

A. Yes. Since we consider other metrics of the proxy group when estimating cost of equity, it is also appropriate to consider the financing mix of these companies when assessing a fair ratemaking debt ratio for PECO.

Q. How can utility regulatory commissions help overcome the fact that utilities do not have a natural financial incentive to minimize their cost of capital?

A. While under the rate base rate of return model utilities do not have a natural financial incentive to minimize their cost of capital, competitive firms, in contrast, can and do maximize their value by minimizing their cost of capital. Competitive firms minimize their

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[117] Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 196 (3rd ed., John Wiley & Sons, Inc. 2012) (emphasis added).

cost of capital by including a sufficient amount of debt in their capital structures. They do not do this because it is required by a regulatory body, but rather because their shareholders demand it in order to maximize value. The Commission can provide this incentive to PECO by acting as a surrogate for competition and setting rates consistent with a capital structure that is similar to what would be appropriate in a competitive, as opposed to a regulated, environment.

Q. Please describe how you assessed the reasonableness of PECO's proposed capital structure in this case.

A. In this case, I examined the capital structures of the proxy group, as well as the capital structure of PECO's parent company, Exelon Corp. I also looked at capital structures observed in other competitive industries to assess the overall reasonableness of my recommendation.

Q. Please describe the debt ratios of the proxy group.

A. Again, Mr. Moul and I used the same proxy group of utilities for our cost of capital analyses. The proxy group of utilities reported an average debt ratio of 52%, which is considerably higher than PECO's proposed long-term debt ratio of only 46.6%.[118]

Q. What is the capital structure of PECO's parent company, Exelon Corp?

A. Exelon's projected 2022 debt ratio is 60%, which is even higher than the average debt ratio of the proxy group, and significantly higher than PECO's proposed long-term debt ratio.

[118] Exhibit DJG-14.

Q. Did you also look at other competitive firms around the country to compare their debt ratios?

A. Yes. In fact, there are currently nearly 2,000 firms in various industries across the country with debt ratios of 50% or greater, with an average debt ratio of 61 percent.[119] The following figure shows a sample of these industries, with debt ratios of at least 56%.

[119] Exhibit DJG-15.

Figure 17:
Industries with Debt Ratios of 56% or Greater

Industry	# Firms	Debt Ratio
Air Transport	21	85%
Hospitals/Healthcare Facilities	31	80%
Hotel/Gaming	66	77%
Brokerage & Investment Banking	31	76%
Retail (Automotive)	32	72%
Food Wholesalers	15	68%
Retail (Grocery and Food)	15	68%
Rubber& Tires	2	67%
Bank (Money Center)	7	67%
Advertising	49	67%
Computers/Peripherals	46	67%
Auto & Truck	26	66%
Real Estate (Operations & Services)	51	66%
Retail (Special Lines)	76	64%
Cable TV	11	63%
Oil/Gas Distribution	21	63%
Packaging & Container	26	62%
Telecom. Services	42	61%
Recreation	60	61%
Broadcasting	28	60%
Transportation (Railroads)	4	60%
R.E.I.T.	238	60%
Power	50	60%
Telecom (Wireless)	17	59%
Transportation	17	59%
Beverage (Soft)	32	58%
Utility (Water)	14	57%
Retail (Distributors)	68	57%
Office Equipment & Services	18	57%
Aerospace/Defense	73	57%
Household Products	118	56%
Computer Services	83	56%
Green & Renewable Energy	20	56%
Total / Average	**1,408**	**64%**

Many of the industries shown here, like public utilities, are generally well-established industries with large amounts of capital assets. The shareholders of these industries demand

higher debt ratios in order to maximize their profits. There are several notable industries that are relatively comparable to public utilities in some respects. These debt ratios, as well as the average debt ratio of the utility proxy group, are notably higher than PECO's proposed debt ratio of only 46.6%.

Q. What is your recommendation regarding the Company's capital structure?

A. The analysis strongly indicates that PECO's proposed long-term debt ratio is too low to be considered fair for ratemaking. An insufficiently low debt ratio causes the weighted average cost of capital to be unreasonably high. The table below compares the various debt ratios discussed in my testimony, and it highlights the unreasonableness of PECO's proposed debt ratio.

Figure 18:
Debt Ratio Comparison

Source	Debt Ratio
Power	60%
Exelon Corp 2022	**60%**
Telecom	59%
Water Utility	57%
Green Energy	56%
Proxy Group	**52.3%**
Garrett Proposed	**50.0%**
Company Proposed	**46.6%**

Based on my findings, I recommend the Commission impute a capital structure for ratemaking purposes consisting of 50.0% long-term debt, which is in between the

Company's proposed debt ratio of 46.6% and the average reported debt ratio of the proxy group of 52.3%. Although my findings indicate that a fair ratemaking debt ratio for PECO could be even higher, I am recommending a 50.0% long-term debt ratio as an appropriate first step at this time.

Q. If the Commission were to adopt PECO's proposed debt to equity ratios, would that decision further reduce PECO's low-risk profile?

A. Yes. As illustrated in the optimal capital structure table above, increasing the debt ratio to an optimal level effectively minimizes the weighted average cost of capital. However, if PECO's authorized ROE is higher than its cost of equity, it will increase the WACC beyond its lowest optimal level. Thus, if the Commission were to approve PECO's low debt ratio, it should also strongly consider a meaningful reduction in its authorized ROE. Accepting PECO's proposed capital structure would impose additional costs to ratepayers in the amount of $* relative to my recommended capital structure.

Q. What is your capital structure recommendation to the Commission?

A. I recommend the Commission impute a ratemaking capital structure for PECO consisting of 50.0% long-term debt and 50.0% equity. Adopting my proposed capital structure adjustment would decrease the revenue requirement by $9.9 million.

XI. CONCLUSION

Q. Please describe your overall cost of capital recommendation to the Commission.

A. I recommend the Commission reject the Company's proposed ROE and capital structure. Instead, the Commission should award PECO with an 8.75% ROE. The Commission

should also impute a ratemaking capital structure consisting of 50.0% long-term debt and 50.0% equity. My overall weighted average awarded return recommendation is 6.34%.[120]

Q. Does this conclude your testimony?

A. Yes. To the extent I have not addressed an issue or proposal raised by the Company in this proceeding, it should not be construed that I agree with the same.

[120] Exhibit DJG-16.

APPENDIX A:

DISCOUNTED CASH FLOW MODEL THEORY

The Discounted Cash Flow ("DCF") Model is based on a fundamental financial model called the "dividend discount model," which maintains that the value of a security is equal to the present value of the future cash flows it generates. Cash flows from common stock are paid to investors in the form of dividends. There are several variations of the DCF Model. In its most general form, the DCF Model is expressed as follows:[121]

Equation 7:
General Discounted Cash Flow Model

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_n}{(1+k)^n}$$

where: P_0 = *current stock price*
$D_1 \ldots D_n$ = *expected future dividends*
k = *discount rate / required return*

The General DCF Model would require an estimation of an infinite stream of dividends. Because this would be impractical, analysts use more feasible variations of the General DCF Model, which are discussed further below.

The DCF Models rely on the following four assumptions:[122]

1. Investors evaluate common stocks in the classical valuation framework; that is, they trade securities rationally at prices reflecting their perceptions of value;

2. Investors discount the expected cash flows at the same rate (K) in every future period;

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[121] *See* Zvi Bodie, Alex Kane & Alan J. Marcus, *Essentials of Investments* 410 (9th ed., McGraw-Hill/Irwin 2013).

[122] *See* Roger A. Morin, *New Regulatory Finance* 252 (Public Utilities Reports, Inc. 2006) (1994).

3. The K obtained from the DCF equation corresponds to that specific stream of future cash flows alone; and

4. Dividends, rather than earnings, constitute the source of value.

The General DCF can be rearranged to make it more practical for estimating the cost of equity. Regulators typically rely on some variation of the Constant Growth DCF Model, which is expressed as follows:

Equation 8:
Constant Growth Discounted Cash Flow Model

$$K = \frac{D_1}{P_0} + g$$

where: K = *discount rate / required return on equity*
D_1 = *expected dividend per share one year from now*
P_0 = *current stock price*
g = *expected growth rate of future dividends*

Unlike the General DCF Model, the Constant Growth DCF Model solves for the required return (*K*) directly. In addition, by assuming that dividends grow at a constant rate, the dividend stream from the General DCF Model may be substituted with a term representing the expected sustainable growth rate of future dividends (*g*). The Constant Growth DCF Model may be considered in two parts. The first part is the dividend yield (D_1/P_0), and the second part is the growth rate (*g*). In other words, the required return in the DCF Model is equivalent to the dividend yield plus the growth rate.

In addition to the four assumptions listed above, the Constant Growth DCF Model relies on the following four additional assumptions:[123]

[123] *See* Roger A. Morin, *New Regulatory Finance* 254–56 (Public Utilities Reports, Inc. 2006) (1994).

1. The discount rate (K) must exceed the growth rate (g);
2. The dividend growth rate (g) is constant in every year to infinity;
3. Investors require the same return (K) in every year; and
4. There is no external financing; that is, growth is provided only by the retention of earnings.

Because the growth rate in this model is assumed to be constant, it is important not to use growth rates that are unreasonably high. In fact, the sustainable growth rate estimate for a regulated utility with a defined service territory should not exceed the growth rate for the economy in which it operates.

APPENDIX B:

CAPITAL ASSET PRICING MODEL THEORY

The Capital Asset Pricing Model ("CAPM") is a market-based model founded on the principle that investors demand higher returns for incurring additional risk.[124] The CAPM estimates this required return. The CAPM relies on the following assumptions:

1. Investors are rational, risk-adverse, and strive to maximize profit and terminal wealth;

2. Investors make choices based on risk and return. Return is measured by the mean returns expected from a portfolio of assets; risk is measured by the variance of these portfolio returns;

3. Investors have homogenous expectations of risk and return;

4. Investors have identical time horizons;

5. Information is freely and simultaneously available to investors;

6. There is a risk-free asset, and investors can borrow and lend unlimited amounts at the risk-free rate;

7. There are no taxes, transaction costs, restrictions on selling short, or other market imperfections; and

8. Total asset quality is fixed, and all assets are marketable and divisible.[125]

While some of these assumptions may appear to be restrictive, they do not outweigh the inherent value of the model. The CAPM has been widely used by firms, analysts, and regulators for decades to estimate the cost of equity capital.

The basic CAPM equation is expressed as follows:

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[124] William F. Sharpe, *A Simplified Model for Portfolio Analysis* 277-93 (Management Science IX 1963).

[125] *Id*.

Equation 9:
Capital Asset Pricing Model

$$K = R_F + \beta_i(R_M - R_F)$$

where: K = *required return*
R_F = *risk-free rate*
β = *beta coefficient of asset i*
R_M = *required return on the overall market*

There are essentially three terms within the CAPM equation that are required to calculate the required return (*K*): (1) the risk-free rate (R_F); (2) the beta coefficient (β); and (3) the equity risk premium ($R_M - R_F$), which is the required return on the overall market less the risk-free rate.

Raw Beta Calculations and Adjustments.

A stock's beta equals the covariance of the asset's returns with the returns on a market portfolio, divided by the portfolio's variance, as expressed in the following formula:[126]

Equation 10:
Beta

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

where: β_i = *beta of asset i*
σ_{im} = *covariance of asset i returns with market portfolio returns*
σ^2_m = *variance of market portfolio*

Betas that are published by various research firms are typically calculated through a regression analysis that considers the movements in price of an individual stock and movements in the price of the overall market portfolio. The betas produced by this regression analysis are considered "raw" betas. There is empirical evidence that raw betas should be adjusted to account

[126] *See* John R. Graham, Scott B. Smart & William L. Megginson, *Corporate Finance: Linking Theory to What Companies Do* 180–81 (3rd ed., South Western Cengage Learning 2010).

for beta's natural tendency to revert to an underlying mean.[127] Some analysts use an adjustment method proposed by Blume, which adjusts raw betas toward the market mean of one.[128] While the Blume adjustment method is popular due to its simplicity, it is arguably arbitrary, and some would say not useful at all. According to Dr. Damodaran: "While we agree with the notion that betas move toward 1.0 over time, the [Blume adjustment] strikes us as arbitrary and not particularly useful."[129] The Blume adjustment method is especially arbitrary when applied to industries with consistently low betas, such as the utility industry. For industries with consistently low betas, it is better to employ an adjustment method that adjusts raw betas toward an industry average, rather than the market average. Vasicek proposed such a method, which is preferable to the Blume adjustment method because it allows raw betas to be adjusted toward an industry average, and also accounts for the statistical accuracy of the raw beta calculation.[130] In other words, "[t]he Vasicek adjustment seeks to overcome one weakness of the Blume model by not applying the same adjustment to every security; rather, a security-specific adjustment is made depending on the statistical quality of the regression."[131] The Vasicek beta adjustment equation is expressed as follows:

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[127] *See* Michael J. Gombola and Douglas R. Kahl, *Time-Series Processes of Utility Betas: Implications for Forecasting Systematic Risk* 84–92 (Financial Management Autumn 1990).

[128] See Marshall Blume, *On the Assessment of Risk*, Vol. 26, No. 1 The Journal of Finance 1 (1971).

[129] *See* Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset* 187 (3rd ed., John Wiley & Sons, Inc. 2012).

[130] Oldrich A. Vasicek, *A Note on Using Cross-Sectional Information in Bayesian Estimation of Security Betas* 1233–1239 (Journal of Finance, Vol. 28, No. 5, December 1973).

[131] 2012 Ibbotson Stocks, Bonds, Bills, and Inflation Valuation Yearbook 77–78 (Morningstar 2012).

Equation 11:
Vasicek Beta Adjustment

$$\beta_{i1} = \frac{\sigma^2_{\beta i0}}{\sigma^2_{\beta 0} + \sigma^2_{\beta_{i0}}}\beta_0 + \frac{\sigma^2_{\beta 0}}{\sigma^2_{\beta 0} + \sigma^2_{\beta_{i0}}}\beta_{i0}$$

where:	β_{i1}	=	*Vasicek adjusted beta for security i*
	β_{i0}	=	*historical beta for security i*
	β_0	=	*beta of industry or proxy group*
	$\sigma^2_{\beta 0}$	=	*variance of betas in the industry or proxy group*
	$\sigma^2_{\beta i0}$	=	*square of standard error of the historical beta for security i*

The Vasicek beta adjustment is an improvement on the Blume model because the Vasicek model does not apply the same adjustment to every security. A higher standard error produced by the regression analysis indicates a lower statistical significance of the beta estimate. Thus, a beta with a high standard error should receive a greater adjustment than a beta with a low standard error. As stated in Ibbotson:

> While the Vasicek formula looks intimidating, it is really quite simple. The adjusted beta for a company is a weighted average of the company's historical beta and the beta of the market, industry, or peer group. How much weight is given to the company and historical beta depends on the statistical significance of the company beta statistic. If a company beta has a low standard error, then it will have a higher weighting in the Vasicek formula. If a company beta has a high standard error, then it will have lower weighting in the Vasicek formula. An advantage of this adjustment methodology is that it does not force an adjustment to the market as a whole. Instead, the adjustment can be toward an industry or some other peer group. <u>This is most useful in looking at companies in industries that on average have high or low betas</u>.[132]

Thus, the Vasicek adjustment method is statistically more accurate and is the preferred method to use when analyzing companies in an industry that has inherently low betas, such as the utility industry. The Vasicek method was also confirmed by Gombola, who conducted a study

[132] 2012 Ibbotson Stocks, Bonds, Bills, and Inflation Valuation Yearbook 78 (Morningstar 2012).

specifically related to utility companies. Gombola concluded that "[t]he strong evidence of auto-regressive tendencies in utility betas lends support to the application of adjustment procedures such as the . . . adjustment procedure presented by Vasicek."[133] Gombola also concluded that adjusting raw betas toward the market mean of 1.0 is too high, and that "[i]nstead, they should be adjusted toward a value that is less than one."[134] In conducting the Vasicek adjustment on betas in previous cases, it reveals that utility betas are even lower than those published by Value Line.[135] Gombola's findings are particular important here, because his study was conducted specifically on utility companies. This evidence indicates that using Value Line's betas in a CAPM cost of equity estimate for a utility company may lead to overestimated results. Regardless, adjusting betas to a level that is higher than Value Line's betas is not reasonable, and it would produce CAPM cost of equity results that are too high.

[133] Michael J. Gombola and Douglas R. Kahl, *Time-Series Processes of Utility Betas: Implications for Forecasting Systematic Risk* 92 (Financial Management Autumn 1990) (emphasis added).

[134] Michael J. Gombola and Douglas R. Kahl, *Time-Series Processes of Utility Betas: Implications for Forecasting Systematic Risk* 91–92 (Financial Management Autumn 1990) (emphasis added).

[135] *See e.g.* Responsive Testimony of David J. Garrett, filed March 21, 2016 in Cause No. PUD 201500273 before the Corporation Commission of Oklahoma (OG&E's 2015 rate case), at pp. 56–59.

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University of Oklahoma — Norman, OK
Master of Business Administration — 2014
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University of Oklahoma College of Law — Norman, OK
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Society of Depreciation Professionals
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WORK EXPERIENCE

Resolve Utility Consulting PLLC — Oklahoma City, OK
Managing Member — 2016 – Present
Provide expert analysis and testimony specializing in depreciation and cost of capital issues for clients in utility regulatory proceedings.

Oklahoma Corporation Commission — Oklahoma City, OK
Public Utility Regulatory Analyst — 2012 – 2016
Assistant General Counsel — 2011 – 2012
Represented commission staff in utility regulatory proceedings and provided legal opinions to commissioners. Provided expert analysis and testimony in depreciation, cost of capital, incentive compensation, payroll and other issues.

Perebus Counsel, PLLC — Oklahoma City, OK
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Represented clients in the areas of family law, estate planning, debt negotiations, business organization, and utility regulation.

Moricoli & Schovanec, P.C. — Oklahoma City, OK
Associate Attorney — 2007 – 2009
Represented clients in the areas of contracts, oil and gas, business structures and estate administration.

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University of Oklahoma — Norman, OK
Adjunct Instructor – "Conflict Resolution" — 2014 – 2021
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Rose State College — Midwest City, OK
Adjunct Instructor – "Legal Research" — 2013 – 2015
Adjunct Instructor – "Oil & Gas Law"

PUBLICATIONS

American Indian Law Review — Norman, OK
"Vine of the Dead: Reviving Equal Protection Rites for Religious Drug Use" — 2006
(31 Am. Indian L. Rev. 143)

PROFESSIONAL ASSOCIATIONS

Oklahoma Bar Association — 2007 – Present

Society of Depreciation Professionals — 2014 – Present
Board Member – President — 2017
Participate in management of operations, attend meetings, review performance, organize presentation agenda.

Society of Utility Regulatory Financial Analysts — 2014 – Present

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Whiteland Township	A-2021-3026132	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Kiawah Island Utility, Inc.	2021-324-WS	Cost of capital, awarded rate of return, capital structure	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / Willistown Township	A-2021-3027268	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45621	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Arkansas Public Service Commission	Southwestern Electric Power Company	21-070-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers
Federal Energy Regulatory Commission	Southern Star Central Gas Pipeline	RP21-778-002	Depreciation rates, service lives, net salvage	Consumer-Owned Shippers
Railroad Commission of Texas	Participating Texas gas utilities in consolidated proceeding	OS-21-00007061	Securitization of extraordinary gas costs arising from winter storms	The City of El Paso
Public Service Commission of South Carolina	Palmetto Wastewater Reclamation, Inc.	2021-153-S	Cost of capital, awarded rate of return, capital structure, ring-fencing	South Carolina Office of Regulatory Staff
Public Utilties Commission of the State of Colorado	Public Service Company of Colorado	21AL-0317E	Cost of capital, depreciation rates, net salvage	Colorado Energy Consumers
Pennsylvania Public Utility Commission	City of Lancaster - Water Department	R-2021-3026682	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 51802	Depreciation rates, service lives, net salvage	The Alliance of Xcel Municipalities
Pennsylvania Public Utility Commission	The Borough of Hanover - Hanover Municipal Waterworks	R-2021-3026116	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Delmarva Power & Light Company	9670	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 202100063	Cost of capital, awarded rate of return, capital structure	Oklahoma Industrial Energy Consumers
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45576	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	El Paso Electric Company	PUC 52195	Depreciation rates, service lives, net salvage	The City of El Paso

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Pennsylvania Public Utility Commission	Aqua Pennsylvania	R-2021-3027385	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Public Service Company of New Mexico, Avangrid, NM Green Holdings, PNM Resources	20-00222-UT	Ring fencing, capital structure	Albuquerque Bernalillo County Water Utility Authority
Public Service Commission of the State of Montana	NorthWestern Energy	D2021.02.022	Cost of capital, awarded rate of return, capital structure	Montana Consumer Counsel
Pennsylvania Public Utility Commission	PECO Energy Company	R-2021-3024601	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	20-00238-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 202100055	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Pennsylvania Public Utility Commission	Duquesne Light Company	R-2021-3024750	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Columbia Gas of Maryland	9664	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Southern Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45447	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 51415	Depreciation rates, service lives, net salvage	Cities Advocating Reasonable Deregulation
New Mexico Public Regulatory Commission	Avangrid, Inc., Avangrid Networks, Inc., NM Green Holdings, Inc., PNM, and PNM Resources	20-00222-UT	Ring fencing and capital structure	The Albuquerque Bernalillo County Water Utility Authority
Indiana Utility Regulatory Commission	Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45468	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of Nevada	Nevada Power Company and Sierra Pacific Power Company, d/b/a NV Energy	20-07023	Construction work in progress	MGM Resorts International, Caesars Enterprise Services, LLC, and the Southern Nevada Water Authority
Massachusetts Department of Public Utilities	Boston Gas Company, d/b/a National Grid	D.P.U. 20-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Public Service Commission of the State of Montana	ABACO Energy Services, LLC	D2020.07.082	Cost of capital and authorized rate of return	Montana Consumer Counsel
Maryland Public Service Commission	Washington Gas Light Company	9651	Cost of capital and authorized rate of return	Maryland Office of People's Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Florida Public Service Commission	Utilities, Inc. of Florida	20200139-WS	Cost of capital and authorized rate of return	Florida Office of Public Counsel
New Mexico Public Regulatory Commission	El Paso Electric Company	20-00104-UT	Cost of capital, depreciation rates, net salvage	City of Las Cruces and Doña Ana County
Public Utilities Commission of Nevada	Nevada Power Company	20-06003	Cost of capital, awarded rate of return, capital structure, earnings sharing	MGM Resorts International, Caesars Enterprise Services, LLC, Wynn Las Vegas, LLC, Smart Energy Alliance, and Circus Circus Las Vegas, LLC
Wyoming Public Service Commission	Rocky Mountain Power	20000-578-ER-20	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Florida Public Service Commission	Peoples Gas System	20200051-GU 20200166-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Wyoming Public Service Commission	Rocky Mountain Power	20000-539-EA-18	Depreciation rates, service lives, net salvage	Wyoming Industrial Energy Consumers
Public Service Commission of South Carolina	Dominion Energy South Carolina	2020-125-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	The City of Bethlehem	2020-3020256	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	GUD 10928	Depreciation rates, service lives, net salvage	Gulf Coast Service Area Steering Committee
Public Utilities Commission of the State of California	Southern California Edison	A.19-08-013	Depreciation rates, service lives, net salvage	The Utility Reform Network
Massachusetts Department of Public Utilities	NSTAR Gas Company	D.P.U. 19-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Georgia Public Service Commission	Liberty Utilities (Peach State Natural Gas)	42959	Depreciation rates, service lives, net salvage	Public Interest Advocacy Staff
Florida Public Service Commission	Florida Public Utilities Company	20190155-EI 20190156-EI 20190174-EI	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Illinois Commerce Commission	Commonwealth Edison Company	20-0393	Depreciation rates, service lives, net salvage	The Office of the Illinois Attorney General
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 49831	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Public Service Commission of South Carolina	Blue Granite Water Company	2019-290-WS	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Railroad Commission of Texas	CenterPoint Energy Resources	GUD 10920	Depreciation rates and grouping procedure	Alliance of CenterPoint Municipalities
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Norriton Township	A-2019-3009052	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	19-00170-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Indiana Utility Regulatory Commission	Duke Energy Indiana	45253	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Maryland Public Service Commission	Columbia Gas of Maryland	9609	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-190334	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45235	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	18-12-009	Depreciation rates, service lives, net salvage	The Utility Reform Network
Oklahoma Corporation Commission	The Empire District Electric Company	PUD 201800133	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Arkansas Public Service Commission	Southwestern Electric Power Company	19-008-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers
Public Utility Commission of Texas	CenterPoint Energy Houston Electric	PUC 49421	Depreciation rates, service lives, net salvage	Texas Coast Utilities Coalition
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company	D.P.U. 18-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201800140	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2018.9.60	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45159	Depreciation rates, grouping procedure, demolition costs	Indiana Office of Utility Consumer Counselor
Public Service Commission of the State of Montana	NorthWestern Energy	D2018.2.12	Depreciation rates, service lives, net salvage	Montana Consumer Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 201800097	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Wal-Mart
Nevada Public Utilities Commission	Southwest Gas Corporation	18-05031	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	Texas-New Mexico Power Company	PUC 48401	Depreciation rates, service lives, net salvage	Alliance of Texas-New Mexico Power Municipalities
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201700496	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Maryland Public Service Commission	Washington Gas Light Company	9481	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Citizens Energy Group	45039	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 48371	Depreciation rates, decommissioning costs	Texas Municipal Group
Washington Utilities & Transportation Commission	Avista Corporation	UE-180167	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
New Mexico Public Regulation Commission	Southwestern Public Service Company	17-00255-UT	Cost of capital and authorized rate of return	HollyFrontier Navajo Refining; Occidental Permian
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 47527	Depreciation rates, plant service lives	Alliance of Xcel Municipalities
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2017.9.79	Depreciation rates, service lives, net salvage	Montana Consumer Counsel
Florida Public Service Commission	Florida City Gas	20170179-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-170485	Cost of capital and authorized rate of return	Washington Office of Attorney General
Wyoming Public Service Commission	Powder River Energy Corporation	10014-182-CA-17	Credit analysis, cost of capital	Private customer
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201700151	Depreciation, terminal salvage, risk analysis	Oklahoma Industrial Energy Consumers
Public Utility Commission of Texas	Oncor Electric Delivery Company	PUC 46957	Depreciation rates, simulated analysis	Alliance of Oncor Cities

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Nevada Public Utilities Commission	Nevada Power Company	17-06004	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	El Paso Electric Company	PUC 46831	Depreciation rates, interim retirements	City of El Paso
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-24	Accelerated depreciation of North Valmy plant	Micron Technology, Inc.
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-23	Depreciation rates, service lives, net salvage	Micron Technology, Inc.
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 46449	Depreciation rates, decommissioning costs	Cities Advocating Reasonable Deregulation
Massachusetts Department of Public Utilities	Eversource Energy	D.P.U. 17-05	Cost of capital, capital structure, and rate of return	Sunrun Inc.; Energy Freedom Coalition of America
Railroad Commission of Texas	Atmos Pipeline - Texas	GUD 10580	Depreciation rates, grouping procedure	City of Dallas
Public Utility Commission of Texas	Sharyland Utility Company	PUC 45414	Depreciation rates, simulated analysis	City of Mission
Oklahoma Corporation Commission	Empire District Electric Company	PUD 201600468	Cost of capital, depreciation rates	Oklahoma Industrial Energy Consumers
Railroad Commission of Texas	CenterPoint Energy Texas Gas	GUD 10567	Depreciation rates, simulated plant analysis	Texas Coast Utilities Coalition
Arkansas Public Service Commission	Oklahoma Gas & Electric Company	160-159-GU	Cost of capital, depreciation rates, terminal salvage	Arkansas River Valley Energy Consumers; Wal-Mart
Florida Public Service Commission	Peoples Gas	160-159-GU	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-16-0036	Cost of capital, depreciation rates, terminal salvage	Energy Freedom Coalition of America
Nevada Public Utilities Commission	Sierra Pacific Power Company	16-06008	Depreciation rates, net salvage, theoretical reserve	Northern Nevada Utility Customers
Oklahoma Corporation Commission	Oklahoma Gas & Electric Co.	PUD 201500273	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201500208	Cost of capital, depreciation rates, terminal salvage	Public Utility Division

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 201500213	Cost of capital, depreciation rates, net salvage	Public Utility Division

Proxy Group Summary

Company	Ticker	Market Cap. ($ millions)	Market Category	Value Line Safety Rank	Financial Strength
Atmos Energy Corp	ATO	15,700	Large Cap	1	A+
Chesapeake Utilities Corp	CPK	2,300	Mid Cap	2	A
New Jersey Resources Corporation	NJR	4,300	Mid Cap	2	A+
NiSource Inc	NI	12,400	Large Cap	3	B+
Northwest Natural Holding Company	NWN	1,600	Small Cap	3	A
ONE Gas Inc	OGS	4,600	Mid Cap	2	B++
Southwest Gas Holdings Inc	SWX	6,100	Mid Cap	3	A
Spire Inc.	SR	3,900	Mid Cap	2	B++

Value Line Investment Survey

DCF Stock and Index Prices

Ticker	^GSPC	ATO	CPK	NJR	NI	NWN	OGS	SWX	SR
30-day Average	4081	114.20	129.99	44.85	30.34	51.26	85.99	90.82	75.73
Standard Deviation	117.3	2.18	3.86	1.13	0.91	2.69	1.73	2.71	1.92
04/25/22	4296	116.98	131.56	44.66	30.34	49.39	87.09	89.05	75.30
04/26/22	4175	116.34	132.59	44.63	29.96	49.15	87.13	87.66	75.23
04/27/22	4184	115.35	129.60	44.09	29.88	48.69	86.72	88.01	74.63
04/28/22	4288	116.10	129.00	44.16	30.06	48.74	86.93	87.70	74.67
04/29/22	4132	112.71	125.17	43.16	29.12	47.83	83.76	87.52	72.75
05/02/22	4155	111.08	122.00	42.79	28.73	47.29	82.03	86.54	72.79
05/03/22	4175	111.92	122.09	43.83	28.96	47.27	82.39	86.42	72.14
05/04/22	4300	114.61	130.36	44.60	29.67	49.16	85.20	88.14	74.35
05/05/22	4147	114.34	128.53	43.19	29.31	49.02	84.17	86.77	73.52
05/06/22	4123	114.20	127.56	43.76	29.49	49.34	84.51	87.07	73.95
05/09/22	3991	112.94	127.66	44.21	29.44	49.54	84.80	90.10	75.55
05/10/22	4001	112.42	125.57	43.85	29.32	49.24	84.06	89.24	74.45
05/11/22	3935	111.93	127.66	43.77	29.67	49.82	83.98	90.09	74.13
05/12/22	3930	111.41	127.01	43.66	29.61	50.14	84.72	91.54	74.75
05/13/22	4024	112.27	126.57	44.02	30.32	50.63	84.90	91.16	74.50
05/16/22	4008	112.47	127.45	44.63	30.43	50.78	85.96	91.85	75.39
05/17/22	4089	113.06	127.84	45.40	30.75	51.10	87.55	93.24	77.02
05/18/22	3924	111.17	128.47	45.54	30.56	51.07	87.37	91.70	76.72
05/19/22	3901	110.69	128.84	45.51	30.31	51.52	86.14	92.07	75.84
05/20/22	3901	111.70	131.13	44.91	30.28	51.78	85.69	93.97	75.36
05/23/22	3974	113.67	133.28	45.36	30.75	52.48	86.65	92.89	75.51
05/24/22	3941	116.03	133.94	46.03	31.24	55.11	88.63	94.14	77.93
05/25/22	3979	115.92	133.53	46.18	31.44	54.54	88.15	93.10	78.18
05/26/22	4058	116.74	135.69	46.19	31.54	54.73	88.21	93.39	78.32
05/27/22	4158	117.64	135.55	46.28	31.76	54.25	88.00	94.12	78.84
05/31/22	4132	116.31	133.57	45.92	31.45	54.29	87.02	93.13	78.30
06/01/22	4101	116.43	133.50	45.90	31.34	54.62	86.76	93.10	77.80
06/02/22	4177	116.60	135.79	46.57	31.41	55.72	86.74	93.88	78.20
06/03/22	4109	116.11	133.38	46.14	31.42	55.18	87.15	93.82	77.61
06/06/22	4121	116.76	134.94	46.69	31.76	55.45	87.44	93.25	78.28

All prices are adjusted closing prices reported by Yahoo! Finance, http://finance.yahoo.com

DCF Dividend Yields

Exhibit DJG-4

Company	Ticker	[1] Quarterly Dividend	[2] Annualized Dividend	[3] Stock Price	[4] Dividend Yield
Atmos Energy Corp	ATO	0.680	2.720	114.20	2.4%
Chesapeake Utilities Corp	CPK	0.535	2.140	129.99	1.6%
New Jersey Resources Corporation	NJR	0.363	1.452	44.85	3.2%
NiSource Inc	NI	0.235	0.940	30.34	3.1%
Northwest Natural Holding Company	NWN	0.482	1.928	51.26	3.8%
ONE Gas Inc	OGS	0.620	2.480	85.99	2.9%
Southwest Gas Holdings Inc	SWX	0.620	2.480	90.82	2.7%
Spire Inc.	SR	0.685	2.740	75.73	3.6%
Average		**$0.53**	**$2.11**	**$77.90**	**2.9%**

[1] 2022 Q2 reported quarterly dividends per share. Nasdaq.com

[2] = [1] * 4

[3] Average stock price from Exhibit DJG-3

[4] = [2] / [3]

DCF Sustainable Growth Rate Determinants

Sustainable Growth Determinants	Rate	
Nominal GDP	3.8%	[1]
Real GDP	1.8%	[2]
Inflation	2.0%	[3]
Risk Free Rate	3.0%	[4]
Highest	**3.8%**	

[1],[2] [3] CBO, The 2021 Long-Term Budget Outlook, p. 34

[4] From Exhibit DJG-7

DCF Results

Company	Ticker	[1] Dividend Yield	[2] Analyst Growth	[3] Sustainable Growth	[4] DCF Result (Analyst Growth)	[5] DCF Result (Sustainable Growth)
Atmos Energy Corp	ATO	2.4%	7.0%	3.8%	9.5%	6.3%
Chesapeake Utilities Corp	CPK	1.6%	8.5%	3.8%	10.3%	5.6%
New Jersey Resources Corporation	NJR	3.2%	5.0%	3.8%	8.4%	7.2%
NiSource Inc	NI	3.1%	4.5%	3.8%	7.7%	7.0%
Northwest Natural Holding Company	NWN	3.8%	0.5%	3.8%	4.3%	7.6%
ONE Gas Inc	OGS	2.9%	6.5%	3.8%	9.6%	6.9%
Southwest Gas Holdings Inc	SWX	2.7%	5.5%	3.8%	8.4%	6.7%
Spire Inc.	SR	3.6%	5.0%	3.8%	8.8%	7.6%
Average		**2.9%**	**5.3%**	**3.8%**	**8.2%**	**6.7%**

[1] Dividend Yield from Exhibit DJG-4

[2] Forecasted dividend growth rates - Value Line

[3] Sustainable growth rate from Exhibit DJG-5

[4] Annual Compounding DCF = $D_0 (1 + g) / P_0 + g$ (using sustainable growth rate)

[5] Annual Compounding DCF = $D_0 (1 + g) / P_0 + g$ (using analyst growth rate)

CAPM Risk-Free Rate

Date	Rate
04/25/22	2.9%
04/26/22	2.9%
04/27/22	2.9%
04/28/22	2.9%
04/29/22	3.0%
05/02/22	3.1%
05/03/22	3.0%
05/04/22	3.0%
05/05/22	3.2%
05/06/22	3.2%
05/09/22	3.2%
05/10/22	3.1%
05/11/22	3.1%
05/12/22	3.0%
05/13/22	3.1%
05/16/22	3.1%
05/17/22	3.2%
05/18/22	3.1%
05/19/22	3.1%
05/20/22	3.0%
05/23/22	3.1%
05/24/22	3.0%
05/25/22	3.0%
05/26/22	3.0%
05/27/22	3.0%
05/31/22	3.1%
06/01/22	3.1%
06/02/22	3.1%
06/03/22	3.1%
06/06/22	3.2%
Average	**3.0%**

*Daily Treasury Yield Curve Rates on 30-year T-bonds, http://www.treasury.gov/resources-center/data-chart-center/interest-rates/

CAPM Beta Coefficient

Company	Ticker	Beta
Atmos Energy Corp	ATO	0.80
Chesapeake Utilities Corp	CPK	0.75
New Jersey Resources Corporation	NJR	0.95
NiSource Inc	NI	0.85
Northwest Natural Holding Company	NWN	0.80
ONE Gas Inc	OGS	0.80
Southwest Gas Holdings Inc	SWX	0.90
Spire Inc.	SR	0.80
Average		0.83

Betas from Value Line Investment Survey

CAPM Implied Equity Risk Premium Estimate

Year	[1] Market Value	[2] Operating Earnings	[3] Dividends	[4] Buybacks	[5] Earnings Yield	[6] Dividend Yield	[7] Buyback Yield	[8] Gross Cash Yield
2011	11,385	877	240	405	7.70%	2.11%	3.56%	5.67%
2012	12,742	870	281	399	6.83%	2.20%	3.13%	5.33%
2013	16,495	956	312	476	5.80%	1.89%	2.88%	4.77%
2014	18,245	1,004	350	553	5.50%	1.92%	3.03%	4.95%
2015	17,900	885	382	572	4.95%	2.14%	3.20%	5.33%
2016	19,268	920	397	536	4.77%	2.06%	2.78%	4.85%
2017	22,821	1,066	420	519	4.67%	1.84%	2.28%	4.12%
2018	21,027	1,282	456	806	6.10%	2.17%	3.84%	6.01%
2019	26,760	1,305	485	729	4.88%	1.81%	2.72%	4.54%
2020	31,659	1,019	480	520	3.22%	1.52%	1.64%	3.16%
2021	40,356	1,739	511	882	4.31%	1.27%	2.18%	3.45%

Cash Yield	4.74%	[9]
Growth Rate	7.09%	[10]
Risk-free Rate	3.05%	[11]
Current Index Value	4,081	[12]

Year	[13] 1	[14] 2	[15] 3	[16] 4	[17] 5
Expected Dividends	207	222	238	255	273
Expected Terminal Value					4830
Present Value	190	187	184	181	3338
Intrinsic Index Value	4081	[18]			
Required Return on Market	8.9%	[19]			
Implied Equity Risk Premium	**5.8%**	[20]			

[1-4] S&P Quarterly Press Releases, data found at https://us.spindices.com/indices/equity/sp-500 (additional info tab) (all dollar figures are in $ billions)
[1] Market value of S&P 500
[5] = [2] / [1]
[6] = [3] / [1]
[7] = [4] / [1]
[8] = [6] + [7]
[9] = Average of [8]
[10] = Compund annual growth rate of [2] = (end value / beginning value)$^{A1/10}$-1
[11] Risk-free rate from DJG risk-free rate exhibit
[12] 30-day average of closing index prices from DJG stock price exhibit
[13-16] Expected dividends = [9]*[12]*(1+[10])^{n} ; Present value = expected dividend / (1+[11]+[19])^{n}
[17] Expected terminal value = expected dividend * (1+[11]) / [19] ; Present value = (expected dividend + expected terminal value) / (1+[11]+[19])^{n}
[18] = Sum([13-17]) present values.
[19] = [20] + [11]
[20] Internal rate of return calculation setting [18] equal to [12] and solving for the discount rate

CAPM Equity Risk Premium Results

IESE Business School Survey	5.6%	[1]
Kroll Report	5.5%	[2]
Damodaran (average)	5.1%	[3]
Garrett	5.8%	[4]
Average	**5.5%**	
Highest	**5.8%**	

CAPM Final Result

[1]	[2]	[3]	[4]
Risk-Free Rate	Proxy Beta	Risk Premium	**CAPM Result**
3.0%	0.831	5.8%	**7.9%**

[1] From DJG-7, risk-free rate exhibit

[2] From DJG-8, beta exhibit (avg. beta of proxy group)

[3] From DJG-10, equity risk premium exhibit

[4] = [1] + [2] * [3]

Cost of Equity Summary

Cost of Equity Model	Result
DCF (Sustainable Growth)	6.7%
DCF (Analyst Growth)	8.2%
Capital Asset Pricing Model	7.9%
Hamada (at debt ratio of 50%)	8.2%
Average	**7.7%**
Highest	**8.2%**

Market Cost of Equity vs. Awarded Returns

Exhibit DJG-13

	[1]		[2]		[3]		[4]	[5]	[6]	[7]
	Electric Utilities		Gas Utilities		Total Utilities		S&P 500	T-Bond	Risk	Market
Year	ROE	#	ROE	#	ROE	#	Returns	Rate	Premium	COE
1990	12.70%	38	12.68%	33	12.69%	71	-3.06%	8.07%	3.89%	11.96%
1991	12.54%	42	12.45%	31	12.50%	73	30.23%	6.70%	3.48%	10.18%
1992	12.09%	45	12.02%	28	12.06%	73	7.49%	6.68%	3.55%	10.23%
1993	11.46%	28	11.37%	40	11.41%	68	9.97%	5.79%	3.17%	8.96%
1994	11.21%	28	11.24%	24	11.22%	52	1.33%	7.82%	3.55%	11.37%
1995	11.58%	28	11.44%	13	11.54%	41	37.20%	5.57%	3.29%	8.86%
1996	11.40%	18	11.12%	17	11.26%	35	22.68%	6.41%	3.20%	9.61%
1997	11.33%	10	11.30%	12	11.31%	22	33.10%	5.74%	2.73%	8.47%
1998	11.77%	10	11.51%	10	11.64%	20	28.34%	4.65%	2.26%	6.91%
1999	10.72%	6	10.74%	6	10.73%	12	20.89%	6.44%	2.05%	8.49%
2000	11.58%	9	11.34%	13	11.44%	22	-9.03%	5.11%	2.87%	7.98%
2001	11.07%	15	10.96%	5	11.04%	20	-11.85%	5.05%	3.62%	8.67%
2002	11.21%	14	11.17%	19	11.19%	33	-21.97%	3.81%	4.10%	7.91%
2003	10.96%	20	10.99%	25	10.98%	45	28.36%	4.25%	3.69%	7.94%
2004	10.81%	21	10.63%	22	10.72%	43	10.74%	4.22%	3.65%	7.87%
2005	10.51%	24	10.41%	26	10.46%	50	4.83%	4.39%	4.08%	8.47%
2006	10.32%	26	10.40%	15	10.35%	41	15.61%	4.70%	4.16%	8.86%
2007	10.30%	38	10.22%	35	10.26%	73	5.48%	4.02%	4.37%	8.39%
2008	10.41%	37	10.39%	32	10.40%	69	-36.55%	2.21%	6.43%	8.64%
2009	10.52%	40	10.22%	30	10.39%	70	25.94%	3.84%	4.36%	8.20%
2010	10.37%	61	10.15%	39	10.28%	100	14.82%	3.29%	5.20%	8.49%
2011	10.29%	42	9.92%	16	10.19%	58	2.10%	1.88%	6.01%	7.89%
2012	10.17%	58	9.94%	35	10.08%	93	15.89%	1.76%	5.78%	7.54%
2013	10.03%	49	9.68%	21	9.93%	70	32.15%	3.04%	4.96%	8.00%
2014	9.91%	38	9.78%	26	9.86%	64	13.52%	2.17%	5.78%	7.95%
2015	9.85%	30	9.60%	16	9.76%	46	1.38%	2.27%	6.12%	8.39%
2016	9.77%	42	9.54%	26	9.68%	68	11.77%	2.45%	5.69%	8.14%
2017	9.74%	53	9.72%	24	9.73%	77	21.61%	2.41%	5.08%	7.49%
2018	9.64%	37	9.62%	26	9.63%	63	-4.23%	2.68%	5.96%	8.64%
2019	9.66%	67	9.71%	32	9.68%	99	31.22%	1.92%	5.20%	7.12%
2020	9.44%	43	9.46%	34	9.45%	77	18.01%	0.93%	4.72%	5.65%
2021	9.40%	55	9.52%	29	9.44%	84	18.01%	1.51%	4.24%	5.75%

[1], [2], [3] Average annual authorized ROE for electric and gas utilities, RRA Regulatory Focus: Major Rate Case Decisions; EEI Rate Review

[3] = [1] + [2]

[4], [5], [6] Annual S&P 500 return, 10-year T-bond Rate, and equity risk premium published by NYU Stern School of Business

[7] = [5] + [6] ; Market cost of equity represents the required return for investing in all stocks in the market for a given year

Proxy Company Debt Ratios

Company	Ticker	Debt Ratio
Atmos Energy Corp	ATO	38%
Chesapeake Utilities Corp	CPK	42%
New Jersey Resources Corporation	NJR	57%
NiSource Inc	NI	57%
Northwest Natural Holding Company	NWN	53%
ONE Gas Inc	OGS	61%
Southwest Gas Holdings Inc	SWX	58%
Spire Inc.	SR	53%
Average		52%

Debt ratios from Value Line Investment Survey - Year End 2021

Competitive Industry Debt Ratios

Industry	# Firms	Debt Ratio
Air Transport	21	85%
Hospitals/Healthcare Facilities	31	80%
Hotel/Gaming	66	77%
Brokerage & Investment Banking	31	76%
Retail (Automotive)	32	72%
Food Wholesalers	15	68%
Retail (Grocery and Food)	15	68%
Rubber& Tires	2	67%
Bank (Money Center)	7	67%
Advertising	49	67%
Computers/Peripherals	46	67%
Auto & Truck	26	66%
Real Estate (Operations & Services)	51	66%
Retail (Special Lines)	76	64%
Cable TV	11	63%
Oil/Gas Distribution	21	63%
Packaging & Container	26	62%
Telecom. Services	42	61%
Recreation	60	61%
Broadcasting	28	60%
Transportation (Railroads)	4	60%
R.E.I.T.	238	60%
Power	50	60%
Telecom (Wireless)	17	59%
Transportation	17	59%
Beverage (Soft)	32	58%
Utility (Water)	14	57%
Retail (Distributors)	68	57%
Office Equipment & Services	18	57%
Aerospace/Defense	73	57%
Household Products	118	56%
Computer Services	83	56%
Green & Renewable Energy	20	56%
Chemical (Diversified)	4	55%
Trucking	34	55%
Farming/Agriculture	36	54%
Environmental & Waste Services	58	54%
Apparel	39	54%
Paper/Forest Products	11	54%
Retail (Online)	60	53%
Chemical (Basic)	35	53%
Real Estate (Development)	19	52%
Business & Consumer Services	160	52%
Coal & Related Energy	18	52%
Construction Supplies	48	51%
Total / Average	**1,930**	**61%**

http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/dbtfund.htm

Weighted Average Rate of Return Proposal

Capital Component	Proposed Ratio	Cost Rate	Weighted Cost
Long-Term Debt	50.0%	3.92%	1.96%
Common Equity	50.0%	8.75%	4.38%
Total	100.0%		6.34%

Hamada Model

Unlevering Beta

Proposed Debt Ratio	47%	[1]
Proposed Equity Ratio	53%	[2]
Debt / Equity Ratio	87%	[3]
Tax Rate	21%	[4]
Equity Risk Premium	5.8%	[5]
Risk-free Rate	3.0%	[6]
Proxy Group Beta	0.83	[7]
Unlevered Beta	0.49	[8]

Relevered Betas and Cost of Equity Estimates

[9] Debt Ratio	[10] D/E Ratio	[11] Levered Beta	[12] Cost of Equity
0.0%	0%	0.492	5.9%
20.0%	25%	0.589	6.5%
30.0%	43%	0.659	6.9%
46.6%	87%	0.831	7.9%
50.0%	100%	0.881	8.2%
55.0%	122%	0.967	8.7%
60.0%	150%	1.075	9.3%

[1] Company proposed debt ratio

[2] Company proposed equity ratio

[3] = [1] / [2]

[4] Tax rate

[5] Equity risk premium from Exhibit DJG-11

[6] Risk-free rate from Exhibit DJG-11

[7] Average proxy beta from Exhibit DJG-11

[8] = [7] / (1 + (1 - [4]) * [3])

[9] Various debt ratios (proposed ratios highlighted)

[10] = [9] / (1 - [9])

[11] = [8] * (1 + (1 - [4]) * [10])

[12] = [6] + [11] * [5]

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Re: Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts set forth in my Direct Testimony, OCA Statement 2, are true and correct (or are 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).

DATED: June 22, 2022 Signature: _____
*330684 David J. Garrett

Consultant Address: Resolve Utility Consulting PLLC
101 Park Avenue
Suite 1125
Oklahoma City, OK 73102

OCA Statement 3

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2022-3031113**
PECO Energy Company – Gas Division	**)**	

DIRECT TESTIMONY OF

KARL RICHARD PAVLOVIC

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 22, 2022

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Karl Richard Pavlovic. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am Managing Director of and a Senior Consultant with PCMG and Associates LLC ("PCMG"). PCMG is an association of experts in economics, accounting, finance, and utility regulation and policy, with over 75 years of collective experience providing assistance to counsel and expert testimony regarding the regulation of electric, gas, water, and wastewater utilities.

Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND EXPERIENCE?

A. Yes. Exhibit KRP-1 to my testimony summarizes my qualifications and experience.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN REGULATORY PROCEEDINGS?

A. Yes. Exhibit KRP-1 also contains a complete list of my engagements as an expert and/or expert witness in matters before state and federal regulatory agencies. I have submitted testimony to the Federal Communications Commission, the Federal Energy Regulatory Commission, the Alaska Public Utilities Commission, the Alberta Utilities Commission, the Corporation Commission of the State of Kansas,

the Delaware Public Service Commission, the Maryland Public Service Commission, the Massachusetts Department of Public Utilities, the Illinois Commerce Commission, the North Dakota Public Service Commission, the Maine Public Utilities Commission, and the Public Service Commission of the District of Columbia.

Q. PLEASE SUMMARIZE YOUR ELECTRIC AND GAS REGULATORY EXPERIENCE.

A. For most of my career I have performed analyses and submitted testimony regarding electric and gas utility least-cost planning, reliability, cost of service, rate design, and weather-emergency response. Specifically regarding gas utilities, I have testified on: (a) integrated resource planning, (b) class cost of service and rate design, and (c) various infrastructure operating expense and investment recovery mechanisms.

II. PURPOSE OF TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony responds to PECO's proposed class allocation of mains in its cost of service study, revenue allocation, and rate design.

III. DISCUSSION

A. SUMMARY

Q. PLEASE SUMMARIZE THE SUBSTANCE OF YOUR TESTIMONY.

A. As detailed below, I find that:

- PECO's A&E allocation of PECO's mains is cost based and reasonable;
- PECO's proposed revenue allocation is not fair or reasonable in that contrary to the principle of gradualism it moves the GR, GC, OL and MV-F classes to 100% recovery of class cost of service, while only minimally moving the other classes toward recovery of cost of service;
- To provide residential customers with (1) an incentive to conservation and (2) the ability to exercise control over a significant portion of their monthly gas distribution bill, the residential customer charge should remain at its current level of $13.63

B. AVERAGE AND EXCESS ALLOCATION OF MAINS

Q. HOW DOES PECO PROPOSE TO ALLOCATE MAINS IN ITS COST OF SERVICE STUDY?

A. To allocate the costs of mains to classes, PECO uses the Average and Excess (A&E) method as described in the AGA Gas Rate Manual,[1] which allocates a portion of the mains costs on class excess demand and a portion of mains costs on class average commodity usage.[2] As implemented in the class cost of service study (COSS), PECO first determines the mains costs to be allocated by subtracting the costs of directly assigned mains from the

[1] American Gas Association Gas Rate Fundamentals, 1987, pages 144-145.
[2] Direct Testimony of Jiang Ding, page 9.

total cost of mains and then multiplies the allocable costs by the system load factor to determine the portion of mains costs to be allocated based on class average commodity usage, leaving the remaining allocable costs to be allocated based on class excess demand.[3]

Q. WHAT IS PECO'S SYSTEM LOAD FACTOR?

A. A gas system's load factor compares an average day's gas delivery over a year to the peak day's delivery expressed as a percentage. The PECO system load factor used in the COSS is 25%. As I noted above, the A&E allocation method uses the system load factor to determine the portion of allocable mains costs that is allocated on class average daily usage.

Q. WHAT IS LOAD DIVERSITY?

A. Load diversity refers to the differences between the total demand at the time of a system's peak and the non-coincident peak demand of a customer or a class of customers, i.e., the degree to which a customer's or class of customers' maximum demand occurs at times other than the time of system peak. Diversity is often quantified in a diversity ratio that is calculated by dividing the sum of the customer classes' non-coincident peak demands by the system's coincident peak demand. A system with a diversity ratio of 1.0 would be a system on which all the customer classes experienced peak demand at the system peak. Such a system would have no diversity.

Q. WHAT IS PECO'S DIVERSITY RATIO?

A. In its COSS, PECO's system peak demand is 861,000 MCF and the sum of PECO's classes' non-coincident peak demands is 923,500 MCF, which calculates a diversity ratio

[3] PECO Exhibit JD-2, page 1 of 32, lines RBP30 – RBP 33.

of 1.07. This represents a significant amount of diversity, as can be seen by comparing the non-coincident peak (NCP) demand and average daily usage of PECO's classes in Table 1 below.

Table 1 – Class Diversity Measured by NCP Demand over Average Daily Usage[4]

Class	GR	GC	L	MV-F	MV-I	IS	TCS	TS-F	TS-I
NCP Demand	565,285	271,279	122	1,623	1	30	420	61,257	23,483
Average Daily Usage (ADU)	115,594	61,219	35	1,265	1	30	420	25,081	23,483
% NCP Demand over ADU	79.6%	77.4%	71.2%	22.1%	0.0%	0.0%	0.0%	59.1%	0.0%

The third row in Table 1 calculates for each class the percentage of NCP demand, i.e., the demand that does not occur at system peak, that is over the class' average daily usage. For example, almost 80% of GR class' NCP demand occurs outside of the system peak demand. The percentages for GC, L and TS-F classes are, respectively, 77%, 71% and 59%, all of which occur at times other than the system peak. What this means is that a significant amount of class demand occurs outside of the system peak demand and is properly caused by and allocated on excess demand as the A&E method does.

[4] Source: PECO Exhibit JD-6, page 5 of 18.

Q. WHAT IS YOUR ASSESSMENT OF PECO'S A&E ALLOCATION OF MAINS COSTS?

A. Given the significant amount of diversity among PECO'S major classes, A&E allocation of PECO's mains is cost based and reasonable.

C. CLASS REVENUE ALLOCATION

Q. WHAT IS PECO'S PROPOSED CLASS REVENUE ALLOCATION?

A. PECO proposes to allocate its proposed revenue increase to classes based on its COSS's class rate of return results, making purported reasonable movement towards class cost of service.[5] Table 2 shows for each class PECO's proposed movement to cost of service (relative rate of return), allocated revenue, and percentage increase.

[5] Direct testimony of Joseph A. Bisti, page 3, line 20 to page 4, line 8.

Table 2 PECO Proposed Distribution Revenue Allocation[6]				
Class	Present Relative Rate of Return	Proposed Relative Rate of Return	Revenue Increase Allocation	Proposed Increase
Residential (GR)	0.93	0.99	$61,818,327	23.0%
General Service (GC)	1.11	1.00	$13,764,243	13.8%
Outdoor Lighting (OL)	1.11	1.00	$63	13.8%
Large High Load Factor (L)	3.09	2.80	$-	0.0%
Motor Vehicle Service - Firm (MV-F)	1.14	1.00	$49,645	10.7%
Motor Vehicle Service - Interruptible (MV-I)	2.47	2.14	$-	0.0%
Interruptible Service (IS)	1.43	1.02	$-	0.0%
Temperature-Controlled Service (TCS)	5.15	4.93	$-	0.0%
Gas Transportation - Interruptible (TS-I)	1.73	1.40	$-	0.0%
Gas Transportation - Firm (TS-F)	0.99	1.00	$3,652,483	23.5%
Total			$79,284,764 [7]	20.1%

Q. DO YOU AGREE WITH PECO'S PROPOSED REVENUE ALLOCATION TO THE CLASSES?

A. No. There is nothing fair or reasonable about the movement towards class cost of service underlying PECO's proposed revenue allocation. Note that the GR, GC, OL and MV-F classes are moved completely to cost of service, while only minimal movements toward cost of service are made for the other classes.

[6] Source: PECO Exhibit JAB-1.

[7] PECO's requested revenue increase, $82,109,764, is reduced by $2,825,000 in GPC and MFC distribution revenue reductions. *See* PECO Exhibit JAB-1, columns 3 through 6.

Q. WHAT DO YOU PROPOSE AS A FAIR AND REASONABLE ALLOCATION OF REVENUE TO PECO'S CLASSES?

A. Consistent with the ratemaking principle of gradualism, I propose that a fair and reasonable allocation would move the GR, GC, OL and MV-F classes approximately halfway toward cost of service measured by relative rate of return as shown in Table 3. The results of these changes are a reduction in the revenue increase to the GR class (21.5% vs 23.0%) and increases in the revenue increase for the other relative rate of return adjusted classes: GC (17.8% vs 13.8%), OL (17.8% vs 13.8%) and MV-F (14.5% vs 10.7%). Note also that no revenue increase is allocated to those classes that have relative rates of return significantly above 1.0 (L, MV-I, TCS and TS-1).

Table 3 OCA Correction of PECO Distribution Revenue Allocation[8]					
Class	Present Relative Rate of Return	Proposed Relative Rate of Return	Revenue Increase Allocation	Proposed Increase	Revenue Increase Percentage Distribution
Residential (GR)	0.93	0.96	$57,759,555	21.5%	72.9%
General Service (GC)	1.11	1.07	$17,803,384	17.8%	22.5%
Outdoor Lighting (OL)	1.11	1.07	$81	17.8%	0.0%
Large High Load Factor (L)	3.09	2.80	$-	0.0%	0.0%
Motor Vehicle Service - Firm (MV-F)	1.14	1.07	$67,297	14.5%	0.1%
Motor Vehicle Service - Interruptible (MV-I)	2.47	2.14	$-	0.0%	0.0%
Interruptible Service (IS)	1.43	1.02	$-	0.0%	0.0%
Temperature-Controlled Service (TCS)	5.15	4.93	$-	0.0%	0.0%
Gas Transportation - Interruptible (TS-I)	1.73	1.40	$-	0.0%	0.0%
Gas Transportation - Firm (TS-F)	0.99	1.00	$3,652,483	23.5%	4.6%
Total			$79,282,803	20.1%	100.0%

Q. DO YOU HAVE A SCALEBACK PROPOSAL?

A. Yes. I recommend that for whatever revenue increase is ultimately adopted by the Commission, the revenue increase allocation be made by gradually moving the relative rates of return for the GR, GC, OL and MV-F classes toward recovery of cost of service, as I did in Table 3 above.

D. RESIDENTIAL CUSTOMER CHARGE

Q. WHAT IS PECO'S PROPOSAL REGARDING CHANGES TO ITS TARIFF RATE SCHEDULES?

[8] Source: Exhibit KRP-2.

A. PECO proposes as a general matter to increase or decrease its class tariff charges in proportion to the revenue increase or decrease allocated to each class, subject to certain rate design changes.[9]

Q. WHAT SPECIFIC CHANGE DOES PECO PROPOSE REGARDING THE RESIDENTIAL CUSTOMER CHARGE?

A. PECO proposes to increase the residential customer charge by 36% with the remainder of the revenue increase to be recovered through the variable distribution service charge.[10] As regards the proposed increased customer charge, Witness Bisti argues that increased recovery of customer classified costs through the customer charge increases the accuracy of the price signal sent by the customer charge.[11] Witness Bisti also argues that increasing the customer charge reduces the volumetric distribution service charge and thus reduces the intraclass subsidy of small volume residential customers by large volume customers.[12]

Q. WHAT IS YOUR RESPONSE TO THESE ARGUMENTS?

A. First, the customer charge is not an actionable price signal. No customer decides to connect to or disconnect from gas distribution service based on the customer charge. Second, the objective of reducing the intraclass subsidy that is inherent in volumetric distribution charges needs to be balanced with the fact that volumetric distribution charges provide the customer with (1) an incentive to conservation and (2) the ability to exercise control over

[9] Bisti Direct, page 10, lines 4-6.
[10] Bisti Direct, page 13, lines Table 2.
[11] Bisti Direct, page 12, lines 3-14.
[12] Bisti Direct, page 12, lines 15-22.

a significant portion of the customer's monthly gas distribution bill. For those reasons I recommend that the residential customer charge remain at its current level of $13.63.

Q. HAS THE COMMISSION RECENTLY ISSUED ANY DECISIONS AS TO INCREASED CUSTOMER CHARGES?

A. Yes. Columbia proposed an increase in its existing monthly customer charge in Docket No. R-2020-3018835. In that proceeding the Administrative Law Judge (ALJ) found that Columbia's proposed increase in the Residential customer charge was contrary to the Commission's goal of encouraging customers to conserve energy and denied the Company's requested increase in the monthly customer charge. The Commission adopted the ALJ's decision regarding the Residential customer charge.[13]

Q. ARE THERE ADDITIONAL REASONS WHY AN INCREASE TO THE CUSTOMER CHARGE SHOULD NOT BE AUTHORIZED IN THIS PROCEEDING?

A. Yes. In his Direct Testimony, OCA witness Roger Colton discusses why an increase in the customer charge will have a decidedly negative impact to PECO's low-income customers.[14] Based on the reasons presented here, I recommend that PECO's customer charge not be increased in this proceeding.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to supplement this testimony if further information is provided by PECO.

[13] *Pa. P.U.C. v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2020-3018835, Order at 264-65 (Feb. 19, 2021).
[14] *See*, OCA Statement 4 at 6-17.

KARL RICHARD PAVLOVIC, Ph.D.

Education

Purdue University – MA and Ph.D. in Philosophy

Karl-Ruprecht Universität, Heidelberg, Germany – graduate study

Yale University – BA in Philosophy

Positions

Senior Consultant – PCMG and Associates	2015-Present
Senior Consultant – Snavely King Majoros and Associates	2010-2014
Director – FTI Consulting	2008-2010
President – DOXA, Inc	1994-2008
Partner – Snavely King and Associates	1983-1994
Assistant Professor – University of Florida-Gainesville	1978-1983

Professional Experience

Dr. Pavlovic provides clients with economic and policy analyses of commercial operations and expert testimony in support of litigation, negotiation and strategic planning. His analyses and testimony are distinguished by systematic articulation and testing of assumptions, thorough evaluation of data, innovative application of statistical tools and economic principles, and clarity and precision of presentation. Dr. Pavlovic has provided expert testimony on the operations, costs and revenues of gas and electric utilities, the impacts of restructuring wholesale and retail electric markets, effects of mergers, the operation and competitiveness of petroleum and electric markets, the market valuation of crude oil, electric and gas reliability, and the performance of energy efficiency, renewable energy, and peak reduction programs.

Major projects directed by Dr. Pavlovic have included: analytical assistance to counsel and testimony on all aspects of the restructuring of wholesale and retail electric markets in the Eastern Interconnection; technical representation of the District of Columbia People's Counsel on the DC PSC's Pepco Productivity Improvement Working Group and various PJM working groups; impact evaluation study of pilot energy efficiency and renewable energy programs in the District of Columbia; analysis of petroleum markets, expert testimony, and coordination of technical testimony in the Trans-Alaska Pipeline quality bank litigation; Independent Technical Review of the economic models used by the US Army Corps of Engineers for the Ohio River System Investment Plan; assistance to a major independent telephone company in the formulation and implementation of corporate strategic plans, applications for long-distance authority, and settlement negotiations with major domestic and foreign carriers.

By education and professional experience Dr. Pavlovic has expertise in formal and mathematical logic, statistics, economics, financial analysis, econometrics, and computer modeling. With 33 years' experience as a consultant and expert witness, Dr. Pavlovic has in-depth knowledge of

commercial and industrial operations in the energy, transportation, and telecommunications industries and is familiar with a wide range of experimental and investigative methods in science and engineering.

Regulatory Projects and Appearances

1. In re: Nova Scotia Power 2022-2024 General Rate Application (2022) - (Appearance: cost of service on behalf of the Nova Scotia Utility and Review Board)
   NS UARB M10431

2. In re: the Application of Northern States Power Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2021) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
   ND PSC Case No. PU-20-441

3. In re: Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2022 and to Reset the Annual Cost of Capital Mechanism (2021) – (Appearance: wildfire risk accounting and ratemaking on behalf of Utility Consumers' Action Network)
   CA Public Utilities Commission Application 21-08-014

4. In re: Petition of HPBS, Inc. for review and approval of Central Scheduling System (CSS) charge increase and revised CSS schedule (2021) – (Appearance: rate design on behalf of the Hawaii Department of Commerce and Consumer Affairs)
   HI DCCA Docket No. PTP-2021-001

5. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 21-GREC-06

6. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 21-GREC-05

7. In re: Petition of Berkshire Gas Company for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 20-GREC-02

8. In re: the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota (2021) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
   ND PSC Case No. PU-20-441

9. In re: Pike County Light & Power Company 2020 General Base Rate Increase Filing – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
   PA Public Utility Commission Docket Nos. R-2020-3022134 and R-2020-3022135

10. In re: Young Brothers LLC's Application for Approval of a New Cost of Service Model (2020) – (Appearance: cost of service on behalf of the Hawaii Division of Consumer Advocacy)
   HI Public Utilities Commission Docket No. 2020-0135

11. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 20-GREC-06

12. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 20-GREC-05

13. In re: Petition of Berkshire Gas Company for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 20-GREC-02

14. In re: Pittsburgh Water and Sewer Authority 2020 General Base Rate Increases 2020 – (Appearance: multi-year rate plan and performance based ratemaking on behalf of the Pennsylvania Office of Consumer Advocate)
   PA Public Utility Commission Docket Nos. R-2020-3017970 and R-2020-3017951

15. In re: Commonwealth Edison Company Petition for approval of a Revision to Integrated Distribution Company Implementation Plan Creation of Rate Residential Time of Use Pricing Pilot ("Rate RTOUP") – On Rehearing (2020) – (Appearance: price signal and customer response on behalf of the Illinois Attorney General)
   IL Commerce Commission Docket Nos. 18-1725/18-1824

16. In re: Hawaii Electric Company, Inc. Application for Approval of a General Rate Increase and Revised Rate Schedules and Rules (2019) - (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
   HI Public Utilities Commission Docket No. 2019-0085

17. In re: Application of San Diego Gas & Electric Company for Authority to: (i) Adjust its Authorized Return on Common Equity, (ii) Adjust its Authorized Embedded Costs of Debt and Preferred Stock, (iii) Adjust its Authorized Capital Structure; (iv) Increase its Overall Rate of Return, (v) Modify its Adopted Cost of Capital Mechanism Structure, and (vi) Revise its Electric Distribution and Gas Rates Accordingly, and for Related Substantive and Procedural Relief (2019) – (Appearance: wildfire risk accounting and ratemaking on behalf of Utility Consumers' Action Network)
CA Public Utilities Commission Application 19-04-017

18. In re: Proposed Amendments to N.J.A.C. 14:9 Adoption of Water and Sewer Uniform System of Accounts (2019) – (Assistance to counsel: water and sewer accounting on behalf of the Division of Rate Counsel)
NJ Board of Public Utilities Docket Nos. WX19050612 and WX19050613

19. In re: Petition of Public Service Electric and Gas Company for Approval of Gas Base Rate Adjustments Pursuant to its Gas System Modernization Program (2019) – (Assistance to Counsel: infrastructure replacement accounting)
NJ Board of Public Utilities Docket No. GE19040522

20. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2018 Gas System Enhancement Plan Reconciliation Filing (2019) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 19-GREC-06

21. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2018 Gas System Enhancement Plan Reconciliation Filing (2019) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 19-GREC-05

22. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2019) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9602

23. In re: PECO Energy Company Non-Bypassable Transmission Service Charge (NBT) Semiannual Adjustment (2019) - (Appearance: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket No. M-2018-3005860

24. In re: PECO Energy Company Transmission Formula Rate Application (2018) - (Appearance: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
Federal Energy Regulatory Commission Docket ER17-1519-000

25. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2017 Gas System Enhancement Plan Reconciliation Filing (2018) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 18-GREC-06

26. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2017 Gas System Enhancement Plan Reconciliation Filing (2018) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 18-GREC-05

27. In re: The Application of the Potomac Edison Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2018) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9490

28. In re: Rate Applications of Kansas City Power & Light – Missouri and Kansas City Power & Light – Greater Missouri Operations (2018) – (Appearance: consolidated operations, cost of service and rate design on behalf of the Missouri Office of Public Counsel)
MO Public Service Commission Case Nos. ER-2018-0145 and ER-2018-0146

29. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2018) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9472

30. In re: Mid-Atlantic Interstate Transmission, L.L.C. 2018 Transmission Formula Rate Protocol Filings (2018) - (Analysis and Advice to Counsel: accounting)
Federal Energy Regulatory Commission Docket ER17-211-000

31. In re: The Gas Company d/b/a Hawaii Gas Application for Approval of Rate Increases and Revised Rate Schedules and Rules (2017) - (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
HI Public Utilities Commission Docket No. 2017-0105

32. In re: Montana-Dakota Utilities Co., Application to Increase Natural Gas Rates (2017) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Staff)
ND Public Service Commission Case No. PU-12-813

33. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9455

34. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 17-GREC-06

35. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 17-GREC-05

36. In re: In the matter of the application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2017) - (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9447

37. In re: PJM Interconnection, L.L.C. - PECO Energy Company Transmission Formula Rate Application (2017) - (Analysis and Advice to Counsel: accounting, cost of service and rate design)
Federal Energy Regulatory Commission Docket ER17-1519-000

38. In re: Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed General Increase in Gas Rates (2017) - (Appearance: prudence/used and useful and plant accounting re. accelerated asset replacement program on behalf of the Illinois Citizens Utility Board)
IL Commerce Commission Docket No. 17-0124

39. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) - (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9443

40. In re: PJM Interconnection, L.L.C. - Rockland Electric Company Transmission Rate Application (2017) (Analysis and Advice to Counsel: accounting, cost of service and rate design on behalf of the New Jersey Division of Rate Counsel)
Federal Energy Regulatory Commission Docket ER17-856-000

41. In re: PJM Interconnection, L.L.C. - Mid-Atlantic Interstate Transmission, L.L.C. Transmission Formula Rate Application (2016) - (Analysis and Advice to Counsel: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    Federal Energy Regulatory Commission Docket ER17-211-000

42. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9424

43. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9418

44. In re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01

45. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05

46. In re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Appearance: compliance with statutes and regulations, prudence, cost/benefit, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
    NH Public Utilities Commission Docket No. DE 16-241

47. In re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel: tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
    ME Public Service Commission Docket No. 2016-00035

48. In re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (2016) - (Appearance: productivity adjustments/performance based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
    Alberta Utilities Commission Proceeding 20414

49. In re: Emera Maine, Proposed Rate Increase in Rates (2016) - (Analysis and Advice to to Counsel: evaluation of management audit of implementation of Customer Information System on behalf of the Maine Office of the Public Advocate)
ME Public Service Commission Docket No. 2015-00360

50. In re: The Merger of the Southern Company and AGL Resources Inc.- Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Utility Holdings, Inc., d/b/a Elkton Gas (2015-2016) - (Appearance: earnings, synergy savings, rates, operations, supply procurement, safety, and reliability on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9404

51. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of Firm Transportation Agreements with Millennium Pipeline Company, LLC (2015-2016) - (Analysis, Advice to Counsel, and Assistance on Brief: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-142

52. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015-2016)
- (Analysis, Advice to Counsel, and Assistance on Brief: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-130

53. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Gaz Metro LNG, L.P.; and National Grid LNG (2015- 2016) - (Analysis and Advice to Counsel: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-129

54. In re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor Compliance Filing (2015) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-55

55. ENMAX Energy Corporation (EEC) 2015-2016 Regulated Rate Option Non-Energy Tariff Application (2015-2016) - (Appearance: cost allocation, rate design, non-energy risk on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20480

56. In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (2014) - (Advice to Counsel: impact on customers on behalf of the New Jersey Division of Rate Counsel)
NJ Board of Public Utilities BPU Docket No. EM1406

57. In re: Application of Baltimore Gas and Electric Company For Adjustments To Its Electric and Gas Base Rates (2014) (Analysis and Advice to Counsel in Settlement: earnings, investment tracker, cost allocation and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9355

58. In re: Columbia Gas of Massachusetts CY2013 Targeted Infrastructure Reinvestment Factor Compliance Filing (2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 14-83

59. In re: Potential Business Combination of Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. (2014-2015) - (Analysis and Advice to Counsel: impact on rates and consolidation of rates on behalf of the Louisiana Public Service Commission Staff)
LA Public Service Commission Docket No.U-33244

60. In the Matter of the Application of Ohio Power Company to Adopt a Final Implementation Plan for the Retail Stability Rider (2014) - (Analysis and Advice to Counsel: rate design)
OH Public Utilities Commission Case No. 14-1186-EL-RDR

61. In re: Examination of Long-Term Natural Gas Hedging Proposals (2014-2015) - (Analysis and Advice to Counsel: natural gas procurement on behalf of the Louisiana Public Service Commission Staff)
LA Public Service Commission Docket No.R-32975-LPSC, ex parte

62. In re: 2013 Integrated Resource Planning Process for Southwestern Electric Power Company Pursuant to General Order Dated April, 20, 2012 (2014-2015 - (Analysis and Advice to Counsel: IRP design and evaluation on behalf of the Louisiana Public Service Commission Staff)
LA Public Service Commission Docket No.I-33013 SWEPCO, ex parte

63. In the Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Adopt an Infrastructure Replacement Surcharge Mechanism (2013-2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9332

64. In the Matter of the Application of Baltimore Gas and Electric Company for Approval of a Gas System Strategic Infrastructure Development and Enhancement Plan and Accompanying Cost Recovery Mechanism (2013-2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9331

65. In the Matter of the Application of Delmarva Power & Light Company for an Increase in Electric Base Rates and Miscellaneous Tariff Changes (2013-2014) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Delaware Public Service Commission Staff)
DE Public Service Commission Docket No. 13-115

66. In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota (2013) - (Appearance: cost allocation and rate design on behalf of the North Dakota Public Service Commission Staff)
ND Public Service Commission Case No. PU-12-813

67. In the Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2013) - (Appearance: expense tracker design/rates and evaluation on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9316

68. In the Matter of the Application of Baltimore Gas and Electric Company for Adjustment in its Electric and Gas Base Rates (2012) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9299

69. In the Matter of the Application of Delmarva Power & Light Company for an Increase in Electric Base Rates and Miscellaneous Tariff Changes (2012) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Delaware Public Service Commission Staff)
DE Public Service Commission Docket No. 11-528

70. ENMAX Energy Corporation (EEC) 2012-2014 Regulated Rate Option Non-Energy Tariff Application (2012-2013) - (Analysis and Advice to Counsel: rate design and non-energy risk on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Application #1608745 Proceeding 2069

71. In the Matter of the Petition of Atlantic City Electric Company for Approval of Amendments to Its Tariff to Provide for an Increase in Rates and Charges for Electric Service Pursuant to *N.J.S.A.* 48:2-21 and *N.J.S.A.* 48:2-21.1 and for Other Appropriate Relief (2011) - (Analysis and Advice to Counsel: depreciation on behalf of the New Jersey Division of Rate Counsel)
NJ Board of Public Utilities Docket No. ER11080469

72. In the Matter of the Application of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service (2011) - (Appearance: investment tracker design/rates, cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1087

73. Electric Transmission Formula Rate Annual Informational Filing of Central Maine Power Company (2011) - (Advice to Counsel: formula transmission rates, cost allocation and rate design on behalf of the Maine Attorney General)
Federal Energy Regulatory Commission Docket No. ER09-934-000 (2011)

74. Electric Transmission Formula Rate Annual Informational Filing of Bangor Hydro Electric Company (2011) - (Analysis, Report and Advice to Counsel: formula rate on behalf of the Massachusetts Attorney General)
Federal Energy Regulatory Commission Docket No. ER09-938-000

75. Pennsylvania Public Utility Commission Office of Consumer Advocate Office of Small Business Advocate v. City of Bethlehem – Bureau of Water (2011) - (Appearance: cost allocation and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania PUC Docket Nos. R-2011-2244756, C-2011-2246910, and C-2011- 2248241

76. Southern California Edison Company Transmission Owners Tariff (2011) - (Analysis and Advice to Counsel: depreciation on behalf of M-S-R Public Power Agency)
Federal Energy Regulatory Commission Docket No. ER11-2061-000

77. In the Matter of the Petition of Kansas City Power & Light Company for Determination of the Ratemaking Principles and Treatment that Will Apply to the Recovery in Rates of the Cost to be Incurred by KCP&L for Certain Electric Generation Facilities under K.S.A. 66- 1239 (2011) - (Appearance: advance determination of prudence on behalf of the Kansas Citizens' Utility Ratepayer Board)
Kansas Corporation Commission Docket No. 11-KCPE-581-PRE

78. Midwest Independent Transmission System Operator, Inc., and Ameren Illinois Company (2011) - (Analysis and Advice to Counsel: depreciation on behalf of the Wholesale Distribution Service Customer Group)
Federal Energy Regulatory Commission Docket No. ER11-2788-000

79. Electric Generation Plant Valuation Study (2010-2012) - (Analysis: generation plant valuation)
California Department of Water Resources

80. Tampa Electric Company Wholesale Power Tariff (2010-2011) - (Analysis and Advice to Counsel: depreciation on behalf of the Orlando Utilities Commission)
Federal Energy Regulatory Commission Docket No. ER10-2061-000

81. Pacific Gas & Electric Company, Transmission Owner Tariff (2010-2011) - (Analysis and Advice to Counsel: depreciation on behalf of the Transmission Agency of Northern California)
Federal Energy Regulatory Commission Docket No. ER10-2026-000

82. Natural Gas Price Forecast Model Consulting (2008-2010) - (line of business development) FTI Consulting

83. Impact Evaluation Study of the District of Columbia Department of the Environment's Two-Year Pilot Reliable Energy Trust Fund Programs (2007-2008) - (Appearance: evaluation of implementation and cost effectiveness of energy efficiency, renewable energy, and demand response pilot programs on behalf of the District of Columbia Department of the Environment)
D.C. Public Service Commission Formal Case No. 945

84. In the Matter of the Application of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service (2007-2008)- Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1053

85. In the Matter of the Investigation of Interconnection Standards in the District of Columbia (2006) - (Analysis and Advice to Counsel: interconnection standards and tariff design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1050

86. In the Matter of the Investigation into the Omnibus Utility Emergency Amendment Act of 2005, Specifically Regarding the Establishment of the Natural Gas Trust Fund Programs (2006) - (Analysis and Advice to Counsel: program design on behalf of the District of Columbia Department of the Environment)
D.C. Public Service Commission Formal Case No. 1037

87. Emergency Application of the Potomac Electric Power Company For A Certificate of Public Convenience and Necessity To Construct Two 69kV Overhead Transmission Lines and Notice of The Proposed Construction of Two Underground 230kV Transmission Lines (2005-2006) - (Appearance: facilities need on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1044

88. Investigation Into Potomac Electric Power Company's Distribution Service Rates (2003- 2005) - (Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1032

89. Investigation of the Feasibility of Removing Pre-Existing Aboveground Utility Lines and Cables and Relocating Them Underground in the District of Columbia (2003) - (Analysis and Advice to Counsel: cost/benefit analysis on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1026

90. Guadalupe L. Garcia v. Ann Veneman, Secretary, US Department of Agriculture (2003- 2006) - (Appearance: statistical analysis on behalf of the Plaintiff)
U.S. District Court for the District of Columbia

91. Mirant Corporation, et al., Debtors (2003-2005) - (Analysis and Advice to Counsel: cost of service on behalf of the People's Counsel for the District of Columbia)
U.S. District Court for the Northern District of Texas

92. Complaint: Office of the People's Counsel of the District of Columbia v. Mirant Americas Energy Marketing, L.P. (2003) - (Analysis and Advice to Counsel: cost of service on behalf of the People's Counsel for the District of Columbia)
Federal Energy Regulatory Commission

93. Investigation into the Effect of the Bankruptcy of Mirant Corporation on Retail Electric Service in the District of Columbia (2003-2005) - (Appearance: customer and rate impact on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1023

94. Development and Designation of Standard Offer Service in the District of Columbia (2003- 2007) - (Appearance: cost of service allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1017

95. Independent Review Panel, Project Management Plan, Ohio River Main Stem Study (2003- 2005) - (50 year economic simulation model evaluation)
U.S. Army Corps of Engineers

96. Investigation into Affiliated Activities, Promotional Practices, and Codes of Conduct of Regulated Gas and Electric Companies (2002-2004) - (Analysis and Advice to Counsel: cost allocation on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1009

97. Independent Review Panel, Ohio River Main Stem Study, System Investment Plan (2001) - (50 year economic simulation model evaluation)
U.S. Army Corps of Engineers

98. Joint Application of PEPCO and New RC, Inc. for Authorization and Approval of Merger Transaction (2001-2002) - (Appearance: cost allocation and affiliate transactions on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1002

99. Investigation into Explosions Occurring in Underground Distribution Systems of PEPCO (2001-2006) - (Analysis and Advice to Counsel: electric systems operation and planning on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 991

100. Pennsylvania-New Jersey-Maryland Power Pool/PJM LLC (ISO/RTO) (2000-2005) - (Member Working Group technical representation on behalf of The People's Counsel for the District of Columbia)

101. Trans Alaska Pipeline System 1996 Quality Bank Complaint Remand (2000-2008) - (Appearance: crude oil valuation and tariff rate design on behalf of ExxonMobil)
Federal Energy Regulatory Commission

102. Ohio River Main Stem Study, Independent Technical Review (1999) - (50 year economic simulation model evaluation)
U.S. Army Corps of Engineers

103. Investigation of January 1999 Electric Service Interruption (1999-2004) - (Appearance: emergency response evaluation on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 982

104. Trans Alaska Pipeline System 1996 Quality Bank Complaint Appeal (1998-2000) - (Analysis and Advice to Counsel: technical record below on behalf of ExxonMobil)
U.S. Court of Appeals for the District of Columbia

105. Electric Retail Competition Investigation (1997-2006) - (Appearance: electric utility restructuring, electric energy procurement, cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 945

106. Trans Alaska Pipeline System 1996 Quality Bank Complaint (1996-1998) - (Appearance: crude oil valuation and tariff rate design on behalf of ExxonMobil)
Federal Energy Regulatory Commission

107. Trans Alaska Pipeline System 1989 Quality Bank Complaint Remand (1995-1998) - (Appearance: crude oil valuation and tariff rate design on behalf of ExxonMobil)
Federal Energy Regulatory Commission

108. Prudhoe Bay Unit Operating Agreement Hearings (1995) - (Analysis and Advice to Counsel: cost of service on behalf of ExxonMobil)
Alaska Oil and Gas Conservation Commission

109. Prudhoe Bay Unit Natural Gas Liquids Hearings (1995) - (Analysis and Advice to Counsel: liquids valuation on behalf of ExxonMobil)
Alaska Department of Natural Resources/Department of Revenue (1995)

110. Potomac Electric Power Co. 3rd Integrated Least-Cost Plan (1995) - (Appearance: forecast operations and costs on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 917, Phase II

111. All American Pipeline Quality Bank Complaint (1994-1995) - (Appearance: crude oil valuation and tariff rate design on behalf of ExxonMobil)
Federal Energy Regulatory Commission

112. Trans Alaska Pipeline System 1989 Quality Bank Complaint Appeal (1994-1995) - (Analysis and Advice to Counsel: technical record below on behalf of ExxonMobil)
U.S. Court of Appeals for the District of Columbia

113. Investigation of the January 1994 Energy Crisis (1994) - (Appearance: emergency response evaluation on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 936

114. Washington Gas Light Co. Gas Rate Case (1994) - (Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 934

115. Washington Gas Light Co. 3rd Integrated Least-Cost Plan (1994) - (Appearance: forecast operations and costs on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 921

116. Potomac Electric Power Co. Electric Rate Case (1993) - (Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 929

117. Washington Gas Light Co. Gas Rate Case (1993) - (Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 922

118. Trans Alaska Pipeline System Pumpability Complaint (1992) - (Analysis and Advice to Counsel: cost of service and rate design on behalf of ExxonMobil)
Federal Energy Regulatory Commission

119. Potomac Electric Power Co. 2nd Integrated Least-Cost Plan (1992) - (Appearance: forecast operations and costs on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 917

120. Potomac Electric Power Co. Electric Rate Case (1992) - (Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 912

121. Potomac Electric Power Co. Fuel Clause Audit and Productivity Improvement Plan (1991- 2005) (Analysis, Participation in Technical Sessions, and Advice to Counsel; electric utility plant investment and operating costs productivity and benefit/cost analysis on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 766

122. Potomac Electric Power Co. Electric Rate Case (1991) - (Appearance: cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 905

123. Anchorage Telephone Utility (1991-1995) - (Analysis and Advice to Counsel: cost of service)
Federal Communications Commission

124. Trans Alaska Pipeline System 1989 Quality Bank Complaint (1990-1993) - (Appearance: crude oil valuation and tariff rate design on behalf of ExxonMobil)
Federal Energy Regulatory Commission

125. Telefonica Larga Distancia de Puerto Rico International Service Tariffs (1990-1992) - (Appearance: cost of service and rate design)
Federal Communications Commission

126. Southern Bell Intrastate Depreciation Study (1989-1990) - (Analysis and Advice to Counsel: telecommunications operation)
Florida Public Service Commission

127. Lake Erie Iron Ore Antitrust Litigation: Erie-Western Pennsylvania Port Authority v. Penn Central et al. (1988-1989) - (Analysis and Advice to Counsel: truck operations and damages on behalf of the Norfolk and Western Railroad)
U.S. District Court for the Eastern District of Pennsylvania

128. Unimar International Chapter 11 Reorganization (1988) - (Analysis and Advice to Counsel: cost of service on behalf of Unsecured Creditors)
U.S. Bankruptcy Court for the Western District of Washington at Seattle

129. National Forest Road Cost Analysis System (1986) - (Analysis: cost allocation system design)
U.S. Department of Agriculture, Forest Service

130. Puerto Rico Telephone Company Long Distance Facilities and Service Applications (1985- 1990) - (Appearance: cost of service and rate design on behalf of the Puerto Rico Telephone Company)
Federal Communications Commission

131. All American Cable and Radio/AT&T de Puerto Rico International Rate Complaint (1985- 1990) - (Appearance: cost of service and rate design on behalf of the Puerto Rico Telephone Company)
Federal Communications Commission

132. Caribbean Telecommunications Facilities Planning Docket (1984-1990) - (Appearance: operations forecast and planning on behalf of the Puerto Rico Telephone Company)
Federal Communications Commission

PECO Energy Company
Proposed Revenue Allocation and Rates of Return by Rate Class

Rate	(1) Current Distribution Revenue *(a)*	(2) Proposed Distribution Revenue	(3) *(2) - (1)* Increase In Distribution Revenue	(4) GPC Reduction *(b)*	(5) MFC Reduction *(c)*	(6) *(3) + (4) + (5)* Net Revenue Ask	(7) *(1) + (6)* Adjusted Proposed Distribution Revenue	(8) *(6) / (1)* % Increase	(9) Increase vs. System Avg
Residential (GR)	$ 269,113,977	$ 328,981,532	$ 59,867,555	$ (1,134,000)	$ (974,000)	$ 57,759,555	$ 326,873,532	21.5%	1.07
General Service (GC)	$ 99,850,069	$ 118,358,453	$ 18,508,384	$ (600,000)	$ (105,000)	$ 17,803,384	$ 117,653,453	17.8%	0.89
Outdoor Lighting (OL)	$ 454	$ 538	$ 84	$ -	$ -	$ 81	$ 535	17.8%	0.89
Large High Load Factor (L)	$ 77,020	$ 77,020	$ -	$ -	$ -	$ -	$ 77,020	0.0%	0.00
Motor Vehicle Service - Firm (MV-F)	$ 463,577	$ 542,874	$ 79,297	$ (12,000)	$ -	$ 67,297	$ 530,874	14.5%	0.72
Motor Vehicle Service - Interruptible (MV-I)	$ 1,721	$ 1,721	$ -	$ -	$ -	$ -	$ 1,721	0.0%	0.00
Interruptible Service (IS)	$ 10,268	$ 10,268	$ -	$ -	$ -	$ -	$ 10,268	0.0%	0.00
Temperature-Controlled Service (TCS)	$ 444,147	$ 444,147	$ -	$ -	$ -	$ -	$ 444,147	0.0%	0.00
Gas Transportation - Interruptible (TS-I)	$ 9,629,665	$ 9,629,665	$ -	$ -	$ -	$ -	$ 9,629,665	0.0%	0.00
Gas Transportation - Firm (TS-F)	$ 15,534,229	$ 19,186,712	$ 3,652,483	$ -	$ -	$ 3,652,483	$ 19,186,712	23.5%	1.17
Total	$ 395,125,127	$ 477,232,930	$ 82,107,803	$ (1,746,000)	$ (1,079,000)	$ 79,282,803	$ 474,407,930	20.1%	

Rate	(10) Present Rate of Return	(11) *(10) / Average of (10)* Present Relative Rate of Return	(12) Proposed Rate of Return	(13) *(12) / Average of (12)* Proposed Relative Rate of Return
Residential (GR)	5.32%	0.93	7.37%	0.96
General Service (GC)	6.32%	1.11	8.23%	1.07
Outdoor Lighting (OL)	6.32%	1.11	8.23%	1.07
Large High Load Factor (L)	17.55%	3.09	21.52%	2.80
Motor Vehicle Service - Firm (MV-F)	6.48%	1.14	8.22%	1.07
Motor Vehicle Service - Interruptible (MV-I)	14.06%	2.47	16.40%	2.14
Interruptible Service (IS)	8.10%	1.43	7.85%	1.02
Temperature-Controlled Service (TCS)	29.27%	5.15	37.86%	4.93
Gas Transportation - Interruptible (TS-I)	9.86%	1.73	10.77%	1.40
Gas Transportation - Firm (TS-F)	5.65%	0.99	7.68%	1.00
Total	5.69%		7.68%	

(a) Includes O&M components recovered by PECO's Gas Procurement Charge (GPC) and Merchant Function Charge (MFC)
(b) Refer to PECO Exhibit BSY-2, Page 7
(c) Refer to PECO Exhibit BSY-3, Page 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Re: Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Karl R. Pavlovic, hereby state that the facts set forth in my Direct Testimony, OCA Statement 3, are true and correct (or are 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).

DATED: June 22, 2022
*330685

Signature: Karl R. Pavlovic

Consultant Address: PCMG and Associates, LLC.
22 Brookes Avenue
Gaithersburg, MD 20877

OCA Statement 4

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2022-3031113
PECO Energy Company – Gas Division	:	

Direct Testimony of
Roger D. Colton

On Behalf of:
The Pennsylvania Office of Consumer Advocate

June 22, 2022

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Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, MA.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am a principal in the firm of Fisher Sheehan & Colton, Public Finance and General Economics of Belmont, Massachusetts. In that capacity, I provide technical assistance to a variety of federal and state agencies, consumer organizations and public utilities on rate and customer service issues involving water/sewer, natural gas and electric utilities.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Office of Consumer Advocate.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. I work primarily on low-income utility issues. This involves regulatory work on rate and customer service issues, as well as research into low-income usage, payment patterns, and affordability programs. At present, I am working on various projects in the states of New Hampshire, Maryland, Pennsylvania, Ohio, Michigan, Tennessee, Kansas, Wisconsin and Washington. My typical clients include state agencies (e.g., Pennsylvania Office of Consumer Advocate, Maryland Office of People's Counsel, Illinois Office of Attorney General), federal agencies (e.g., the U.S. Department of Health and Human Services), community-based organizations (e.g., National Housing Trust, Natural Resources Defense Council, Advocacy Centre Tenants Ontario), and private utilities (e.g., Toledo Water, Entergy Services, Xcel Energy d/b/a Public Service of Colorado). In addition to state-specific and utility-specific work, I engage in national work throughout

the United States. For example, in 2011, I worked with the U.S. Department of Health and Human Services (the federal LIHEAP office) to advance the review and utilization of the Home Energy Insecurity Scale as an outcomes measurement tool for the federal Low-Income Home Energy Assistance Program ("LIHEAP"). In 2007, I was part of a team that performed a multi-sponsor public/private national study of low-income energy assistance programs. In 2020, I completed a study of water affordability in twelve U.S. cities for the London-based newspaper, The Guardian. In 2021, I prepared a Water Affordability Plan for the City of Toledo (OH). A brief description of my professional background is provided in Appendix A.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. After receiving my undergraduate degree in 1975 (Iowa State University), I obtained further training in both law and economics. I received my law degree in 1981 (University of Florida). I received my Master's Degree (regulatory economics) from the MacGregor School in 1993.

Q. HAVE YOU EVER PUBLISHED ON PUBLIC UTILITY REGULATORY ISSUES?

A. Yes. I have published three books and more than 80 articles in scholarly and trade journals, primarily on low-income utility and housing issues. I have published an equal number of technical reports for various clients on energy, water, telecommunications and other associated low-income utility issues. My most recent publication is a chapter in the book "Energy Justice: US and International Perspectives," published by Edward Elgar

Publishing in London. My chapter was titled "The equities of efficiency: distributing usage reduction dollars." It offers an objective definition of "equity" based on legal and economic doctrine.

Q. HAVE YOU EVER TESTIFIED BEFORE THIS OR OTHER UTILITY COMMISSIONS?

A. Yes. I have testified before the Pennsylvania Public Utility Commission ("PUC" or "Commission") on numerous occasions regarding utility issues affecting low-income customers and customer service. I have also testified in more than 300 regulatory and judicial proceedings in 43 states and various Canadian provinces on a wide range of utility issues. A list of the states and provinces in which I have testified is provided in Appendix A.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR DIRECT TESTIMONY.

A. The purpose of my Direct Testimony is as follows.

- First, I examine the impacts of the PECO Gas proposal to increase the residential customer charge;
- Second, I examine a mechanism by which the outcomes of PECO Gas efforts directed toward protecting its low-income customer base can be established and measured. I recommend that the Commission, rather than reviewing the universal activities of PECO Gas (what the Company says it *does*), should instead review what PECO Gas *accomplishes*;

- Third, I examine how the PECO Gas efforts to convert low-income customers from non-gas heating fuels to natural gas affect all ratepayers, and what PECO Gas might do in response to those impacts.
- Fourth, I examine the need to invest additional dollars in low-income energy efficiency in order to stabilize low-income bills in light of the harms imposed on low-income customers as a result of proposals PECO Gas advanced in this rate case;
- Fifth, I discuss the reason why I recommend deferring consideration of the proper inter-class allocation of universal service costs to a future rate case; and
- Sixth, I examine the reasonableness of the PECO Gas proposal to implement a Theft Investigation Charge.
- Finally, I examine the reasonableness of PECO Gas request for an adder to its return on equity based on the Company's claims of exemplary management.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. Based on the data and discussion presented below, I recommend as follows:

1. I recommend that the residential customer charge be no higher than that proposed by OCA witness Pavlovic.

2. I recommend that the PECO Gas proposal to establish a Theft Investigation Charge be disapproved.

3. I recommend the Commission establish three measurable Outcome Objectives that PECO Gas should seek to accomplish with respect to low-income customers:

    a. **<u>Outcome Objective #1</u>**: PECO Gas should achieve a Confirmed Low-Income identification rate, as a percentage of estimated low-

income customers, no less than the Confirmed Low-Income identification rate of Pennsylvania natural gas utilities as a whole (excluding the PECO Gas companies).

b. **Outcome Objective #2**: PECO Gas should achieve a CAP participation rate, as a percentage of Confirmed Low-Income customers, no less than the CAP participation rate of Pennsylvania natural gas utilities as a whole (excluding the PECO Gas companies).

c. **Outcome Objective #3**: PECO Gas should achieve a CAP default rate as a percentage of participants in the lowest poverty level range that is no less than the CAP default rate in that poverty level range for Pennsylvania gas utilities as a whole.

4. I recommend further that the Commission should determine that it will use these outcome performance metrics to review the adequacy of PECO Gas performance in future rate cases.

5. I recommend that, as part of the PECO Gas natural gas conversion programs, the Company screen each gas-conversion customer to determine whether that customer is a Confirmed Low-Income customer and to enroll those customers in CAP where appropriate.

6. I recommend that as part of the PECO Gas natural gas conversion programs, the Company treat each Confirmed Low-Income customer identified as such as part of the conversion process through its LIURP program. I estimate that PECO Gas would serve an additional 90 LIURP customers per year with an estimated incremental LIURP cost of roughly $275,000.

7. I recommend that to offset the harms imposed on Confirmed Low-Income customers by the relief PECO Gas seeks in this rate case, PECO Gas expand its LIURP projected spending to $5.953 million a year, sufficient to serve 1,960 additional low-income customers per year. These additional LIURP jobs are in addition to the LIURP jobs that I recommend above to be directed toward low-income households at the time they are converted from other fuels to natural gas. PECO Gas spending should be incremental to any weatherization funding delivered through federal infrastructure dollars. Given the increase I recommend, I further recommend that PECO Gas be allowed to increase its spending over a three-year period.

8. I recommend that the consideration of the appropriate inter-class allocation of universal service costs be deferred to a future rate case to be considered once

the economic crisis associated with the COVID-19 health pandemic has been reasonably resolved.

9. I recommend that the recommendations of OCA witnesses Mugrace and Garrett should be adopted with respect to the PECO Gas request for an additional return on equity for exemplary management performance.

10. PECO Gas tariff Section 17.6 should be modified to delete the following language: "In the case of fraud, the reconnection charge will also include allocated overheads, all investigative costs and administrative costs as determined by the Company."

PART 1. The Impact of the Proposed PECO Gas Customer Charge on Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine how the proposed increase of the PECO Gas residential customer charge adversely affects low-income customers. PECO Gas proposes to increase its residential customer charge by 36% (from $13.63 to $18.50 (Exh. JAB-3). This proposed increase would impose disproportionate harms on low-income customers.

Q. PLEASE EXPLAIN THE ACTIONS LOW-INCOME CUSTOMERS TAKE TO REDUCE THEIR BILLS TO MORE AFFORDABLE LEVELS.

A. While reducing usage possibly includes investing in energy efficiency measures –why low-income customers don't do that is an issue I will discuss further below—it does not exclusively include efficiency measures. The National Energy Assistance survey, performed by the National Energy Assistance Directors Association (NEADA) (the national association of state agencies that administer the federal LIHEAP fuel assistance program), examined what low-income households do when they cannot afford to pay

their bills. The 2018 NEADA survey is the most recent NEADA survey reported.[1] The 2018 NEADA survey reported that customers take dramatic, and unhealthy or dangerous, steps in their efforts to reduce bills to more affordable levels:

- 36% of low-income households "closed off part of [their] home because they could not afford to heat or cool it due to not having enough money for the energy bill during the year" either: (1) almost every month (10%); (2) some months (16%); or (3) 1 or 2 months (10%). Households with income less than 50% of Poverty (i.e., the lowest income) undertook this action the most frequently (almost every month: 10%; some months: 24%; 1 or 2 months: 12%).

- More than 1-in-4 low-income households (26%) "kept home at temperature you felt was unsafe or unhealthy due to not having enough money for the energy bill during the past year" (almost every month: 4%; some months: 13%; 1 or 2 months: 9%). Nearly 1-in-4 seniors took this action (almost every month: 4%; some months: 11%; 1 or 2 months: 8%), as did households with at least one child under age 18 (almost every month: 4%; some months: 12%; 1 or 2 months: 8%).

- Nearly one-third of low-income households (29%) used the kitchen stove or oven to provide heat due to not having enough money for the energy bill during the past year (almost every month: 1%; some months: 11%; 1 or 2 months: 18%). The disabled (almost every month: 1%; some months: 12%; 1 or 2 months: 19%), and households with at least one child under age 18 (almost every month: 2%; some months: 11%; 1 or 2 months: 20%) took this action more frequently, but not much more so, than seniors (almost every month: <1%; some months: 9%; 1 or 2 months: 14%).

The lesson here is that the PECO Gas proposal to substantially increase its fixed monthly customer charge makes these low-income responses to inability-to-pay less efficacious. Having a low-income household close-off part of their home or reduce the temperature in their home will not reduce the bill as much if the PECO Gas proposal is approved to increase the proportion of the bill that is a fixed monthly charge and thus unavoidable.

[1] NEADA (December 2018). 2018 National Energy Assistance Survey, Final Report, available at http://www.appriseinc.org/resource-library/selected-reports/energy-survey-research-and-policy-analysis/ (last accessed March 6, 2022).

Low-income households, particularly vulnerable low-income households (e.g., elderly, disabled, families with children), will take actions to try to reduce their bills to more affordable levels, frequently involving substantial household deprivation or the undertaking of substantial risks. These actions can be dangerous, such as when a low-income household uses its natural gas stove or oven as a supplemental heating source in order to reduce the heating usage in the home as a whole. Even these dramatic actions will not reduce a low-income customer's bill to more affordable levels should the PECO Gas proposal to increase the fixed monthly charge be approved. PECO Gas proposed increase in its fixed monthly charge means that those dangerous efforts will be less and less effective, leaving customers with fewer options.

Q. ARE LOW-INCOME CUSTOMERS PROTECTED AGAINST INCREASES IN THE CUSTOMER CHARGE BY THE PECO GAS CUSTOMER ASSISTANCE PROGRAM (CAP)?

A. No. PECO Gas has confirmed the low-income status of only a portion of its low-income customers. In turn, the Company has enrolled only a portion of its Confirmed Low-Income customers in CAP. In the past three years (2018, 2019, 2020) for which data has been reported, PECO Gas has confirmed the low-income status of only 35% of its estimated number of low-income customers. Most recently (2020), PECO Gas had a record of nearly 54,400 customers that were low-income, but not identified as low-income on its system. In 2019, PECO Gas confirmed the low-income status of 33.4% of its low-income customers, leaving nearly 50,000 low-income customers unidentified as

low-income. (BCS 2020 Report on Universal Service Programs and Collections Performance).[2]

In turn, PECO Gas has enrolled only a portion of its Confirmed Low-Income customers into CAP. In 2020, 80% of the Company's Confirmed Low-Income customers were enrolled in CAP. Putting those two figures together, I find that in 2020 only 25% of the estimated low-income customer base of PECO Gas are enrolled in the Company's CAP (20,188 CAP participants vs. 80,638 estimated low-income). Moreover, BCS reported in its 2020 report, "Due to the COVID-19 pandemic, most EDCs and NGDCs suspended CAP recertification requirements from March 2020 into 2021. This resulted in fewer customers removed from the program which in turn contributed to higher CAP participation rates in 2020." (BCS 2020 Universal Service Report, at 57).

Table 1. Estimated Low-Income Customers, Confirmed Low-Income Customers, CAP Participants (PECO Gas) (2018 – 2020)

	Estimated LI	Confirmed LI	Pct Confirmed of Estimated LI	CAP Participants	Pct CLI Participating in CAP	% Estimated LI Participating in CAP
2018	74,121	25,704	34.7%	20,310	79.0%	27.4%
2019	74,714	24,977	33.4%	19,358	77.5%	25.9%
2020	80,638	26,216	32.5%	20,188	77.0%	25.0%

[2] Available at https://www.puc.pa.gov/media/1709/2020-universal-service-report-final.pdf (last accessed May 24, 2022).

Q. DOES PARTICIPATION IN CAP, UNTO ITSELF, PROTECT LOW-INCOME CUSTOMERS FROM THE HARMS OF AN INCREASED CUSTOMER CHARGE?

A. No. CAP only protects low-income customers from the harms of an increased customer charge if they participate in the percentage of income-based CAP program offered by the Company. If a low-income customer instead participates in the CAP program where CAP bills are based on average bills, any increase in rates, particularly any increase in rates through the unavoidable fixed customer charge, will increase the average bill that must be paid by these CAP participants.

Not all CAP customers participate in the percentage of income part of the CAP. A portion of CAP participants instead participate in CAP under the average bill structure. PECO's most recent Universal Service and Energy Conservation Plan (USECP) states that:

> In the PIPP [Percentage of Income Payment Plan], it is possible for a customer to be income-eligible for CAP (defined as having income of less than 150% of the Federal Poverty Level), but nonetheless receive a $0 credit. Other Benefits: Any customer who is verified to be eligible for CAP, but who does not receive an Annual Credit, will nonetheless be eligible for any other benefits that may be available to CAP customers including, but not limited to, PPA forgiveness, LIURP priority, etc., according to the terms of those program components.

(PECO Universal Service and Energy Conservation Plan (2019–2024) Page 57 of 57). These CAP customers will be subject to higher bills given the PECO Gas proposed increases in its fixed monthly customer charge.

Q. DOES THE IMPACT ON CAP CUSTOMERS AFFECT LOW-INCOME CUSTOMERS NOT PARTICIPATING IN CAP?

A. Yes. Even though the percentage of low-income customers participating in CAP is small, increasing the customer charge to these customers has an adverse impact on other low-income customers. When the residential customer charge is increased, the total cost of the CAP program increases as well. This occurs because the increased bills to the CAP customers participating in the percentage of income program component of PECO's CAP will be passed through to other ratepayers on a dollar-for-dollar basis. While the individual (percentage of income) CAP participants are protected from the increased fixed customer charge, in other words, the CAP program as a whole is not. Other ratepayers, including non-participating low-income ratepayers, will pay this increase. Even with LIURP and other conservation activities by CAP customers, these increased costs will remain. They cannot be avoided through energy conservation investments.

Q. CAN YOU PLACE THE PROPOSED FIXED MONTHLY CUSTOMER CHARGE INTO SOME CONTEXT FOR LOW-INCOME CUSTOMERS OF PECO GAS?

A. Yes. As I document above, as of 2020, PECO Gas had an estimated 80,638 low-income customers on its system. PECO Gas proposes to increase its fixed customer charge by $4.87/month (from $13.63 to $18.50), or $58.44/year ($4.87 x 12 months = $58.44). The total increase in unavoidable fixed charges to the PECO Gas low-income population is thus $4,712,485 ($58.44 x 80,638). In comparison, the low-income customers of PECO Gas received a total of $5,396,254 in LIHEAP grants in the 2018-2019 program year (3,354,026 in Cash grants + $2,042,228 in Crisis grants) and $5,838,803 in the 2018 –

2019 LIHEAP program year ($3,713,502 in Cash grants + $2,125,301 in Crisis grant). (OCA-IV-30). The increased customer charge, standing alone, in other words, will remove between 81% and 87% of the money from the low-income customer base of PECO Gas as LIHEAP delivered during those two program years.[3]

Table 2. PECO Gas LIHEAP Recipients and LIHEAP Dollars Received

	2018 - 2019	2019 - 2020	2020 - 2021	2021 – 2022 (YTD)
LIHEAP recipients (#s)	13,003	12,450	12,899	12,496
LIHEAP basic cash grants ($s)	$3,354,026	$3,713,502	$5,556,112	$6,905,680
LIHEAP crisis recipients (#s)	4,326	4,462	2,855	1,496
LIHEAP crisis grants ($s)	$2,042,228	$2,125,301	$1,689,479	$1,052,842

Q. HOW WILL THE PROPOSED CUSTOMER CHARGE INCREASE IMPACT THE INABILITY-TO-PAY ASSOCIATED WITH PECO'S LOW-INCOME CUSTOMER BASE?

A. I consider inability-to-pay by reference to Pennsylvania's Self-Sufficiency Standard.[4] The Self-Sufficiency Standard provides the dollar amount needed to live a basic quality of life given the household size and composition, considering cost-of-living by county within the state. The Self-Sufficiency Standard varies not only by geographic location

[3] I do not use the 2020-2021 or 2021-2022 program years for comparison. In those years, Congress added substantial increases to LIHEAP appropriations to respond to the economic crisis associated with the COVID-19 pandemic.

[4] The Self-Sufficiency Standard determines the amount of income required for working families to meet basic needs at a minimally adequate level, taking into account family composition, ages of children, and geographic differences in costs. Available at https://selfsufficiencystandard.org/pennsylvania/ (last accessed June 7, 2022).

and family size, but also by family composition. A 3-person family with an adult, an infant and a school-age child, for example, has a different self-sufficiency income, than a 3-person family with an adult, a school-age child, and a teenager does. For each county in Pennsylvania, the Self-Sufficiency Standard provides the costs of a minimum quality of life for 719 different family sizes and compositions.

Table 3 below presents the Self-Sufficiency Standard for a 3-person household with a single adult and various family compositions. I then compare that Self-Sufficiency Income to 150% of the Federal Poverty Level, the maximum income-eligibility for CAP. I examine four counties which PECO Gas serves (Bucks, Chester, Delaware, and Montgomery). As can be seen, in these PECO Gas counties, income for a three-person household at 150% of Poverty Level is substantially less than the income needed for typical three-person families in PECO Gas counties to be self-sufficient. The amount of the shortfall between a self-sufficiency income and a household income at 150% of Poverty varies from being $31,486 (2 adults + school-age in Delaware County) to $51,674 (adult + infant + pre-school in Chester County) to $50,270 (adult + infant + preschool in Montgomery County) short of what the Self-Sufficiency Income is in the PECO Gas service territory.

Table 3. Self-Sufficiency Income (2019) Compared to 150% Poverty Level (2019)
Three-Person Household with Selected Compositions for Selected PECO Gas Counties

		Self-Sufficiency Income			Difference from 150% of FPL		
	150% FPL	Adult / Infant / Preschool	Adult / Preschool / School-age	2 Adults / School-age	Adult / Infant / Preschool	Adult / Preschool / School-age	2 Adults / School-age
Bucks County	$31,995	$77,992	$72,153	$64,402	$45,997	$40,158	$32,407
Chester County	$31,995	$83,669	$75,339	$65,245	$51,674	$43,344	$33,250
Delaware County	$31,995	$75,853	$69,619	$63,481	$43,858	$37,624	$31,486
Montgomery County	$31,995	$82,265	$74,366	$64,640	$50,270	$42,371	$32,645

As can be seen in this Table, at incomes significantly higher than what is considered low income for purposes of the public utility code, households struggle to pay their bills. Households that are deemed low income have even greater inability to pay. Quite literally, each month they are faced with the dilemma of which bills to pay and which they must forgo paying.

Q. WHY ISN'T THIS PROBLEM ASSOCIATED WITH THE RATE INCREASE AS A WHOLE RATHER THAN ASSOCIATED WITH THE INCREASED CUSTOMER CHARGE IN PARTICULAR?

A. In part, the problem is associated with the rate increase as a whole. In much larger part, however, the problem is associated with the increased customer charge because there is nothing that a household can do to avoid this monthly fee. Even if low-income customers could reduce their usage, they would not be able to avoid any part of the proposed increase in the fixed monthly customer charge.

Q. DOES THE INCREASED CUSTOMER CHARGE IMPOSE ADDITIONAL HARDSHIPS ON LOW-INCOME CUSTOMERS IN PARTICULAR?

A. Yes. Aside from the usage reduction techniques I discuss above, the proposed increase in the fixed monthly customer charge will impede the ability of low-income customers to rely on efficiency investments to reduce consumption as a means by which to control bills and improve affordability.[5] Increasing the PECO Gas unavoidable fixed monthly charge impedes low-income ability to pursue energy efficiency and/or weatherization as a mechanism to reduce bills.

Q. WHAT DO YOU CONCLUDE?

A. The low-income customers of PECO Gas have difficulty in paying their natural gas bills. Increasing the PECO Gas fixed monthly customer charge will increase the difficulties which low-income customers will face. Not only will the increased customer charge have the same effect on the low-income population as eliminating nearly 90% of the dollar amount of existing federal fuel assistance that is provided, it will make it more difficult for low-income customers to control their exposure to unaffordable bills through the implementation of energy efficiency measures. For 75% of the PECO Gas low-income population, CAP does not provide affordability protections.

Moreover, the simple reality is that low-income households do not have the money to spend on energy efficiency even if doing so would reduce their bills in the long term.

[5] As I discuss in detail above, "reducing consumption" is not merely associated with energy efficiency improvements. Available research documents that low-income households also seek to reduce bills, by reducing consumption, through dangerous actions such as closing parts of their home; reducing heating temperatures, even if to unsafe or unhealthy levels; or substituting the use of ovens or stoves to heat limited areas of their homes rather than using their heating systems to heat the entire home.

Affordability is a month-to-month struggle. Low-income customers have zero margin in their budget and it is simply irrelevant to them that spending money on energy efficiency today will save you more money down the road.

Increasing the fixed customer charge will also make the Low Income Usage Reduction Program (LIURP) investment less effective. The point of LIURP is to save energy and reduce bills. While energy reduction through LIURP investments would occur even with a higher customer charge, the bills for low-income customers assisted through LIURP would not decrease as much as they would with a lower customer charge. The higher fixed customer charge thereby erodes the effectiveness of LIURP. LIURP is one of the panoply of programs that is designed to assist low-income households' abilities to remain connected to and afford service. By increasing the customer charge, LIURP is less effective at the task of reducing bills.

For all these reasons, I recommend that the residential customer charge should be no higher than that proposed by OCA witness Pavlovic.

In addition, I will explain below why it is appropriate to increase the PECO Gas budget for its LIURP as a response to the difficulties that I have documented above.

Part 2. PECO Gas Universal Service Performance.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine the extent to which PECO Gas generates and maintains an appropriate participation in its CAP program. Rather than focusing on what PECO Gas is doing (i.e., its activities), in this section of my testimony, I will focus on an assessment of PECO Gas enrollment outcomes (i.e., its results).

Q. PLEASE EXPLAIN THE DISTINCTION YOU ARE MAKING WHEN YOU IDENTIFY "ACTIVITIES" AND "OUTCOMES."

A. Measuring "outcomes" is to be distinguished from measuring "activities." An "activity" is defined as the work performed that directly produces products or services. The "outcome" of a program is the accomplishment of program objectives attributable to program outputs.

Performance measurement has been growing now for nearly 30 years in both public and private programs. Perhaps the best-known application is the federal Government Performance and Results Act of 1993. GPRA was designed to address the same conceptual issues that PECO Gas must address for its low-income universal service programs: to grapple with how to best improve effectiveness and service quality while limiting costs. It shifts the focus from program activities to program results.

According to GPRA, "[t]he key concepts of this performance-based management are the need to define clear agency missions, set results-oriented goals, measure progress toward

achievement of those goals, and use performance information to help make decisions and strengthen accountability."[6] Utilities face the same sort of problems in measuring efficiency as do federal agencies. As James Hinchman, Acting Comptroller General observed when GPRA was first enacted, "[m]any agencies have a difficult time moving from measuring program activities to establishing results-oriented goals and performance measures."[7]

Within this construct, in my discussion below, I will focus *not* on what PECO Gas should or should not be *doing*. I will instead focus on what PECO Gas should or should not be *accomplishing*.

Q. WHAT IS THE FIRST STEP IN MEASURING OUTCOMES?

A. The first step in measuring outcomes is to establish measurable objectives or goals (i.e., outcomes) that PECO Gas should seek to achieve. After establishing these measurable outcomes, PECO Gas can engage in an ongoing process to determine whether those objectives have, in fact, been achieved and, if not, what needs to be modified in order to improve performance.

Q. WHAT MEASURABLE PERFORMANCE GOALS DO YOU RECOMMEND THAT PECO GAS ESTABLISH?

[6] Hinchman (June 1997). Managing for Results: The Statutory Framework for Improving Federal Management and Effectiveness, at 1, GAO /T-GGD/AIMD-97-144, available at https://www.govinfo.gov/content/pkg/GAOREPORTS-T-GGD-AIMD-97-144/pdf/GAOREPORTS-T-GGD-AIMD-97-144.pdf (last accessed June 15, 2022).
[7] Id., at 1.

A. I recommend the following three measurable performance goals that PECO Gas should seek to accomplish with respect to CAP:

- **Outcome Objective #1**: PECO Gas should achieve a Confirmed Low-Income identification rate, as a percentage of estimated low-income customers, no less than the Confirmed Low-Income identification rate of the top two Pennsylvania natural gas utilities (excluding PECO Gas).

- **Outcome Objective #2**: PECO Gas should achieve a CAP participation rate, as a percentage of Confirmed Low-Income customers, no less than the CAP participation rate of the top two Pennsylvania natural gas utilities (excluding PECO Gas).

- **Outcome Objective #3**: PECO Gas should achieve a CAP default rate as a percentage of participants in the lowest poverty level range that is no less than the CAP default rate in that poverty level range for the top two Pennsylvania gas utilities (excluding PECO Gas).

Through the first Outcome objective, PECO Gas will seek to ensure that it is adequately identifying its low-income customers. Through the second and third Outcome objectives, PECO Gas will seek to ensure that, having identified its low-income population, it is then enrolling its known low-income customers into its primary low-income assistance program and maintaining that participation.

In subsequently assessing actual performance relative to the desired performance (measured in terms of the identified Outcomes), neither the Commission nor other stakeholders will focus on what PECO Gas is or is not doing in the abstract. A review of what PECO Gas is (or is not) doing will instead occur within the context of whether those activities are cost-effectively generating the identified outcomes that the Company is seeking to accomplish. If PECO Gas is not achieving its identified performance objectives, it would need to identify the cause of the performance shortcoming and decide

what it needs to do differently in order to improve its performance. Even if it *is* accomplishing its objectives, identifying those objectives on the front-end would allow PECO Gas to assess whether it could accomplish those objectives more effectively, or more efficiently. Having the objectives allows PECO Gas to engage in a process of continuing improvement. The objectives, however, should not be viewed exclusively as a means to identify shortcomings (of what is *not* working). They can be viewed as a means of identifying successes (of what *is* working) as well.

Q. DO YOU RECOMMEND A SYSTEM OF PENALTIES OR REWARDS BASED ON PERFORMANCE RELATIVE TO THE IDENTIFIED OBJECTIVES?

A. No. My intention in this proceeding is not to establish a basis for "rewards" or "penalties." Rather, the purpose of establishing measurable objectives is to change the conversation about the identification of low-income customers, about CAP enrollment, and about the participation of the lowest income customers in CAP, from a discussion of what PECO Gas should be *doing* to a discussion of what PECO Gas should be *accomplishing*.

Q. CAN YOU ILLUSTRATE THE USE OF EMPLOYING MEASURABLE OBJECTIVES IN A CONTINUOUS IMPROVEMENT PROCESS?

A. Yes. Assume, hypothetically, that PECO Gas has a measurable objective that it wished to enroll aging customers in CAP at a rate equal to the proportion of aging customers in the population of estimated low-income customers. Again using numbers simply to illustrate (and not to indicate any direct applicability to PECO Gas), if households with an aging head of household represent 18% of the estimated low-income customer base,

but represent only 7% of the Confirmed Low-Income customer base, PECO Gas could reasonably conclude that whatever outreach it was employing was not sufficient for that population.

We know from research by the National Regulatory Research Institute (NRRI) that aging households rely on different information sources than do younger households. The NRRI research reports that its research shows "where people aged 55 and above say they would go to get help, compared to all the respondents in the survey who were younger than 55. This age cohort relies much less on people close to them, compared to younger people, and much more on the utility company."[8] Moreover, the NRRI research reported:

> Hispanic consumers, low-income consumers and consumers over age 55 tend to seek help from different sources when they have trouble paying their utility bills, according to NRRI's national survey on customer service by utilities and telecommunications companies. Hispanics go more frequently to friends and relatives than either low-income consumers or seniors. Low-income consumers are more likely to look for help from social service agencies. Consumers over 55 are more likely to look for help from the utility company.[9]

The objective of establishing measurable outcome objectives is thus three-fold: (1) to create a benchmark for measuring performance (whether on outreach or other aspects of universal service programs) (e.g., we are not achieving the penetration of aging population we seek); (2) to create a mechanism for PECO Gas to frame a conversation, either internally, with BCS staff, or with other external stakeholders); and (3) to create a mechanism by which PECO Gas can measure progress (or the lack thereof) toward its

[8] NRRI (2003). Where Consumers Go For Help Paying Utility Bills."
[9] Id., at 1.

objective as it employs different activities in its effort to achieve its objective. Moreover, establishing measurable objectives may help to move the Commission away from reviewing whether each specific PECO Gas activity is necessary or adequate and to allow the Commission to engage in a review of whether the established outcomes are being achieved.

Q. HOW DOES PECO GAS PERFORM RELATIVE TO PENNSYLVANIA NATURAL GAS UTILITIES IN IDENTIFYING THEIR CONFIRMED LOW-INCOME CUSTOMERS, WHICH IS YOUR PROPOSED OUTCOME OBJECTIVE #1?

A. In assessing the applicability of the three recommended objectives in my discussion below, the purpose is to illustrate how the measurable objectives would operate. The purpose should not be construed to be a criticism of PECO actions that require Commission-directed remedies in this proceeding. Part of identifying the objectives, and seeing how they are applied, of course, is to illustrate the importance of having such an objective.

PECO Gas has substantial room for improvement in its identification of customers as Confirmed Low-Income customers. According to the 2019 BCS annual Report on Universal Service Programs and Collections Performance, every other natural gas utility

in Pennsylvania confirms the low-income status of a higher percentage of its estimated low-income population.[10]

This first Outcome Objective thus is a good illustration of the observations that I articulate above. The point of measuring the objective is not to criticize PECO Gas for having a sub-par performance. Instead, the first point of the objective is to identify this area where PECO Gas has room for improvement. In addition, establishing the measurable objective has the impact of allowing PECO Gas to measure the success, or lack thereof, of whether certain activities undertaken in light of its performance have an impact on moving its measured performance. It provides a mechanism to allow PECO Gas (and other stakeholders) to assess whether certain decisions are achieving (or making progress toward) the desired outcome. It is frequently the case that seeing progress toward achieving the objective is as important as actually achieving the objective.

[10] I use the 2019 BCS report rather than the 2020 BCS report to eliminate any potential variation due to the COVID-19 pandemic.

Table 4. Identification of Estimated Low-Income (LI) Customers as Confirmed Low-Income (L) Pennsylvania Natural Gas Utilities / PECO Gas (2019)			
	Estimated LI	Confirmed LI	% Confirmed LI of Estimated LI
Peoples	84,437	67,718	80.2%
PGW	197,855	147,014	74.3%
Peoples Equitable	58,791	41,585	70.7%
Columbia	97,268	67,582	69.5%
UGI Gas North	46,297	24,934	53.9%
NFG	60,947	32,282	53.0%
UGI Gas South	86,314	39,108	45.3%
PECO Gas	74,914	24,977	33.3%

Q. HOW DOES PECO GAS PERFORM RELATIVE TO PENNSYLVANIA NATURAL GAS UTILITIES IN ENROLLING THEIR CONFIRMED LOW-INCOME CUSTOMERS INTO CAP, WHICH IS YOUR PROPOSED OUTCOME OBJECTIVE #2?

A. As I discussed above with respect to my proposed Outcome Objective #2, PECO Gas enrolls a higher percentage of its Confirmed Low-Income customers as CAP participants than do Pennsylvania's other natural gas utilities. As with the discussion above regarding the identification of Confirmed Low-Income customers, the data available by which to measure this performance metric is readily available in the annual BCS report on Universal Service Programs and Collections Performance.[11] As documented in Table 5 below, PECO Gas enrolls 77.8% of its Confirmed Low-Income customers into CAP. In

[11] Available at https://www.puc.pa.gov/filing-resources/reports/universal-service-reports/ (last accessed April 6, 2022).

contrast, other Pennsylvania natural utilities enroll between roughly 20% and 35% of their Confirmed Low-Income customers into CAP.

Table 5. Identification of Estimated Low-Income (LI) Customers as Confirmed Low-Income (L)
Pennsylvania Natural Gas Utilities / PECO Gas (2019)

	Confirmed LI	CAP Participants	% CAP of Confirmed LI
PECO Gas	24,977	19,427	77.8%
PGW	147,014	53,722	36.5%
Columbia	67,582	23,551	34.8%
Peoples Equitable	41,585	12,928	31.1%
Peoples	67,718	17,034	25.2%
NFG	32,282	7,294	22.6%
UGI Gas South	39,108	8,422	21.5%
UGI Gas North	24,934	5,369	21.5%

The proposed Outcome Objective #2 reveals that the current level at which PECO Gas enrolls its Confirmed Low-Income customers into CAP exhibits a high level of performance. Having the objective, however, is still meaningful. It would allow PECO Gas to monitor whether it maintains that high level of performance. It would also allow PECO Gas to assess the extent to which, if at all, changes in the performance relative to other Objectives (i.e., the number of Confirmed Low-Income customers) have an impact on the performance relative to this Objective. The applicability of Outcome Objective #2 to PECO Gas demonstrates that Outcome Objectives can be used to identify areas in

which the Company is achieving its objective, not merely used to identify sub-par performance.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR PROPOSED OUTCOME OBJECTIVE #3.

A. My recommended Outcome Objective #3 measures a different type of performance than do the first two proposed Outcome Objectives. Outcome Objective #3 is directed toward ensuring appropriate participation of customers in the lowest range of Poverty Level in the PECO Gas CAP. Outcome Objective #3, however, does not compare the percentage of customers with income below 50% of Poverty enrolled in CAP to the percentages enrolled by other gas utilities. Other gas utilities may have different total percentages of their customer base with income at or below 50% of Poverty. Nor does the proposed Outcome Objective #3 compare the percentage of CAP customers with income below 50% of Poverty to the percentage of total households in the service territory with income below 50% of Poverty. Not all customers with income below 50% of Poverty would necessarily be natural gas customers.

Accordingly, the proposed Outcome Objective #3 seeks to measure the extent to which PECO Gas retains its lowest income customers once those customers are enrolled in CAP. It is possible to do this by examining "default rates." According to the annual BCS report on Universal Service Programs and Collections Performance, the "default rate" is "calculated by dividing the average monthly CAP participation rate at each poverty level by the total annual number of defaults for each poverty level." BCS, which reports default rates in its annual report, states that "[a]ctions resulting in CAP defaults

include missing payments, making late payments, or failing to recertify." (2020 BCS, at 61).

Q. HOW DOES PECO GAS PERFORM RELATIVE TO THE THIRD PROPOSED OUTCOME PERFORMANCE OBJECTIVE YOU HAVE IDENTIFIED?

A. In 2019, according to the most recent BCS annual report on Universal Service Programs and Collections Performance,[12] PECO Gas had a CAP default rate for customers with income below 50% of Poverty, which is my proposed Outcome Objective #3, that was in the middle of the ranges reported by the state's natural gas utilities. The PECO Gas default rate of 28.0% was lower than the default rate of PGW and the two UGI Gas utilities, but higher than the default rates of Columbia Gas, NFG, Peoples and Peoples Equitable. Table 6 presents the data. Application of the Outcome Objective #3 would indicate that PECO Gas may well have room for performance improvement.

Table 6. CAP Default Rate for Participants with Income at or Below 50% of Poverty
Pennsylvania Natural Gas Utilities / PECO Gas (2018 - 2019)

	2018	2019
Columbia	16.3%	19.1%
NFG	19.0%	24.4%
PECO Gas	28.1%	28.0%
Peoples	23.0%	24.9%
Peoples Equitable	23.2%	23.7%
PGW	26.9%	32.8%
UGI Gas South	33.4%	31.4%
UGI Gas North	31.3%	31.3%

[12] While I reference the 2020 BCS report, I used 2019 data. During 2020, because of COVID-19, customers were not removed from CAP due to a failure to recertify.

Q. WHAT DO YOU CONCLUDE?

A. Using the three performance metrics I identify above, it is evident that PECO Gas has room for improvement relative to two of the three proposed Outcome Objectives. Even though PECO Gas performs well with respect to the third Outcome Objective, articulating that objective and continuing to measure PECO Gas performance relative to that objective serves the important functions I identify above.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that rather than having the Commission engage in continuing reviews of the specific activities that PECO Gas pursues to identify its low-income customers and to enroll those customers in CAP (and prevent their default from CAP), the Commission should instead require PECO Gas to measure its outcome performance in these respects on an ongoing basis. The Commission should determine that it will use these outcome performance metrics to review the adequacy of PECO Gas performance in future rate cases.

Q. WHY IS IT APPROPRIATE TO ADDRESS THIS ISSUE IN THIS RATE PROCEEDING RATHER THAN IN THE COMMISSION'S REVIEW OF PECO GAS UNIVERSAL SERVICE AND ENERGY CONSERVATION PLAN (USECP)?

A. My recommendation above could not have been advanced in the PECO Gas USECP given that the rate case proposals advanced in this proceeding had not yet been filed at the time of the most recent review of PECO Gas Universal Service and Energy Conservation Plan (USECP). My recommendations above are designed to determine whether PECO Gas is adequately protecting low-income customers from the

consequences of this rate proceeding. PECO Gas, itself, asserts that enrollment in CAP is one reason why it projects that this proposed rate case will have no adverse effect on low-income customers. (CAUSE-PA-I-1). The rate case had not been filed at the time PECO Gas submitted its most recent USECP, and additional rate cases may be filed before any future USECP is submitted to the Commission for review. The Outcome Objectives proposed to measure the performance of PECO Gas could not have been raised in the USECP review. And, the review of performance on Outcome Objectives would not necessarily be an issue in any future USECP review.

Part 3. The Conversion of Low-Income Homes to Natural Gas Heating.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I address the need for PECO Gas to address the energy efficiency of homes converted to natural gas from a non-gas heating fuel. In my discussion below, I do not question whether converting customers to natural gas is more environmentally friendly than having those customers remain mostly on fuel oil. From a rate perspective, however, there are universal service cost concerns that PECO Gas should address.

Q. WHAT IS THE PECO GAS POLICY TOWARD NATURAL GAS CONVERSIONS?

A. PECO Gas explains its Gas Along the Main System (GAMS) and its Neighborhood Gas Pilot conversion program as follows:

> PECO promotes residential natural gas heating conversions to customers residing near PECO natural gas infrastructure. PECO's campaigns since 2017 have emphasized the cost savings from heating homes with natural gas versus oil and propane. These promotions provide customers website links and contact information for PECO's conversion programs including rebates, the Gas Along the Main System (GAMS) program and the Neighborhood Gas Pilot conversion program. In 2017 through 2019, PECO conducted campaigns at least twice a year, typically during the Spring and Fall, through direct mail and email. In years 2020 through 2021, campaigns were less frequent due to gas installation crew resource constraints. In 2021, and continuing this year, PECO promotes residential natural gas heating conversions using digital media, such as social media and internet banner ads.

(OCA-IV-27). PECO explains:

> The GAMS program provides credits to customers requesting gas service based on the type of natural gas equipment being installed, used to reduce any applicable contribution in aid of construction owed by the customer. Refer to Gas Pa PUC Tariff No. 4 Section 7 – Extensions.
>
> The Neighborhood Gas Conversion Pilot Program is designed to bring natural gas to communities where it is currently not available. The program spreads the cost of installation amongst participating neighbors where infrastructure would otherwise be too costly for individual customers. Refer to Gas PA PUC Tariff No. 4 – Neighborhood Gas Pilot Rider (NGPR).
>
> PECO offers a rebate for [the] conversion of [a housing unit's] main heating source to natural gas. In addition, energy efficiency rebates are offered for new or replacement Energy Star equipment including natural gas furnaces, boilers and storage tank water heaters. In addition, customers may qualify for a high efficiency (ECM) natural gas furnace fan motor rebate through the Act 129 rebate program.

(OCA-IV-27). The Company receives cost recovery for each of these efforts. (Id.)

Q. HOW EFFECTIVE ARE THE PECO GAS PROGRAMS IN CONVERTING CUSTOMERS TO NATURAL GAS?

A. PECO Gas reports that it estimates the "pre-conversion fuel source" for residential customers "based on available data collected from conversion customers. The Company used available data to develop the estimated percentage of conversions from oil, propane and electric. These percentages were then applied to each month's total conversions for all of PECO's conversion programs." (OCA-IV-28). Since 2017, PECO Gas has successfully converted 7,524 residential customers to natural gas. (OCA-IV-28). Of those, 6,994 (93%) had been heating with fuel oil, while an additional 459 (6.1%) heated with propane, prior to the conversion. PECO Gas reports that "In year 2020 and 2021, campaigns were less frequent due to gas installation crews resource constraints." (OCA-IV-27). It is reasonable to assume that those "resource constraints" referenced by PECO Gas were attributable to the COVID-19 health pandemic's impact on how, when and where people were working.

Table 7. PECO Gas Natural Gas Conversions by Pre-Conversion Fuel Source (OCA-IV-28)

	Oil	Propane	Electric	Total
2017	1,140	75	12	1,227
2018	1,459	94	15	1,568
2019	1,519	100	15	1,634
2020	1,106	73	12	1,191
2021	1,308	86	13	1,407
2022	462	31	4	497
Total	6,994	459	71	7,524

Q. IS THE INTENT OF YOUR TESTIMONY TO CHALLENGE THE REASONABLENESS OF EITHER OF THE COMPANY'S GAS CONVERSION CAMPAIGNS?

A. No. I do not question the environmental benefits of converting residential customers from fuel oil to natural gas. Nor do I question the increased affordability and consumer protections that households might experience from heating with regulated natural gas service rather than heating with fuel oil or propane. Instead, my discussion below is limited to the universal service concerns that I identify.

Q. PLEASE EXPLAIN THE CONCERNS YOU HAVE FROM A UNIVERSAL SERVICE PERSPECTIVE.

A. Of the more than 7,500 gas conversions that PECO Gas has subsidized since 2017, a small, but not insignificant, number of accounts (n=146) were identified as Confirmed Low-Income customers at the time of conversion. Nearly half of those Confirmed Low-Income customers were enrolled as CAP participants (n=71, 48.6%).

I have, however, previously discussed how PECO Gas has confirmed the low-income status of only a fraction of its estimated low-income customers. And only a fraction of the Confirmed Low-Income customers actually participate in CAP. The low-income payment difficulties taken on by PECO Gas when it converts homes to natural gas will, in other words, be much greater than those difficulties associated with the 146 customers identified as a Confirmed Low-Income account since 2017. PECO Gas defines "Confirmed Low Income customers" as ones "who, in the last two years, have provided

verified financial information under 150% FPL, and/or enrolled in CAP, and/or received either a LIHEAP or MEAF grant." (OCA-IV-1). It is thus not surprising that PECO Gas does not identify more customers as Confirmed Low-Income customers at the time of gas conversion.

Q. WHAT IS YOUR CONCERN?

A. Low-income households often have far more significant difficulty paying their home heating bills by virtue of their poverty as seen by the data in the Table, below. The fact is that home energy costs for these households will likely be reduced overall by converting from more expensive fuel oil and propane to relatively less expensive natural gas heat.[13] Nonetheless, the reality is that by converting low-income households to natural gas, PECO Gas is likely imposing additional costs on other ratepayers who may bear the costs of the nonpayment of the Confirmed Low-Income customers' accounts. While those natural gas conversions should still proceed, it is reasonable *also* for PECO Gas to take actions that would minimize the additional costs that are likely to arise for other ratepayers.

Table 8. Residential and Confirmed Low-Income Nonpayment Metrics
PECO Gas (2020)[14]

	Residential	Confirmed Low-Income
Average arrears	$680.14	$1,417.52
Pct dollars in arrears	5.9%	17.9%
Percent accounts in arrears	7.2%	8.3%
Gross write-off ratio	0.3%	3.2%

In addition to taking on the costs of low-income nonpayment, when PECO Gas converts customers to natural gas, it is reasonable to project that many of these customers will enroll in the PECO Gas CAP. From the perspective of the low-income customer this is a

[13] I limit my comments to fuel oil and propane because they represent more than 99% of the natural gas conversions.
[14] BCS Annual Report on Universal Service Programs and Collections Performance (2020), available at https://www.puc.pa.gov/filing-resources/reports/universal-service-reports/ (last accessed June 8, 2022).

net positive because not only do they get access to less expensive means of heat by virtue of the conversion from fuel oil to gas, but they also have the benefit of a program that helps with their arrears and lowers their bill by virtue of a CAP. However, the impact of this will be to increase CAP costs overall which affects other ratepayers. These CAP costs are on an annual basis.

Table 9. Average Total CAP Costs per CAP Participant (2019 and 2020) (PECO Gas)[15]

	2019	2020
PECO Gas	$113	$113

In converting households from other fuels to natural gas, it should also be the responsibility of PECO Gas to take reasonable steps to minimize the added costs of those conversions to other residential ratepayers. This responsibility particularly manifests itself when PECO Gas converts low-income households to natural gas. Moreover, given the use of natural gas conversion as a mechanism to pursue an environmental agenda of emissions reductions, the Company should not only pursue its conversions, but it should pursue efforts to reduce overall energy use as well. PECO Gas should, in other words, when it seeks to expand natural gas usage, also seek to ensure ***efficient*** natural gas usage through expanded energy efficiency and conversation. This would have a twofold impact: (1) it would further reduce gas usage consistent with the Company's stated environmental goals; and (2) it would help lower the costs of CAP for residential ratepayers.

[15] BCS Annual Report on Universal Service Programs and Collections Performance (2020), available at https://www.puc.pa.gov/filing-resources/reports/universal-service-reports/ (last accessed June 8, 2022).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that PECO Gas be directed to screen customers who the Company assists in their conversion to natural gas, to identify those converted customers as Confirmed Low-Income customers and to enroll those customers in CAP where appropriate. I further recommend that the Company add a new incremental component to its Low-Income Usage Reduction Program (LIURP) through which it will provide LIURP investments to Confirmed Low-Income customers as part of the process of converting those customers to natural gas. According to the most recent BCS annual Report on Universal Service Programs and Collections Performance,[16] the average PECO Gas LIURP cost per job for gas heating was $3,037 in 2020. Given the rate at which PECO Gas identifies its residential customers as Confirmed Low-Income customers (5.3% in 2020; 5.2% in 2019; 5.3% in 2018) (BCS Annual Universal Service Report, at 8), it is reasonable to expect that if PECO Gas were to specifically screen gas conversion customers for low-income status, and to treat those customers through LIURP, it would serve an additional 90 LIURP customers per year at an annual incremental LIURP budget of $275,000 (90 x $3,770 = $273,330).

Q. WHY DOES THIS NEED TO BE AN ADDITIONAL LIURP BUDGET?

A. If PECO Gas were simply to redirect part of its existing LIURP budget to serving these gas conversion customers, there would be no net gain. To the extent that gas conversion customers were served, low-income customers who would have been served in the absence of the gas conversion are left out. This same reasoning applies to the proposed

[16] Available at https://www.puc.pa.gov/filing-resources/reports/universal-service-reports/ (last accessed June 8, 2022).

LIURP budget expansion proposed by PECO witness Colarelli. If for no other reason, that budget expansion is necessary to address the sharp increases in LIURP services due to supply chain problems and inflation in energy efficiency products. If, however, that expansion were to be used to treat natural gas conversion customers, those customers who would have received LIURP services in the absence of natural gas conversions would be left out. My recommendation is for the funding recommended in this section to be incremental to the funding discussed by Witness Colarelli.

Q. IS THE ADDITIONAL BUDGET YOU IDENTIFY ABOVE THE TOTAL INCREMENTAL INCREASE IN THE PECO GAS UNIVERSAL SERVICE COSTS?

A. No. Treating these low-income customers with LIURP services will result in decreased bills that, in turn, will result in a dollar-for-dollar decrease in CAP benefits. According to the most recent BCS annual Report on Universal Services Programs and Collections Performance, cited above, the average annual bill reduction arising from LIURP gas heating job investments for all Pennsylvania gas utilities was $194 (at a "total billed rate" of $1.0145/ccf). (CAUSE-PA-I-17). As I described above, the level of annual CAP credits for PECO Gas was $113 in 2020. Given those CAP credits, it is evident that any increase in total universal service spending due to an increase in the LIURP budget will be substantially, if not completely, offset by a decrease in total universal service spending due to a decrease in the CAP budget. Moreover, to the extent that LIURP investments are made prior to enrolling a customer in CAP, the resulting bill reductions will reduce the level of arrears subject to arrearage forgiveness pursuant to the CAP.

Q. DOES YOUR RECOMMENDATION AFFECT THE RATES TO BE SET IN THIS PROCEEDING?

A. No. My recommendation would be paid through the Company's universal service charge. Through the reconciliation process of the Universal Service Rider, the total costs will be collected taking into account: (1) the number of gas conversions that occur in a particular year; (2) the number of gas conversions that are Confirmed Low-Income customers; (3) the number of Confirmed Low-Income gas conversion customers that are served by the additional LIURP services I recommend; (4) the number of Confirmed Low-Income gas conversion customers served through LIURP that are CAP participants; (5) the bill reductions generated for those Confirmed Low-Income gas conversion customers served through LIURP that are CAP participants; and (6) the resulting CAP credit reductions resulting from those bill reductions. In turn, the level of the resulting CAP and arrearage forgiveness credit reductions depends on the income and Poverty Level of the CAP participants (which dictate the level of CAP credits in the absence of the LIURP treatment). Taking account of this myriad of interacting influences is precisely why the Universal Service costs are collected through the Universal Service Rider.

Part 4. Stabilizing Low-Income Usage/Bills.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I will explain how various aspects of the relief sought by PECO Gas in this rate case proceeding synergistically operate to the detriment of low-

income customers. Even aside from the size of the rate hike, itself, the proposed increase in the residential customer charge makes a greater proportion of a low-income customer's monthly bill more difficult to reduce by having a higher proportion of the bill be an unavoidable fixed charge. In the meantime, PECO Gas confirms the low-income status of only one-third (35%) of the estimated number of low-income customers on its system, and enrolls only little more than a quarter of estimated low-income customers in its CAP.

As a result, low-income customers have an average arrearage which is two times higher than residential customers. Low-income customers incur dollars of arrears at a rate between four and five times higher than residential customers. In addition, the rate at which low-income revenue was written off as uncollectible (3.2%) was ten times higher than the uncollectible rate for residential customers as a whole (0.3%).

In the meantime, the effects of climate change continues to have disproportionate impacts on low-income customers. By the Year 2100, extreme heat waves that historically occurred once every 20 years are predicted to occur every other year.[17] It is not merely "outdoor" climate-induced health effects that represent the harms to be avoided through usage reduction programs. Because Americans spend 67% of their time in their homes, indoor air quality also affects health. Indoor air pollutants have been ranked as among

[17] Kaswan (2012). "Domestic Climate Change Adaptation and Equity," 42 Environmental L.Rep. News & Analysis 11125, available at https://heinonline.org/HOL/LandingPage?handle=hein.journals/elrna42&div=150&id=&page= (last accessed April 10, 2022).

the top five environmental risks to public health. Poor indoor air quality in the home has been linked to cancer, to asthma, and to carbon monoxide poisoning.[18]

The confluence of the harms associated with outdoor air quality and those associated with indoor air quality should be recognized and responded to. One consistent piece of advice given to people on how to avoid the adverse impacts of poor outdoor air quality is to remain indoors.[19] This advice assumes that indoor air quality is superior to outdoor air quality. But this means that people whose indoor air quality is compromised may be more susceptible to adverse health effects from indoor air than the population at large. Low-income people are much more likely to be exposed to, and therefore suffer the effects of poor indoor air quality than the general population. These customers live in poor housing stock which is drafty and not well-insulated. As a result, being ***inside*** the home provides no greater protection than being ***outside*** the home. The advice to stay indoors, therefore, might be good for the majority of people but bad for a minority. When being indoors is just as deadly as being outdoors, there is, quite simply, no place to hide.

[18] The purpose of this discussion is not to comprehensively document the relationship between housing quality and adverse health outcomes. Those interested in the topic should explore the literature of "ecosocial epidemiology." *See generally* Shafiei, et al. "Reducing Health Disparity through Healthy Housing," *in* Healthy and Safe Homes: Research, Practice and Policy Chapter 4, pp.73-90 (Rebecca Morley et al. eds., 2011), available at https://ajph.aphapublications.org/doi/10.2105/9780875531977ch04 (last accessed April 10, 2022). *See also* Krieger, "Theories for Social Epidemiology in the 21st Century: An Ecosocial Perspective," 30 Int'l J. Epidemiology 668, 671-673 (2001), available at https://academic.oup.com/ije/article/30/4/668/705885 (last accessed April 10, 2022). For a discussion of the positive health impacts flowing from an improvement in housing quality, see generally, Thompson et al., "The Health Impacts of Housing Improvement: A Systematic Review of Intervention Studies from 1887 to 2007," 99 Am. J. Public Health S681 S682-S689, S690-S691(2009), available at https://www.researchgate.net/publication/51439420_The_Health_Impacts_of_Housing_Improvement_A_Systematic_Review_of_Intervention_Studies_From_1887_to_2007 (last accessed April 20m, 2022).

[19] See e.g., Laumbach, Meng and Kipen "What can individuals do to reduce personal health risks from air pollution?" J.Thorac.Dis. 2015 Jan; 7(1): 96–107, available at https://pubmed.ncbi.nlm.nih.gov/25694820/ (last accessed April 10, 2022).

Q. HOW DOES THIS DISCUSSION APPLY TO THE PECO GAS SERVICE TERRITORY?

A. When the PECO Gas service territory is defined by county, data provided through the U.S. Department of Housing and Urban Development's Comprehensive Housing Affordability Strategy (CHAS) data base shows that low-income households, and particularly low-income renters:[20]

- Live in older (and presumptively less energy efficient) housing;
- Live in housing units with more "severe housing problems."

Moreover, the CHAS data demonstrates that low-income households in the communities served by PECO Gas are disproportionately likely to be renters.[21] This data demonstrates that low-income households in the PECO Gas service territory are more likely to face the difficulties I identify above, and less likely to be able to redress those difficulties through their own resources.

I examined CHAS data for Bucks, Chester, Delaware and Montgomery counties.

Q. WHAT DO YOU RECOMMEND?

A. The primary way to redress the hardships which the PECO Gas rate filing imposes on the Company's low-income customers is to undertake expanded efforts to make the housing of its low-income customers as energy efficient as possible. PECO Gas operates the Low-Income Usage Reduction Program (LIURP) to serve low-income customers.

[20] Available at https://www.huduser.gov/portal/datasets/cp.html#2006-2017_data (last accessed June 8, 2022).
[21] See, CHAS data base, supra, at Tables 2, 3, 5 and 12. Available at https://www.huduser.gov/portal/datasets/cp.html#2006-2017_data (last accessed June 8, 2022).

Because of the expanded hardships which PECO Gas will impose on its low-income customers due to the relief that it seeks in this proceeding, PECO Gas should undertake efforts to protect an expanded number of low-income households through its LIURP initiative.

The most recent PECO Gas USECP reports that PECO Gas serves 67,013 "LIURP Income-Eligible" households in Bucks, Chester, Delaware, Montgomery and York Counties combined. (USECP, at 52). According to the BCS annual reports on Universal Service Programs and Collections Performance (2014, 21016, 2018, 2020), PECO has completed a total of 8,204 LIURP natural gas heating jobs during the eight years from 2013 through 2020.[22] Of the 67,000 homes identified in the PECO gas needs assessment, therefore, roughly 58,800 remain without weatherization services.

To reach 40% of those low-income customers over a ten-year period would require PECO Gas to serve 2,352 homes per year in that ten-year period (58,800 x 40% = 23,524 homes needing LIURP. 23,524 homes needing LIURP / 12 year planning horizon = 1,960 homes per year). Using the same 2020 weighted cost of PECO Gas LIURP heating jobs I used above ($3,037), to achieve a production of 1,960 gas heating jobs would require a total annual LIURP budget of $5,952,520. PECO should increase its existing LIURP budget to achieve this production level.

[22] Normally, I would examine a seven year period rather than the eight year period I examine here. After seven years, homes that previously have been weatherized are generally thought to be subject to be retreated through weatherization services. Given the impact of COVID-19 on the ability to deliver services, however, I added an eighth year.

According to BCS, PECO Gas had actual LIURP spending of $2,250,000 in 2018 and 2019. While it had projected LIURP spending of $2,250,000 in 2020, it did not achieve this spending due to COVID-19. Accordingly, the projected LIURP spending for 2020 was $3,610,000.

Accordingly, to offset the harms imposed on Confirmed Low-Income customers by the relief PECO Gas seeks in this rate case, I recommend that PECO Gas expand its LIURP projected spending to $5.953 million a year, sufficient to serve 1,960 additional low-income customers per year. These additional LIURP jobs are in addition to the LIURP jobs that I recommend above to be directed toward low-income households at the time they are converted from other fuels to natural gas. PECO Gas spending should be incremental to any weatherization funding delivered through federal infrastructure dollars. Given the increase I recommend, I further recommend that PECO Gas be allowed to ramp up its spending over a three-year period.

Q. WOULD THE TOTAL INCREMENTAL UNIVERSAL SERVICE COST OF YOUR PROPOSAL THUS BE $5.953 MILLION A YEAR?

A. No. As with my recommendation above with respect to providing LIURP services to low-income customers who PECO Gas converts to natural gas from a non-gas fuel, investing LIURP dollars would generate universal service cost reductions as well. Bill reductions resulting from LIURP investments will, on a dollar-for-dollar basis, reduce the level of future CAP credits to the extent that the customer is also enrolled in CAP. Moreover, to the extent that a low-income customer receives LIURP services prior to enrolling in CAP, it is more likely than not that the customer will experience reduced

arrearages.[23] As a result, there would be a reduction in arrearages subject to forgiveness through the PECO Gas CAP program. Given that CAP Credits and Arrearage Forgiveness credits comprise 85.6% of the total costs of the PECO Gas CAP, these reductions in universal service costs that would offset any LIURP investment would be substantial.

Q. IS THERE A NEED TO QUANTIFY THESE OFFSETS TO THE LIURP SPENDING AND EXPLICITLY RECOGNIZE THEM?

A. No. To the extent that future CAP credits are reduced through the delivery of LIURP services, those reduced credits will be automatically recognized in the Universal Service Rider. The Rider only allows PECO Gas to recover those CAP credits that have been actually paid. The same is true for reductions in future arrearage forgiveness credits. Given that the Universal Service Rider allows PECO Gas to recover only those arrearage forgiveness credits that are actually granted, to the extent that the delivery of LIURP investments will reduce those arrearage forgiveness credits, the collection of universal service costs will, without further action, be adjusted to reflect those reductions.

Q. WHY ISN'T THIS RECOMMENDATION MORE APPROPRIATELY PRESENTED IN PECO GAS PROCEEDING TO REVIEW ITS UNIVERSAL SERVICE AND ENERGY CONSERVATION PLAN (USECP)?

[23] Shingler (2008). Long Term Study of Pennsylvania's Low-Income Usage Reduction Program: Results of Analyses and Discussion, available at https://aese.psu.edu/research/centers/csis/publications (last accessed April 8, 2022).

A. The base spending for the PECO Gas LIURP program is considered in the proceeding to review the PECO Gas USECP. However, my recommendation above could not have been advanced in the PECO Gas USECP given that the rate case proposals advanced in this proceeding had not yet been filed. My recommendation above is designed to respond to, and to reflect, the necessary LIURP spending to respond to the proposals advanced by PECO Gas in *this* proceeding. They could not have been raised in the USECP review.

Part 5. The Inter-class Allocation of Universal Service Costs.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I briefly explain why the universal service costs of PECO Gas should be allocated amongst all customer classes, rather than being allocated exclusively to the residential customer class. Despite this explanation, I do not propose that the PUC consider a reallocation in this proceeding. The issue of how to allocate PECO Gas universal service costs should be deferred to the next PECO Gas rate case.

Q. WHY DO YOU PROPOSE TO DEFER CONSIDERATION OF THE APPROPRIATE ALLOCATION OF UNIVERSAL SERVICE COSTS?

A. While the public health issues created by COVID-19 are being brought under control, the economic crisis associated with the pandemic continues to affect Pennsylvania consumers. Given these unusual economic times in which we are living, it seems to be an inappropriate moment to consider a change in policy such as how to allocate universal service costs among customer classes. By deferring the consideration of this issue, it is

possible for the PUC to review how such allocations should occur within the context of normal economic circumstances for all customer classes.

Q. PLEASE EXPLAIN WHY YOU MENTION THIS ISSUE GIVEN THAT YOU DO NOT PROPOSE A CHANGE IN THE UNIVERSAL SERVICE COST ALLOCATION IN THIS PROCEEDING.

A. In its 2019 Final Policy Statement and Order in the PUC's generic investigation into energy affordability in Pennsylvania (Docket M-2019-3012599),[24] the Commission explicitly acknowledged that, historically, it allocated universal service costs exclusively to residential customers, but then stated that "our review of Pennsylvania's current universal service model in the *Review* and *Energy Affordability* proceedings has provided reasons to reconsider this position." (Final Policy Statement and Order, at 92). The Commission observed that "[t]he current cost-recovery method for universal services, including CAP costs, is putting a significant burden on residential customer bills. . ." (Id.). The Commission's decision to substantially reduce the definition of an "affordable" burden will create even more universal service costs and will increase that "significant burden" even more. According to the Commission:

> Given the significant past increase in EDC universal service spending – and the anticipated increases in both EDC and NGDC universal spending through 2021 – the Commission is concerned that recovering CAP costs (as well as other universal service costs) from only residential ratepayers will continue to make electric and/or natural gas bills increasingly unaffordable for non-CAP customers, especially those with incomes between 151-200% of the FPIG.

[24] http://www.puc.pa.gov/about_puc/consolidated_case_view.aspx?Docket=M-2019-3012599 (November 5, 2019) (last accessed April 21, 2021).

(Id., at 95). I agree with these observations. There is a substantial population of PECO Gas customers who have difficulties in paying their utility bills without being sufficiently "low-income" to qualify for CAP. The current CAP costs could prove to be problematic for these customers, and those costs will increase in the future, both for the reasons identified in the Commission's Final Order (pages 94 – 95) and for the reason that the Commission has revised its Final Policy Statement recommending reductions of the percentage of income payments to be charged to CAP customers.[25]

The Commission stated in its Final Order that "the Commission finds it appropriate to consider recovery of the costs of CAP costs from all ratepayer classes. Utilities and stakeholders are advised to be prepared to address CAP cost recovery in utility-specific rate cases consistent with the understanding that the Commission will no longer routinely exempt non-residential classes from universal service obligations. . ." (Id., at 99, notes omitted).[26]

Q. HOW DO YOU RESPOND TO THIS PUC GUIDANCE?

A. While I am not recommending that universal service costs be allocated across all customer classes in this proceeding, for the reasons set forth above and further below, I agree that:

[25] While the Office of Consumer Advocate has urged that CAP is designed to address long-term structural poverty, these costs might increase even more to the extent that COVID-19 results in structural job loss. Temporary loss of income due to COVID-19 should be considered to be addressed through a PUC-approved emergency relief program.
[26] The Commission observed that it was not making "a final precedential decision regarding cost recovery in this docket. We are merely providing that the recovery of CAP costs in particular can be fully explored in utility rate cases henceforth." (Id., at note 150).

- the Pennsylvania PUC's observation was correct in its observation that "poverty, poor housing stock, and other factors that contribute to households struggling to afford utility service are not just 'residential class' problems."[27]

- the Pennsylvania PUC's observation was accurate when it found in its Final Order (2019) that several factors "contribute to households struggling to afford utility service" and that, amongst those factors are "poverty, poor housing stock, and other factors."[28]

- the Pennsylvania PUC was correct when it found in its Final Order (2019) that poverty is a broad-based social problem not associated with any particular customer class, including specifically not being associated with the residential class exclusively.[29]

- the Pennsylvania PUC was correct when it found in its Final Order (2019) that "helping low-income families maintain utility service and remain in their homes is also a benefit to the economic climate of a community."[30]

- the Pennsylvania PUC was correct when it found in its Final Order (2019) that "Clearly, there is a persuasive argument to be made that home heating and energy assistance for low-income households serves a public good whose responsibility is not merely other residential ratepayers."[31]

- The Pennsylvania PIC was correct when it found in its Final Order (2019) that "while there are strong arguments to be made that non-residential classes do benefit from universal services, there are also strong arguments to be made in favor of multi-class allocation even if one discounts any non-residential benefits."[32]

Finally, I agree that the PUC's observation is applicable to PECO Gas, when the Commission observed in its Final Order (2019), quoted above, that: "In approving PGW's practice of recovering such costs across all ratepayer classes, we noted that 'all

[27] 2019 Amendments to Policy Statement on Customer Assistance Program, 52 Pa. Code § 69.261–69.267, Docket M-2019-3012599, Final Policy Statement and Order, at 94 (September 19, 2019). (hereafter "Final Policy Statement and Order").
[28] Final Policy Statement and Order, supra, at 96.
[29] Final Policy Statement and Order, supra, at 96 – 99.
[30] Final Policy Statement and Order, supra, at 96.
[31] Final Policy Statement and Order, supra, at 96 – 97.
[32] Final Policy Statement and Order, supra, at 97.

firm customers, including commercial and industrial customers, benefit indirectly from PGW's extensive low-income assistance programs.'" (internal note omitted).[33]

Q. WHAT DO YOU CONCLUDE AS TO UNIVERSAL SERVICE COST ALLOCATION FOR PECO GAS?

A. Notwithstanding this willingness and ability to demonstrate the applicability of these previous PUC findings to PECO Gas, for the reasons stated above, I do not present the issue of the allocation of universal service costs in this proceeding, but reserve this issue for a future proceeding.

Part 6. Theft Investigation Charge.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I address the reasonableness of the proposed PECO Gas Theft Investigation Fee. The question with this fee involves not merely the dollar amount of the fee, but also involves the tariff language with respect to when the fee is imposed. PECO Gas witness Benjamin Yin states that "the tariff language addressing the applicability of the theft fee is also consistent with Rule 18.8 of PECO's Electric Tariff approved by the Commission in the settlement of the Company's 2021 electric base rate case. . ." (PECO Gas St. 8, at 4). I agree that the language proposed by PECO Gas is consistent with the language included in the 2021 PECO Electric settlement and approved by the Commission.

[33] Final Policy Statement and Order, supra, at 96.

Q. DO YOU HAVE ANY COMMENT ON THE PROPOSED THEFT INVESTIGATION FEE?

A. Yes. I have two comments about the proposed fee. The proposed tariff language reads:

> If the Company establishes that there has been confirmed active theft resulting from tampering with the Company meter on the customer's premises, and the customer is or was a customer as defined at Pa. C.S. § 1403 the customer shall pay a theft investigation charge in addition to any amount that the Company establishes is due for service used, but not registered on the Company's meter. The Company reserves the right to assess theft investigation charges as a precedent to reconnection of service as well as the right to assess a separate reconnection charge as described in Rule 17.6.

There are two important limitations in this language. First, the fee is to be imposed only if the Company "establishes" that there has been an active theft. Moreover, the fact that, by the terms of the tariff language, the charge applies only if there is a "*confirmed* active theft" (emphasis added) further indicates the limits of the charge. If an investigation does not establish such a confirmed active theft, no fee is appropriate, irrespective of any "investigation."

Second, PECO Gas has previously acknowledged that the language "confirmed active theft" is defined by the subsequent language "resulting from tampering with the Company meter on the customer's premises." The phrase "confirmed active theft," in other words, involves a very specific tampering with the meter. The proposed charge would apply in no other instance involving allegations of "theft" or "fraud." The distinction between "fraud" and "active theft" is a critical aspect of this tariff language.

With those two limitations noted, I agree that the language proposed by PECO Gas is consistent with the language previously incorporated into the settlement of the 2021 PECO Electric rate case.

Q. DO YOU HAVE ANOTHER OBSERVATION ABOUT THE PECO GAS TARIFF LANGUAGE REGARDING FRAUD AND THEFT LANGUAGE?

A. Yes. Limitations similar to those which PECO Gas proposes for its Tariff section 17.7 should be incorporated into Tariff section 17.6 as well. Section 17.6 currently reads in relevant part: "In the case of fraud, the reconnection charge will also include allocated overheads, all investigative costs and administrative costs as determined by the Company." The "reconnection charge" set forth in Section 17.6 is specifically referenced in Section 17.7. It is, therefore, necessary to include a review of that charge in addition to the specific "theft investigation fee" included in Section 17.7.

Q. WHAT MODIFICATION DO YOU PROPOSE FOR SECTION 17.6?

A. The following language should be deleted from Section 17.6 of the PECO Gas Tariff: "In the case of fraud, the reconnection charge will also include allocated overheads, all investigative costs and administrative costs as determined by the Company." This language should be removed because there should be no additional charge based on the mere allegation of "fraud" as the current language would appear to allow. There is, with respect to any allegation of fraud, a presumption that the customer acted honestly in good faith. That allegation must be overcome by clear and convincing evidence.

The problem with the over-reach of Section 17.6 of the Tariff, for example, can be seen in a hypothetical applicable to a landlord/tenant situation. "Tenant A" moves into a rental unit, believing the landlord has provided natural gas service. The landlord allows Tenant A to move in believing that the Tenant understands his/her obligation to transfer service into the Tenant's name. PECO alleges that the Tenant, who is not a customer of PECO, has committed "fraud" because the Tenant is taking service without applying for service.

In this (and similar) situations –this hypothetical is not intended to be exclusive, but rather illustrative—what PECO alleges to be "fraud" is seen to be a "mistake" by others. Nonetheless, PECO imposes a fee pursuant to this tariff for unspecified costs, including "all investigative costs," "allocated overheads," and "administrative costs" "as determined by the Company." Under the Tariff Section 17.6 language, as incorporated into Section 17.7, the level of those costs, let alone the reasonableness of those costs, are subject to no review or approval by the Commission. Nonetheless, paying those unspecified, unreviewed, unapproved costs are made a precondition to the receipt of service pursuant to Section 17.6 ("the same Customer. . .shall pay a reconnection charge, prior to restoration of service. . .").

In addition to providing the Company a blank check to impose additional reconnection charges ("the reconnection charge will also include. . .*all* investigative costs and administrative costs *as determined by the Company*") (emphasis added), the language of Section 17.6 allows PECO Gas to perhaps double recover costs. Overhead costs and administrative costs have already been included in base rates. To include these costs in

the proposed charge would be to allow PECO to recover them twice: once in base rates and again through the Tariff charge.

Q. IS THE REMEDY TO FURTHER MODIFY THE PROPOSED LANGUAGE OF SECTION 17.7?

A. No. The remedy is the one I recommend above. Section 17.6 should be modified to delete the following language: "In the case of fraud, the reconnection charge will also include allocated overheads, all investigative costs and administrative costs as determined by the Company."

Part 7. Proposed Increase to ROE Based on Management Excellence.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. PECO Gas requests that it be granted an additional equity return of 0.10% to reflect what it asserts is exemplary management. (Bradley, at 40).

Q. HAVE YOU REVIEWED CUSTOMER SATISFACTION AS IT RELATES TO PECO GAS?

A. Yes. PECO Gas ranks consistently toward the middle to bottom of customer satisfaction as reported by the Pennsylvania PUC. I reviewed the BCS 2020 "Customer Service Performance Report."[34] I use this data because it is the data that the PUC has deemed

[34] Available at https://www.puc.pa.gov/filing-resources/reports/customer-service-performance-reports/ (last accessed June 9, 2022).

appropriate as a basis upon which to review utility performance.[35] My review of customer satisfaction finds that:

- PECO Energy has the lowest customer satisfaction in the ease of reaching the company of any natural gas or electric utility in Pennsylvania. Amongst natural gas utilities, UGI Gas 92% ("very satisfied" or "somewhat satisfied") is the next lowest (compared to PECO Energy's 85%), with UGI Gas 78% "very satisfied" comparing to PECO Energy's 67% of customers who are "very satisfied").

- PECO Energy tied with PPL as ranking last among Pennsylvania's electric utilities on customer satisfaction with a customer service representative's handling of their contact. While PPL and PECO Energy both reported 90% of their customers being either "very satisfied" or "somewhat satisfied," PECO Energy had the lowest percentage (78%) of customers who were "very satisfied" (with PPL being next lowest at 81%). Nearly one-in-four PECO Energy customers who contacted the utility, in other words, were less than "very satisfied" with their contact. Every natural gas utility had satisfaction rates higher than PECO (with PGW being next lowest at 94%).

- PECO Energy had the second lowest percentage of customers who reported that call center representatives were "very knowledgeable." One-in-four customers (24%) found PECO Energy representatives to be less than "very knowledgeable." Whether it is responding to a collection call, enrolling in a universal service program, or some other customer service issue, having very knowledgeable customer service representatives is key to good customer service.

- PECO Energy ranked next to last in customer satisfaction with the "overall quality of service" during a recent contact. Nearly one-in-three or 30% of customers reported being less than "very satisfied" during their recent contact.

- With respect to premise visit contacts, PECO Energy customers ranked the Company near the bottom with respect to the "overall satisfaction" with the premise visit. PECO Energy ranked next to last with respect to customer satisfaction that the work was "completed promptly" and was tied for last with respect to the field representative's "courtesy."

[35] BCS states that PECO Energy cannot separate its electric and natural gas performance. Accordingly, the statistics and presented for the Company as a whole. My use of "PECO Energy" is to indicate this use of total company statistics.

- PECO Energy ranked last with respect to customer satisfaction on the "knowledge" of field representatives.

In sum, a review of the customer service performance reveals that PECO Energy does not perform at the top of Pennsylvania utilities. Its customer satisfaction does not support an upward adjustment in the return on equity for superior management.

Q. HAVE YOU REVIEWED CUSTOMER SERVICE AS IT RELATES TO PECO GAS?

A. Yes. Using the BCS quarterly update for the Fourth Quarter of 2021 (January through December 2021),[36] I find that PECO Energy (as with above, BCS combines PECO Gas and PECO Electric data since the utility cannot disaggregate between fuels) had significant customer service issues. PECO Energy had far more Residential Consumer Complaints that BCS deemed to Need Further Investigation (NFI) than other utilities in the State. Regarding PECO's 1,148 consumer complaints, NFI was nearly two times higher than the next range of utilities (Duquesne: 570; PPL: 568; West Penn Power: 567).

Similarly, PECO had a rate of Payment Arrangement Requests (PARs) that BCS deemed to Need Further Investigation that was lower than only PPL's (PECO: 2,126; PPL: 2,891). The percentage of PECO Energy's "justified" PARs was the highest in Pennsylvania. A PAR is "justified" where "prior to BCS intervention, the company did not comply with Commission regulations, reports, secretarial letters, tariffs or

[36] Available at https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/ (last accessed June 9, 2021).

guidelines." (BCS Quarterly Update to UCARE Report, January – December 2021, at 20).

PECO Energy did not perform well in the speed of responding to consumer complaints either. Only PPL had an average time (in days) that was slower to respond to complaints (18.3) than did PECO (16.0). The next slowest response time was Met-Ed (14.9 days). PECO's average response time was noticeably higher than the statewide average for electric utilities (15.4 days) or natural gas utilities (12.9 days).

Finally, in 2020, PECO had 142 "verified infractions," higher than every other utility other than Duquesne. Of these 142 infractions, 135 involved Chapter 56 infractions. According to BCS, a "verified infraction" involves where BCS finds that the utility engaged in "a misapplication or infringement of Commission regulation, particularly the standards and billing practices for residential utility services. (4th Quarter UCARE Report, at 20).

Q. WHAT DO YOU CONCLUDE?

A. In my testimony above, I reviewed whether PECO Gas has engaged in exemplary management in the areas of customer satisfaction and customer service. I conclude that PECO Gas, at best, under-performs relative to Pennsylvania's utilities rather than performing in an exemplary fashion. PECO Gas has not manifested any particular "excellence" in management that would support an upward adjustment in its return on equity.

Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Appendix: Colton Abbreviated Vitae

Roger Colton
Fisher, Sheehan & Colton
Public Finance and General Economics
Belmont, MA
*** ***

EDUCATION:

J.D. (Order of the Coif), University of Florida (1981)

M.A. (Regulatory Economics), McGregor School, Antioch University (1993)

B.A. Iowa State University (1975) (journalism, political science, speech)

PROFESSIONAL EXPERIENCE:

Fisher, Sheehan and Colton, Public Finance and General Economics: 1985 - present.

As a co-founder of this economics consulting partnership, Colton provides services in a variety of areas, including: regulatory economics, poverty law and economics, public benefits, fair housing, community development, energy efficiency, utility law and economics (energy, telecommunications, water/sewer), government budgeting, and planning and zoning.

Colton has testified in state and federal courts in the United States and Canada, as well as before regulatory and legislative bodies in more than three dozen states. He is particularly noted for creative program design and implementation within tight budget constraints.

PROFESSIONAL AFFILIATIONS:

Past Chair:	Belmont Zoning By-law Review Working Committee (climate change)
Member:	Board of Directors, Massachusetts Rivers Alliance
Columnist:	Belmont Citizen-Herald
Producer:	Belmont Media Center: BMC Podcast Network
Host:	Belmont Media Center: Belmont Journal
Member:	Belmont Town Meeting
Vice-chair:	Belmont Light General Manager Screening Committee
Past Chair:	Belmont Goes Solar
Coordinator:	BelmontBudget.org (Belmont's Community Budget Forum)
Coordinator:	Belmont Affordable Shelter Fund (BASF)

Past Chair: Belmont Solar Initiative Oversight Committee
Past Member: City of Detroit Blue Ribbon Panel on Water Affordability
Past Chair: Belmont Energy Committee
Member: Massachusetts Municipal Energy Group (Mass Municipal Association)
Past Chair: Housing Work Group, Belmont (MA) Comprehensive Planning Process
Past Chair: Board of Directors, Belmont Housing Trust, Inc.
Past Chair: Waverley Square Fire Station Re-use Study Committee (Belmont MA)
Past Member: Belmont (MA) Energy and Facilities Work Group
Past Member: Belmont (MA) Uplands Advisory Committee
Past Member: Advisory Board: Fair Housing Center of Greater Boston.
Past Chair: Fair Housing Committee, Town of Belmont (MA)
Past Member: Aggregation Advisory Committee, New York State Energy Research and Development Authority.
Past Member: Board of Directors, Vermont Energy Investment Corporation.
Past Member: Board of Directors, National Fuel Funds Network
Past Member: Board of Directors, Affordable Comfort, Inc.
Past Member: National Advisory Committee, U.S. Department of Health and Human Services, Administration for Children and Families, Performance Goals for Low-Income Home Energy Assistance.
Past Member: Editorial Advisory Board, International Library, *Public Utility Law Anthology*.
Past Member: ASHRAE Guidelines Committee, GPC-8, *Energy Cost Allocation of Comfort HVAC Systems for Multiple Occupancy Buildings*
Past Member: National Advisory Committee, U.S. Department of Housing and Urban Development, Calculation of Utility Allowances for Public Housing.
Past Member: National Advisory Board: Energy Financing Alternatives for Subsidized Housing, New York State Energy Research and Development Authority.

PROFESSIONAL ASSOCIATIONS:

National Association of Housing and Redevelopment Officials (NAHRO)
National Society of Newspaper Columnists (NSNC)
Association for Enterprise Opportunity (AEO)
Iowa State Bar Association
Energy Bar Association
Association for Institutional Thought (AFIT)
Association for Evolutionary Economics (AEE)
Society for the Study of Social Problems (SSSO)
Association for Social Economics

BOOKS

Colton, *et al.*, ***Access to Utility Service***, National Consumer Law Center: Boston (4th edition 2008).

Colton, *et al.*, ***Tenants' Rights to Utility Service***, National Consumer Law Center: Boston (1994).

Colton, ***The Regulation of Rural Electric Cooperatives***, National Consumer Law Center: Boston (1992).

BOOK CHAPTERS

Colton (2018). The equities of efficiency: distributing energy usage reduction dollars, Chapter in Energy Justice: US and International Perspectives (Edited by Raya Salter, Carmen Gonzalez and Elizabeth Ann Kronk Warner), Edward Elgar Publishing (London, England).

JOURNAL PUBLICATIONS

65 publications in industry and academic journals, primarily involving utility regulation and affordable housing. (list available upon request)

TECHNICAL REPORTS

200 technical reports for public-sector and private-sector clients (list available upon request)

JURISDICTIONS IN WHICH EXPERT WITNESS PROVIDED

1. Maine
2. New Hampshire
3. Vermont
4. Massachusetts
5. Massachusetts
6. Rhode Island
7. Connecticut
8. New Jersey
9. Maryland
10. Pennsylvania
11. Washington D.C.
12. Virginia
13. North Carolina
14. South Carolina
15. Florida (Federal Court)
16. Alabama
17. Mississippi
18. Tennessee
19. Kentucky
20. Ohio
21. Indiana
22. Michigan
23. Wisconsin
24. Illinois
25. Minnesota
26. Iowa
27. Missouri
28. Arkansas
29. Texas (Federal Court)
30. South Dakota
31. North Dakota
32. Montana
33. Colorado
34. New Mexico
35. Arizona
36. Utah
37. Idaho
38. Nevada
39. Washington
40. Oregon
41. California
42. Hawaii
43. Kansas

Canadian Provinces

1. Nova Scotia
2. Ontario
3. Manitoba
4. British a

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Re: Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts set forth in my Direct Testimony, OCA Statement 4, are true and correct (or are 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).

DATED: June 22, 2022
*330682

Signature: _____
Roger D. Colton

Consultant Address: Fisher, Sheehan, & Colton
34 Warwick Road
Belmont, MA 02478

OCA Statement 4R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2022-3031113
PECO Energy Company – Gas Division	:	

Rebuttal Testimony of
Roger D. Colton

On Behalf of:
The Pennsylvania Office of Consumer Advocate

July 21, 2022

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, MA.

Q. ARE YOU THE SAME ROGER COLTON WHO PREVIOUSLY PREPARED DIRECT TESTIMONY ON BEHALF OF THE OFFICE OF CONSUMER ADVOCATE IN THIS PROCEEDING?

A. Yes, I am.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to respond to one aspect of the Direct Testimony of Harry Geller, filed on behalf of the Coalition for Affordable Utility Services and Energy Efficiency in Pennsylvania (CAUSE-PA). In his Direct Testimony, Mr. Geller recommends the adoption of certain "customer service metrics" ***not*** related to Universal Service Programs or other programs proposed by PECO Gas. (CAUSE-PA St. 1, at 53 – 54). He argues that "at the heart of each of [PECO Gas' universal service] programs is the underlying and polestar goals of reducing low-income customer payment troubled status, reducing service terminations, and expediting service reconnection." (Id., at 53). He finds that, with respect to these objectives, there are substantial differences between low-income customers and residential customers as a whole. "[T]he differences are measurable and significant. In the face of these differences, PECO Gas has nevertheless requested a rate increase that will negatively affect a significant portion of its customer base." (Id., at 54).

Q. WHAT IS YOUR RESPONSE TO MR. GELLER'S RECOMMENDATION?

A. I have the following positive responses to Mr. Geller's recommendation. First, I agree not only with Mr. Geller's identification of what he labels the "polestar" objectives of universal service programs (i.e., to reduce low-income payment troubles, to reduce low-income service disconnections, to expenditure service reconnections), but also with Mr. Geller's observation that the differences between the performance of low-income customers and the performance of residential customers as whole on these objectives "are measurable and significant." I have discussed the differences in performance between low-income customers and residential customers in detail in my Direct Testimony.

Second, I agree with Mr. Geller's observation that the performance of PECO Gas' low-income customers will be adversely affected by both the magnitude of the rate increase sought by PECO Gas in this proceeding, and the way PECO Gas seeks to increase its rates (e.g., through substantial increases to an irreducible monthly fixed customer charge). The performance of PECO Gas' low-income customers on these metrics is an outcome that can be either improved or impeded by specific actions taken by PECO Gas.

Q. DO YOU HAVE ANY RESPONSE TO MR. GELLER'S PROPOSALS AS THEY INTERACT WITH THE METRICS YOU RECOMMENDED IN YOUR DIRECT TESTIMONY?

A. The metrics recommended by Mr. Geller are entirely consistent with the more specific performance metrics that I recommended in my Direct Testimony. In the parlance of performance measurement (e.g., through the Government Performance and Review Act,

GPRA, that I discussed in my Direct Testimony), the performance metrics I recommended would be known as "intermediate objectives" relative to those metrics recommended by Mr. Geller. Mr. Geller's objectives would be known as "ultimate objectives" (or, "intermediate" and "ultimate" outcomes). Both sets of metrics fit into what is known as a "How-Why Matrix."[1] Going ***down*** the matrix responds to the question "why." Going ***up*** the matrix responds to the question "how." Simply for the purposes of illustration, applying this matrix to the metrics recommended by Mr. Geller and myself fit perfectly into the How-Why planning process:

- **Activity (PECO decision)**: Retain CAP participants from removal due to a failure to recertify:
  - **Why**: To increase CAP participation rates.
    - **Why**: To reduce low-income payment troubles.
- **Ultimate objective**: To reduce low-income payment troubles.
  - **How**: By increasing CAP participation rates;
    - **How**: By retaining CAP participants from removal due to a failure to recertify.

My purpose here is simply to indicate that while Mr. Geller proposes to measure different metrics than I did in my Direct Testimony, they are not at all inconsistent with each other. Instead, they are mutually reinforcing.

[1] See e.g., Colton (1999). *Monitoring the Impact of Electric Restructuring on Low-Income Consumers: The What, How and Why of Data Collection*, prepared for U.S. Department of Health and Human Services, Administration for Children and Families; see also, Colton (2009). *An Outcomes Planning Approach to Serving TPU Low-Income Customers*, prepared for Tacoma Public Utilities, Tacoma (WA).

Q. DO YOU HAVE A FIRST CAUTION WITH RESPECT TO THE METRICS PROPOSED BY MR. GELLER?

A. Yes. Collecting and reporting data is a very different proposition than developing and using outcome metrics as recommended by Mr. Geller's Direct Testimony (and recommended in my Direct Testimony). The mere reporting of data does not affect the How-Why process that I identified above. Only if the metrics recommended by Mr. Geller are actively put to use will they improve performance on the "polestar" objectives that he has identified.

Q. DO YOU HAVE A SECOND CAUTION WITH RESPECT TO THE METRICS PROPOSED BY MR. GELLER?

A. Yes. The interaction between metrics must be considered. Improvement in one metric, offset by deterioration in a different one, does not represent progress toward the "polestar objectives" identified by Mr. Geller. Two of the metrics identified by Mr. Geller illustrate this concern. One objective identified by Mr. Geller is the reduction of low-income payment troubles (i.e., a reduction in arrears). A second objective is the reduction of low-income disconnections for nonpayment. PECO Gas could very well reduce the dollars of low-income arrears simply by disconnecting more low-income customers at lower levels of arrears. That would result in an "improvement" in the metric measuring the level of low-income arrears. Conversely, PECO Gas could very well reduce the number of low-income nonpayment service disconnections simply by allowing arrearages to build to higher levels without a responsive collection activity. That would result in an "improvement" in the metric of reducing disconnections. What is needed is a system of outcome measurement that takes into account the interaction between ***both***

objectives. Developing an outcome measurement mechanism that accounts for this interaction is an entirely do-able proposition.[2]

Q. DOES THIS COMPLETE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.

[2] See e.g., Colton. (1998). "Universal Service: A Performance-Based Measure for a Competitive Industry," ***Public Utilities Fortnightly***.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts set forth in my Rebuttal Testimony, OCA Statement 4R, are true and correct (or are 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).

DATED: July 21, 2022
*332504

Signature: _____
Roger D. Colton

Consultant Address: Fisher, Sheehan, & Colton
34 Warwick Road
Belmont, MA 02478

OCA Statement No. 1SR

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2022-3031113**
PECO Energy Company – Gas Division	**)**	

SURREBUTTAL TESTIMONY OF

DANTE MUGRACE

ON BEHALF OF THE

COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE

August 4, 2022

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Attachment A – Surrebuttal Schedules

Attachment B -- Discovery

I. PURPOSE OF SURREBUTTAL TESTIMONY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dante Mugrace. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS DOCKET?

A. Yes. I submitted Direct Testimony on June 28, 2021, which was marked as OCA Statement No. 1. My qualifications and experience are attached to my Direct Testimony.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my Surrebuttal Testimony is to address the Rebuttal Testimonies of Company witnesses Mr. Stefani (PECO St. 2-R) and Mr. Trzaska (Statement No. 3-R). I am also making certain adjustments to proposals in my testimony and a revised calculation of the Company's revenue requirement that incorporates the effects of my adjustments. I am also addressing and updating the Company's response to certain adjustments which they believed contained errors to certain of my revenue requirement schedules. To the extent that I do not respond to or address a particular issue or argument, I defer to my Direct Testimony on those issues.

Q. WITH YOUR ADJUSTMENTS TO YOUR DIRECT TESTIMONY, WHAT IS YOUR REVISED COMPANY REVENUE REQUIREMENT?

A. With my revised adjustments, I have calculated a revenue requirement increase of $13.930 million. This includes OCA Witness Mr. Garrett's overall rate of return of 6.48% which includes a common equity cost rate component of 8.75%.

II. REVENUE REQUIREMENT ISSUES

A. Rate Base Issues

1. Utility Plant in Service (UPIS) – Plant Additions

Q. WHAT HAS THE COMPANY STATED REGARDING YOUR ADJUSTMENTS TO ITS UTILITY PLANT IN SERVICE?

A. Mr. Stefani stated that I was confused with the concept of capital expenditures with capital additions. (PECO St. 2R at 2). He stated that in response to OCA-I-26,[1] the Company provided planned investments during the FTY and the FPFTY period (planned capital expenditures). Mr. Stefani stated that I was incorrect in relying upon the nine projects that were shown in response to OCA-I-26 with completion dates after the FPFTY. He stated that the Company's capital expenditures are costs incurred by PECO over time as work is performed on capitalized projects such as replacing gas mains. (PECO St. 2R-at 3). These costs accumulate and are reported as part of construction work in progress until the project has been placed in service and is being used for its intended purpose. Mr. Stefani stated that these projects are not included in the Company's FPFTY plant in service claim. (PECO St. 2R at 2). Mr. Stefani stated that only the capital expenditures listed in the Company's response to OCA-I-26, that relate to projects that will be replaced into service prior to December 31, 2023, are included in the Company's claim for FPFTY plant in service. (PECO St. 2R at 3).

Q. WHAT IS YOUR RESPONSE?

A. If I am understanding Mr. Stefani's argument, he stated that the document to rely upon to determine the plant in service balance (plant additions) are in response to OCA-I-15[2] where these plant additions are expected to be placed in service by the end of the FTY and the FPFTY period. The response to OCA-I-26 reflects planned investments that are <u>not</u> included in the FTY or the FPFTY until these projects are moved to the Company's plant in service as a capital addition. (PECO St. 2R at 3). The projects listed in response to OCA-

[1] See OCA St. 1, Att. B for a copy of PECO Reply to OCA-I-26.
[2] See OCA St. 1, Att. B for a copy of PECO Reply to OCA-I-15.

I-26 are not included in the Company's FPFTY plant in service claim. (PECO St. 2R at 2). Based on Mr. Stefani's clarification of the Company's responses to OCA-I-15 and OCA-I-26, I accept the Company's rebuttal position that these planned investments are not included in the Company's plant additions in the FTY and in the FPFTY periods.

Q. WHAT OTHER ADJUSTMENTS ARE YOU ACCEPTING?

A. Given that I have accepted the Company's balance related to the FTY and the FPFTY plant additions, I am adjusting my accumulated depreciation, accumulated deferred income taxes and depreciation expense accordingly. I am also adjusting my public utility realty tax related to the Utility Plant in Service balance. This is shown on my Schedule SR-DM-5.

Q. PLEASE COMMENT ON MR. TRZASKA'S POSITION THAT YOUR PROPOSED REDUCTION TO PLANT IN SERVICE SHOULD BE ACCOMPANIED BY AN ADJUSTMENT ASSOCIATED WITH THE REPAIRS DEDUCTION?

A. Mr. Trzaska's position that my adjustment should have included an adjustment to the Company's repairs deduction is not material. (PECO St. 3R at 6). Given that I have accepted the Company's FTY and FPFTY plant additions in Rate Base, there is no change to the Company's amount of the repairs deduction to calculate the Company's State and Federal Income Taxes. I note that the Company's repairs deductions balance listed on Company's Attachment IE-RB-3-D(a) (Tab D-18 Income Taxes) contained a hard number with no references or links to determine the balance of the $157.400 million. In response to OCA-I-52 I asked the Company to provide development and backup workpapers related to the repairs deductions. In OCA-VI-2, I asked again for the backup workpapers in the hard celled data in Tab D-18 to I&E RB-3-D-(a). The Company provided the calculation related to the repairs deduction balance. Although I am unable to trace those amounts to OCA-I-15(a)[3] as to where the small diameter mains, the large diameter mains and blanket projects are located or accounted for, as well as the reversal of FTY and prior tax repairs deductions, I am accepting this adjustment. The Company should provide this information at the earliest date possible.

[3] Copy of OCA-I-15 included in Att. B to OCA St. 1.

2. Cash Working Capital

Q. WHAT DID MR. TRZASKA STATE REGARDING YOUR ADJUSTMENTS TO CASH WORKING CAPITAL?

A. Mr. Trzaska stated that the Company agrees that its cash working capital allowance should be revaluated if the Company is not awarded its full claim. (Statement No. 3R at 22-23).

Q. WHAT IS YOUR RESPONSE?

A. My Cash Working Capital adjustments contain adjustments to certain of my proposed expense adjustments, which flow through the development of the Cash Working Capital balance. The final Cash Working Capital allowance will be determined by the Commission when final rates are set in this proceeding.

3. NGR Adjustment

Q. WHAT HAS THE COMPANY STATED REGARDING YOUR ISSUE RELATED TO THE NATURAL GAS RELIABILITY PROJECT (NGR)?

A. Mr. Bradley stated that the Gas Reliability Station and Gas Main projects will now be in service in October 2023. The expected LNG Plant project in service window is still November 2023. (PECO St. 1R at 10). Mr. Stefani stated that while the two components of the NGR project have experienced delays due to legal issues, all planned expenditures for this project will occur prior to the end of the FPFTY and all components of the NGR project will be placed in service prior to the end of the FPFTY. (PECO St. 2R at 4).

Q. WHAT IS YOUR RESPONSE?

A. These three projects comprise significant projected additions to the Company's FPFTY plant in service. The Company has extended the expected in service date of the Gas Reliability Station and Gas Main project from November 2022, then to March 2023, based upon discovery. (OCA-I-15(a)). Now the Company acknowledges permitting litigation and delays, with a new expected in service goal of November 2023. The Company should keep the parties to this proceeding apprised of the ongoing updates related to the NGR project in the event a portion of the project is not actually placed in service by the FPFTY period. The Company has already agreed to provide I&E and the Bureau of Technical Utility

Services with detail updates by April 1, 2023 and April 1, 2024 regarding actual capital expenditures, plant additions and retirements. (PECO St. 3R at 8-9). The Company should break out information regarding the NRG projects and progress. The Company should also serve these reports on OCA.

B. RATE OF RETURN

Q. HAS THE COMPANY UPDATED ITS RATE OF RETURN?

A. Yes, in PECO Exhibit MJT-1 Revised, the Company updated its Rate of Return to 7.81% which includes a long-term debt ratio of 4.21% and a weighted cost rate of 1.96%.

Q. WHAT DOES MR. GARRETT RECOMMEND IN HIS SURREBUTTAL?

A. Mr. Garrett has recommended an overall rate of return of 6.48% with a long-term debt ratio of 4.21% and a weighted cost rate of 2.11%. This is shown on my Schedule SR-DM-2.

Q. WHAT EFFECT DOES MR. MOUL'S MANAGEMENT PERFORMANCE PREMIUM OF 0.10% HAVE ON THE COMPANY'S REBUTTAL REVENUE REQUIREMENT?

A. The effect of removing Mr. Moul's Management Performance Premium from the Company's Cost of Equity would be a reduction from the Company's filed 10.95% Equity Cost Rate less 0.10% equals 10.85%. Incorporating this into the overall rate of return would be a 7.76% return instead of the Company's 7.81%. The revenue requirement impact would be a reduction of about $1.439 million (Rate Base of $2.884 billion times the rate of return of 7.76% million equals $223.798 million minus the Company's proposed income requirement of $225.237 million). Multiplying the $1.439 million times the gross revenue factor of 1.39878 equals $2.012 million.

Q. WHAT EFFECT DOES MR. MOUL'S LEVERAGE ADJUSTMENT OF 145 BASIS POINTS HAVE ON THE COMPANY'S DCF ANALYSIS ?

A. If Mr. Moul's DCF results were viewed in isolation, the revenue requirement impact would be $22.492 million (Rate Base of $2.884 billion times the Rate of Return of 7.03% equals $202.745 minus the Company's proposed increase requirement of $225.237 million). Including the gross up factor of 1.39878 results in a revenue requirement impact of $31.5 million.

Q. WHAT EFFECT DOES THE USE OF MR. GARRETT'S RECOMMENDED 50% OF LONG-TERM DEBT AND 50% OF EQUITY WITH THE COMPANY'S PROPOSED EQUITY RETURN AND COST OF DEBT HAVE ON THE COMPANY'S REVENUE REQUIREMENT?

A. The effect of using Mr. Garrett's recommended 50% of Equity and 50% of Debt with the Company's Proposed Equity Return and Cost of Debt would decrease the revenue requirement by $6.630 million. (Rate Base of $2.884 billion times the rate of return of 7.58% equals $218.607 million, a reduction of $6.630 million from the Company's proposed return requirement of $225.237 million). Including the gross up factor of 1.39878 the result is $9.274 million.

C. OPERATING INCOME

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS UPDATED REVENUE REQUIREMENT?

A. As shown on Statement 3R at 2, Mr. Trzaska calculated an updated revenue requirement of $86.2 million as shown on PECO Exhibit MJT-1 Revised Schedule A-1. This represents an approximate $4.1 million to the original amount of additional revenue requirement. However, the Company is not requesting Commission approval for recovery of more than $82.1 million requested in the Company's initial filing and noticed to customers. (Statement No. 3R at 2).

D. OPERATION AND MAINTENANCE EXPENSES

1. Inflation

Q. WHAT DID MR. STEFANI STATE REGARDING YOUR INFLATION ADJUSTMENT?

A. According to Mr. Stefani, the Company's FPFTY expense claim for Bad Debt, BSC Contracting, Contracting / Materials, Overtime, Pension, Transportation, and Travel should be accepted by the Commission. Mr. Stefani does not dispute that the Company adjusted these expense levels from the FTY to the FPFTY based upon inflation factors. (PECO St. 2-R at 4-6). Mr. Stefani opposed my adjustment on the grounds that it would deny any increase from the FTY to the FPFTY for these categories of O&M expenses. Mr. Stefani stated that my adjustments are not justified because application of an inflation factor is

only one of the factors that the Company utilizes in its budgeting process. According to Mr. Stefani, the Company's Long-Range Plan takes into account labor costs that are forecasted with labor inflation rates as well as non-labor costs that may increase or decrease at rates other than a general inflation rate due to regulatory, customer or contractual commitments. Mr. Stefani stated that the Commission has repeatedly accepted the use of inflation factors to derive the pro forma levels of operating expenses that are not otherwise separately adjusted, and the Company's approach is consistent with the process reviewed and approved by the Commission in the Company's last base rate case. (PECO St. 2R at 5-6).

Q. DO YOU AGREE WITH MR. STEFANI'S SUGGESTION THAT THE COMPANY'S BUDGET PROCESS USED A 2.5% INFLATION ASSUMPTION IN DEVELOPING ITS FPFTY CLAIM FOR THESE CATEGORIES OF EXPENSES?

A. No, I do not. The Company has applied the 2.5% inflation factor to develop part of its FPFTY labor expense claim. (I&E-RE-45(a)).[4] As stated in my Direct testimony, I have not contested that part of the Company's salary and wages expense claim. However, the Company did not identify in discovery what inflation (or deflation) factor it applied to determine each of the changes between the FTY and FPFTY amount of expense claimed for the contested expense categories ranging from Bad Debt to Other.

This list of expense categories and change in FPFTY expense level is based upon the Company's reply to OCA-I-8[5] and I&E-RE-45. OCA-I-8 asked PECO to identify "all inflationary and CPI's adjustments the Company used to development [sic] its revenue requirement increase …" accounted for by O&M expense category along with the inflation or deflation factor and all supporting information. In reply, the Company referred to its reply to I&E-RE-45.

I&E-RE-45 asked the Company to provide the inflation rates used in forecasting the FTY and FPFTY O&M expense levels, with supporting documents for the inflation rates

[4] See OCA St. 1, Att. B for a copy of PECO Reply to I&E-RE-45.
[5] See OCA St. 1, Att. B for a copy of PECO Reply to OCA-I-8.

applied. I&E-RE-45(b) also asked the Company to "list of all line item expenses with a breakdown of dollar amounts for expense items and inflation adjustment amounts claimed in the FTY and FPFTY." In reply to I&E-RE-45(b), the Company provided the list of expense categories and dollar amount of change in the FPFTY.

The Company's replies to I&E-RE-45(b) and OCA-I-8 confirm that the Company's changes to these categories of expense for the FPFTY are based upon inflation or deflation factors. The Company's discovery replies do not identify that each expense category was adjusted by a 2.5% factor or any other specific factor, despite I&E's and OCA's discovery requests to identify specific factors. The Company's reply to I&E-RE-45(a) identifies a 2.5% inflation factor only in relation to the Company's salary and wages expense claim.

Q. **ARE YOU CHANGING YOUR RECOMMENDED ADJUSTMENT FOR EACH LISTED EXPENSE CATEGORY?**

A. No. My adjustment properly removes the change in expense for each listed category which the Company confirmed was based upon unidentified inflation or deflation factors. Further, **t**he Company has not provided any evidence showing that cost increases reflected on Statement No. 2R at 5 are definitive. As I stated in my direct testimony (OCA Statement 1 at 25), inflation related adjustments are not known and measurable in setting rates for service, it is simply a forecast or prediction of costs adjustments that may or may not occur during the FTY and the FPFTY periods. While the Commission has accepted inflation adjustments to set rates for service, my recommendation is to remove these inflation adjustments because the Company has not provided any documents from vendors or third parties that shows the Company was informed that price increases are imminent or looming. Costs are predicated upon expenses that are probable to occur and not simply a forecasted or a prediction of costs that *may* occur. I am continuing to make a recommendation of removal of $4,093,000 from the Company's O&M claim related to inflation.

Q. WHAT DID MR. STEFANI AND MR. TRZASKA STATE REGARDING YOUR INFLATION ADJUSTMENTS RELATED TO BAD DEBT EXPENSE?

A. Mr. Stefani stated that the bad debt expense is not a function of inflation, rather it forecasts its bad debt expense based upon projected usage and actual rates, outstanding accounts

receivable and loss factors. (PECO St. 2R at 6). Mr. Trzaska stated that I made the adjustment because "the inflation of PECO's uncollectible account expense … was too high." (PECO St. 3-R at 17).

Q. WHAT IS YOUR RESPONSE?

A. The Company's rebuttal does not change my recommendation. On one hand, Mr. Stefani implies that I should have known that there is no inflationary element in the Company's FPFTY level of bad debt or uncollectible expense. On the other hand, Mr. Trzaska implies that I have knowledge of the inflationary factor applied by the Company and oppose the factor as too high.

In response to I&E RE-45, the Company was asked to identify inflation rates used in forecasting elements of the FTY and the FPFTY O&M Expense claim. Bad Debt expense was included in the list of O&M expense adjusted for inflation. It is an appropriate adjustment.

Q. WHAT ABOUT THE REMAINING EXPENSES THAT THE COMPANY IS ADDRESSING, PARTICULARLY BSC CONTRACTING, MATERIALS, OVERTIME, PENSION, AND TRANSPORTATION?

A. Mr. Stefani stated that the Company's increase in Exelon Business Services (BSC) assumed less than a 2.5% inflation factor and is based upon anticipated needs. He described this adjustment as conservative and more than reasonable. (PECO St. 2R at 7). Mr. Stefani stated that the materials adjustment is directly attributable to the Company's operational goals related to gas mapping activities following from a 2015 gas safety settlement with I&E. (PECO St. 2R at 7). Mr. Stefani identified additional costs of $1.2 million as related to IT infrastructure. Mr. Stefani admitted that a 2.5% inflation factor was applied to contracting/materials expense but accounted for only a portion of the expense increase. (PECO St. 2R at 8). Mr. Stefani stated that the overtime was determined based upon level needed to support the Company's planned operations and driven by operational needs, not inflation. (PECO St. 2R at 8). Mr. Stefani stated that the pension expense adjustment is based upon an actuarial study. (PECO St. 2R at 9). Mr. Stefani stated that transportation

expense increase is based upon projected depreciation, maintenance, fuel costs, licenses and registration fees (anticipated). (PECO St. 2R at 9).

Q. WHAT IS YOUR RESPONSE?

A. The Company has included these expenses above (increase and decreases) that are projected to occur in the FTY and FPFTY period. The Company claimed that these are the inflation adjustments which were specifically identified in response to OCA-I-8 and I&E RE-45. The Company's position in rebuttal that certain of these increased expense levels are not inflationary in nature is not consistent with key discovery replies. The Company is now characterizing these adjustments as non-inflationary in nature and stating that these incremental cost adjustments are needed to support the Company's planned operations. These costs are all predictions and expense forecasts that may or may not be realized. The Company has not provided any further evidence of these expense adjustments, but for the schedule shown in response to I&E RE-45 (which asked for inflation adjustments). Inflation numbers are typically used for economic data, but they should not be used for setting rates.

2. Uncollectible Accounts

Q. WHAT DID MR. TRZASKA STATE REGARDING YOUR ADJUSTMENT TO UNCOLLECTIBLE ACCOUNTS?

A. Mr. Trzaska stated that I did not include the $88.5 million of shopping revenues as part of my present rate revenue for computing uncollectible accounts. (PECO St. 3R at 16). Second, Mr. Trzaska stated that I did not include my adjustments to the inflation shown on I&E RE-45. Mr. Trzaska stated that if I had adjusted the Company's uncollectible accounts expense and included the $88.5 million of shopping revenues, I would have arrived at the same amount claimed by the Company. (PECO St. 3R at 17).

Q. WHAT IS YOUR RESPONSE?

A. I reviewed my calculations, and I am accepting Mr. Trzaska's inclusion of shopping revenues in the development of the uncollectible accounts expense adjustment. The Company calculated its additional uncollectible accounts expense of $281,000 (PECO

Exhibit. MJT-1 Revised Sch. D-1) by taking the proposed revenue requirement increase of approximately $86.30 million by the three-year average of uncollectible accounts of .3265%. My adjustment includes my recommended income requirement increase of approximately $9.95 million multiplied by .3265% to arrive at an adjustment of $32,475. (Sch. DM-SR-15). This reduces the Company's proposed uncollectible accounts from $281,000 to $32,000, (rounded) an adjustment of approximately $248,500. (Sch. DM-SR-15 Line 13). This is carried over to my Schedule DM-SR-4 Line 12.

3. Payroll /Vacancy Rate

Q. WHAT DID MR. STEFANI STATE REGARDING YOUR USE OF THE APPLICATION OF A VACANCY RATE?

A. Mr. Stefani did not agree with my Vacancy Rate of 3.77%. Mr. Stefani stated that the Company has experienced significant difficulty in recruiting, hiring and onboarding staff during 2020 and 2021 because of the COVID-19 pandemic. This led to the Company experiencing atypical vacancy rates in those years. (PECO St. 2R at 10). Mr. Stefani stated that reliance on the 2020 and 2021 data was an aberration from typical PECO vacancy rates. Mr. Stefani stated that the Company anticipates meeting its FTY and FPFTY projections. (700 full time equivalent employees). Mr. Stefani goes on to explain the Company's hiring plan to achieve the 700 full time employees (PECO St. 2R at 12).

Q. WHAT IS YOUR RESPONSE?

A. With respect to the Vacancy Adjustment, the Company typically has a level of vacancies at any given year and does not have a full complement of employees at any given time. Employees get hired, leave the Company, get fired, laid off or retire. The Company does not know when these events will occur, so Mr. Stefani's argument that all of the Company's vacancies will be filled by the end of the FPFTY is not accurate. In response to OCA-I-40 the Company shows a vacancy rate of 5.2% in March 2022, a higher rate than during the 2020-2021 COVID-19 pandemic. It appears that the Company is still trying to fill vacancies in 2022. The Company's hiring plan is only as good as the number of employees it expects to hire, which we do not know yet, because it depends on the number of hires who finish up and complete the schooling curriculum Ms. Stefani stated on page 11-12 of PECO Statement No. 2R. The Company expects to hold additional schooling in October

2022 and more in 2023. The number of hires in those training curriculum is speculative at best.

Q. WHAT DID MR. STEFANI STATE REGARDING YOUR 3.77% VACANCY RATE TO THE COMPANY'S PAYROLL?

A. Mr. Stefani stated that I incorrectly multiplied my vacancy rate that includes overtime and other premium costs to which a vacancy rate should not be applied and using those results would calculate to a vacancy rate adjustment of $1,614,766 (PECO St. 2R at 14).

Q. WHAT IS YOUR RESPONSE?

A. The Company has not shown how it calculated the adjustments down to $42.832 million to determine the vacancy rate adjustment of $1,614,000, so I am unable to formulate an opinion. Therefore, I continue to recommend a vacancy ratio of 3.77% and an adjustment of $1,906,913. (OCA Schedule SR-DM-13)

Q. WHAT HAS MR. TRZASKA STATED REGARDING YOUR REMOVAL OF ANNUALIZED PAYROLL EFFECTIVE JANUARY 1, 2024 AND MARCH 1, 2024?

A. Mr. Trzaska stated that the Company's salary and wages in 2024 are known and measurable that will be incurred shortly after the end of the FPFTY. Mr. Trzaska stated that the PECO's current collective bargaining agreements provide for annual 2.5% wages increases through 2026. (PECO St. 3R at 11).

Q. WHAT IS YOUR RESPONSE?

A. These costs are beyond the Company's FPFTY period of December 31, 2023 and should not be included in the Company's revenue requirement. Mr. Trzaska's argument that these costs will be incurred shortly after the end of the FPFPY does not support the fact that the Company's FPFTY period ends on December 31, 2023, not on January 1, 2024 nor March 1, 2024. The fact the Company anticipates that wage increases will occur on January 1 and March 1, 2024, does not change the timing of the FPFTY period. Any adjustments beyond the FPFTY would result in a mismatch of expenses, revenues, and plant in service and should be disallowed. Post-FPFTY changes in expense levels may be reflected in the Company's future base rate case filing.

4. Incentive and Stock Compensation

Q. WHAT HAS MR. STEFANI STATED REGARDING YOUR ADJUSTMENT TO INCENTIVE AND STOCK COMPENSATION?

A. Mr. Stefani stated that I did not challenge the level of incentive sought, but my belief is that these costs are uncertain and that they benefit shareholders and not customers. (Statement No. 2R at 15). Mr. Stefani stated that the Company's AIP and stock compensation do provide significant value to customers and are important valuable components of PECO's total compensation plan. (PECO St. 2R at 16). Mr. Stefani goes on to state that these incentives are common in the industry and necessary to attract and retain quality employees needed to operate the Company. (PECO St. 2R at 16). Mr. Stefani stated that the Commission has expressly permitted incentive compensation. (PECO St. 2R at 16). Mr. Stefani stated that my response that the AIP and Stock Compensation costs are not known and measurable. Even though the exact actual payout will not be known until the year-end performance is known, Mr. Stefani opined that it is reasonable for budgeting purposes to assume incentive costs that reflect 100% of the anticipated performance payout. (PECO St. 2R at 19).

Q. WHAT IS YOUR RESPONSE?

A. I continue to recommend that ratepayers not be required to pay for a level of incentive compensation which is not known and measurable. (OCA St. 1, Exhibit DM-4) Mr. Stefani

clearly stated that even though the exact actual payout will not be known until the year-end performance is known, it is reasonable to for *budgeting* purposes to assume incentive costs that is reflective of *100%* of *anticipated* performance payout. (PECO St. 2R at 19). This is clearly speculative in nature as the Company does not know whether the full payout will be achieved; the Company has simply included this expense for budgeting purposes without any knowledge of these costs actually being achieved beforehand. The Company has not broken down the level of achievement for any of the KPI's that were asked in OCA-VI-6 and OCA-VI-7,[6] so it is unclear whether any of the costs related to performance goals are expected to be achieved. While the Company claims the KPI's are clearly defined and measurable, it is unable to breakdown by individual KPI because the information is not available since the Company calculates its costs based upon overall performance and not by individual KPI. Therefore, one cannot determine reasonableness if the information is absent. The Company is free to compensate its employees at a level it deems appropriate, including providing incentive compensation and stock compensation, provided that the Shareholders bear the costs of these incentive and stock compensation and not the ratepayers.

5. Employee Benefits

Q. WHAT HAS MR. STEFANI STATED REGARDING YOUR EMPLOYEE BENEFITS ADJUSTMENT?

A. Mr. Stefani stated that my removal of the 6% increase related to the projected increases in the Company's medical expenses and 401K expense, were not based upon projections from its consulting firm Willis Towers Watson. (PECO St. 2R at 21). Mr. Stefani stated that the projected increase was based upon the completion of the actuarial underwriting for its health plans to determine the cost projections for the following year (PECO St. 2R at 21). This increase was based upon prior claims experience and administrative costs trended to the next year based upon participant utilization and medical price inflation. (PECO St. 2R at 21). Mr. Stefani stated that the 5% increase to the medical expense is below the national average of 7% (PECO St. 2R at 21). Mr. Stefani stated that the employee benefits will

[6] See OCA St. 1, Att. B for copies of PECO Reply to OCA-VI-6 and OCA-VI-7.

increase as a result of increased matching contributions to employee 401K plans as well as increase staffing and contributions in lieu of pension. (PECO St. 2R at 21).

Q. WHAT IS YOUR RESPONSE?

A. I continue to believe that the 6% adjustment is an inflation adjustment and should be removed from the Company's Employee Benefits adjustment. Given that my adjustment reflects a vacancy rate, it is appropriate to adjust benefits downward as well as removing the Company's proposed adjustment of $19,000 (I&E-RE-28 (a))[7] related to the additional employees. The Company's Employee Benefits has fluctuated from year to year as shown on I&E-RE-28(a). The Company stated that it has based prior claims expenses and administrative costs trended to the next year based upon participant utilization and medical price inflation. (Statement No. 2R at 21). Therefore, it is reasonable to remove the 6% inflation increase. The fact that the 6% is below the national average is not a valid argument. My adjustment is shown on my Schedule SR-DM-18. I note that by normalizing these expenses over the periods 2021-2023 that a reduction of $635,000 would be calculated ($6,065,000 + $6,293,000 + $7,132,000/3). In addition, if these expenses were normalized over the periods 2020-2022 a reduction of $996,000 would be calculated ($6,050,000 + $6,065,000 + $6,293,000/3). The Company has included a 13.33% increase in its Employee Benefits from the FTY 2022 to the FPFTY 2023 which is greater than what the Company has stated in response to I&E-RE-28 (a).

[7] Copy of PECO reply to I&E-RE-28 is attached as OCA St. 1-SR, Att. B.

6. Other Post-Employment Benefits (OPEB) Expense

Q. WHAT DID MR. STEFANI STATE REGARDING YOUR ADJUSTMENT TO THE COMPANY'S OPEB EXPENSE?

A. Mr. Stefani stated that I did not justify or support my normalization. (Statement No. 2R at 22). He stated that the actuarial reports upon which the Company's OPEB expenses are projected are a reasonable and proper forecast of expense. Mr. Stefani stated that it is common practice to engage professional actuaries to calculate pension and OPEB costs and value a company's obligations due to the level of complexity and actuarial expertise required. (PECO St. 2R at 22).

Q. WHAT IS YOUR RESPONSE?

A. My normalized adjustment related to the Company's OPEB costs amounts to a reduction of about $17,000 (from the Company's balance of $286,000 to my recommended balance of $269,000). (I&E RE-8). These costs have been fluctuating since 2019. Normalizing these costs over a five-year period would result in a reduction of about $150,000. My three -year normalization adjustment is more than reasonable.

7. Other Expense Adjustments

a. Economic Development and Workforce Development

Q. SUMMARIZE MR. STEFANI'S REBUTTAL REGARDING YOUR ADJUSTMENTS TO ITS ECONOMIC DEVELOPMENT AND WORKFORCE DEVELOPMENT EXPENSES?

A. Mr. Stefani stated that these costs do provide benefits to customers by providing critical services to enable companies to locate and expand in the PECO territory. (PECO St. 2R at 23). This includes working with real estate and economic developer stakeholders as well as individual companies to address the electric and gas requirements of prospective new customers. Mr. Stefani stated that these costs mean retaining or adding companies and the impact on employment in the region. Adding new customers benefits all customers since a broadened customer base reduces fixed costs for existing customers. (PECO St. No. 2R at 24). For Workforce Development, Mr. Stefani stated that these costs enhance the employability of individuals in PECO's service territory with an emphasis on the

underserved. (PECO St. 2R at 24). Mr. Stefani stated these costs create career opportunities inside and outside of the Company. These costs benefit customers by improving their economic circumstances. (PECO St. 2R at 24).

Q. WHAT IS YOUR RESPONSE?

A. As stated in my direct testimony (OCA St. 1 at 45), I do not believe ratepayers should be paying for these costs. The Company's goals are certainly laudable and its shareholders may decide to pursue them, but they are not the sort of expenditures that ratepayers should pay to accomplish as they are not related to the core business of providing safe and reliable gas service nor are they closely related to assisting customers retain access to service. Regarding workforce development, the Company has not provided any evidence showing the costs relate to creating opportunities inside the Company, so there is no way to determine what costs are related to inside workforce opportunities. If the Company strongly believes in these initiatives, the Company and shareholders should bear these expenses and not pass them onto ratepayers.

b. Employee Activities

Q. WHAT HAS MR. STEFANI STATED WITH REGARD TO YOUR ADJUSTMENTS TO EMPLOYEE ACTIVITY COSTS?

A. Mr. Stefani stated that these costs are modest costs which have significant benefits in terms of employee morale and productivity (i.e. annual picnic and small celebrations) and are important to the Company's workplace culture. (PECO St. 2R at 26). Mr. Stefani stated that he was informed that the Commission has recognized the importance of general employee events. (PECO St. 2R at 26). Mr. Stefani stated that these activities help makes the Company an attractive workplace for its talented professionals. (PECO St. 2R at 27).

Q. DO YOU AGREE WITH THE COMPANY'S POSITION?

A. No, I do not. Ratepayers should not be responsible for these costs of improving employee morale or productivity, or engaging in a camaraderie among staff, but rather the Company should be wholly responsible for providing a safe, healthy and productive workplace. Annual picnics and celebrations do not fit under this umbrella of engagement. I do not see a nexus between Company celebrations, activities, picnics and other types of celebratory

gatherings with safe, adequate and reliable service to customers. If the Company believe that these types of costs are beneficial to employees which has the effect of increase morale and fellowship, the Company should pay for these costs and not ratepayers. Providing for celebratory events for employees is not what ratepayers should be paying for with respect to safe and reliable gas utility service nor be responsible for ensuring the Company keeps and retains employees. Again, if the Company believes in these initiatives, the Company and shareholders should bear these costs and not pass them onto the ratepayers.

c. Employee Volunteer Activities

Q. WHAT HAS MR. STEFANI STATED WITH RESPECT TO YOUR ADJUSTMENT TO EMPLOYEE VOLUNTEER ACTIVITIES?

A. Mr. Stefani stated that volunteer events are an opportunity for PECO employees to directly interact with and serve customers in the community. (PECO St. 2R at 27). Volunteers assist with projects that benefit the region's environment and clean-up following major weather events. (PECO St. 2R at 28). Mr. Stefani stated that the customer benefits to volunteer work affords employees the opportunity to engage in the community and is beneficial to recruiting and maintaining employees. (PECO St. 2R at 28).

Q. WHAT IS YOUR RESPONSE?

A. I believe that none of the above costs provide benefits to ratepayers in the form of safe and reliable gas utility service. These types of costs should be absorbed by the Company and not passed onto ratepayers through rates. Ratepayers should not be required to pay for volunteering activities or for the promotion of retaining and maintaining employees. These costs should be wholly borne by the Company or through a collaboration with local, state and municipal entities. The Company is in their right to be good corporate citizens, and I commend them for this approach, but for ratemaking purposes these costs should not be borne by ratepayers.

d. Membership Dues

Q. WHAT HAS MR. STEFANI STATED REGARDING YOUR ADJUSTMENT MEMBERSHIP DUES?

A. Mr. Stefani stated that the Commission has generally permitted utilities to recover membership expenses that are not precluded from recovery under Section 1316.1 of the Public Utility Code. He stated that none of these costs are fraternal, social or sports clubs or organization. (PECO St. 2-R at 29).

Q. DO YOU AGREE THAT THESE EXPENSES SHOULD BE ALLOWED FOR RATEMAKING?

A. No, I do not. These costs may not be social, fraternal or sports club type costs, but they still do not benefit ratepayers in the provision of safe and reliable gas utility service. Ratepayers do not have a say as to which entities these costs are paid to**,** nor do they provide any customer with utility service benefit. As stated in my direct testimony at page 47 and in 66 Pa. C.S. Section 1316.1, no public utility may charge to its customers as a permissible operating expense for ratemaking purposes, costs related to fraternal, social or sports clubs or organization. In I&E-RE-21(a) and OCA-VII-3,[8] these costs are shown to be related to chambers of commerce, business alliances, biotechnology center, and economy league. I believe that the Legislature did not envision these types of costs are to be properly recovered from ratepayers. Therefore, I am continuing to recommend disallowance of these costs in rates.

e. Advertising

Q. SUMMARIZE MR. STEFANI'S RESPONSE TO YOUR ADJUSTMENT TO ADVERTISING?

A. Mr. Stefani does not agree with my removal related to Creative/Production Management and Research expenses. (PECO St. 2R at 32). He stated these costs include expenses required to research, manage and produce messages and creative assets that drive customer engagement (natural gas and customer safety). Customer benefit from these efforts by

[8] See OCA St. 1, Att. B for copies of PECO replies to I&E-RE-21 and OCA-VII-3.

receiving compelling messages on natural gas safety in a timely manner through the most productive, cost effective channels. (PECO St. 2R at 33).

Q. WHAT IS YOUR RESPONSE?

A. In response to OCA-VI-9, the Company provided a breakdown of Advertising Expenses. Included in the Advertising Expenses are costs related to Public Health and Safety, ($76,000), Energy Innovation – Reliability and Service ($276,000) and a host of other Advertising Expenses for Television ($145,000), Radio ($241,000), Outdoor ($159,000) and other Public Venues, online/digital and other costs totaling $145,000. I believe these types of Advertising Expense (which I allowed for recovery) is sufficient enough to provide to ratepayers that related to safety. I do not believe the recovery of the additional costs of $235,000 related to Creative or Production expenses are reasonable. The Company has sufficient avenues of advertising to reach its ratepayers related to all aspects of natural gas utility service.

f. R&D Costs

Q. WHAT HAS MR. STEFANI STATED REGARDING YOUR ADJUSTMENT TO THE COMPANY'S RESEARCH AND DEVELOPMENT EXPENSE?

A. Mr. Stefani testified that these costs are necessary and beneficial to customers given the number of successful programs and the impact. He stated that while not all experimental costs lead to technology or other improvements implemented for customers, these costs do provide benefits. Mr. Stefani stated that such programs related to R&D allow the Company to leverage research performed by third parties to its own benefit, and therefore reduce the risk to PECO of performing such research on its own. (PECO St. 2R at 33). Mr. Stefani stated that the R&D partnerships are successful and provide value to customers. Mr. Stefani stated that the R&D partners focus on issues such as critical needs in gas safety, low carbon fuels and reducing methane. (PECO St. 2R at 34).

Q. WHAT IS YOUR RESPONSE?

A. I am still inclined to disallow these costs for ratemaking purposes. However, given what Mr. Stefani has testified to, I am recommending an allowance of 50% of the R&D costs in rates or $94,500. Mr. Stefani stated that not all experimental costs lead to technology or

other improvements implemented for customers. I believe these types of programs are in the infancy stages and have not all come to fruition but in the future will provide benefits to customers. However, there may be some benefit to customers in the present. Although the Company has not provided a detailed breakdown of costs as requested in OCA-I-13,[9] nor has the Company provided a sufficient showing of consumer benefit, I am recommending that 50% of these costs should be included for ratemaking purposes, as there is no determination as to which costs are viable and active and which costs are still in the experimental stages. My recommendation is shown on my Schedule SR-DM-18 Line 9.

8. Pension Expense

Q. SUMMARIZE MR. TRZASKA'S POSITION REGARDING YOUR ADJUSTMENT TO THE COMPANY'S PENSION EXPENSE?

A. Mr. Trzaska did not agree with my adjustment to normalize pension expense over three years (2021-2023) which translates to a $239,000 reduction to PECO's claimed pension expense. (PECO St. 3R at 13). Mr. Trzaska stated that I did not base my proposed adjustment on the actuarial determined pension contribution that PECO is expected to make. According to Mr. Trzaska, it is common practice to engage professional actuaries to calculate pension and other post-retirement benefits (OPEB) costs and value a company's obligations due to the level of complexity and actuarial expertise required. (PECO St. 3R at 13-14). Mr. Trzaska stated that I made a mistake in calculating my adjustment. He stated that I did not make the same adjustment as in PECO Schedule D-4. Mr. Trzaska stated that I did not dispute the Company's claimed pension expense recovery of $1.891 million and that my adjustment to PECO Schedule D-9 only resulted in a pension expense recovery of $1.651 million.

Q. WHAT IS YOUR RESPONSE?

A. I disagree that the Company's increased pension expense claim is appropriate. I agree that my adjustment requires a correction, as explained below and shown in my Schedule SR-DM-18, attached. First, the Company's pension expense shows variations and fluctuations

[9] See OCA St. 1, Att. B for copies of PECO reply to OCA-I-13 and related reply to I&E-RE-13(a).

from year to year from a positive balance in 2019 of $1.301 million to a negative balance in 2023 of $1.523 million. Regardless of having actuaries value the pension expenses annually, the Company is attempting to recover prior under-balances going forward. In ratemaking, it is also common practice to normalize or average out costs related to Pension expense. In my opinion, circumstances, economic conditions, and situations occurring in the market provide for annual or yearly adjustments to certain expenses such as Pension costs. Given the variations in the Company's Pension expense, it is appropriate to adjust Pension expense accordingly. Second, my adjustment to set the Company's Pension expense at a normalized level for ratemaking does include an error. In OCA Statement No. 1 at 42, I forgot to divide my adjustment by 3. Correcting for this error results in a normalized balance of $428,000 (($1,523,000) + ($591,000) + $831,000)/3 = ($428,000), or a difference of $1,095,000, instead of my adjustment of $239,000. This is shown on my Schedule SR-DM-18. Regarding Mr. Trzaska's statement that I did not make the same adjustment in Schedule D-4, I am unable to trace the balances noted by Mr. Trzaska to Schedule D-4, therefore, I am unable to evaluate the reasonableness of his adjustment.

9. Rate Case Expense

Q. WHAT DID MR. TRZASKA STATE REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S RATE CASE EXPENSE?

A. Mr. Trzaska stated that he did not agree with my proposed adjustment for rate case expenses based upon the average of rate case expenses in the Company's last three rate cases, two of which were settled before evidentiary hearings and briefing. (PECO St. 3R at 17). Mr. Trzaska stated that the Company projected rate case expenses assuming a fully litigated case and based upon the complexity of issues presented in this case, including low-income customer issues and new customer programs. (PECO St. 3R at 17). Mr. Trzaska stated that the rate case expenses is approximately $200,000 lower than the actual costs incurred in the Company's most recent fully litigated gas base rate case in 2020. (PECO St. 3R at 17). Mr. Trzaska also did not agree with my normalization period, stating that the Company will file another base rate case in three-year which formed the basis of the three-year normalization period used in this case (PECO St. 3R at 18).

Q. IS MR. TZRASKA'S POSITION THAT PECO IS CLAIMING A NORMALIZED LEVEL OF RATE CASE EXPENSE CONSISTENT WITH THE COMPANY'S POSITION IN DIRECT?

A. No. PECO Exhibit MJT-1, Schedule D-7 proposed to amortize rate case expense.

Q. ARE YOU PERSUADED BY THE COMPANY'S REBUTTAL POSITION?

A. No, I am not. I still recommend that PECO's rate case expense should be normalized based upon actual prior rate case expense filings. The fact that the Company has included rate case expenses based upon a fully litigated proceeding does not change my position, as my recommendation is based upon prior rate case filings, and the frequency of historic rate case filings, and not based upon this instant proceeding, for which the Company has claimed rate case expenses of $1.7 million, which I have accepted. (Company Schedule D-7). With respect to my recommended normalization period, the Commission looks to the historical filing frequency to determine the proper normalization period, which in this case, is 3.5 years. My recommendations are the same as that in my direct testimony.

10. Real Estate Taxes

Q. WHAT HAS MR. STEFANI STATED REGARDING YOUR ADJUSTMENTS TO REAL ESTATE TAXES?

A. Mr. Stefani did not agree with my removal of the 2.5% Inflation Factor to the Company's Real Estate Taxes. Mr. Stefani stated that the inflation is reasonable based upon current inflationary factors. Mr. Stefani stated that I offered no support why it should be removed. (PECO St. 2R at 35). Mr. Stefani stated that the 2.5% Inflation Factor is conservative compared to the approximately 6% historical rate of annual increase during the period 2018 through 2021.

Q. WHAT IS YOUR RESPONSE?

A. Mr. Stefani did not offer any support with respect to the 2.5% Inflation Factor either. He simply stated that the real estate taxes expense is based upon estimated prior year real estate taxes including an inflation rate of 2.5%; nothing more was provided. (I&E RE-38).[10]

[10] Copy of PECO reply to I&E-RE-38 is attached as OCA St. 1-SR, Att. B.

Inflation factors do not provide a good indicator of costs adjustments for ratemaking purposes. Inflation factors are simply forecasts and predictions of cost adjustment adjustments that may or may not affect the Company's operations. Inflation adjustments are broad blanket-types of adjustments applied to all goods and services.

11. Income Taxes

Q. WHAT DID MR. MR. TRZASKA STATE IN REGARD TO YOUR ADJUSTMENT TO THE COMPANY'S INCOME TAXES?

A. Mr. Trzaska stated that I erred in making the changes to the Company's Income Tax calculation shown on my Schedule DM-22. (PECO St. 3R at 18-19). Mr. Trzaska stated that I did not complete the changes related to Rate Base and Other Operating Income. Mr. Trzaska stated that some of my formula inputs reflected thousands of dollars while others reflected dollars. (PECO St. 3R at 19). Mr. Trzaska stated that correcting my errors would result in an increase of an additional $2.6 million. (PECO St. 3R at 19).

Q. WHAT IS YOUR RESPONSE?

A. I corrected my errors and ran my revenue requirement adjustments through the Company's Exhibits (I&E RB-3 D (a)) (OCA St. 1SR, Exhibit A attached). My adjustments are shown on my Schedule SR-DM-22 which matches the Company's model (with my inputs). My updated revenue requirement increase calculates to $13.929 million instead of my direct testimony revenue requirement increase of $6.2 million. This reflects adjustments to my Rate Base, CNIT tax rate of 8.99%, and adjustments to the issues that I have testified to throughout my surrebuttal testimony.

12. CNIT

Q. WHAT DID MR. TRZASKA STATE REGARDING THE TAX LAW CHANGE SIGNED BY GOVERNOR TOM WOLF ON JULY 8, 2022?

A. Mr. Trzaska stated that the annual tax rate on corporate net income (CNIT) will be 8.99% through the January 1, 2023 – December 31, 2023 tax year. This reduction in the CNIT affects the Company's revenue requirement in four areas: (1) the Gross Revenue Conversion Factor; (2) the reclassification of ADIT to ADIT Regulatory Liability; (3) the ADIT Regulatory Liability amortization over 9 years beginning in 2023; and (4) the

Income Tax reflected in Company Schedule D-18 line 48. The total revenue requirement impact is a $93,000 reduction as shown on PECO Statement 3R at 21.

Q. WHAT ADJUSTMENTS OR COMMENTS DO YOU HAVE?

A. Mr. Trzaska references PECO Exhibit MJT-1 Revised, and I have included his adjustments into my Schedules to develop my updated Income Tax adjustments with the updated CNIT rate of 8.99%.

13. IIJA

Q. WHAT DID MR. STEFANI STATE REGARDING YOUR ISSUE RELATED TO THE INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA)?

A. Mr. Stefani stated that the Company intends to continue to explore potential opportunities to obtain IIJA funds. (PECO St. 2R at 36). The Company is monitoring federal and state agency notice of funding opportunities announcements (NOFO) related to IIJA and will assess any future natural gas distribution funding opportunities that may become available for which PECO is eligible. (PECO St. 2R at 36). Mr. Stefani stated that as a utility, it is not eligible to apply for state-administered LIHEAP funding nor does the Company expect to be eligible to apply for state-administered IIJA weatherization program grant funding. The Company is committed to working with state and local agencies and its customers to provide assistance on energy-related funding opportunities for which PECO is not eligible to serve as a lead applicant per the provisions of the IIJA or federal agency requirements. (PECO St. 2R at 36-37).

E. Act-40 Requirements (Act 40 of 2016)

Q. WHAT DID MR. TRZASKA STATE REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S CONSOLIDATED TAX ADJUSTMENT (CTA) AND ACT 40 OF 2016?

A. Mr. Trzaska stated that I interpreted "general corporate use" to mean public utility purposes having some identifiable and quantifiable benefit to Pennsylvania and PECO ratepayers. Mr. Trzaska did not agree with my adjustment to reduce the Company's Rate Base by $7.202 million because he stated that I treated the 50% differential for general corporate purposes as a source of non-investor supplied utility working capital and reduced the

Company's rate base by $1.067 million (PECO St. 3R at 10). Mr. Trzaska stated that I treated the differential as ratepayer supplied funding which it is not. Mr. Trzaska stated that I treated the differential as if it is a contribution to capital and therefore, should be deducted from rate base. (PECO St. 3R at 11). Subsection (b) says nothing about deducting any part of the differential from rate base. Mr. Trzaska stated that Subsection (b) deals with the uses of the differential and embodies the Legislature's directive that 50% of those funds be invested in vital infrastructure and reliability while the other 50% has no limitations. (PECO St. 3R at 11).

Q. WHAT IS YOUR RESPONSE?

A. The Company should not benefit from the use of the compliance with Act 40 without any specific use related to general corporate purposes. While Mr. Trzaska stated that 50% of the CTA is related to "rate base eligible" infrastructure and has demonstrated that the Company has utilized these dollars for such, the Company improperly omits how the other 50% of the differential is to be used for general corporate purposes. It is silent. Ratepayers are already supporting the Company's infrastructure and reliability investments through rates; more information is needed to show that the additional revenues now being provided by ratepayers is actually being used and not simply going to shareholders. The Company should provide evidence of actual applications of its differential related to general corporate purposes in a manner that reduces ratepayer obligations. I continue to support the $1.067 million adjustment related to the CTA for general corporate purposes.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does. I reserve my right to update my surrebuttal in the event I receive updated information that may affect my revenue requirement recommendation.

REVENUE REQUIREMENT SUMMARY

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Rate Base	$ 2,883,965,000	$ (3,165,262)	$ 2,880,799,738	
2	Rate of Return	7.810%	-1.330%	6.48%	
3	Return Requirement	$ 225,237,667	$ (38,561,843)	$ 186,675,823	
4	Present Return	$ 163,636,000	$ 13,081,179	$ 176,717,179	
5	Revenue Requirement Deficiency	$ 61,601,667	$ (51,643,023)	$ 9,958,644	
6	Gross Revenue Conversion Factor	1.39878		1.39878	MJT-1 Revised
7	Proposed Revenue Requirement	$ 86,167,179	$ (72,237,227)		
	OCA Proposed Revenue Requirement			$ 13,929,952	
	% Increase	13.22%		2.14%	
	Current Rates			$ 652,155,140	
	Total Revenue Requirement			$ 666,085,091	

(1) Company Exhibit MJT-1 Schedule A-1

Gross Revenue Factor	1.00000
State Income Tax Rate	0.08990
State Income Tax Factor	0.08990
Factor After State Income Tax	0.08939
Federal Income Tax Rate	0.21000
Federal Income Tax Factor	0.19004
Net Operating Income Tax Factor	0.71491
Gross Revenue Conversion Factor	1.39878

RATE OF RETURN

Company Proposed (1)

		Cap. Ratio	Embedded Cost	Weighted Cost
1	Long-Term Debt	46.590%	4.210%	1.961%
2	Common Equity	53.410%	10.950%	5.848%
3	Total	100.000%		7.810%

OCA Recommended

4	Long-Term Debt	50.000%	4.210%	2.11%
5	Common Equity	50.000%	8.750%	4.38%
6	Total	100.000%		6.48%

(1) Company Exhibit MJT-1 Schedule B-7

RATE BASE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Gas Plant In Service	$ 4,009,266,000	$ -	$ 4,009,266,000	
2	Accumulated Depreciation	$ (960,624,000)	$ (1,000)	$ (960,625,000)	
3	Net Gas Plant In Service	$ 3,048,642,000	$ (1,000)	$ 3,048,641,000	
4	Common Plant In Service (Allocated)	$ 283,522,000	$ -	$ 283,522,000	
5	Common Plant Accumulated Depreciation	$ (117,784,000)	$ -	$ (117,786,000)	
6	Net Common Plant In Service (Allocated)	$ 165,738,000	$ (2,000)	$ 165,736,000	
7	Net Plant In Service	$ 3,214,380,000	$ (3,000)	$ 3,214,377,000	
8	Working Capital	$ 16,917,000	$ (2,096,262)	$ 14,820,738	
9	Materials and Supplies	$ 395,000	$ -	$ 395,000	
10	Gas Storage	$ 33,270,000	$ -	$ 33,270,000	
11	Total Additions to Rate Base	$ 50,582,000	$ (2,096,262)	$ 48,485,738	
12	Customer Deposits	$ (9,189,000)		$ (9,189,000)	
13	Customer Advances for Construction	$ (1,127,000)		$ (1,127,000)	
14	Total Deductions to Rate Base	$ (10,316,000)	$ -	$ (10,316,000)	
15	Accumulated Deferred Income Taxes	$ (252,934,000)	$ -	$ (252,934,000)	
16	Accumulated Deferred Income Taxes				
17	Regulatory Liability	$ (117,746,000)	$ -	$ (117,746,000)	
	Consolidated Tax Adjustment	$ -	$ (1,067,000)	$ (1,067,000)	OCA-I-53
18	Total Rate Base	$ 2,883,966,000	$ (3,166,262)	$ 2,880,799,738	

(1) Company Exhibit MJT-1 Schedule A-1

OPERATING INCOME

		Company Proposed				Present Rates OCA	
		ProForma Present	Adjustments	Proforma Proposed	Adjustments	Recommended	References
	Operating Revenues						
1	Residential and C&I	$ 624,386,000	$ -	$ 624,386,000	$ -	$ 623,977,000	
2	Other Revenues	$ 3,002,000	$ 169,000	$ 3,171,000	$ 12,140	$ 3,014,140	
3	Transportation of Gas of Others	$ 24,302,000	$ -	$ 24,302,000	$ -	$ 25,164,000	
4	Revenue Increase	$ -	$ 86,167,000	$ 86,167,000	$ -	$ -	
5	Total Operating Revenues	$ 651,690,000	$ 86,336,000	$ 738,026,000	$ 465,140	$ 652,155,140	OCA-I-29
	Operating Expenses						
6	Manufactured Gas Production	$ 448,000		$ 448,000	$ (2,160)	$ 445,840	
7	Storage Operations Expense	$ 1,197,000		$ 1,197,000	$ (14,063)	$ 1,182,937	
8	Storage Maintenance Expense	$ 5,089,000		$ 5,089,000	$ (48,444)	$ 5,040,556	
9	Underground Storage Expense	$ -		$ -		$ -	
10	Other Gas Supply	$ 254,015,000		$ 254,015,000	$ -	$ 254,015,000	
11	Distribution Expense	$ 77,083,000		$ 77,083,000	$ (825,056)	$ 76,257,944	
12	Customer Accounts	$ 19,554,000	$ 281,335	$ 19,835,335	$ (416,408)	$ 19,418,928	
13	Customer Service & Information	$ 5,740,000		$ 5,740,000	$ (375,439)	$ 5,364,561	
14	Sales Expense	$ 1,726,000		$ 1,726,000	$ (41,000)	$ 1,685,000	
15	Administrative & General	$ 38,981,000	$ 375,085	$ 39,356,085	$ (2,969,651)	$ 36,386,434	OCA-I-32
	Stock Compensation / Incentive Comp	$ -	$ -	$ -	$ (5,680,000)	$ (5,680,000)	OCA-I-7/38/46
	Inflation Adjustments			$ -	$ (4,093,000)	$ (4,093,000)	OCA-I-8-I&E RE-45
	Union Contract Ratification			$ -			OCA-I-42
	Vacancy Rate Adjustment			$ -	$ (1,906,913)	$ (1,906,913)	OCA-I-40
16	Total O&M Expenses	$ 403,833,000	$ 656,420	$ 404,489,420	$ (16,372,132)	$ 388,117,288	III-A-21
17	Depreciation / Amortization	$ 97,342,000		$ 97,342,000	$ (1,000)	$ 97,341,000	
18	Amortization of Regulatory Expense	$ 3,849,000		$ 3,849,000	$ -	$ 3,849,000	
19	Taxes Other Than Income	$ 8,908,000		$ 8,908,000	$ (778,281)	$ 8,129,719	
20	Subtotal Operating Expenses	$ 513,932,000	$ 656,420	$ 514,588,420	$ (17,151,413)	$ 497,437,007	
21	Operating Income Before Taxes	$ 137,758,000	$ 85,679,580	$ 223,437,580		$ 154,718,133	
22	Income Taxes	$ 25,880,000	$ (24,078,000)	$ 1,802,000	$ 20,197,047	$ 21,999,047	
23	Net Operating Income	$ 163,638,000	$ 61,601,580	$ 225,239,580	$ (48,522,401)	$ 176,717,179	
	Return Requirement					$ 186,675,823	
	Revenue Requirement Increase					$ 9,958,644	
24	Rate of Return	5.674%		7.810%		6.480%	
25	Rate Base	$ 2,883,965,000		$ 2,883,965,000		$ 2,880,799,738	

(1) Company Exhibit MJT-1 Schedule A-1
Schedule D-1, D-2, D-3

GAS UTILITY PLANT IN SERVICE
COMMON GAS PLANT IN SERVICE

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Gas Utility Plant In Service				
1	Intangible Plant	$ 24,972,000		$ 24,972,000	OCA-I-26
2	Manufactured Gas Plant	$ 15,539,000	$ -	$ 15,539,000	
3	Other Storage Plant	$ 124,260,000		$ 124,260,000	
4	Distribution Plant	$ 3,804,871,000		$ 3,804,871,000	
5	General Plant	$ 39,624,000		$ 39,624,000	
6	Total Gas Plant In Service	$ 4,009,266,000	$ -	$ 4,009,266,000	OCA-I-15
					OCA-I-18
	Common Gas Plant In Service (Allocated)				
7	Organization Costs	$ 150,000			
8	Misc. Intangible Plant	$ 107,369,000			
9	Land and Land Rights	$ 1,499,000			
10	Structures & Improvements	$ 80,782,000			
11	Office Furniture & Equipment	$ 15,180,000			
12	Transportation Equipment	$ 43,911,000			
13	Stores Equipment	$ 419,000			
14	Tools, Shop, Garage Equipment	$ 514,000			
15	Power Operating Equipment	$ 41,000			
16	Communication Equipment	$ 33,227,000			
17	Miscellaneous Equipment	$ 272,000			
18	ARO Costs General Plant	$ 158,000			
19	Total Common Gas Plant In Service	$ 283,522,000		$ 283,522,000	OCA-I-35

(1) Company MJT-1 Schedule C-2, C-8

OCA-I-17

ACCUMULATED DEPRECIATION

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Gas Utility Plant				
1	Intangible Plant	$ 22,017,000	$ -	$ 22,017,000	
2	Manufactured Gas Production Plant	$ 13,582,000	$ -	$ 13,582,000	
3	Other Storage Plant	$ 35,401,000	$ -	$ 35,401,000	
4	Distribution Plant	$ 870,897,000	$ -	$ 870,897,000	
5	General Plant	$ 18,728,000	$ -	$ 18,728,000	
6	Total Gas Plant Accumulated Depreciation	$ 960,625,000	$ -	$ 960,625,000	
	Common Utility Plant (Allocated)				
7	Misc. Intangible Plant	$ 64,271,000			
8	Structures & Improvements	$ 18,222,000			
9	Office Furniture, Equipment	$ 6,186,000			
10	Transportation Equipment	$ 19,670,000			
11	Stores Equipment	$ 147,000			
12	Tools, Shop, Garage Equipment	$ 187,000			
13	Power Operated Equipment	$ 41,000			
14	Communication Equipment	$ 9,011,000			
`5	Miscellaneous Equipment	$ 196,000			
16	ARO Costs General Plant	$ (145,000)			
17	Total Common Plant Accumulated Depreciation	$ 117,786,000		$ 117,786,000	

(1) Company Exhibit MJT-1 Schedule C-3, C-8

CASH WORKING CAPITAL

		(1) Company Proposed TY Expenses	Lead/Lag Days	Dollar-Days	Adjustments	OCA Recommended
1	Revenue Lag		49.930			
	Expense Lag					
2	Payroll (Distribution Only)	$ 50,628,000	13.480	$ 682,465,440	$ (118,892,423)	$ 563,573,017
3	Pension Expense	$ 1,891,000	(167.000)	$ (315,797,000)	$ -	$ (315,797,000)
4	Commodity Purchased Gas	$ 254,015,000	32.530	$ 8,263,107,950	$ -	$ 8,263,107,950
5	Payment to Suppliers	$ 88,456,000	56.210	$ 4,972,111,760	$ -	$ 4,972,111,760
6	Other Expenses	$ 94,541,000	37.560	$ 3,550,959,960	$ (614,937,277)	$ 2,936,022,683
7	Total O&M and POR Payments	$ 489,531,000		$ 17,152,848,110	$ (733,829,699)	$ 16,419,018,411
8	O&M Expense/POR Lag Days		35.039			33.54
9	Net (Lead)/Lag Days		14.891			16.39
10	Number of days in 2022		365.000			365.00
11	Operating Expenses Per Days	$ 1,341,181				$ 1,063,335
12	Working Capital - O&M	$ 19,971,054				$ 17,427,738
13	Average Prepayments	$ 2,296,000				$ 2,296,000
14	Accrued Taxes	$ 1,060,000				$ 1,060,000
15	Interest Payments	$ (5,963,000)				$ (5,963,000)
16	Total Working Capital Requirement	$ 17,364,054				$ 14,820,738

(1) Company Exhibit MJT-1 Schedule C-4
OCA-I-30

ACCUMULATED DEFERRED INCOME TAXES

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	HTY - CIAC	$ (14,114,000)		$ (14,114,000)	
2	HTY - Common Plant	$ 6,030,000		$ 6,030,000	
3	HTY- Gas Distribution	$ 259,512,000		$ 259,512,000	
4	Subtotal	$ 251,428,000		$ 251,428,000	
5	FTY - DIT - CIAC	$ (3,058,000)		$ (3,058,000)	I&E RE-41
6	FTY - DIT Common Plant	$ -		$ -	
7	FTY - DIT Gas Distribution	$ 4,819,000		$ 4,819,000	
8	FTY Balance	$ 253,189,000		$ 253,189,000	
9	FPFTY - DIT - CIAC	$ (2,210,000)		$ (2,210,000)	
10	FPFTY - DIT Common Plant	$ -		$ -	
11	FPFTY - DIT - Gas Distribution	$ 4,396,000	$ -	$ 4,396,000	OCA-I-26
	Reclass from ADIT to EDIT HB 1342	$ (2,441,000)		$ (2,441,000)	
12	Total ADIT at FPFTY	$ 252,934,000	$ -	$ 252,934,000	OCA-I-33

(1) Company Exhibit MJT-1 Schedule C-6

ACCUMULATED DEFERRED INCOME TAXES
REGULATORY LIABILITY

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	HTY- Distribution	$ 125,486,000			
2	HTY - CIAC	$ (1,970,000)			
3	Subtotal	$ 123,516,000	$ -	$ 123,516,000	
4	FTY - DIT - Distribution	$ (6,547,000)			
5	FTY- CIAC	$ 985,000			
6	Subtotal	$ 117,954,000	$ -	$ 117,954,000	
7	FPFTY - DIT - Distribution	$ (3,363,000)		$ (3,363,000)	
8	FPFTY - DIT - CIAC	$ 985,000		$ 985,000	I&E RE-43
	Reclass from ADIT to EDIT HB 1342	$ 2,441,000		$ 2,441,000	
	Amortization of EDIT HB 1342	$ (271,000)		$ (271,000)	
9	Total ADIT - Regulatory Liability	$ 117,746,000	$ -	$ 117,746,000	OCA-I-36

(1) Company Exhibit MJT-1 Schedule C-12

MANUFACTURED GAS PRODUCTION

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Liquefied Petroleum Gas Expense (717.0)	$ 133,000		$ 133,000	
2	Maintenance/ Structures-Improv. (741.0)	$ 89,000		$ 89,000	
3	Maintenance/Production Equip. (742.0)	$ 222,000		$ 222,000	
4	Total Pre-Adjustments	$ 444,000	$ -	$ 444,000	
5	Salary and Wages - (717.0) Sch D-6	$ 2,000	$ (1,253)	$ 747	
6	Salary and Wages - (741.0) Sch D-6	$ 1,000	$ (827)	$ 173	
7	Salary and Wages - (742.0) Sch D-6	$ 3,000	$ (2,080)	$ 920	
8	Total Proforma Adjustments	$ 6,000	$ (4,160)	$ 1,840	
9	Total Post- Adjustments (2)	$ 450,000	$ (4,160)	$ 445,840	

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding

STORAGE EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Storage Operations				
1	Operation Supr. & Engineer (840.0)	$ 276,000		$ 276,000	
2	Operation Labor & Expenses (841.0)	$ 903,000		$ 903,000	
3	Total Pre-Adjustments	$ 1,179,000	$ -	$ 1,179,000	
4	Salary & Wages (840.0) - Sch D-6	$ 5,000	$ (3,960)	$ 1,040	
5	Salary & Wages (841.0) - Sch D-6	$ 14,000	$ (11,103)	$ 2,897	
6	Total Proforma Adjustments	$ 19,000	$ (15,063)	$ 3,937	
7	Total Post-Adjustments (2)	$ 1,198,000	$ (15,063)	$ 1,182,937	
	Storage Maintenance				
8	Maintenance Supr. & Engineer (843.1)	$ 1,169,000		$ 1,169,000	
9	Maintenance Struct/Improv. (843.2)	$ 3,861,000		$ 3,861,000	
10	Total Pre-Adjustments	$ 5,030,000	$ -	$ 5,030,000	
11	Salary & Wages (843.1) Sch. D-6	$ 16,000	$ (13,083)	$ 2,917	
12	Salary & Wages (843.2) Sch. D-6	$ 42,000	$ (34,361)	$ 7,639	
13	Total Proforma Adjustments	$ 58,000	$ (47,444)	$ 10,556	
14	Total Post-Adjustments (2)	$ 5,088,000	$ (47,444)	$ 5,040,556	
		$ 6,286,000			

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding

OTHER GAS SUPPLY

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Nat. Gas City Gate Purchase (804.0)	$ 255,672,000		$ 255,672,000	
2	Optimization Margin Adjustment (Sch. D-5E)	$ (1,657,000)		$ (1,657,000)	
3	Total Post-Adjustments	$ 254,015,000	$ -	$ 254,015,000	OCA-I-31

(1) Company Exhibit MJT-1 Schedule D-4

SALARY AND WAGES WORKSHEET

	Acct. No.		% To Total	(1) Company Proposed Pre-Adjustment	S&W Increase	Total Payroll	Adjustments	OCA Recommended	References
		Power Supply Expenses							
1	717.00	Manufactured Gas Plant	0.102%	$ 50,000	$ 2,000	$ 52,000	$ (1,253)	$ 50,747	
2	741.00	Manufactured Gas Plant	0.067%	$ 33,000	$ 1,000	$ 34,000	$ (827)	$ 33,173	
3	742.00	Manufactured Gas Plant	0.169%	$ 83,000	$ 3,000	$ 86,000	$ (2,080)	$ 83,920	
4	840.00	Storage Operations Expense	0.322%	$ 158,000	$ 5,000	$ 163,000	$ (3,960)	$ 159,040	
5	841.00	Storage Operations Expense	0.902%	$ 443,000	$ 14,000	$ 457,000	$ (11,103)	$ 445,897	
6	843.10	Storage Maintenance Expense	1.063%	$ 522,000	$ 16,000	$ 538,000	$ (13,083)	$ 524,917	
7	843.20	Storage Maintenance Expense	2.791%	$ 1,371,000	$ 42,000	$ 1,413,000	$ (34,361)	$ 1,378,639	
		Total Power Supply Salaries	5.416%	$ 2,660,000	$ 83,000	$ 2,743,000	$ (66,667)	$ 2,676,333	
			5.418%						
		Distribution Expenses							
8	870.00	Distribution Operations		$ -	$ -	$ -			
9	874.00	Distribution Operations	12.385%	$ 6,083,000	$ 187,000	$ 6,270,000	$ (152,456)	$ 6,117,544	
10	875.00	Distribution Operations	1.873%	$ 920,000	$ 28,000	$ 948,000	$ (23,058)	$ 924,942	
11	877.00	Distribution Operations		$ -	$ -	$ -	$ -	$ -	
12	878.00	Distribution Operations	3.298%	$ 1,620,000	$ 50,000	$ 1,670,000	$ (40,601)	$ 1,629,399	
13	879.00	Distribution Operations	11.067%	$ 5,436,000	$ 167,000	$ 5,603,000	$ (136,240)	$ 5,466,760	
14	880.00	Distribution Operations	6.829%	$ 3,354,000	$ 103,000	$ 3,457,000	$ (84,060)	$ 3,372,940	
15	881.00	Distribution Operations		$ -	$ -	$ -	$ -	$ -	
16	887.00	Distribution Maintenance	24.484%	$ 12,026,000	$ 369,000	$ 12,395,000	$ (301,403)	$ 12,093,597	
17	889.00	Distribution Maintenance	1.753%	$ 861,000	$ 26,000	$ 887,000	$ (21,579)	$ 865,421	
18	892.00	Distribution Maintenance	2.842%	$ 1,396,000	$ 43,000	$ 1,439,000	$ (34,987)	$ 1,404,013	
19	893.00	Distribution Maintenance	2.024%	$ 994,000	$ 31,000	$ 1,025,000	$ (24,912)	$ 1,000,088	
20	894.00	Distribution Maintenance	0.305%	$ 150,000	$ 5,000	$ 155,000	$ (3,759)	$ 151,241	
		Total Distribution Salaries	66.861%	$ 32,840,000	$ 1,009,000	$ 33,849,000	$ (823,056)	$ 33,025,944	
			66.861%						
		Customer Accounts							
21	903.00	Cust. Records/Collection	13.077%	$ 6,423,000	$ 197,000	$ 6,620,000	$ (160,977)	$ 6,459,023	
22	905.00	Misc. Cust. Accounts	0.615%	$ 302,000	$ 9,000	$ 311,000	$ (7,569)	$ 303,431	
		Total Customer Accounts Salaries	13.692%	$ 6,725,000	$ 206,000	$ 6,931,000	$ (168,546)	$ 6,762,454	
			13.691%						
		Customer Service & Information							
23	908.00	Cust. Assistance	0.442%	$ 217,000	$ 7,000	$ 224,000	$ (5,439)	$ 218,561	
		Total Customer Service & Info. Salaries	0.442%	$ 217,000	$ 7,000	$ 224,000	$ (5,439)	$ 218,561	
			0.442%						
		Sales Expense							
24	912.00	Demonstrating/Selling	0.812%	$ 399,000	$ 12,000	$ 411,000	$ (10,000)	$ 401,000	
		Total Sales Salaries	0.812%	$ 399,000	$ 12,000	$ 411,000	$ (10,000)	$ 401,000	
			0.812%						
		Administrative & General Expenses							
25	920.00	A&G Salaries - General	12.024%	$ 5,906,000	$ 181,000	$ 6,087,000	$ (148,020)	$ 5,938,980	
26	925.00	Injury & Damages - General	0.332%	$ 163,000	$ 5,000	$ 168,000	$ (4,085)	$ 163,915	
27	932.00	A&G General Maintenance	0.421%	$ 207,000	$ 6,000	$ 213,000	$ (5,188)	$ 207,812	
		Total A&G Salaries	12.778%	$ 6,276,000	$ 192,000	$ 6,468,000	$ (157,293)	$ 6,310,707	
			12.776%						I&E RE-25
28	(2)	Total Salary & Wages		$ 49,117,000	$ 1,509,000	$ 50,626,000	$ (1,231,000)	$ 49,395,000	OCA-I-39/38/40
			100.00%			-3.77%			OCA-I-41
		Vacancy Rate Adjustment				$ 1,906,913		$ (1,906,913)	
		Incentive Compensation		$ 4,227,000				$ (4,227,000)	OCA-I-6
		Stock Compensation		$ 1,453,000				$ (1,453,000)	OCA-VI-7
				$ 5,680,000				$ (5,680,000)	Attach. III-A-21

(1) Company Exhibit MJT-1 Schedule D-6 — $ 41,808,087

(2) Differences due to rounding

Removes $1.231 million related to 1/1 and 3/1 2024 Wage Increase

DISTRIBUTION EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
	Distibution Operations				
1	Operation Supr. & Engin. (870.0)	$ 227,000		$ 227,000	
2	Mains/Service Exp. (874.0)	$ 15,079,000		$ 15,079,000	
3	Measure/Regulating St. Exp. -Gen (875.0)	$ 1,293,000		$ 1,293,000	
4	Measure/Regulating St. Exp. City Gate (877.0)	$ -		$ -	
5	Meter / Home Regulator Exp. (878.0)	$ 5,867,000		$ 5,867,000	
6	Customer Install. Exp. (879.0)	$ 7,367,000		$ 7,367,000	
7	Other O&M Expense (880.0) - Outside Svc.	$ 16,921,000	$ -	$ 16,921,000	OCA-I-11/25
8	Rents (881.0)	$ 39,000		$ 39,000	
9	Total Pre-Adjustments	$ 46,793,000	$ -	$ 46,793,000	
10	Salary & Wages (870.0) - Sch. D-6	$ -			
11	Salary & Wages (874.0) - Sch. D-6	$ 187,000	$ (152,456)	$ 34,544	
12	Salary & Wages (875.0) - Sch. D-6	$ 28,000	$ (23,058)	$ 4,942	
13	Salary & Wages (877.0) - Sch. D-6	$ -			
14	Salary & Wages (878.0) - Sch. D-6	$ 50,000	$ (40,601)	$ 9,399	
15	Salary & Wages (879.0) - Sch. D-6	$ 167,000	$ (136,240)	$ 30,760	
16	Salary & Wages (880.0) - Sch. D-6	$ 103,000	$ (84,060)	$ 18,940	
17	Salary & Wages (881.0) - Sch. D-6	$ -			
18	Proforma Total Adjustments	$ 535,000	$ (436,415)	$ 98,585	
	Distribution Maintenance				
19	Maint. of Mains (887.0)	$ 22,619,000		$ 22,619,000	
20	Maint. of Meas/Reg Sta. Equip - Gen (889.0)	$ 1,605,000		$ 1,605,000	
21	Maint. of Services (892.0)	$ 2,814,000		$ 2,814,000	
22	Maint. of Meters / House Reg. (893.0)	$ 1,428,000		$ 1,428,000	
23	Maint. of Other Equip. (894.0)	$ 813,000		$ 813,000	
24	Total Pre-Adjustments	$ 29,279,000	$ -	$ 29,279,000	OCA-Set I-46
25	Salary & Wages (887.0) - Sch. D-6	$ 369,000	$ (301,403)	$ 67,597	
26	Salary & Wages (889.0) - Sch. D-6	$ 26,000	$ (21,579)	$ 4,421	
27	Salary & Wages (892.0) - Sch. D-6	$ 43,000	$ (34,987)	$ 8,013	
28	Salary & Wages (893.0) - Sch. D-6	$ 31,000	$ (24,912)	$ 6,088	
29	Salary & Wages (894.0) - Sch. D-6	$ 5,000	$ (3,759)	$ 1,241	
30	Total	$ 474,000	$ (386,641)	$ 87,359	
31	Total Post-Adjustments (2)	$ 77,081,000	$ (823,056)	$ 76,257,944	

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding
OCA-I-16 Vegetation Management - not included in filing
Check for Inflation OCA-I-8
Check for Incentive OCA-Set I - 11

CUSTOMER ACCOUNTS EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Meter Reading Exp. (902.00)	$ 113,000		$ 113,000	
2	Customer Records/Collection (903.00)	$ 15,475,000		$ 15,475,000	OCA-I-11
3	Uncollectible Accounts (904.00)	$ 2,823,000	$ -	$ 2,823,000	OCA-I-47
4	Miscellaneous Cust. Accts. (905.00)	$ 1,008,000		$ 1,008,000	
5	Total Pre-Adjustments	$ 19,419,000		$ 19,419,000	
6	Salary & Wages (903.00) Schedule D-6	$ 197,000	$ (160,977)	$ 36,023	
7	Uncollectible Accounts (904.00) Schedule D-10	$ (63,000)	$ -	$ (63,000)	OCA-I-47
8	Salary & Wages (905.00) Schedule D-6	$ 9,000	$ (7,569)	$ 1,431	
9	Customer Deposits (905.00) Schedule D-12	$ 97,000	$ -	$ 97,000	
10	MGP, TARC, EE&C (905.00) Schedule D-14	$ (104,000)	$ -	$ (104,000)	OCA-I-48/49
11	Total Proforma Adjustments	$ 136,000	$ (168,546)	$ (32,546)	I&E-RE-48
12	Total Post-Adjustments	$ 19,555,000	$ (168,546)	$ 19,386,454	
13	Additional Uncollectible Expense			$ 32,474	

(1) Company Exhibit MJT-1 Schedule D-4

CUSTOMER SERVICE& INFORMATION

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Customer Assistance (908.00)	$ 4,440,000	$ (136,000)	$ 4,304,000	OCA-I-23
2	Information/Instructional Adv. (909.00)	$ 727,000	$ (235,000)	$ 492,000	OCA-I-12/VI-9
3	Miscellaneous (910.00)	$ -		$ -	
4	Total Pre-Adjustments	$ 5,167,000	$ (371,000)	$ 4,796,000	
5	Salary & Wages (908.00) Sch. D-6	$ 7,000	$ (5,439)	$ 1,561	
6	SEHP Co Programs (908.00) Sch. D-11	$ 400,000		$ 400,000	I&E RE-48
7	Customer Programs (908.00) Sch. D-15	$ 167,000		$ 167,000	OCA-I-54
8	Total ProForma Adjustments	$ 574,000	$ (5,439)	$ 568,561	
9	Total Post-Adjustments (2)	$ 5,741,000	$ (376,439)	$ 5,364,561	

(1) Company Exhibit MJT-1 Schedule D-4
(2) Differences due to rounding

SALES EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Demonstrating/Selling (912.00)	$ 1,714,000	$ (31,000)	$ 1,683,000	OCA-I-23
2	Miscellaneous (916.00)	$ -		$ -	
3	Total Pre-Adjustments	$ 1,714,000		$ 1,683,000	
4	Salary & Wages (912.00) Sch. D-6	$ 12,000	$ (10,000)	$ 2,000	
5	Total Proforma Adjustments	$ 12,000		$ 2,000	
6	Total Post-Adjustments	$ 1,726,000	$ (41,000)	$ 1,685,000	

(1) Company Exhibit MJT-1 Schedule D-4

ADMINISTRATIVE & GENERAL EXPENSE

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	A&G Salaries (920.00) - workforce	$ 6,569,000	$ (99,000)	$ 6,470,000	OCA-I-23
2	Office Supplies / Expense (921.00) WF&EV	$ 1,762,000	$ (151,000)	$ 1,611,000	OCA-I-23
3	Outside Services Employed (923.00)	$ 15,922,000	$ (267,567)	$ 15,654,433	OCA-I-11/13/OCA-VII-3
4	Property Insurance (924.00)	$ 103,000		$ 103,000	OCA-VI-8
5	Injury & Damages (925.00)	$ 257,000		$ 257,000	
6	Employee Pension & Benefits (926.00) ED&WF	$ 5,974,000	$ (377,440)	$ 5,596,560	OCA-I-10/14/23 OCA-VII-2
	Employee Activities	$ -	$ (214,755)	$ (214,755)	OCA-VII-1/I&E RE-19
7	Regulatory Commission Exp. (928.00)	$ 2,200,000		$ 2,200,000	OCA-I-13
8	Duplicate Charges (929.00)	$ (12,000)		$ (12,000)	
9	Misc. General Expenses (930.00) R&D MemDues	$ 662,000	$ (94,500)	$ 567,500	OCA-I-12/13
10	Maint. of Gas Gen. Plant (932.00)	$ 1,352,000		$ 1,352,000	
11	Total Pre-Adjustments	$ 34,789,000	$ (1,204,262)	$ 33,584,738	
12	Salary & Wages (920.00) Sch. D-6	$ 181,000	$ (148,020)	$ 32,980	
13	Salary & Wages (925.00) Sch. D-6	$ 5,000	$ (4,085)	$ 915	
14	Empl. Pen. & Ben. (926.00) Sch. D-8	$ 19,000	$ (19,000)	$ -	OCA-I-10/44
15	Empl. Pen. & Ben. (926.00) Sch. D-9	$ 3,414,000	$ (1,112,000)	$ 2,302,000	OCA-I-44/45
16	Reg. Comm. Expense (928.00) Sch. D-7	$ 567,000	$ (145,254)	$ 421,746	OCA-I-9/43
17	Maint. of Gas Gen. Plant (932.00) Sch. D-6	$ 6,000	$ (5,188)	$ 812	
18	Total Proforma Adjustments	$ 4,192,000	$ (1,433,547)	$ 2,758,453	
19	Subtotal Post-Adjustments	$ 38,981,000		$ 36,343,191	
20	Adjustment to A&G	$ 374,637	$ (331,394)	$ 43,243	PUC/OCA/SBA OCA-I-32
21	Total Post-Adjustments	$ 39,355,637	$ (2,969,203)	$ 36,386,434	

See Schedule D-8 for Adjustment to Employee benefits Line 14 and 15
Employee Pension and Benefits Line 6 - OCA-I-44

DEPRECIATION / AMORTIZATION

		(1) Company Proposed Depr. Rate	Depr. Expense	Adjustments	OCA Recommended	References
1	PECO - Common General Plant - 10.00%		$ 6,499,000		$ 6,499,000	
2	Gas Distribution Plant - 2.4717%		$ 71,677,000	$ -	$ 71,677,000	OCA-I-26
3	Gas General Plant - 3.8601%		$ 2,198,000	$ -	$ 2,198,000	
4	Gas Production Plant		$ 170,000	$ -	$ 170,000	
5	Gas Storage Plant		$ 3,150,000	$ -	$ 3,150,000	
6	Common Intangible Plant - 20.00%		$ 10,918,000	$ -	$ 10,918,000	
7	Gas Intangible Plant - 20.00%		$ 2,729,000	$ -	$ 2,729,000	
8	Total Depreciation Expense		$ 97,341,000	$ -	$ 97,341,000	OCA-I-51

PECO Common Hardware - 38.8974%

(1) Company Exhibit MJT-1 Schedule 17

AMORTIZATION OF REGULATORY ASSET

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	Proforma Balance	$ 3,849,000		$ 3,849,000	OCA-I-48
2	Energy Efficiency Program	$ 2,728,000		$ 2,728,000	
3	MGP Amortization	$ 517,000		$ 517,000	
		$ 3,245,000		$ 3,245,000	
	Adjustments:				
4	Energy Efficiency Program - Sch. D-11	$ 500,000		$ 500,000	I&E RE-48
5	MGP Amortization - Sch. D-13	$ 104,000		$ 104,000	OCA-I-48/54
6	Total	$ 3,849,000		$ 3,849,000	

(1) Company Exhibit MJT-1 Schedule D-1
Schedule D-13
Schedule D-11

TAXES OTHER THAN INCOME TAXES

		(1) Company Proposed	Adjustments	OCA Recommended	References
1	PURTA	$ 2,100,000		$ 2,100,000	
2	Capital Stock & Franchise	$ -			
3	Use Tax Accrued	$ 663,000		$ 663,000	
4	Real Estate Tax Accrual	$ 1,791,000	$ (43,683)	$ 1,747,317	OCA-I-8
5	Miscellaneous	$ -			
6	Payroll Taxes Accrued	$ 4,224,000	$ (628,504)	$ 3,595,496	
7	Sub-total	$ 8,778,000	$ (672,187)	$ 8,105,813	OCA-I-50
	Additional Payroll Taxes				
8	Payroll Charged to Expense	$ 49,120,000		$ 41,808,087	
9	Payroll Tax Expense	$ 4,224,000		$ 3,595,496	
10	Percentage to Total	8.60%		8.60%	OCA-I-50
11	Proforma Increase in S&W Wages	$ 1,509,000		$ 278,000	
12	Payroll Tax Proforma	$ 129,764	$ (105,858)	$ 23,906	
13	Total Taxes Other Than Income	$ 8,907,764	$ (778,045)	$ 8,129,719	

(1) Company Exhibit MJT-1 Schedule D-16

INCOME TAXES

		(1) Company Proposed	Adjustments	Present Rates OCA Recommended	References
1	Revenues	$ 738,026,000		$ 652,155,140	
2	Operating Expenses	$ (514,588,420)	$ 17,151,413	$ (497,437,007)	
3	Operating Income Before Taxes	$ 223,437,580		$ 154,718,133	
4	Rate Base	$ 2,883,966,000	$ (3,166,262)	$ 2,880,799,738	
5	Weighted Cost of Debt	1.96%		2.11%	
6	Synchronized Interest	$ 56,525,734	$ 4,115,101	$ 60,640,834	
7	Base Taxable Income	$ 166,911,846		$ 94,077,298	
8	State Accelerated Tax Depreciation	$ 108,332,000		$ 108,332,000	OCA-I-52
9	Proforma Book Depreciation	$ 97,341,000	$ -	$ 97,341,000	
10	State Tax Over Book	$ (10,991,000)		$ (10,991,000)	
11	Regulatory Asset M-1 Pension/Post-Retire	$ (6,989,000)		$ (6,989,000)	
12	Other Property Basis (CIA/ICM)	$ (5,422,000)		$ (5,422,000)	
13	Removal Costs/Software	$ (4,258,000)		$ (4,258,000)	
14	AFUDC Equity	$ (3,493,000)		$ (3,493,000)	
15	Permanent Adjustments	$ 736,000		$ 736,000	
16	Repair Deduction	$ (157,400,000)		$ (157,400,000)	
17	State Taxable Income	$ (20,905,154)		$ (93,739,702)	
18	State Income Tax Rate	8.99%		8.99%	
19	State Income Tax before NOL	$ 1,879,373		$ 8,427,199	
20	NOL Utilization at 100%	$ (1,879,000)		$ (8,427,199)	
21	State Income Tax before NOL	$ 373		$ -	
22	Federal Accelerated Tax Depreciation	$ 90,463,000		$ 90,463,000	OCA-I-34
23	Proforma Book Depreciation	$ 97,341,000		$ 97,341,000	
24	Federal Tax Over / Under	$ 6,878,000		$ 6,878,000	
25	Regulatory Asset M-1 Pension/Post-Retire	$ (6,989,000)		$ (6,989,000)	
26	Other Property Basis	$ (5,422,000)		$ (5,422,000)	
27	Removal Costs/Software	$ (4,258,000)		$ (4,258,000)	
28	AFUDC Equity	$ (3,493,000)		$ (3,493,000)	
29	Permanent Adjustments	$ 736,000		$ 736,000	
30	Repair Deduction	$ (157,400,000)		$ (157,400,000)	
31	Federal NOL	$ -			
32	Federal Taxable Income	$ (3,035,780)		$ (75,870,702)	
33	Federal Income Tax Rate	21.00%		21.00%	
34	Federal Income Tax before Deferral/Adjust.	$ 637,514		$ 15,932,847	
	Deferred Income Taxes				
35	Deferred Taxes on Timing Differences: Federal	$ (2,190,000)		$ (3,565,000)	
36	Deferred Taxes on Timing Differences: State	$ (1,240,000)		$ (1,240,000)	
37	Deferred Taxes on State NOLs	$ 1,879,373		$ 8,427,199	
38	Excess Deferred Amortization	$ 3,201,000		$ 2,930,000	
39	Federal Income Tax Flow Through Adjustment	$ (494,000)		$ (494,000)	
40	Deferred Income Tax Benefit/(Expense)	$ 1,156,373		$ 6,058,199	
41	Net Income Tax Benefit/(Expense)	$ 1,793,887		$ 21,991,047	
42	Investment Tax Credit	$ 8,000		$ 8,000	
43	Combined Income Tax Benefit/(Expense)	$ 1,801,887		$ 21,999,047	
44	Federal Income Taxes	$ 1,162,514		$ 14,811,847	
45	State Income Taxes	$ 639,747		$ 7,187,199	
		$ 1,802,261		$ 21,999,047	

(1) Company Exhibit MJT-1 Schedule D-18

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Gas Division

Docket No. R-2022-3031113

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set IV - RE

Response Date: May 09, 2022

IE-RE-28

Reference PECO Volume I, Exhibits MJT-1, MJT-2, MJT-3, Schedule D-8 concerning employee benefits expense claimed in O&M expenses, provide the following:

A. Breakdown of employee benefits expense claims of $7,151,000 ($7,132,000 + $19,000 adjustment for employee addition) in the FPFTY; $6,385,000 ($6,293,000 + $92,000 adjustment for employee addition) in the FTY; and $6,104,000 ($6,065,000 + $39,000 adjustment for employee addition) in the HTY;

B. Employee benefits expense incurred in years ended December 31, 2019 and December 31, 2020 with similar breakdowns as furnished in response to Part A above; and

C. Detailed basis and calculation with supporting documentation for the increase in the FPFTY claim of $7,151,000 from the FTY claim of $6,385,000.

RESPONSE:

For subparts A and B, see Attachment IE-RE-28(a). For subpart C, the increase from $6,385,000 to $7,151,000 is primarily due to an overall increase in employee benefit costs of approximately 6% and an increase in salaries and wages of approximately 6%. Refer to III-A-21(a).

Responsible Witness: Robert J. Stefani

PECO Gas Division
Operating & Maintenance
For the Year Ended December 31

In thousands Employee Benefits	2019	2020	2021	2022	2023
Medical	3,594	3,860	3,886	$ 4,069	$ 4,583
Dental	209	225	229	$ 248	$ 279
Other Benefit Plan	58	61	63	$ 124	$ 137
401K Plan	1,314	1,508	1,526	$ 1,443	$ 1,685
ESPP	120	169	162	$ 158	$ 173
Disability Plan	102	86	87	$ 118	$ 130
Excess Benefits Saving Plan	6	7	7	$ 6	$ 6
Worker's Comp	191	134	108	$ 132	$ 138
Other	-	-	(1)	$ (5)	$ 1
Total	**$ 5,596**	**$ 6,050**	**$ 6,065**	**$ 6,293**	**$ 7,132**
Adjustment for employee addition (A)			39	92	19
Total Employee Benefit Claim			$ 6,104	$ 6,385	$ 7,151

A See Schedule D-8 for the computation of budget expense per employee and the number of additional employees. These costs would be allocated pro-rata based on the costs above.

Pennsylvania Public Utility Commission
v.
PECO Energy Company – Gas Division

Docket No. R-2022-3031113

Response of PECO Energy Company
To Interrogatories of the
Bureau of Investigation and Enforcement
IE Set IV - RE

Response Date: May 09, 2022

IE-RE-38

Reference PECO Volume I, Exhibits MJT-1, Schedule D-16 concerning taxes other than income tax, provide the following:

A. Dollar amount of real estate tax incurred with breakdown and documentation to support real estate tax for the years ended December 31, 2019; December 31, 2020; and HTY;

B. Dollar amount and detailed basis, calculation, and breakdown to support the FTY real estate tax claim; and

C. Detailed basis, calculation, and breakdown to support the FPFTY real estate tax claim of $1,791,000.

RESPONSE:

A. Refer to the response to IE-RE-36 for a schedule showing real estate tax for the years ended December 31, 2019; December 31, 2020; and HTY.

B. FTY real estate tax is based on estimated prior year real estate taxes, including an inflation rate of 2.5%.

C. FPFTY real estate tax is based on the FTY real estate tax, including an inflation rate of 2.5%.

Responsible Witness: Robert J. Stefani

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Dante Mugrace, hereby state that the facts set forth in my Surrebuttal Testimony, OCA Statement 1SR, are true and correct (or are 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).

DATED: August 4, 2022 Signature: Dante Mugrace
*333634 Dante Mugrace

Consultant Address: PCMG and Associates
90 Moonlight Court
Toms River, NJ 08753

OCA St. 2SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission v. PECO Energy Company – Gas Division	Docket No. R-2022-3031113

SURREBUTTAL TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 4, 2022

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is David J. Garrett. My business address is 101 Park Avenue, Suite 1125, Oklahoma Company, Oklahoma 73102.

Q. By whom are you employed and in what capacity?

A. I am the managing member of Resolve Utility Consulting, LLC. I am an independent consultant specializing in public utility regulation.

Q. Have you previously filed testimony in this proceeding?

A. Yes. I filed direct testimony in OCA Statement 2 on June 22, 2022, on behalf of the Pennsylvania Office of Consumer Advocate ("OCA"). A summary of my qualifications is included in my direct testimony.

Q. What is the purpose of your surrebuttal testimony?

A. My surrebuttal testimony addresses the rebuttal testimony of PECO Energy Company's ("PECO" or the "Company") witness Paul Moul.

Q. Did any of the Company's rebuttal testimony you reviewed cause you to change your positions and recommendations as stated in your direct testimony?

A. No. However, the Company is proposing an update to its embedded cost of long-term debt. In his rebuttal testimony, Mr. Moul proposes an increase to the cost of debt to 4.21%. The OCA accepts this proposed revision to the cost of debt. To the extent I did not specifically address a statement made in the Company's rebuttal testimony filed in this case, it should not constitute my agreement with such testimony.

Q. In his rebuttal testimony, did Mr. Moul raise any new, significant issues related to your cost of equity and rate of return testimony and analysis?

A. No. In Mr. Moul's rebuttal testimony, he clearly disagrees with my opinions regarding PECO's cost of capital and my return on equity ("ROE") recommendation. However, I do not believe he raised any new, significant arguments or issues in addition to those provided in his direct testimony. Thus, in my surrebuttal testimony, I will not repeat all the arguments and points raised in my direct testimony; rather, I will reiterate a few important points in my response to Mr. Moul's rebuttal testimony.

Q. Please describe the organization of your surrebuttal testimony.

A. In my surrebuttal, I respond to several pertinent issues discussed in Mr. Moul's rebuttal testimony, including (1) capital structure; (2) the Discounted Cash Flow ("DCF") Model; (3) the Capital Asset Pricing Model ("CAPM") analysis; (4) the leverage adjustment; (5) the comparable earnings approach; and (6) the Quarterly Earnings Report.

II. CAPITAL STRUCTURE

Q. Please summarize Mr. Moul's surrebuttal testimony regarding capital structure.

A. Mr. Moul disagrees with my recommendation to adjust the Company's ratemaking capital structure. Mr. Moul claims that I did not demonstrate that PECO's proposed ratemaking capital structure is unreasonable.[1] Mr. Moul also points to capital structures authorized for other companies in other rate cases to support his assertion that the Commission should accept the Company's proposed capital structure.

[1] Direct Testimony of Paul R. Moul, pp. 10-11.

Q. Did you demonstrate in your direct testimony that PECO's proposed debt ratio is unreasonably low?

A. Yes. I provide three different analyses that each indicated the Company's proposed debt ratio is too low for ratemaking purposes. In summary, I analyzed the capital structures of the proxy group, PECO's parent company, and other competitive industries. Particularly, the debt ratios of the proxy group should be considered when assessing a reasonable debt ratio for PECO. This is because the metrics obtained from the proxy group to estimate cost of equity (and ultimately the authorized ROE) are necessarily interrelated with the capital structures of the proxy group. I demonstrated this fact mathematically in my Hamada model, which shows how various debt ratios impact the cost of equity.[2] The average debt ratio of Mr. Moul's (and my) proxy group is 52.3%, which is considerably higher than the Company's proposed debt ratio of 46.6%.[3] If the average debt ratio of the proxy group were only 46.6%, the cost of equity indicated from that group would be lower. Thus, by accepting other metrics of the proxy group while ignoring their debt ratios, Mr. Moul's overall cost of capital recommendation is unreasonably high.

Q. Can you quantify the impact on the cost of equity resulting from the difference in the Company's proposed debt ratio of 46.6% and your proposed debt ratio of 50%?

A. Yes. This issue was discussed in my direct testimony as it relates to the Hamada model. Using the Hamada model presented in my testimony, the Company's indicated CAPM cost of equity at a 46.6% debt ratio is 7.9%. The Company's indicated CAPM cost of equity at a 50% debt ratio, however, is 8.2%.[4] Thus, setting aside the various assumptions about the

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[2] Exhibit DJG-17.

[3] Exhibit DJG-14.

[4] Exhibit DJG-17.

risk-free rate, beta, and the equity risk premium, the difference in these debt ratios indicates a difference in the cost of equity estimate of about 0.3% (or 30 basis points).

Q. What is the impact to the revenue requirement related to your proposed capital structure adjustment?

A. If the Commission were to authorize my proposed capital structure adjustment, it would reduce the revenue requirement by $9.274 million.[5]

Q. Are the authorized capital structures for other utilities relevant to this proceeding?

A. Relatively speaking, they are not. When determining a fair ratemaking debt ratio for PECO, the Commission should focus on a debt ratio that might be observed for PECO if it existed in a purely competitive environment today. We can look to the current debt ratios of the proxy group as an indication of what PECO's debt ratio might look like in a comparative environment. The average debt ratio of the proxy group is 52%. Moreover, the debt ratio of PECO's parent company is also 57%. Based on this analysis, it would be reasonable to conclude that, for ratemaking purposes, PECO's debt ratio should be at least 52%. However, in the interest of gradualism, I propose a ratemaking debt ratio for PECO of only 50%.

Q. Mr. Moul claims that your proposed capital structure is contrary to Commission policy. Do you have a response?

A. Yes. I am not aware of a specific Commission "policy" that would require the Commission to simply accept a regulated utility's proposed capital structure. One of the hallmarks of regulation is that it is supposed to mimic what would occur in a competitive environment. Simply accepting a utility's proposed capital structure without analysis would be an

[5] OCA St. 1SR at 6.

abdication of this core tenant. It is incumbent on the Commission to ensure that all the Company's costs passed to ratepayers are prudent, which means they might require an adjustment. This is especially true with one of the Company's most significant costs: capital costs. As demonstrated in my testimony, the Company's proposed capital structure results in capital costs that are not at their lowest reasonable level.

Q. Mr. Moul claims that your proposed capital structure "merely lowers the Company's revenue requirement."[6] Do you have a response?

A. Yes. From a mathematical standpoint, adopting my proposed ratemaking capital structure for PECO would result in a lower revenue requirement than that proposed by the Company, all else held constant (which is quantified above). However, I take exception with Mr. Moul's testimony here because it implies that the *purpose* of my capital structure adjustment is to lower the Company's revenue requirement, which is not the case. From this standpoint, however, I could argue that many of the decisions made by Mr. Moul regarding his cost of equity models "merely increase" the Company's revenue requirement, such as the various premiums he adds to his models and the unsupported assumptions he makes – all which have increasing effects on the cost of capital estimate and revenue requirement. I stand by the belief that my proposed adjustments to the Company's authorized ROE and capital structure are fair and reasonable, and they are not designed to achieve a particular revenue requirement outcome.

[6] Rebuttal Testimony of Paul R. Moul, p. 11, lines 1-2.

Q. Mr. Moul also claims it is not appropriate to look at the capital structure of PECO's parent company when assessing a reasonable ratemaking capital structure for PECO. Do you have a response?

A. Yes. The Commission should ensure that PECO's capital costs are reasonable, of which capital structure is a key component. What is considered "reasonable" in terms of capital structure analysis would be to ensure that PECO is operating with a capital structure that might be observed for the Company if it operated in a purely competitive (unregulated) environment, since unregulated companies have a natural financial incentive to minimize capital costs (i.e., operate with sufficient amounts of debt). I can think of no better proxy for assessing a competitive debt ratio for PECO than the reported debt ratio of its unregulated parent company. In my opinion, the Commission should strongly consider the fact that Exelon's debt ratio is 60%, which is notably higher than the Company's proposed ratemaking debt ratio of only 46.6%, when setting a fair ratemaking debt ratio for PECO.

III. DCF MODEL

Q. Please summarize Mr. Moul's surrebuttal testimony regarding the growth rate input to the DCF Model.

A. Mr. Moul disagrees with my consideration of projected nominal GDP as a limiting factor for long-term growth projections of the proxy utility group. Mr. Moul also disagrees with my consideration of Value Line's projected growth in dividends as the long-term growth rate in my alternative DCF model.

Q. Please summarize the problems you have with the growth rates Mr. Moul used in his DCF Model.

A. The problems I have with Mr. Moul's growth rate inputs could be summarized into several key points: (1) analysts' growth rates cover short-term time periods; and (2) it is not

reasonable to assume that any company can outpace the growth rate of the aggregate economy in which it operates over the long run. I address each of these points below.

Q. Are the analyst growth rates used by Mr. Moul in his DCF Model long-term growth rates?

A. No. Growth rates published by various analysts typically cover a period of 3 – 10 years. However, the growth rate input in the constant growth DCF Model (or the terminal growth rate in a multi-stage DCF Model) contemplates a *long-term* period of time (technically, infinity). Regardless of the quantitative accuracy of the published growth rates Mr. Moul relies upon, the Commission should understand that it is Mr. Moul, not the commercial analysts, who is suggesting to the Commission that the proxy companies will experience these annual rates of growth year after year for many years into the future.

Q. Is it reasonable to assume that a company's earnings or dividends will grow at an annual rate greater than that of the projected annual growth rate of the aggregate economy in which it operates?

A. No, I do not believe so. This is a fundamental concept in finance, but it also makes sense intuitively. The growth rate of our economy is most widely measured by U.S. GDP. As discussed in my direct testimony, a reasonable projection of annual GDP growth going forward is about 3.8% (over the long-run). We could think of GDP as an "average" of sorts, which means there are relatively high-growth companies (that have not yet reached their mature stage of the lifecycle) that are bringing the average up, and likewise, there are relatively low-growth companies that are bringing the average down. Some companies would even have negative growth rates (i.e., decreasing earnings and/or dividends). The growth rates of all the companies in the U.S. market are constantly changing over time, but GDP growth is relatively consistent. Mathematically, if a company were to consistently

outpace GDP growth year after year, then it would eventually have earnings that exceeded U.S. GDP, regardless of its starting point. An appropriate metaphor might be two runners in an infinite race. If Runner A runs at a faster pace than Runner B, Runner A will eventually surpass Runner B no matter the head-start distance Runner B was given. It is simply not reasonable to assume that the earnings of any one company, especially a low-growth utility, would ever surpass U.S. GDP.

Q. Mr. Moul suggests that gas utilities can outpace GDP growth over the long-run due to asset replacement programs. Do you have a response?

A. Yes. I will reiterate some of the lengthy discussion in my direct testimony on this issue. First, from a quantitative standpoint, utilities can achieve earnings growth that exceed U.S. GDP growth. However, as explained in my direct testimony, this relationship suffers from two important problems that the Commission should consider from the standpoint of considering a fair and accurate application of the DCF Model. First, using a utility's quantitative earnings growth in a particular period as the long-term growth rate assumption in the DCF Model suffers from a feedback loop that is not present in the CAPM. In this case (as in most cases), the short-term growth rate assumptions reported by analysts such as Value Line are notably higher than long-term GDP growth. If those short-term rates are used for the sustainable growth rate input in the DCF Model to assess cost of equity, it will inevitably result in an inflated cost of equity estimate, which will presumably lead to inflated earnings growth, and the cycle continues.

Second, I do not believe a utility's ability to increase earnings by simply increasing its rate base is indicative of real, qualitative growth that should be directly considered as a quantitative input in a fair application of the DCF Model. The reason for my opinion on

this issue is that competitive (non-regulated) companies cannot simply increase the amount of capital assets on its balance sheet and automatically see earnings growth results. Investing in large capital projects is risky, and unless it results in increased market share over the long-run, such investments will not necessarily generate earnings growth. Unlike many competitive firms, PECO does not have the ability to launch new product lines, franchise, or expand to new and developing markets in order to significantly increase market share and achieve real, qualitative growth. Rather, any quantitative earnings growth PECO will realize will be as a result of rate increases authorized by the Commission, which may be partially driven by merely retiring and replacing assets to serve its existing customer base. In the competitive environment, this dynamic does not represent how companies actually grow. Utilities in general, including PECO, are effectively non-growth companies, but that does not prevent their shareholders from seeking quantitative earnings growth through increased rate bases and proposals to the regulator for authorized ROEs (and capital structures) that result in awarded returns that clearly exceed market-based capital costs.

Q. Despite your criticisms of using short-term analysts' growth rates for the long-term growth rate input in the DCF Model, did you also consider a variation of the DCF Model using such analysts' growth rates?

A. Yes. In my direct testimony and exhibits, I presented a variation of the DCF Model using Value Line's projected growth in dividends.[7] This produced a DCF result of 8.2%.[8] Mr. Moul disagrees with this approach and instead relies on analysts' projected earnings

[7] *See* Exhibit DJG-6.

[8] *Id*.

growth. However, the growth rates used by Mr. Moul in his "corrected" version of my DCF Model are as high as 10%,[9] which is more than double the annual projected GDP growth rate. Annual growth rates this high are simply not sustainable. Moreover, the DCF Model itself directly considers dividend growth, not earnings growth. It is not unreasonable, per se, to consider earnings growth as a measure for dividend growth in the DCF Model, however, the analyst should ensure that such growth rate indications are not unreasonable. In my opinion, considering long-term growth rates as high as 10.0% for a regulated utility is unreasonable, and it results in cost of equity indications that are unreasonably high. If the Commission decides to consider analysts' short-term, non-sustainable growth rates for the long-term growth rate input in the DCF Model, it should consider the projected dividend growth rates I included in one variation of my DCF Model, which resulted in a DCF cost of equity estimate of 8.2%.[10]

IV. CAPM Analysis

Q. Please summarize Mr. Moul's surrebuttal testimony regarding your CAPM results.

A. Mr. Moul claims that the result of my CAPM is not credible.[11]

Q. Please summarize the inputs and results of your CAPM.

A. The CAPM is a Nobel-prize-winning financial model that has three inputs: (1) risk-free rate; (2) beta; and (3) the ERP. I will summarize and contrast the sources of these inputs between my CAPM and Mr. Moul's CAPM.

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[9] Rebuttal Exhibit PRM-3.

[10] Exhibit DJG-6.

[11] Rebuttal Testimony of Paul R. Moul p. 39, line 17.

1. Risk-free rate

Financial analysts use the yield on Treasury securities as a proxy for the risk-free rate. I used a recent 30-day average on the daily yields on 30-year Treasury bonds as a proxy for the risk-free rate in my CAPM. This is a very reasonable approach. In contrast, Mr. Moul relies on projected bond yields. I have reviewed dozens of utility ROE testimony dating back more than 20 years. In nearly every one of those cases, the witness representing the utility will rely on a forward-looking or projected Treasury bond yield for the risk-free rate, instead of relying on the current, *known* Treasury bond yield. In every single one of those cases, I cannot recall a single instance in which the utility's projected bond yield was *lower* than the current bond yield. In other words, I cannot recall a single case in which a utility witness's prediction of the future did not, all else held constant, result in a higher cost of equity estimate in the present. After observing this tactic numerous times over many years without exception, it reinforces my opinion that it is preferable to use known (current) bond yields rather than unknown (future) bond yields.

2. Beta

For the beta input in my CAPM, I relied on the betas published by Value Line. In my experience, the vast majority of ROE witnesses in utility rate proceedings (representing both utilities and customers) rely on Value Line betas without further adjustment. In contrast, Mr. Moul takes the unusual approach of adjusting Value Line's published betas. It is not surprising that this adjustment is in the upward direction.

3. ERP

Mr. Moul criticized me for looking back over 30 days to get an average yield on T-bonds for my risk-free rate and described it as "backward-looking."[12] In contrast, Mr. Moul relies on data that predates the invention of color televisions in his ERP estimate. Relying on data more than 80 year old, dating back to 1940, is not a reasonable approach in estimating the ERP.[13] As discussed in my direct testimony, there is substantial evidence showing that the current and forward-looking ERP is notably lower than the historical ERP (especially if one begins their historical ERP analyses just after the end of the Great Depression). In contrast to Mr. Moul's approach, I relied on a survey of thousands of unbiased experts in helping develop a reasonable estimate for the ERP. I also looked at the estimate published by Duff & Phelps (a respected, international corporate advising firm) and the estimate published by one of the world's leading experts on the ERP – Dr. Aswath Damodaran. The *highest* ERP from these sources is 5.8% (incidentally, my personal ERP estimate) which is still notably lower than Mr. Moul's 10.2% ERP estimate.

Q. Based on this summary, what do you conclude about the results on your CAPM analyses as compared with Mr. Moul's results?

A. I used reasonable figures for each of the three CAPM inputs. My inputs are not affected by biases. Indeed, there is very little of my own personal judgement injected into the CAPM results. The current risk-free rate is based on the current yields of Treasury bonds, which are known; it does not require a subjective estimate or adjustment. The betas I used are published by Value Line. To my knowledge, Value Line does not have any conflict of

[12] Rebuttal Testimony of Paul R. Moul, p. 39, line 21.

[13] PECO Exhibit PRM-1, Sch. 12.

interest with either utilities or ratepayers that might affect their judgment. The ERP I used reflects the results from a survey of thousands of unbiased experts. Based on these inputs, the results of my CAPM are quite reasonable.

V. Leverage Adjustment

Q. Please summarize Mr. Moul's rebuttal testimony regarding his leverage adjustment.

A. Mr. Moul claims that I "never really refute" his leverage adjustment.[14] Mr. Moul also claims that in my Hamada Model, I use the actual capital structure ratios of PECO, rather than the ratemaking capital structure I propose.[15]

Q. What is your response to Mr. Moul's rebuttal testimony regarding the leverage adjustment?

A. First, Mr. Moul's claim that I "never really refute" his leverage adjustment is inaccurate. In my direct testimony, I stated that "Mr. Moul's proposed leverage adjustment is entirely unnecessary and inappropriate. . . ."[16] I also provided several reasons why I disagree with Mr. Moul's leverage adjustment. As discussed in my direct testimony, if we consider the effects of leverage in the cost of equity calculation, it indicates a cost of equity of about 8.2% at a 50% debt ratio for PECO, which is my proposed ratemaking debt ratio.[17]

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[14] Rebuttal Testimony of Paul R. Moul, p. 27, lines 12-13.

[15] *Id*. at lines 20-22.

[16] Direct Testimony of David J. Garrett, p. 49, line 2.

[17] Exhibit DJG-17.

Q. What is the impact to the revenue requirement related to Mr. Moul's proposed leverage adjustment?

A. If the Commission were to reject the Company's proposed leverage adjustment, it would reduce the revenue requirement by $31.5 million.[18]

VI. Comparable Earnings Approach

Q. Please summarize Mr. Moul's surrebuttal testimony regarding the comparable earnings approach.

A. Mr. Moul continues to assert that the comparable earnings approach is reasonable.

Q. Did you find Mr. Moul's rebuttal testimony persuasive in regards to the comparable earnings approach?

A. No. For the reasons stated in my direct testimony, the Commission should not consider the comparable earnings models when assessing a reasonable cost of equity and authorized ROE for the Company. There are three notable problems with Mr. Moul's comparable earnings approach: (1) earned returns do not indicate the cost of equity; (2) using earned returns in a model used to set the awarded ROE in regulatory proceedings creates an echo chamber void of technical value; and (3) there is no marginal value in analyzing competitive firms beyond those of the utility proxy group in terms of assessing a comparable risk profile. I discuss these issues in detail in my direct testimony.

[18] OCA St. 1SR at 5.

VII. The Commission's Quarterly Earnings Report

Q. Please comment on Mr. Moul's references to the Commission's determination of an equity cost rate for use in gas utility Distribution System Improvement Charges (DSIC) surcharges.

A. The Commission's Quarterly Report identifies a return on equity value for a particular time period for the gas industry, not for PECO in particular and not for the purpose of setting base rates. My cost of equity recommendation is reasonable to apply to all of PECO's measures of value to set base rates for the Company.

Q. Does this conclude your surrebuttal testimony?

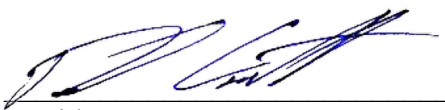
A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, David J. Garrett, hereby state that the facts set forth in my Surrebuttal Testimony, OCA Statement 2SR, are true and correct (or are 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).

DATED: August 4, 2022 Signature: 
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OCA Statement 3SR

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2022-3031113**
PECO Energy Company – Gas Division	**)**	

SURREBUTTAL TESTIMONY OF

KARL RICHARD PAVLOVIC

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 4, 2022

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Karl Richard Pavlovic. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. ARE YOU THE SAME KARL RICHARD PAVLOVIC WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JUNE 22, 2022?

A. Yes. Exhibit KRP-1 to my direct testimony (OCA St. 3) summarizes my qualifications and experience.

II. PURPOSE OF TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. My surrebuttal testimony responds to the rebuttal testimony of PECO Witness Joseph A. Bisti (Statement No. 7-R) regarding revenue increase allocation, scaleback, and the residential customer charge.

III. DISCUSSION

A. SUMMARY

Q. PLEASE SUMMARIZE THE SUBSTANCE OF YOUR TESTIMONY.

A. As detailed below, I find that:

- PECO's revised proposed revenue allocation is not fair or reasonable in that it moves the GR, GC, OL and MV-F classes to full cost of service, while much smaller movements toward cost of service are made for the other classes;
- PECO's Exhibit JAB-1 Revised should be used for the purposes of scaling back whatever revenue increase the Commission adopts;
- To provide residential customers with (1) an incentive to conserve and (2) the ability to exercise control over a significant portion of their monthly gas distribution bill, the residential customer charge should remain at its current level of $13.63.

B. REVENUE ALLOCATION

Q. WHAT WAS YOUR DIRECT TESTIMONY REGARDING PECO'S PROPOSED CLASS REVENUE INCREASE ALLOCATION?

A. In my direct testimony I noted that, under PECO's proposed class revenue increase allocation, the GR, GC, OL and MV-F classes are moved to full cost of service, while only minimal movements toward cost of service are made for the other classes and proposed that a fair and reasonable allocation would move the GR, GC, OL and MV-F classes approximately halfway toward cost of service measured by relative rate of return.[1] In response to a PECO interrogatory, I opined that PECO's revenue increase allocation proposal is arbitrary and capricious and unduly discriminatory among the rate classes and that my proposal is not.[2]

[1] Direct Testimony of Karl Richard Pavlovic (Statement 3), page 7, line 4 to page 8, line 10.
[2] OCA response to PECO-OCA-1-9.

Q. WHAT IS PECO'S REBUTTAL OF YOUR REVENUE INCREASE ALLOCATION TESTIMONY?

A. PECO Witness Bisti begins PECO's rebuttal with the general observation that "PECO believes that its revised revenue allocation continues to provide an appropriate balance of the competing interests of all customer classes, producing reasonable movement toward the cost of service and system average rate of return indicated by the Company's revised COSS."[3] I address PECO's revised revenue allocation below.

Specifically regarding my criticism and alternate proposal, Witness Bisti argues (1) that had PECO moved the L, MV-1, IS, TCS and TS-I classes to full cost of service, it would have resulted in rate decreases, i.e., negative revenue allocations, and larger off-setting revenue allocations for the GR, GC, OL and MV-F classes, and (2) that setting the revenue allocation for the L, MV-1, IS, TCS and TS-I classes to zero (0) increase mitigates the increases to the GR, GC, OL and MV-F classes that would result from moving the former classes to full cost of service.[4]

Q. WHAT IS YOUR RESPONSE TO PECO'S REBUTTAL?

A. Setting the revenue allocation to zero for classes that on a full cost basis would receive a negative revenue increase allocation, i.e., a rate reduction, is an established ratemaking policy in every jurisdiction with which I am familiar. Moreover, it is a policy that PECO followed in its own prior rate case.[5] Implementation of that policy for the L, MV-1, IS, TCS and TS-I classes does not, however, dictate that the GR, GC, OL and MV-F classes

[3] Rebuttal Testimony of Joseph A. Bisti (Statement No. 7-R), page 6, lines 17-21; PECO Exhibit JAB-1 Revised; PECO Exhibit JD-7R CONFIDENTIAL.
[4] Bisti Rebuttal, page 7, lines 7-14, citing PECO Exhibit JAB-5 (Response to Interrogatory PECO-OCA-1-9).
[5] Bisti Rebuttal, page 7, line 15.

be moved to full cost of service. Indeed, that PECO does not propose to move the L, MV-1, IS, TCS and TS-I classes to full cost of service only underscores that PECO's proposal to move the GR, GC, OL and MV-F classes to full cost of service is both inconsistent and discriminatory.

Q. DOES PECO'S REBUTTAL GIVE YOU ANY REASON TO WITHDRAW YOUR RECOMMENDED CLASS REVENUE ALLOCATION.

A. No. I have, however, modified the specifics of my recommended class revenue allocation in light of PECO's revised COSS[6] and revised revenue allocation,[7] to which Witness Bisti refers.

Q. WHAT IS PECO'S REVISED PROPOSED CLASS REVENUE ALLOCATION?

A. PECO Exhibit JAB-1 Revised contains PECO's revised proposed class revenue allocation, the results of which I have summarized in Table 1 below. These results should be compared to PECO's original proposed class revenue allocation.[8]

[6] PECO Exhibit JD-7R CONFIDENTIAL.
[7] PECO Exhibit JAB-1 Revised.
[8] Pavlovic Direct, page 7, Table 2; see also Bisti Rebuttal, page 4, Table 1.

Table 1 PECO Revised Distribution Revenue Allocation[9]					
Class	Present Relative Rate of Return	Proposed Relative Rate of Return	Revenue Increase Allocation	Proposed Increase	Original Proposed Revenue Increase Allocation
Residential (GR)	0.94	0.99	$61,264,877	22.7%	$61,818,327
General Service (GC)	1.11	1.00	$14,515,000	14.6%	$13,764,243
Outdoor Lighting (OL)	1.11	1.00	$69	14.6%	$63
Large High Load Factor (L)	3.06	2.22	$-	0.0%	$-
Motor Vehicle Service - Firm (MV-F)	1.11	1.00	$53,815	11.7%	$49,645
Motor Vehicle Service - Interruptible (MV-I)	2.40	1.75	$-	0.0%	$-
Interruptible Service (IS)	6.31	4.58	$-	0.0%	$-
Temperature-Controlled Service (TCS)	7.96	5.78	$-	0.0%	$-
Gas Transportation - Interruptible (TS-I)	1.66	1.21	$-	0.0%	$-
Gas Transportation - Firm (TS-F)	1.00	1.00	$3,447,980	23.1%	$3,652,483
Total			$79,281,742	20.1%	$79,284,764

Q. DO YOU AGREE WITH PECO'S REVISED PROPOSED REVENUE ALLOCATION TO THE CLASSES?

A. No. As I noted regarding PECO's original proposal, there is nothing fair or reasonable about the movement towards class cost of service underlying PECO's revised proposed revenue allocation. It is still the case that the GR, GC, OL and MV-F classes are moved to full cost of service, while much smaller movements toward cost of service are made for the other classes.

[9] PECO Exhibit JAB-1 Revised.

Q. WHAT DO YOU PROPOSE AS A FAIR AND REASONABLE ALLOCATION OF REVENUE TO PECO'S CLASSES?

A. The revised COSS results in slightly different current relative rates of return that are used in PECO's revised proposed class revenue allocation that is calculated in Exhibit JAB-1 Revised, which I accept. Regarding the GR, GC, OL and MV-F classes, I propose to move their relative rates of return approximately 44% to full cost of service, which is the simple average of PECO's revised proposed relative rates of return for the L, MV-1, IS, TCS and TS-I classes.[10] The results are shown in Table 2.

Table 2 OCA Correction of Revised PECO Distribution Revenue Allocation[11]

Class	Present Relative Rate of Return	Proposed Relative Rate of Return	Revenue Increase Allocation	Proposed Increase
Residential (GR)	0.94	0.97	$56,591,036	21.0%
General Service (GC)	1.11	1.06	$19,166,828	19.2%
Outdoor Lighting (OL)	1.11	1.06	$90	19.2%
Large High Load Factor (L)	3.06	2.22	$-	0.0%
Motor Vehicle Service - Firm (MV-F)	1.11	1.06	$75,827	16.5%
Motor Vehicle Service - Interruptible (MV-I)	2.40	1.75	$-	0.0%
Interruptible Service (IS)	6.31	4.58	$-	0.0%
Temperature-Controlled Service (TCS)	7.96	5.78	$-	0.0%
Gas Transportation - Interruptible (TS-I)	1.66	1.21	$-	0.0%
Gas Transportation - Firm (TS-F)	1.00	1.00	$3,447,962	23.1%
Total			$79,281,742	20.1%

[10] Exhibit KRP-SR-1, page 1 of 2.
[11] Exhibit KRP-SR-1, page 2 of 2.

The results of these changes are a reduction in the revenue increase to the GR class (21.0% vs. 22.7%) and increases in the revenue increase for the other relative rate of return adjusted classes: GC/OL (19.2% vs. 14.6%) and MV-F (16.5% vs. 11.7%). Note also that no revenue increase is allocated to those classes that have relative rates of return significantly above 1.0 (L, MV-I, TCS and TS-1).

C. SCALEBACK

Q. DID YOU OFFER A SCALEBACK PROPOSAL?

A. Yes. In my direct testimony, I recommended that for whatever revenue increase is ultimately adopted by the Commission, the revenue increase allocation should be made by moving the relative rates of return for the GR, GC, OL and MV-F classes approximately halfway toward recovery of cost of service.

Q. HAS PECO PROPOSED A SCALEBACK?

A. Yes. In Rebuttal Witness Bisti added a scaleback calculation to Exhibit JAB-1 Revised.[12] He proposes to use this scaleback provision with the added provision that PECO's proposed customer charges would not be scaled back.[13]

Q. DO YOU AGREE?

A. I agree that the scaleback calculation in Exhibit JAB-1 Revised should be used for the purposes of scaling back whatever revenue increase the Commission adopts, but with the adjustments explained in the example below. As discussed below, I do not agree that PECO's proposed increase to the residential customer charge should be maintained in any

[12] Bisti Rebuttal, page 3, lines 9-22.
[13] Bisti Rebuttal, page 9, lines 3-10.

scaleback. As I explained in my direct testimony and further below, PECO's current residential customer charge is appropriate and should not be increased in this proceeding.

Q. CAN YOU PROVIDE AN EXAMPLE OF HOW THE SCALEBACK CALCULATION IN EXHIBIT JAB-1 REVISED WORKS?

A. Yes. I will provide an example scaleback to OCA's recommended revenue increase.[14] For the purposes of scaleback, the critical inputs to the Excel version of JAB-1 Revised are (1) rate of return,[15] (2) the revenue increase[16] and (3) the class relative rates of return.[17] The OCA recommended rate of return is 6.48% and the OCA recommended overall revenue increase is $13,929,952. To develop the class relative rates of return, the relative rates of return for the L, MV-1, IS, TCS and TS-I classes must first be set to result in zero revenue increase, consistent with the no-rate-reduction policy explained above and in Witness Bisti's rebuttal testimony.[18] Next, the simple average of the relative rates of return for the L, MV-1, IS, TCS and TS-I classes is calculated, approximately 32%.[19] Finally, the relative rates of return for the GR, GC, OL and MV-F classes are moved approximately 32% toward recovery of cost of service. The results of these calculations are summarized in Table 3.

[14] Surrebuttal Testimony of Dante Mugrace, Schedule SR DM-1.
[15] PECO Exhibit JAB-1 Revised (Excel), "Gas Proposed Rev Inc by Class" tab, cell A5.
[16] PECO Exhibit JAB-1 Revised (Excel), "JAB-1" tab, cell E7.
[17] PECO Exhibit JAB-1 Revised (Excel), "Gas Proposed Rev Inc by Class" tab, cells D9-D17.
[18] Bisti Rebuttal, page 7, lines 4-18.
[19] Exhibit KRP-SR-2, page 1 of 2

Table 3 Class Revenue Allocation Scaleback of OCA Recommended Overall Revenue Increase[20]				
Class	Present Relative Rate of Return	Recommended Relative Rate of Return	Recommended Revenue Increase Allocation	Recommended Increase
Residential (GR)	0.94	0.97	$7,821,535	2.9%
General Service (GC)	1.11	1.06	$2,693,676	2.7%
Outdoor Lighting (OL)	1.11	1.06	$15	2.7%
Large High Load Factor (L)	3.06	2.22	$0	0.0%
Motor Vehicle Service - Firm (MV-F)	1.11	1.06	$1,771	0.4%
Motor Vehicle Service - Interruptible (MV-I)	2.40	1.75	$0	0.0%
Interruptible Service (IS)	6.31	4.58	$0	0.0%
Temperature-Controlled Service (TCS)	7.96	5.78	$0	0.0%
Gas Transportation - Interruptible (TS-I)	1.66	1.21	$-	0.0%
Gas Transportation - Firm (TS-F)	1.00	1.00	$584,953	3.9%
Total			$11,101,952	2.8%

D. RESIDENTIAL CUSTOMER CHARGE

Q. WHAT WAS YOUR DIRECT TESTIMONY REGARDING PECO'S PROPOSED RESIDENTIAL CUSTOMER CHARGE?

A. In direct testimony PECO proposed a 36% increase to the residential customer charge arguing that this would (1) increases the accuracy of the price signal sent by the customer

[20] Exhibit KRP-SR-2, page 2 of 2.

charge[21] and (2) reduce the volumetric charge's intraclass subsidy of small volume residential customers by large volume customers.[22]

In my direct testimony, I (1) noted that the customer charge is not an actionable price signal,[23] (2) argued that reduction of the volumetric charge's intraclass subsidy is outweighed by the larger volumetric charge increases customers' incentive to conserve and ability to control a significant portion of their monthly bill,[24] (3) recommended that the customer charge remain at its current level of $13.63,[25] and (4) noted that in a previous case[26] the Commission had found that an increase in the Residential customer charge was contrary to the Commission's goal of encouraging customers to conserve energy.[27]

Q. WHAT IS PECO'S REBUTTAL OF YOUR RESIDENTIAL CUSTOMER CHARGE RECOMMENDATIONS?

A. In rebuttal, Witness Bisti argues (1) that I did not offer a cost-of-service basis for rejecting an increase in the residential customer charge,[28] (2) that, in contrast to the Commission's principle that cost-of-service is the "polestar" of ratemaking, I offered no support that incentive to conserve and ability to control monthly bills outweighs cost-of service concerns,[29] and (3) I ignore that a more accurate variable distribution charge may be needed for the incentive to conserve and ability to control monthly bills.[30]

[21] Bisti Direct, page 12, lines 3-14.
[22] Bisti Direct, page 12, lines 15-22.
[23] Pavlovic Direct, page 10, lines 14-15.
[24] Pavlovic Direct, page 10, line 15 to page 11, line 1.
[25] Pavlovic Direct, page 11, lines 1-2.
[26] *Pa. P.U.C. v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2020-3018835, Order at 264-65 (Feb. 19, 2021).
[27] Pavlovic Direct, page 11, lines 5-10.
[28] Bisti Rebuttal, page 12, lines 5-8, citing PECO Exhibit JAB-8 (Response to Interrogatory PECO-OCA-1-10).
[29] Bisti Rebuttal, page 12, lines 8-11.
[30] Bisti Rebuttal, page 12, lines 11-13.

Q. WHAT IS YOUR RESPONSE TO PECO'S REBUTTAL?

A. I respond to these three points seriatim.

First, because the customer charge is not an actionable price signal, a point on which I and Witness Bisti agree,[31] a cost-of-service basis for either acceptance or rejection of an increase to the customer charge is irrelevant for ratemaking purposes.

Second, while cost of service may well be the polestar of ratemaking, non-cost policy objectives, e.g., the non-cost policy objective of conservation, can and often do outweigh cost-of-service and justify deviations from cost-of-service,

Third, while the variable distribution charge is in fact an actionable price signal, the efficacy of that price signal does not depend on the accuracy of that price signal.[32] The efficacy of the variable distribution charge for non-cost policy objectives of conservation and customer bill control depends rather on the magnitude of the variable distribution charge, which is an inverse function of the magnitude of the customer charge, i.e, the smaller the customer charge, the larger the variable distribution charge.

Q. DOES PECO'S REBUTTAL GIVE YOU ANY REASON TO WITHDRAW OR MODIFY YOUR RESIDENTIAL CUSTOMER CHARGE RECOMMENDATION?

A. No.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

[31] Bisti Rebuttal, page 12 lines 5-6.
[32] OCA response to Interrogatory PECO-OCA-1-10a.

A. Yes. However, I reserve the right to supplement this testimony if further information is provided by PECO.

"Gas Proposed Revenue Increase by Class" Matrix (based on COS Study results)

Supports Exhibit JAB-1 (Revenue Allocation)

Sys Average Rate of Return (Exhibit MJT-1 Revised, Schedule A-1): 7.81%

Gross Revenue Conversion Factor (Exhibit MJT-1 Revised, Schedule A-1): 1.3988

	($000's) Rate Base (COS)	($000's) Initial COS Increase at Sys Average ROR (COS)	Proposed Relative ROR (Input)	Adjusted Proposed Rate of Return	ROR Variance from Sys Avg ROR	COS Adjustment	($000's) Adjusted COS Increase at Proposed Relative ROR (COS)	($000's) Net Revenue Ask at Proposed Relative ROR	($000's) Current Adjusted Distribution Revenue (Proof of Revenues)	($000's) Proposed Adjusted Distribution Revenue (Proof of Revenues)
GR	$ 1,958,826	$ 68,340	0.97	7.56%	0.25%	0.34%	$ 6,739	$ 61,601	$ 269,501	$ 331,102
GC & OL	$ 744,785	$ 15,973	1.06	8.28%	-0.47%	-0.66%	$ (4,882)	$ 20,855	$ 99,624	$ 120,479
L	$ 262	$ (35)	2.22	17.36%	-9.55%	-13.36%	$ (35)	$ 0	$ 77	$ 77
MV-F	$ 3,350	$ 70	1.06	8.30%	-0.49%	-0.69%	$ (23)	$ 93	$ 461	$ 554
MV-I	$ 7	$ (1)	1.75	13.63%	-5.82%	-8.14%	$ (1)	$ (0)	$ 2	$ 2
IS	$ 61	$ (24)	4.58	35.80%	-27.99%	-39.16%	$ (24)	$ 0	$ 32	$ 32
TCS	$ 1,064	$ (556)	5.78	45.16%	-37.35%	-52.25%	$ (556)	$ (0)	$ 675	$ 675
TS-I	$ 53,704	$ (1,219)	1.21	9.43%	-1.62%	-2.27%	$ (1,219)	$ (0)	$ 9,347	$ 9,347
TS-F	$ 121,907	$ 3,618	1.00	7.81%	0.00%	0.00%	$ -	$ 3,618	$ 14,954	$ 18,573
Summary	$ 2,883,965	$ 86,167					$ (0)	$ 86,168	$ 394,672	$ 480,840

	Relative Rate of Returns @ zero revenue increase		Curren Rate of Return	Percent Movement to cost of service (1.0)	Relative Rate of Retrun Movement to Cost of Service	Adjusted Relative Rate of Return
GR			0.94		0.0278	0.9646
GC & OL			1.11		0.0467	1.0595
L	2.22	*	3.06	40.63%		
MV-F			1.11		0.0496	1.0631
MV-I	1.75	*	2.40	46.88%		
IS	4.58	*	6.31	32.50%		
TCS	5.78	*	7.96	31.28%		
TS-I	1.21	*	1.66	68.64%		
TS-F						
				43.98%	Average % to 1.0	

PECO Energy Company
Proposed Revenue Allocation and Rates of Return by Rate Class

Rate	(1) Current Distribution Revenue *(a)*	(2) Proposed Distribution Revenue	(3) *(2) - (1)* Full Increase In Distribution Revenue	(4) Scaled Back Increase In Distribution Revenue To $82,109,742	(5) GPC Reduction *(b)*	(6) MFC Reduction *(c)*	(7) *(4) + (5) + (6)* Net Revenue Ask	(8) *(1) + (7)* Adjusted Proposed Distribution Revenue	(9) *(7) / (1)* % Increase	(10) Increase vs. System Avg
Residential (GR)	$ 269,500,590	$ 331,101,582	$ 61,600,992	$ 58,700,036	$ (1,135,000)	$ (974,000)	$ 56,591,036	$ 326,091,626	21.0%	1.05
General Service (GC)	$ 99,623,360	$ 120,478,303	$ 20,854,943	$ 19,872,828	$ (601,000)	$ (105,000)	$ 19,166,828	$ 118,790,188	19.2%	0.96
Outdoor Lighting (OL)	$ 450	$ 544	$ 94	$ 90	$ -	$ -	$ 90	$ 540	19.2%	0.96
Large High Load Factor (L)	$ 76,932	$ 76,932	$ -	$ -	$ -	$ -	$ -	$ 76,932	0.0%	0.00
Motor Vehicle Service - Firm (MV-F)	$ 460,878	$ 554,095	$ 93,217	$ 88,827	$ (13,000)	$ -	$ 75,827	$ 536,705	16.5%	0.82
Motor Vehicle Service - Interruptible (MV-I)	$ 1,715	$ 1,715	$ -	$ -	$ -	$ -	$ -	$ 1,715	0.0%	0.00
Interruptible Service (IS)	$ 32,012	$ 32,012	$ -	$ -	$ -	$ -	$ -	$ 32,012	0.0%	0.00
Temperature-Controlled Service (TCS)	$ 674,526	$ 674,526	$ -	$ -	$ -	$ -	$ -	$ 674,526	0.0%	0.00
Gas Transportation - Interruptible (TS-I)	$ 9,347,183	$ 9,347,183	$ -	$ -	$ -	$ -	$ -	$ 9,347,183	0.0%	0.00
Gas Transportation - Firm (TS-F)	$ 14,954,366	$ 18,572,726	$ 3,618,360	$ 3,447,962	$ -	$ -	$ 3,447,962	$ 18,402,328	23.1%	1.15
Total	$ 394,672,012	$ 480,839,618	$ 86,167,606	$ 82,109,742	$ (1,749,000)	$ (1,079,000)	$ 79,281,742	$ 473,953,754	20.1%	

Rate	(11) Present Rate of Return	(12) *(11) / Average of (11)* Present Relative Rate of Return	(13) Proposed Rate of Return	(14) *(13) / Average of (13)* Proposed Relative Rate of Return
Residential (GR)	5.32%	0.94	7.56%	0.97
General Service (GC)	6.28%	1.11	8.28%	1.06
Outdoor Lighting (OL)	6.28%	1.11	8.28%	1.06
Large High Load Factor (L)	17.36%	3.06	17.36%	2.22
Motor Vehicle Service - Firm (MV-F)	6.31%	1.11	8.30%	1.06
Motor Vehicle Service - Interruptible (MV-I)	13.63%	2.40	13.63%	1.75
Interruptible Service (IS)	35.80%	6.31	35.80%	4.58
Temperature-Controlled Service (TCS)	45.16%	7.96	45.16%	5.78
Gas Transportation - Interruptible (TS-I)	9.43%	1.66	9.43%	1.21
Gas Transportation - Firm (TS-F)	5.69%	1.00	7.81%	1.00
Total	5.67%		7.81%	

(a) Includes O&M components recovered by PECO's Gas Procurement Charge (GPC) and Merchant Function Charge (MFC)
(b) Refer to PECO Exhibit BSY-2R, Page 7
(c) Refer to PECO Exhibit BSY-3, Page 3

"Gas Proposed Revenue Increase by Class" Matrix (based on COS Study results)

Supports Exhibit JAB-1 (Revenue Allocation)

Sys Average Rate of Return (Exhibit MJT-1 Revised, Schedule A-1): 6.48%

Gross Revenue Conversion Factor (Exhibit MJT-1 Revised, Schedule A-1): 1.3988

	($000's)	($000's)					($000's)	($000's)	($000's)	($000's)
	Rate Base (COS)	Initial COS Increase at Sys Average ROR (COS)	Proposed Relative ROR (Input)	Adjusted Proposed Rate of Return	ROR Variance from Sys Avg ROR	COS Adjustment	Adjusted COS Increase at Proposed Relative ROR (COS)	Net Revenue Ask at Proposed Relative ROR	Current Adjusted Distribution Revenue (Proof of Revenues)	Proposed Adjusted Distribution Revenue (Proof of Revenues)
GR	$ 1,958,826	$ 68,340	0.96	6.23%	0.25%	0.35%	$ 6,912	$ 61,428	$ 269,501	$ 330,928
GC & OL	$ 744,785	$ 15,973	1.07	6.97%	-0.49%	-0.68%	$ (5,056)	$ 21,030	$ 99,624	$ 120,653
L	$ 262	$ (35)	2.47	16.03%	-9.55%	-13.36%	$ (35)	$ 0	$ 77	$ 77
MV-F	$ 3,350	$ 70	1.07	6.93%	-0.45%	-0.63%	$ (21)	$ 91	$ 461	$ 552
MV-I	$ 7	$ (1)	1.90	12.31%	-5.83%	-8.16%	$ (1)	$ 0	$ 2	$ 2
IS	$ 61	$ (24)	5.32	34.48%	-28.00%	-39.16%	$ (24)	$ 0	$ 32	$ 32
TCS	$ 1,064	$ (556)	6.76	43.83%	-37.35%	-52.25%	$ (556)	$ 0	$ 675	$ 675
TS-I	$ 53,704	$ (1,219)	1.25	8.10%	-1.62%	-2.27%	$ (1,219)	$ 0	$ 9,347	$ 9,347
TS-F	$ 121,907	$ 3,618	1.00	6.48%	0.00%	0.00%	$ -	$ 3,618	$ 14,954	$ 18,573
Summary	$ 2,883,965	$ 86,167					$ 0	$ 86,167	$ 394,672	$ 480,839

				Relative Rate of Returns @ zero revenue increase		Curren Rate of Return	Percent Movement to cost of service (1.0)	Relative Rate of Retrun Movement to Cost of Service	Adjusted Relative Rate of Return
GR						0.94		0.0205	0.9574
GC & OL						1.11		0.0345	1.0718
L	0	2.47	*			3.06	28.44%		
MV-F						1.11		0.0366	1.0761
MV-I	0	1.90	*			2.40	35.82%		
IS	0	5.32	*			6.31	18.64%		
TCS	0	6.76	*			7.96	17.17%		
TS-I	0	1.25	*			1.66	62.20%		
TS-F						1.00			
							32.46%	Average % to 1.0	

PECO Energy Company
Proposed Revenue Allocation and Rates of Return by Rate Class

Rate	(1) Current Distribution Revenue *(a)*	(2) Proposed Distribution Revenue	(3) *(2) - (1)* Full Increase In Distribution Revenue	(4) Scaled Back Increase In Distribution Revenue To 13,929,952	(5) GPC Reduction *(b)*	(6) MFC Reduction *(c)*	(7) *(4) + (5) + (6)* Net Revenue Ask	(8) *(1) + (7)* Adjusted Proposed Distribution Revenue	(9) *(7) / (1)* % Increase	(10) Increase vs. System Avg
Residential (GR)	$ 269,500,590	$ 330,928,156	$ 61,427,566	$ 9,930,535	$ (1,135,000)	$ (974,000)	$ 7,821,535	$ 277,322,125	2.9%	1.03
General Service (GC)	$ 99,623,360	$ 120,652,823	$ 21,029,463	$ 3,399,676	$ (601,000)	$ (105,000)	$ 2,693,676	$ 102,317,036	2.7%	0.96
Outdoor Lighting (OL)	$ 450	$ 545	$ 95	$ 15	$ -	$ -	$ 15	$ 465	2.7%	0.96
Large High Load Factor (L)	$ 76,932	$ 76,935	$ 3	$ 0	$ -	$ -	$ 0	$ 76,932	0.0%	0.00
Motor Vehicle Service - Firm (MV-F)	$ 460,878	$ 552,247	$ 91,369	$ 14,771	$ (13,000)	$ -	$ 1,771	$ 462,649	0.4%	0.14
Motor Vehicle Service - Interruptible (MV-I)	$ 1,715	$ 1,716	$ 1	$ 0	$ -	$ -	$ 0	$ 1,715	0.0%	0.00
Interruptible Service (IS)	$ 32,012	$ 32,014	$ 2	$ 0	$ -	$ -	$ 0	$ 32,012	0.0%	0.00
Temperature-Controlled Service (TCS)	$ 674,526	$ 674,527	$ 1	$ 0	$ -	$ -	$ 0	$ 674,526	0.0%	0.00
Gas Transportation - Interruptible (TS-I)	$ 9,347,183	$ 9,347,183	$ -	$ -	$ -	$ -	$ -	$ 9,347,183	0.0%	0.00
Gas Transportation - Firm (TS-F)	$ 14,954,366	$ 18,572,726	$ 3,618,360	$ 584,953	$ -	$ -	$ 584,953	$ 15,539,319	3.9%	1.39
Total	$ 394,672,012	$ 480,838,872	$ 86,166,860	$ 13,929,952	$ (1,749,000)	$ (1,079,000)	$ 11,101,952	$ 405,773,964	2.8%	

Rate	(11) Present Rate of Return	(12) *(11) / Average of (11)* Present Relative Rate of Return	(13) Proposed Rate of Return	(14) *(13) / Average of (13)* Proposed Relative Rate of Return
Residential (GR)	5.32%	0.94	6.23%	0.96
General Service (GC)	6.28%	1.11	6.97%	1.07
Outdoor Lighting (OL)	6.28%	1.11	6.97%	1.07
Large High Load Factor (L)	17.36%	3.06	16.03%	2.47
Motor Vehicle Service - Firm (MV-F)	6.31%	1.11	6.93%	1.07
Motor Vehicle Service - Interruptible (MV-I)	13.63%	2.40	12.31%	1.90
Interruptible Service (IS)	35.80%	6.31	34.48%	5.32
Temperature-Controlled Service (TCS)	45.16%	7.96	43.83%	6.76
Gas Transportation - Interruptible (TS-I)	9.43%	1.66	8.10%	1.25
Gas Transportation - Firm (TS-F)	5.69%	1.00	6.48%	1.00
Total	5.67%		6.48%	

(a) Includes O&M components recovered by PECO's Gas Procurement Charge (GPC) and Merchant Function Charge (MFC)
(b) Refer to PECO Exhibit BSY-2R, Page 7
(c) Refer to PECO Exhibit BSY-3, Page 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Karl R. Pavlovic, hereby state that the facts set forth in my Surrebuttal Testimony, OCA Statement 3SR, are true and correct (or are 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).

DATED: August 4, 2022
*333636

Signature:
Karl R. Pavlovic

Consultant Address: PCMG and Associates, LLC.
22 Brookes Avenue
Gaithersburg, MD 20877

OCA Statement 4SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2022-3031113
PECO Energy Company – Gas Division	:	

Surrebuttal Testimony of
Roger D. Colton

On Behalf of:
The Pennsylvania Office of Consumer Advocate
Statement 4SR

August 4, 2022

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Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, MA.

Q. ARE YOU THE SAME ROGER COLTON WHO PREVIOUSLY PREPARED DIRECT TESTIMONY ON BEHALF OF THE OFFICE OF CONSUMER ADVOCATE IN THIS PROCEEDING?

A. Yes, I am.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY.

A. The purpose of my Surrebuttal Testimony is as follows.

- First, I respond to I&E Rebuttal Witness Brian LaTorre;
- Second, I respond to PECO Gas Rebuttal Witness Joseph Bisti;
- Third, I respond to PECO Gas Rebuttal Witness Benjamin Yin;
- Fourth, I respond to PECO Gas Rebuttal Witness Ronald Bradley;
- Finally, I respond to PECO Gas Rebuttal Witness Kelly Colarelli.

PART 1. Response to I&E Witness Brian LaTorre

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Rebuttal Testimony of I&E Witness Brian LaTorre regarding my recommended funding for PECO Gas' Low-Income Usage Reduction Program (LIURP).

Q. WHAT IS THE FIRST ASPECT OF MR. LATORRE'S REBUTTAL TESTIMONY TO WHICH YOU RESPOND?

A. I&E Witness LaTorre first argues that my recommended "changes to LIURP funding fail to meet the guidelines for revising program funding as set forth the by (sic) 52 Pa.Code § 58.4(c)." (I&E St. 1-R, at 4). His assertion in this regard does not adequately account for my Direct Testimony. Mr. LaTorre cites the "four factors" which he says determine a covered utility's "program funding level":

- *Factor 1* involves the number of eligible customers that could be provided cost-effective usage reduction service, accounting for those that have already been served, or are not otherwise in need of assistance. (Id.) My Direct Testimony, however, explains in detail the expansion of the population of eligible customers that could be provided LIURP services due to their conversion from non-gas to natural gas service. It further explains how the Company's proposed rate hike, along with its proposed changes to its rate structure, increases the number of customers that would be provided cost-effective usage reduction service. It explicitly takes into account those who have already been served or are not otherwise in need of assistance by referencing PECO's own calculations of that population. (OCA St. 4, at 42).
- *Factor 2* involves "expected participation rates", and states that expected participation rates should be based on historical participation rates. My recommendation specifically accounts for this factor by reducing the target population from 100% of the population in need, as identified by PECO Gas, to account for expected participation rates in order to reach 40% of the population

identified by PECO as being in need over a twelve-year period. (OCA St. 4, at 42).

- *Factor 3* involves taking into consideration "the total expenses of providing usage reduction services." My recommendation is explicitly tied to these total expenses by using PECO Gas' own reported average per-job cost to estimate the total additional cost. (OCA St. 4, at 42).
- *Factor 4* requires "a plan for providing program services within a reasonable period of time. . ." This factor is exactly what my recommendation accomplishes. My recommendation is to provide funding to reach a specified percentage of those homes still in need over a defined period of time. (OCA St. 4, at 42).

Mr. LaTorre states that Section 58.4(c) "does not include rate case impacts as one of the factors for revising LIURP budget levels." (I&E St. 1, at 5). However, what he fails to acknowledge is how what he refers to as "rate case impacts" affect the four factors he identifies. The "rate case impacts" that he references will influence the number of eligible customers that could be provided cost-effective usage reduction services. The "rate case impacts" that he references influence expected participation rates for eligible customers. And, while the "rate case impacts" would not affect "the total expense of providing usage reduction services," they would certainly affect the total bill reductions from the services provided. Finally, the "rate case impacts" certainly affect the LIURP "impact on utility rates." As I explained in detail in my Direct Testimony, the rate case impacts can be expected to increase the impacts on utility rates due to increased collection activity, increased working capital associated with arrears, increased

uncollectibles, and increased lost revenues due to increased shutoffs. The LIURP funding I recommended would help mitigate those adverse rate impacts.

Q. DOES MR. LATORRE INCLUDE ANY OTHER MISSTATEMENTS IN HIS REBUTTAL TESTIMONY?

A. Yes. Mr. LaTorre states that my Direct Testimony "relies on the number of LIURP income-eligible households but fails to consider the number of dwellings that are not in need of usage reduction services." (I&E St. 1, at 5). That is not an accurate statement. After identifying the LIURP-eligible households from PECO Gas' own USECP, I then note that "According to the BCS annual reports on Universal Service Programs and Collections Performance (2014, 21016, 2018, 2020), PECO has completed a total of 8,204 LIURP natural gas heating jobs during the eight years from 2013 through 2020.[1] Of the 67,000 homes identified in the PECO gas needs assessment, therefore, roughly 58,800 remain without weatherization services." (OCA St. 4, at 42). I then reduce the target population to only 40% of those remaining households to further account for customers who may not need, may not want, or may not have the authority to approve, LIURP investments in their homes.

Mr. LaTorre's calculation of a 23% "participation rate" has nothing to do with my recommended 40% target within the total remaining untreated LIURP-eligible population. Mr. LaTorre's 23% "participation rate" appears to be an indicator of how many customers, of those contacted each year, end up actually receiving LIURP

[1] Normally, I would examine a seven year period rather than the eight year period I examine here. After seven years, homes that previously have been weatherized are generally thought to be subject to be retreated through weatherization services. Given the impact of COVID-19 on the ability to deliver services, however, I added an eighth year.

investments in any particular year. PECO Gas could continue to achieve a 23% "participation rate" in any particular individual year and still achieve the treatment of 40% of the total untreated population over a multi-year period. Whether my 40% target is achieved is driven by the total number of "customers evaluated for program services" as much as it is driven by the "participation rate" calculated by Mr. LaTorre. (See, I&E Ex. 1-R).

Mr. LaTorre's 23% "participation rate" is an annual percent number, in other words, while my 40% recommendation is a cumulative multi-year target. They are different metrics measuring different things.

Part 2. Response to PECO Gas Rebuttal Witness Bisti.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Rebuttal Testimony of Joseph Bisti. (PECO Gas St. 7-R). Mr. Bisti first argues that there is no empirical evidence "demonstrating that customers will reduce their efforts to pursue [energy efficiency and/or weatherization] measures based on such an increase" in the fixed monthly customer charge. (PECO Gas St. 7-R, at 12). Mr. Bisti errs in two regards. First, my Direct Testimony was not limited to the pursuit of "energy efficiency and/or weatherization." As my Direct Testimony states, and provides substantial documentation of:

> Low-income households, particularly vulnerable low-income households (e.g., elderly, disabled, families with children), will take actions to try to reduce their bills to more affordable levels, frequently involving substantial

> household deprivation or the undertaking of substantial risks. These actions can be dangerous, such as when a low-income household uses its natural gas stove or oven as a supplemental heating source in order to reduce the heating usage in the home as a whole. Even these dramatic actions will not reduce a low-income customer's bill to more affordable levels should the PECO Gas proposal to increase the fixed monthly charge be approved. PECO Gas proposed increase in its fixed monthly charge means that those dangerous efforts will be less and less effective, leaving customers with fewer options.

(OCA St. 4, at 8). As my Direct Testimony documented, and Mr. Bisti failed to respond to:

> The lesson here is that the PECO Gas proposal to substantially increase its fixed monthly customer charge makes these low-income responses to inability-to-pay less efficacious. Having a low-income household close-off part of their home or reduce the temperature in their home will not reduce the bill as much if the PECO Gas proposal is approved to increase the proportion of the bill that is a fixed monthly charge and thus unavoidable.

(Id., at 7). Mr. Bisti argues that while the bill to these households will increase under the Company's proposed customer charge, it won't increase by ***much***. That argument simply ignores the realities I identified for low-income households. The fact remains that, even under the analysis presented by Mr. Bisti (PECO Gas St. 7-R, Table 2), when low-income customers undertake desperate actions to reduce their bills to more affordable levels (e.g., abandoning their homes for all or parts of a day, using stoves/ovens to heat part of their home, reducing the temperature in their home to unsafe and/or unhealthy temperatures), the impact of those actions will not change the fact that the fixed charge will still ***increase*** their bill over what it would otherwise have been. Mr. Bisti does not dispute that this impact makes such actions less efficacious to low-income customers.

Q. WHAT IS THE THIRD ARGUMENT BY MR. BISTI THAT YOU WISH TO RESPOND TO?

A. Mr. Bisti, while responding to OCA witness Karl Pavlovic, advances an argument that is singularly inapplicable to low-income customers. He argues that "a more accurate variable distribution charge may be an actionable price signal for customers. . ." (PECO Gas St. 7-R, at 12). Utility rates are not an effective method by which to send "price signals" to low-income customers. As I document in my Direct Testimony,

> As a result, low-income customers have an average arrearage which is two times higher than residential customers. Low-income customers incur dollars of arrears at a rate between four and five times higher than residential customers. In addition, the rate at which low-income revenue was written off as uncollectible (3.2%) was ten times higher than the uncollectible rate for residential customers as a whole (0.3%).

(OCA St. 4, at 39). In order for price signals to be effective, they must not only be provided, but they must be received in such a way for them to be acted upon. Price signals from PECO Gas rates would be based on total bills, not on per unit of energy prices. Given that total bills for Confirmed Low-Income customers have substantial arrears, changing variable distribution charges would offer little in the way of a price signal. Even if the signals are received, however, as I explained in my Direct Testimony, Confirmed Low-Income customers do not have the capacity to respond to those price signals. Mr. Bisti's argument in this regard should be disregarded.

Q. WHAT IS THE FINAL ARGUMENT THAT MR. BISTI ADVANCES THAT YOU RESPOND TO?

A. Mr. Bisti argues that since LIHEAP is a federal program and PECO is not involved in the establishment of LIHEAP funding levels, any comparison of PECO Gas' rate increase to

LIHEAP funding levels is "irrelevant." (PECO Gas St. 7-R, at 13). However, the relevance of PECO Gas' rate increase to LIHEAP flows precisely from the fact that PECO Gas' actions are not met with corresponding changes in LIHEAP benefit levels. The issue involves determining the impact of the PECO Gas rate proposals on the ability of Confirmed Low-Income customers to afford to pay those rates. Through LIHEAP, the federal government is providing funding intended to improve that affordability. As I note in my Direct Testimony, however, the rate hike in this proceeding alone offsets nearly 90% of that federal money. (OCA St. 4, at 11 – 12). As fast as LIHEAP provides money to low-income PECO Gas customers to improve affordability, the Company is taking that money away by increasing rates. Low-income customers are caught in the middle, with no improvement in affordability despite the receipt of LIHEAP.

Part 3. Response to PECO Gas Witness Yin.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I address the Rebuttal Testimony of PECO Gas Witness Benjamin Yin. (PECO Gas St. 8-R). Mr. Yin addresses the "theft investigation fee" which I discussed in my Direct Testimony. (PECO Gas St. 8-R, at 2 – 3; OCA St. 4 at 49-57). Mr. Yin states that PECO Gas agrees to revise existing Rule 17.6 in its Tariff as I recommended in my Direct Testimony. Based on this agreement, this issue has been resolved.

Part 4. Response to PECO Gas Witness Bradley.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Rebuttal Testimony of Ronald Bradley. (PECO Gas St. 1-R). Mr. Bradley offers rebuttal testimony regarding the management performance of PECO Gas with respect to collections and customer service. (PECO Gas St. 1-R, at 11- 13). Before addressing those arguments raised by Mr. Bradley, I note that Mr. Bradley addressed a very limited number of the aspects of less than exemplary management performance that I raised with respect to customer service and credit and collections.

First, Mr. Bradley uses a three-month period (January – March 2022) to argue that PECO Gas has shown "significant improvement" in the Company's response time to both customer complaints and Payment Arrangement Requests (PARS). Mr. Bradley does not acknowledge that PECO Gas' three-month data for the first quarter of each year does not represent its annual performance.[2]

- Only in 2021, for example, did PECO Gas' performance on its response time to customer complaints not deteriorate over the year. In 2018, its First Quarter response time was 12.1 days, while by the end of the year it was 16.3 days. The same deterioration occurred in 2019 and 2020 (2019: 14.1 vs. 17.9 days; 2020: 15.4 vs. 17.0 days).

- For PARS, PECO Gas' response time deteriorated over the year in all four years from 2018 - 2021. In 2018, while its First Quarter response time was 3.9 days, by year-end, it was 5.0 days. The same deterioration occurred in 2019 (4.9 vs. 6.5), 2020 (6.5 vs. 6.8), and 2021 (5.8 vs. 7.5).

[2] The 12-month UCARE data for each year can be accessed at https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/ (last accessed July 29, 2022).

- The numbers of complaints in the First Quarter evaluated by Mr. Bradley do not reflect the annual number of complaints. In 2018, only 364 of the total annual number of complaints (1,899) arose in the First Quarter. With the exception of 2020, given the impacts of COVID, the First Quarter complaints were disproportionately low in each of the other years as well (2019: 333 of 1,799; 2020: 293 of 885; 2021: 253 of 1,148).

- The same results can be seen with PARS. The number of PARS in the First Quarter (the data relied upon by Mr. Bradley) does not reflect annual data for PECO. In 2018, 397 of the total annual 6,399 PARS were received in the First Quarter. Again, with the exception of 2020, given the impact of COVID, these same results arose in each other years (2019: 461 of 6,728; 2020: 487 of 628; 2021: 347 of 2,126).

Mr. Bradley's use of First Quarter 2022 data should not be relied upon to demonstrate PECO's annual performance on these customer service metrics.

Q. IS THERE ANY OTHER ASPECT OF MR. BRADLEY'S REBUTTAL TESTIMONY REGARDING CUSTOMER SERVICE METRICS THAT YOU WISH TO ADDRESS?

A. Yes. Mr. Bradley argues that PECO Gas uses JD Power scores in its assessment of Company performance. (PECO St. 1-R, at 13). PECO Gas does not, however, provide the survey used by JD Power; it does not provide the *total* results of the JD Power survey; it does not provide any of the analysis provided to PECO Gas from JD Power. Nor does PECO Gas provide any of the contractual obligations from PECO to JD Power or vice versa. The reason the PUC created the UCARE customer service metrics was to allow the Commission to collect uniform data from each Pennsylvania utility and to use that data in its assessment of customer service performance. The PUC should not substitute unrevealed, undocumented, privately bought and paid-for survey results for the

transparent data which the Commission, itself, established for just the purposes of reviewing utility performance.

Q. DO YOU HAVE ANY FINAL COMMENT ON MR. BRADLEY'S REBUTTAL TESTIMONY?

A. Yes. Mr. Bradley argues that in 2021, the JD Power survey ranked PECO "higher than the industry average" in categories such as "ease of using automated system," "knowledge of the Representative," and "Representative's concern for needs." (PECO Gas St. 1-R, at 13). Mr. Bradley does not, however, indicate how much "higher than the average" PECO was ranked, or whether that average was objectively high or low with which to begin. He does not identify the utilities to which PECO was being compared. Nor does he explain how JD Power, in contrast to the PUC's finding that PECO Gas could not be distinguished from PECO Electric when considering overall PECO Energy's customer service performance, distinguished PECO Gas standing alone. Finally, Mr. Bradley simply does not dispute that the Commission's *own* data ranked PECO next to last in customer satisfaction with the "*overall quality of service*" during a recent contact. According to the PUC's own data, nearly one-in-three or 30% of customers reported being less than "very satisfied" during their recent contact. (OCA St. 4, at 54).

Part 5. Response to PECO Gas Witness Colarelli.

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section of my testimony, I respond to the Rebuttal Testimony of Kelly Colarelli with respect to certain low-income and universal service issues.

Q. PLEASE RESPOND TO MS. COLARELLI'S FIRST REBUTTAL ARGUMENT TO YOUR DIRECT TESTIMONY.

A. Ms. Colarelli argues that income screening "should [not] be mandatory for new customers, including gas conversion customers." (PECO Gas St. 10-R, at 5). She argues that "if a customer identifies a concern about affordability, or enquires (sic) about universal service programs, the Company will perform income screening." (Id.). She states, however, that "the Company will agree. . .to provide a universal service brochure as part of the handouts provided at the time of a customer gas conversion." (Id.)

This commitment by Ms. Colarelli is a reasonable response to the concerns that I raised in my Direct Testimony. So long as the universal service outreach is a stand-alone document, which it appears Ms. Colarelli contemplates through her reference to a "universal service brochure", the Company is making an affirmative outreach effort to engage those customers who participate in the Company's gas conversion efforts. (PECO Gas St. 10-R, at 5). Given this affirmative outreach, the contents and format of which I would encourage PECO Gas to obtain advice from its Universal Service Advisory Committee (as it has with other outreach efforts), an informed decision about whether to seek participation has been placed in gas conversion customer hands. Ms. Colarelli's response to my Direct Testimony is appropriate and reasonable.

Q. PLEASE RESPOND TO MS. COLARELLI'S REBUTTAL TESTIMONY REGARDING CAP OUTCOMES.

A. Ms. Colarelli objects to the three Outcome Objectives that I recommend PECO Gas adopt with respect to low-income and universal service programs. In my Direct Testimony, I

recommended that the Commission establish three measurable Outcome Objectives that PECO Gas should seek to accomplish with respect to low-income customers:

a. **Outcome Objective #1**: PECO Gas should achieve a Confirmed Low-Income identification rate, as a percentage of estimated low-income customers, no less than the Confirmed Low-Income identification rate of Pennsylvania natural gas utilities as a whole (excluding the PECO Gas companies).

b. **Outcome Objective #2**: PECO Gas should achieve a CAP participation rate, as a percentage of Confirmed Low-Income customers, no less than the CAP participation rate of Pennsylvania natural gas utilities as a whole (excluding the PECO Gas companies).

c. **Outcome Objective #3**: PECO Gas should achieve a CAP default rate as a percentage of participants in the lowest poverty level range that is no less than the CAP default rate in that poverty level range for Pennsylvania gas utilities as a whole.

(OCA St. 4, at 4 – 5). Ms. Colarelli characterizes this proposal for Outcome Objectives as urging that "PECO should be required to attain the recommended CAP outcomes." (PECO Gas St. 10-R, at 6). That mis-states the purposes for which these performance metrics would be used.

The intended purpose of the recommended metrics is not to impose some sort of mandatory obligation on PECO Gas. As my Direct Testimony explicitly stated:

> My intention in this proceeding is not to establish a basis for "rewards" or "penalties." Rather, the purpose of establishing measurable objectives is to change the conversation about the identification of low-income customers, about CAP enrollment, and about the participation of the lowest income customers in CAP, from a discussion of what PECO Gas should be *doing* to a discussion of what PECO Gas should be *accomplishing*.

(OCA St. 4, at 19). The intention is to avoid the need for PECO Gas witnesses to assert that "PECO *remains dedicated* to facilitating participation in universal service programs. . ." (PECO Gas St. 10-R, at 6). Ms. Colarelli falls into the very trap that my proposal

seeks to avoid. She uses active verbs to describe what the Company is *doing*. She asserts that "the Company has *recently developed more detailed outreach plans*. . ."; "the Company *will be filing* annual updates to its plans. . ."; and "the Company *also uses* various forms of outreach. . ." (PECO Gas St. 10-R, at 6) (emphasis added). Each of these statements in her Rebuttal Testimony relate to *actions* the Company is taking. What occurs in Ms. Colarelli's Rebuttal Testimony, in other words, is having her seeking to justify what PECO Gas is *doing* (i.e., justifying its activities), rather than looking at the more substantive question of what PECO Gas is (or is not *accomplishing*, i.e., its outcomes).

The purpose of the outcome metrics is not to impose a duty that PECO Gas would be "required to attain." As I explain in my Direct Testimony, the purpose of the outcome metrics is to "define clear agency missions, set results-oriented goals, measure progress toward achievement of those goals, and use performance information to help make decisions and strengthen accountability." Without such metrics, it is not possible to determine whether PECO is being effective in "facilitating participation in universal service programs by identifying and enrolling eligible customers." (PECO Gas St. 10-R, at 6). The outcome metrics provide *meaning* to that statement of Ms. Colarelli. They would: (1) set objective goals; (2) allow PECO to "measure progress toward achievement of those goals; (3) help PECO Gas "make decisions"; and (4) "strengthen accountability." Rather than arguing about whether PECO Gas "remains dedicated to facilitating participation," future discussions would focus on whether PECO Gas actions are effective or not. If they are effective, they can be continued. If they are not effective, the question would become "what needs to be changed." If PECO Gas actions need to be changed,

the review begins anew. Future review would then again look to see whether the modified actions are effective or not effective. But, the future decision-making does not address PECO's action-steps in the abstract. And it does not get sidetracked into discussions about whether PECO Gas does or does not "remain dedicated to facilitating participation." It instead provides a framework for data-based collaboration and decision making.

Q. DOES YOUR DISCUSSION ABOVE RELATE TO ANY OTHER ASPECT OF MS. COLARELLI'S REBUTTAL DISCUSSION?

A. Yes. Ms. Colarelli objects to the use of outcome metrics because "the low-income populations are different for each natural gas distribution company. . ." (PECO Gas St. 10-R, at 6 – 7). I agree with that observation. Indeed, this observation is precisely why "each natural gas distribution company" should not necessarily use the same outcomes metrics. And it is further why uniform outcome metrics should not be universally prescribed by regulation for all natural gas distribution companies. Each gas distribution company may well have different challenges for which it would wish to establish different outcome objectives. For PECO Gas, however, the three outcome metrics I recommend are appropriate for this Company at this time.

Q. PLEASE RESPOND TO MS. COLARELLI'S REBUTTAL TESTIMONY REGARDING THE COMPARABILITY OF NATURAL GAS UTILITIES.

A. Ms. Colarelli argues that "the low-income populations are different for each natural gas distribution company, and Mr. Colton has not established that such statewide benchmarks would be either comparable or useful." (PECO Gas St. 10-R, at 6 – 7). This argument

could be used to oppose any benchmarking between natural gas utilities. For example, the fact that different natural gas distribution companies have different populations was not identified by Mr. Bradley as an impediment to his reliance on JD Power benchmarking regarding customer satisfaction. Neither did the fact that each natural gas distribution company has a different population stand in the way of Mr. Bradley's use of statewide benchmarking data regarding complaints, PARS, or other elements of customer service. The fact that each natural gas distribution company has a different population does not stand in the way of BCS from annually reporting and assessing data on credit and collections performance. In this regard, while Ms. Colarelli's argument that each natural gas distribution company has a different low-income population certainly supports the conclusion that each natural gas distribution company may want different outcome metrics, it does not support the conclusion that outcome metrics are inappropriate or not useful.

Q. PLEASE RESPOND TO MS. COLARELLI'S ARGUMENT OPPOSING AN INCREASED LIURP BUDGET.

A. Ms. Colarelli's arguments opposing an increased LIURP budget largely reflect the arguments advanced by I&E witness LaTorre. I responded to those arguments in detail above. By this reference thereto, I incorporate herein my response to Mr. LaTorre as if those arguments were fully set out.

Q. DO YOU HAVE ANY FINAL RESPONSE TO MS. COLARELLI'S REBUTTAL TESTIMONY?

A. Yes. PECO Gas Witness Colarelli presents her belief that PECO Gas appropriately allocated universal service costs exclusively to the residential customer class. She mischaracterizes the Commission's prior determination of this issue when she states that the interclass allocation of universal service costs *was rejected* in the Company's 2020 gas base rate proceeding. (PECO Gas St. 10-R, at 12). In that proceeding, the Commission simply found that, *on the record of that proceeding*, the OCA had not justified the interclass allocation of universal service costs. (Docket No. R-2020-3018929, Order at 263 (June 17, 2021)).

In any event, as I explicitly state in my Direct Testimony, the issue of whether to allocate universal service costs is *not being presented* in this proceeding. If that issue was presented in this proceeding, that should not be construed as a decision to not address this issue, as appropriate, in a future base rate proceeding. It is, however, not an issue in this case.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2022-3031113
	:	
PECO Energy Company – Gas Division	:	

VERIFICATION

I, Roger D. Colton, hereby state that the facts set forth in my Surrebuttal Testimony, OCA Statement 4SR, are true and correct (or are 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).

DATED: August 4, 2022
*333637

Signature: _____
Roger D. Colton

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